

Success of Digital Marketing Model for Medical Professionals of Haryana: Validation of Results of Survey and Case Study

Monika Pathak¹

Research Scholar & Assistant Professor, MMIM, MM (DU), Mullana, Ambala

monika.gulati@mmumullana.org

Sultan Singh²

Professor, MMIM, MM (DU), Mullana, Ambala

dr.sultansingh@mmumullana.org

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Abstract: The study used a survey analysis for 547 medical professionals of Haryana State in India to understand their buying behaviour practices through digital marketing. The distinctness on the exploitation of digital platforms has been accelerating in recent times and the level of digital marketing is exigent. The main objective of the study is to validate the success of digital marketing model for medical professionals through a case study administered to 60 medical professionals and to synthesis with Survey Based Results respectively. The study used Measurement Model Assessment and Confirmatory Factor Analysis (CFA) to exercise Average Variance Extracted (AVE) criterion for assessing convergent validity. All AVE readings were found to be higher than the suggested value of 0.50 and the results are adequate for demonstrating the model successfully. Also, step-wise regression technique was used to find the important predictors of the digital marketing model. The results depicts that each co-efficient of determination and the adjusted co-efficient of determination are pellucid and further the Durbin-Watson index are acceptable for the model.

Keywords: Average Variance Extracted (AVE), Confirmatory Factor Analysis (CFA), Digital Marketing, Medical Professionals.

Introduction

The widespread use of social and digital media has made its mark across the board. The focus on the development of digital platforms has been increasing in recent years, making the purchasing process easier for consumers in various locations. The use of digital platforms or electronic media for the promotion of a business or brand is known as digital promotion. Emails, messaging, social media, websites, e-posters, blogs, webinars, SEO, affiliate marketing, and other digital platforms are all examples of digital platforms.

Consumers can also use a digital marketing source to search the product diversity accessible based on their tastes and preferences. Digital marketing is always changing to fit both the growing number of e-users and the latest technology. It encompasses a variety of marketing methods as well as digital platforms for creating a brand image for their products and services.

Review of Literature

To know the success of companies, measurement of critical success factors is very important. **Alkhaffaf et al. [3]** examined the critical success factors of e-marketing for travel agencies of Jordan. Authors proposed a research model to examine the relation between critical success factors and digital marketing. A questionnaire is formulated and distributed among employees of seventeen travel agencies. Authors gathered information and test the proposed research model. After analysis authors suggested that for the travel agencies of Jordan there is a need of integrating the critical success factors. Authors also mentioned that new business models should be used by travel agencies to contact their customers for increasing customer loyalty and revenue. In today's era, there is a concept of multichannel shopping and there is a need of selection of appropriate advertising channel. Online advertising may affect the offline shopping. **Grishikashvili et al. [4]** identified the importance of challenges faced by organizations for adopting digital marketing in practice. Authors showed that those industries which adopt big data for marketing become successful in comparison to those who are lacking in adopting the same. E-commerce rises day by day in the world. The benefits of online shopping have been recognized by shoppers' instead of traditional street-side business. Most of the researchers focused on the buying decision and satisfaction of customers but didn't mention the factors which affect the online shopping. **Jiradilok et al. [5]** used the quantitative method to verify the satisfaction level of customer regarding online shopping. Authors considered all online customers whether experienced or inexperienced. The results of the study showed the knowledge of experienced and inexperienced online buyers of factors which influenced online buying decision. In the literature digital marketing gaps were mentioned but that gaps were not identified clearly. **Royle et al.[6]** focused on the digital marketing gaps encountered by professionals working in industries. Authors conducted interviews of professionals of 20 industries regarding digital marketing concepts and found that they are lacking of the new marketing techniques which are very useful for the growth of industries. Authors integrate the traditional marketing techniques with the modern digital marketing methods and presented a digital marketer model. Authors suggested that proper guidance should be provided to professionals regarding best marketing practices. Also, the professionals should be made aware regarding evaluation practices and strategic integration that should be developed for communication industry. For promoting goods sale and services virtual spaces are used by online marketing techniques. Marketing techniques for major economic sectors are restructured with the evolution of internet-based communication technologies. These newly developed techniques are cost effective, fast and flexible, but these techniques have some disadvantages also such as: lack of personal contact, privacy and security which should be taken account during deciding the marketing technique for a particular product. **Bostanshirin [7]** identified the impacts of online marketing techniques. Author started with the historical background of online marketing and then introduces the concept of virtual space. Then author considered various challenges encountered during implementation of virtual space concept and finally conclude with the solution to tackle the challenges involved. Micro blog a social media has many impacts on the customers life because with its rapid development causes a drastic change in the marketing methods. **Chan et al. [8]** did the literature review deeply and studied the case study based on AISAS model to

examine the effects of micro blog marketing on the consumer behavior. Author showed that the first step in the micro blog marketing is the micro bloggers' behavior followed by opinion leader which plays a vital role during sharing. Authors mentioned that product attraction increase with the micro blog marketing instead of traditional marketing. So, authors suggested that the enterprises should adopt appropriate marketing strategies to enhance their business. Consumers buying behavior is affected by the online marketing. **Gabriel et al. [9]** examined that the companies now adays, spent an appreciable amount for the digital marketing of their products and to enhance the satisfaction level of their consumers. Authors also found that buying behavior of consumers were also affected by internet security. For analyzing the effects authors did the survey and concluded that buying behavior of consumers has greatly influenced by online marketing. To enhance the sale of products and for providing better services, marketer used digital marketing which is the way of electronic communication. The main role of digital marketing is to make aware the customers about every aspect of product so that the customer and product becomes blend together. **Sathya [10]** concentrated on the importance of digital marketing both for consumers and marketers. Author collected information from 100 respondents and analyze the impact of digital marketing on company's sale on the basis of collected data. Impulse buying is a term related to customers who buy online suddenly but having no prior intention to buy. This technique influenced the purchasing decision as well as purchasing power of consumers. **K.R.M. et al. [11]** examined the effect of digital marketing by collecting information from 50 respondents and analyzed information by applying Chi Square test. On the basis of results obtained authors mentioned that consumers are well aware about digital marketing and preferred to buy products online. The research was done for a particular geographic area. So, the results may vary for different geographical areas of word. This is the main drawback of the research presented by authors. Innovative and technology-based products and services are grooming these days. With the development of digital marketing, the trend of e-commerce and online shopping increases manifold. Business enterprises grow day by day with the advent of digital marketing. **Kamal [12]** examined the various aspects of digital marketing which will be very beneficial for the business. Author suggested to the business persons to adopt the various techniques of digital marketing to promote their business and sale. The concept of online marketing is increased with the development of internet knowledge of customers. Millions of people do online shopping daily and become the potential consumers. The knowledge of consumers' needs and demand is the base of marketing for organizations in present scenario. **Tariq et al. [13]** deeply reviewed the literature and suggested marketers to become aware about the advantages of digital marketing. Authors also suggest marketers to adopt those techniques of digital marketing with the help of which satisfaction level of customers increases and generated a sense of trust in them. **Amen et al. [14]** proposed using AMOS to simulate structural equations. This model is based on the unified theory of acceptance and use of technology. This model was presented to evaluate the elements that influence employees of a public sector organization's use of online social networks. The authors created a questionnaire and had 401 people fill it out to validate the model. The authors discovered that the key four elements that influenced the use of online social networks were social influence, performance, facilitating conditions, and effort. Branding is the subject of the bulk of global study. When it comes to branding, customers either like or

dislike it. Essentially, branding is done to achieve popularity and profit through electronic word-of-mouth marketing. According to the literature, the key challenges of branding are brand loyalty, brand image, brand satisfaction, and brand equity, but nothing is written about brand hate, which is a major issue that must be addressed throughout a product's branding. **Joshi et al. [15]** investigated brand aversion as well as other variables. To analyze the influence of the internet on brand hate, the authors looked at unpleasant historical encounters as well as a sun favorable electronic word of mouth. Entrepreneurial skills such as strategic and ethical competency are essential for the growth of small and medium businesses (SMEs). Entrepreneurial competencies are intertwined through network competence. To investigate the link a questionnaire was used by **Tehseen et al. [16]** to collect data from wholesale and retail SMEs. Authors utilized a PLS-SEM technique to analyze the data. When network competence was utilized as a mediator between entrepreneurial competences, the authors discovered that it influenced growth. To predict the behaviour of young consumers **Joshi et al. [17]** explored the psychological factors. Authors obtained information from 425 young consumers and used structural equation modeling to analyze the gathered information. Authors found that the purchase behaviour of young consumers depends on spirituality, environmental responsibility and consumer effectiveness. These results are very beneficial for government organizations and policy strategist to encourage buying behaviour among young consumers. For a sample of 500 respondents, **Purwanto et al. [18]** compared the results of quantitative research data analysis in the marketing area utilizing GSCA, Lisrel, SPSS, Tetrad, WarpPLS, and AMOS software. Authors concentrate on regression analysis and hypothesis testing. Digital marketing, customer satisfaction, and customer loyalty were the three variables. The results revealed that the significant value of t-value and p-value did not differ significantly. In the resulting structural equation, there is no significant difference in the correlation value and the determination value.

On the basis of literature review, a survey questionnaire was formulated with five factors, each with twelve variables [19]. 547 people responded to this survey. Based on the responses, three variables with greater values have been chosen for each factor which constitutes 15 predictors for further study.

Buying Behaviour Practices (BBP): Buying behaviour practices deals with the information [19-22]. The selected three variables out of twelve with higher values for Buying behaviour practices are:

- a) Variety seeking is presented(BBP8)
- b) Home delivery is obtainable(BBP9)
- c) Satisfaction is achieved(BBP12)

User Friendly Buying Behaviour (UFBB): User friendly buying behaviour practices deals with the information [19-22]. The selected three variables out of twelve with higher values for User friendly buying behaviour practices are:

- a) It is easy to use(UFBB1)

- b) It is focused towards site search(UFBB3)
- c) It is attractive towards the prominence of products(UFBB5)

Previous Buying Behaviour Practices (PBBP): Previous buying behaviour practices deals with the information [19-22]. The selected three variables out of twelve with higher values for Previous buying behaviour practices are:

- a) Performance of the product was admirable (PBBP2)
- b) Service was good(PBB9)
- c) Delivery was good(PBBP12)

Success Factors (SF): Success factors deals with the information [19-22]. The selected three variables out of twelve with higher values for success factors are:

- a) Excessive time is saved (SF1)
- b) Have continuous feedback/ reviews (SF2)
- c) A lot of varieties are existing (SF5)

Hindrances Factor (HF): Hindrance factors deals with the information [19-22]. The selected three variables out of twelve with higher values for hindrance factors are:

- a) Privacy is an issue (HF1)
- b) Addiction toward digital platforms (HF10)
- c) Time consumption used is enormous (HF11)

Research Methodology Objectives:

1. To identify the predictors for the development of a model for digital marketing.
2. To develop a digital marketing model.
3. To validate the results of survey and case study for digital marketing model.

Research Instruments

The instrument for this study was designed using a 15-statement questionnaire with a multi-item Likert scale based on the literature on digital marketing. A Likert scale was used to measure constructs, with 5 representing "Strongly Agree" and representing "Strongly Disagree". Validation of the variables in this study was done using previously published research. For the present study, a questionnaire was developed as leading mechanism to implement the research strategy.

Data Collection:

The analysis is based on a survey done in five districts of Haryana state. A total of 800 questionnaires were distributed, only 630 were returned and finally, 547 were found appropriate for further analysis. 547 medical professionals from Ambala, Gurugram, Hisar,

Panchkula and Yamuna Nagar participated in the survey. Based on the completed survey, Table-1 depicts the demographic profile of respondents. In the survey, the highest frequency of respondents was of married male in the age group of 31-45 with the highest qualification and monthly income.

Table 1: Demographic Profile

No. of Respondents	Case Study		Survey Study	
Gender	Frequency	Percent	Frequency	Percent
Male	24	40	350	64
Female	36	60	197	36
Marital status	Case study		Survey study	
Status	Frequency	Percent	Frequency	Percent
Married	34	57	454	83
Unmarried	26	43	93	17
Age of Respondents	Case study		Survey study	
Age Group	Frequency	Percent	Frequency	Percent
Below-30	19	31.7	60	11
31-45	31	51.7	227	42
46-50	5	8.3	210	38
Above-50	5	8.3	50	9
Highest Qualification	Case study		Survey study	
Highest Qualification	Frequency	Percent	Frequency	Percent
Graduate	1	1.7	8	1.5
Post Graduate	43	71.7	186	34
Post Graduate Diploma	4	6.7	216	39.5
others	12	20	137	25

Monthly Income	Case study		Survey study	
Monthly Income	Frequency	Percent	Frequency	Percent
Below-50000	12	20	48	8.8
50000-100000	8	13.3	24	4.4
100000-150000	4	6.7	39	7.1
Above-150000	33	55	432	79
Can't say	3	5	4	0.7

Cronbach's alpha is a regularly used metric for determining the average of test items that can be explored and their correlations. The SPSS software is utilized in particular to assess the dependability of the data acquired in the end; the current and selected generic scales are consistent. Cronbach's alpha confirms the conditions, which should be more than 0.70 on a scale of one to ten. In Table-2, value of reliability test for survey done for this study is 0.989 and on the other hand, a case study is to be done for the validation of this study and for that, reliability value of Cronbach alpha is 0.831 that depicts a strong correlation among all of these factors and variables for this study.

Table- 2 Reliability Statistics

Reliability Statistics	No. of respondents	Cronbach's Alpha
Survey	547	0.989
Case Study	60	0.831

Statistical Tools:

For analyzing the data collected in this research paper, descriptive statistics, Structural Equation Modeling and Regression Techniques are adopted and analysis has been done through SPSS21 and AMOS21.

Data Analysis:

In this study, Structural Equation Modeling (SEM) was used for data analysis as it allows for simultaneous analysis, resulting into more precise estimation [23].

Measurement Model Assessment and Confirmatory Factor Analysis (CFA)

All goodness-of-fit indices exceeded the acceptable levels established by earlier research, as shown in Table 3, demonstrating that the measurement model suited the data well. The chi-square statistic is sensitive to sample size of more than 200 [24], while the sample size in this

study is 547. As a result, we could assess the measurement model's construct and indicator dependability as well as its convergent validity.

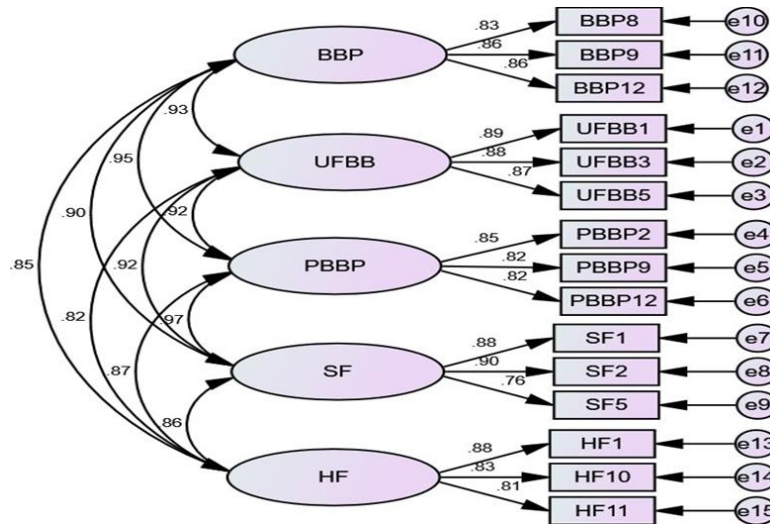


Figure -1: Results of Confirmatory Factor Analysis

Table-3: Goodness of Fit Indices for the Measurement Model

Fit index	Cited	Admissibility	Results
χ^2			418.831
DF			80
CMIN	(Kline, 2010)	1.00-5.00	5.235
RMSEA	(Steiger, 1990)	<.08	0.088
CFI	(Byrne, 2010)	>.90	0.956
NFI	(Bentler & G.Bonnet,1980)	>.80	0.947
PNFI	(Bentler & G.Bonnet,1980)	>.05	0.721
PCFI	(James and Brett,1982)	>.50	0.729
TLI	(Tucker & Lewis,1973)	>.90	0.942
IFI	(Bollen, 1990)	>.90	0.956

χ^2 = Chi Square, DF = Degree of freedom, RMSEA = Root mean square error of approximation, CFI = Comparative-fit-index, NFI = Normed fit index, PNFI = Parsimony normed fit index, PCFI= Parsimonious Comparative Fit Index, TLI = Tucker–Lewis coefficient index, IFI= Increment fit index

The results demonstrate that all Cronbach's alpha coefficients are greater than the prescribed level of 0.7 in terms of concept dependability [25]. Furthermore, all CR values were higher

than the recommended value of 0.7 [26]. These findings show that all construct measurements are accurate (Table 4). Factor loadings were also evaluated to determine the indicator's dependability [27]. All of the loadings were higher than the recommended value of 0.5. In addition, the average variance extracted (AVE) criterion was used to assess convergent validity. All AVE readings were found to be higher than the suggested value of 0.50 [28]. These results are adequate for demonstrating the model successfully.

Table-4: Measurement Assessment

Factors	Variables	Loadings>0.5	CR(>0.7)	Alpha (>0.7)	AVE(>0.5)
BBP	BBP8	0.83	0.886	0.884	0.723
	BBP9	0.86			
	BBP12	0.86			
UFBB	UFBB1	0.89	0.912	0.911	0.774
	UFBB3	0.88			
	UFBB5	0.87			
PBBP	PBBP2	0.85	0.878	0.871	0.705
	PBBP9	0.82			
	PBBP12	0.82			
SF	SF1	0.88	0.885	0.878	0.720
	SF2	0.9			
	SF5	0.76			
HF	HF1	0.88	0.878	0.878	0.706
	HF10	0.83			
	HF11	0.81			

Validation of the Results of Survey and Case Study

A case study is formulated based on the 15 variables out of 60 variables having higher mean values for five factors. For these selected 15 variables, again a questionnaire is formulated for validation of case study and gets it filled by 60 medical professionals from Ambala district. The responses obtained from 60 respondents are used for validating the proposed model. The results obtained from the responses of 547 medical professionals for survey study and 60 medical professionals for validating case study are shown in Table-5. Mean difference and standard difference are calculated to synthesis the results.

Table-5: Validation of Results of Survey and Case Study

Factors	Variables	Survey Study		Case Study	
		Mean	StandardDeviation	Mean	StandardDeviati on
Buying Behaviour practices	BBP8	4.29	0.94	3.82	0.79
	BBP9	4.35	0.99	4.03	0.61
	BBP12	4.31	0.97	3.9	0.71
User friendly Buying Behaviour Practices	UFBB1	4.24	0.99	4.05	0.79
	UFBB3	4.19	0.97	3.78	0.72
	UFBB5	4.25	2.01	3.78	0.92
Previous Buying Behaviour Practices	PBBP2	4.3	0.96	3.75	0.82
	PBBP9	4.31	0.96	3.88	0.9
	PBBP12	4.36	0.91	3.85	0.84
Success Factor	SF1	4.33	0.93	3.33	1.04
	SF2	4.34	0.94	3.42	0.87
	SF5	4.32	0.85	3.5	1.03
Hindrance Factor	HF1	4.26	1.05	3.3	0.96
	HF10	4.26	1.01	3.3	1.17
	HF11	4.24	0.96	3.48	0.97

Synthesis of Survey and Case Study Results

(a) Synthesis for Buying Behaviour practices:

From Table-5, it is found that the highest mean value is 4.35 for BBP9 (Home delivery is obtainable) followed by 4.31 for BBP12 (Satisfaction is achieved) and finally, 4.29 for BBP8 (Variety seeking is presented) for survey-based results obtained from 547 respondents. The same pattern of mean is shown for case study based on the responses of 60 respondents.

(b) Synthesis for User friendly Buying Behaviour Practices:

After analyzing results of survey, it is found that the highest mean value is found to be 4.2 for UFBB5 (It is attractive towards the prominence of products), followed by 4.24 for UFBB1 (It is easy to use) and then by 4.19 of UFBB3 (It is focused towards site search) as mentioned in

Table-5. Similarly, pattern from highest mean value to least mean is observed for UFBB1, UFBB3 and UFBB5 respectively for case study based on the responses of 60 medical professionals.

(c) Synthesis for Previous Buying Behaviour Practices:

From Table-5, it is analyzed that PBBP12-Delivery was good is the first highest mean value (4.36) followed by PBBP9-Service was good (4.31) and then PBBP2-Performance of the product was admirable (4.30) from survey analysis. Similarly mean values 3.88, 3.85, 3.75 PBBP9, PBBP12 and PBBP2 respectively are found for the case study based on the responses of 60 respondents.

(d) Synthesis for Success Factor:

It is analyzed that have continuous feedback/reviews (SF2) are the first highest mean value from survey analysis but found to be second highest mean value under case study. Also, Excessive time is saved (SF1) is second highest mean value from survey analysis but it is third highest mean value from case study whereas A lot of varieties are existing is third highest mean value in survey study but it is found first highest mean value in case study analysis.

(e) Hindrance factor synthesis:

From the results (Table-5) it is found that mean values for HF1 and HF10 are equal for survey results. Similarly for case study the mean values for HF1 and HF10 are found to be equal. The mean value for HF11 is found to be less than from HF1 and HF10 for survey results whereas the mean value for HF11 is more than HF1 and HF10 for case study analysis.

Regression Model

The structural model's R Square revealed that all R square values are sufficiently high for the model to achieve a suitable degree of explanatory power [29] (Refer to Table 6). This model's fitness is defended by using five dependent variables to analyze the coefficient of determination and explained variances with fifteen dependent variables. Overall, the findings depict an encouraging relationship between each dependent variable with the respective predictors. Further, coefficient of determination across all the models highlights a favorable impact and supported by Durbin Watson Values which implies the Goodness of Fit for accepting the respective models.

Table-6: RegressionModel

Model	DV	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	G	0.191 ^a	0.036	0.009	0.478	1.480
2	MS	0.245 ^a	0.060	0.033	0.376	1.120

3	AG	0.248 ^a	0.062	0.035	0.802	0.904
4	HQ	0.231 ^a	0.054	0.027	0.787	1.031
5	MI	0.309 ^a	0.095	0.070	0.901	0.852

Discussion:

This study proposed a model to improve understanding of the importance of digital marketing by combining five independent variables (Gender, Marital status, Age, Highest Qualification and Monthly Income) with five dependent variables (Buying behaviour practices, User friendly Buying behaviour, Previous buying behaviour, Success factors and Hindrance factors) to predict the buying behaviour of medical professionals in the selected districts of Haryana. The findings revealed that having easy access to goods without wasting time and at reasonable prices makes medical professionals more comfortable, so they are adopting various Digital marketing techniques to meet their various needs. This implies that the more digital marketing techniques are used, the more useful they are for improving work, daily life, user productivity and performance.

Conclusion:

Top three variables of each factor of digital marketing have been taken with the validation of the survey-based results of 547 medical professionals and case study respectively for highlighting the overall scenario of success of digital marketing model. Mostly, medical professionals use digital marketing successfully although the technological advancements have also posed a challenge. There are some factors which make the digital marketing an occurrence towards rising of buyer's expectation. The results of the present study highlighted that buying behaviour practices of medical professionals through digital marketing in Haryana are still at basic level. It can be concluded that the ensuing efforts by medical professionals in their tasks have opened an assortment of situation in balancing with the buying behaviour practices. Attempts have to be made by the companies towards the scheming of digital marketing in matching with the expectations of the buyers and additionally with the competition. Further, it is suggested that companies should also proceed with progression of digital marketing by introducing crisp construct for making it easier for the buyers who are involved in essential services like medical professionals.

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