Factors affecting healthcare providers to accept digital marketing: The moderating role of subjective norms

Abdallah Hammad[a*], Abdallah Q. Bataineh[a], Muhammad Turki Alshurideh[b,c] and Hanadi A. Salhab[a]

[a]*Middle East University, Jordan*
[b]*Department of Marketing, School of Business, The University of Jordan, Amman 11942, Jordan*
[c]*Department of Management, College of Business, University of Sharjah, Sharjah 27272, United Arab Emirates*

CHRONICLE	ABSTRACT
	This research aimed at identifying the impact of (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust), and examine the moderating role of subjective norms, on healthcare providers acceptance for digital marketing provided by the medical field companies. To achieve the goals of this research, the researcher relied on a descriptive and analytical approach. The research dealt with 400 healthcare providers, where the population consisted of all healthcare providers working in Amman, a convenience sample was chosen from the healthcare providers. Moreover, the questionnaire was the main tool for collecting data. Analyzing data was conducted using a set of statistical methods including exploratory factor analysis EFA, confirmatory factor analysis CFA, multiple regression, interactive hierarchical regression and process procedures method using (SPSS-V20) and (AMOS-V23). The key finding was there an impact of Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust on healthcare providers acceptance for digital marketing provided by the medical field companies. Recommendations and future research also were discussed.

1. Introduction

In light with the strong role of digital marketing that our present world is facing, and the great revolution in the fields of knowledge and technology, the role of digital marketing become higher and more essential in our daily life, which led to a real need to keep up with the new technology and enrolling it to increase the efficiency and productivity of our organization (Nuseira & Aljumahb, 2020). Digital Marketing is the newest and flexible component of marketing planning, which is exposed to many factors (such as perceived ease of use, perceived usefulness, perceived enjoyment and the perceived trust), all these factors affecting the acceptance of customers with the content of digital marketing (Alhashmi, Salloum, & Mhamdi, 2019). Since the digital marketing consider as essential tool of building strong marketing strategies, companies need to strengthen themselves in order to achieve their goals and survive in the very competitive business environment, and they must accept the new market dynamics and exploiting all the available tools to create a strong and unique content of their marketing messages (Yoga, Korry, & Yulianti, 2019).

Based on the above, and the fact about the medical field marketing efforts field visits and face to face communication with the healthcare providers are no longer the only way of delivering the marketing strategies of medical field companies, the growing up role of digital marketing, and the high acceptance to deal with new technology from the healthcare providers side make the digital marketing a key element when we are looking to build a medical field marketing strategy (Kaur, 2017). This research comes to realize the acceptance of digital marketing provided by medical field companies to the healthcare providers

* Corresponding author.
E-mail address: Ph.abdallahhammad@gmail.com (A. Hammad)

in Jordan and examine the role of subjective norms as a moderating factor. As marketing departments focus all its efforts not just in building strong brands but also to generate demand for its products, fully with enjoyment and innovation.

According to the researchers best knowledge and the knowledge gaps, there is a noticeable lack in studies which focus on the acceptance of digital marking on the healthcare providers (Dhagarra, Goswami, & Kumar, 2020; Jahanmir, & Cavadas, 2018; Zhao, & Wang, 2020; Schnall, et al., 2015). Consequently, this research aims to investigate the impact of (perceived ease of use, perceived usefulness, perceived enjoyment and the perceived trust) on the healthcare providers' acceptance to the digital marketing taking on consideration the role of subjective norms as moderating factor.

2. Literature review

Perceived ease of use (PEU) and perceived usefulness (PU) are the main components of technology acceptance modules (TAM) which have an essential role of technology acceptance (Venkatesh & Davis, 2000; Venkatesh, 2000; Venkatesh & Bala, 2008). Extended factor, perceived enjoyment (PE) has also a strong impact on technology acceptance through its added value to technology use by fun, coolness, playfulness, and interactive content (Yim, & Yoo, 2020). The last extension to factors affecting the technology acceptance is the perceived trust (PT), trust can be shown from the data privacy and integrity, which has an important role to motivate the acceptance of technology (Rasmi, et al., 2018). Perceived ease of use can be defined as the level of technology used having the perception of the best use of the defined technology. PEU has a significant direct or indirect relationship with behavioral intention to use, which is a key critical success factor of successful technology implementation (Alhashmi, Salloum, & Mhamdi, 2019). And as per Venkatesh and Davis (2000), Venkatesh and Bala (2008) and Venkatesh (2000), perceived ease of use is defined as the level that person believes that using a specific system would be out of effort. The digital innovations offer companies new opportunities to initiate new special experiences, which rapidly lead the era of digital transformation which has a strong effect on customers' perceptions about product or service innovations. Therefore, creating products with a high level of acceptance is essential to protect companies' growth and profit (Jahanmir, & Cavadas, 2018). For perceived usefulness (PU) it can be linked to the level in which users expect from the new technology to improve job performance, in the healthcare sector, it's the measure by which technology improves a HCPs acceptance. Moreover, the HCPs perceptions determine the extent to which it will be implemented (Alhashmi, Salloum, & Mhamdi, 2019). And as per (Davis, 1987, 1989), perceived usefulness is defined as the level of which a person believes that using a specific system would strengthen his/her work performance and reflected positively on overall performance effectiveness. The major goal of TAM is to forecast the acceptance of new technology among users and to highlight the problems of the information system before its usage becomes prevalent among people. (Kamal, Shafiq, & Kakria, 2020). Moreover, perceived enjoyment refers to the level of enjoyment an individual gets from technology usage. Basically, perceived enjoyment construct is linked to the level to which technology is entertaining and exciting to the consumers. It is related to enjoyment component that helps a consumer escape dullness, find entertainment and seek pleasure and enjoyment, A number of studies in various technological settings have analyzed the effect of perceived enjoyment on acceptance and use of technology, most of these studies have found technology usage and perceived enjoyment to be positively correlated with each other as higher level of enjoyment motivates users to spend more time on the targeted technology which in turn increases users expectation about using technology. Therefore, perceived enjoyment has a strong impact on both attitude and consumers' behavioral intentions towards using a specific technology (Bedi, Kaur, & Lal, 2017). However, perceived trust is a behavioral belief that has been studied in digital marketing and shown to have a preferable effect on consumers' intention to use a technology. Trust can be defined as the belief that the other party will behave responsibly and will not attempt to exploit user susceptibility. There are two kinds of trust: 1) party trust - trust in the benevolence and credibility of a particular party; and 2) control trust - trust in the integrity of the transaction medium. The importance of trust is heightened when there is a high level of uncertainty (Schnall, et al., 2015). Trust has been found to be an essential motivator for the use of technology. The information's quality and integrity are indicators of trustworthiness. Trust in the online system's security or in the quality of the system's offerings. Under different studies, the term of trust in technology acceptance has diverse connotations for different people. (Rasmi, et al., 2018). Based on the above discussion, the following hypothesis can be generated:

H_{01}: There is no impact for (perceived ease of use, perceived usefulness, perceived enjoyment, and the perceived trust) on healthcare providers acceptance to digital marketing in Jordanian medical field at ($\alpha \leq 0.05$).

The integrated technological approaches with the traditional marketing activities identified as digital marketing, digital marketing has a specification that needs to be understood to develop and execute an effective marketing plan. With the raising up of acceptance to new technology for both people and companies increase the importance of digital marketing to interact and engage with customers. The quick growth for internet users since 2010 was reported as more than 2 billion and it's expected to double every year, digital marketing has become an essential tool for executing the company's marketing plans. Digital marketing applications are mainly divided into 1- online advertising, 2- affiliate marketing, 3- email marketing, 4- social media marketing, 5- search engine optimization (SEO). (Nuseira, & Aljumahb, 2020).

The importance of digitalization as a part of business is highly elevated, as it's the base in upgrading traditional patterns of business activities execution to interact with customers. The new trend of exploitation of digital marketing in business activities has changed the competition basis and influenced customer's attitude. Digitalization has a strong effect on companies and influences brands through the implementation of online services that includes storing, searching, and playing

entertainment, email, Facebook, and other applications that change the way of interaction (Kiili, et al., 2019). Because of its relevance in communicating with stakeholders, literature has addressed the necessity for a "market in the digital world." The online availability of goods and services allows businesses to browse, enquire, communicate, complain, purchase, and pay for goods and services from remote areas. For effective interaction among stakeholders, the majority of firms have implemented the most up-to-date technological equipment and methods. To efficiently disseminate information, most marketing techniques lean heavily on the use of online interactive technologies.

Traditional marketing techniques and structures have been modernized, and technology focused operational activities, such as communication with customers and stakeholders, have been introduced. Because marketing communication via digital technology promotes engagement among participants, it allows businesses to develop long-term relationships between customers and marketers for mutual goals and progress (Yoga, Korry, & Yulianti, 2019). Employee engagement has improved, sales have increased, trust and loyalty have increased as a result of digital content marketing (Hollebeek & Macky, 2019). In this research, health care providers (HCPs) As per the WHO definition is all worker in the medical field and indirect contact with patients or their families including physicians, nurses, pharmacists nutritionist paramedic, etc. in this research and as per the market dynamics in Jordan this research will focus on physicians, nurses, and pharmacists.

However, the success with any market needs deep understanding and adaptation for our plan with the specific behavior and culture of this market, that's highly linked to the subjective norms effect on our business plan. Subjective norms refer to consumer perception, perceived stress, power forced and influenced by others, like peer's family fiend's media and authority figures, which have direct or indirect effect on consumer decisions. Sometimes consumers want to buy something, but their family or friends have strong influence to avoid specific products, so we cannot ignore the behavioral structure in each market and its effect in the decision making process (Bhatti, & Akram, 2020). The culture origin of the consumer is suggested as a former to attitudes, which precedes sustainable behaviors, and pragmatism in a national culture suggested as moderating sustainable behavior intention. Sustainable consumption can include both sustainable attitudes and sustainable behavior. (Minton, et al., 2018). research on sustainable consumption, specifically on consumption communities found two dimensions of subjective norms: 1- the specific expectations related to the consumption group (macro-level) and 2- the way in which the individual within the group adheres with these expectations comparing with other group member (micro-level) (Fishbein & Ajzen, 1975, 1980; Fishbein, 2008). Hence, the following hypothesis can be generated:

H_{02}: There is no statistically impact at significance level ($\alpha \leq 0.05$) for subjective norms in improving the impact of (perceived ease of use, perceived usefulness, perceived enjoyment, and the perceived trust) on healthcare providers acceptance for digital marketing in Jordanian medical field.

This research distinguished from the previous research by examining the independent variables of (Perceived ease of use, Perceived usefulness, Perceived enjoyment, and perceived trust) and including the effect of moderating variable (Subjective norms), on healthcare providers acceptance for digital marketing provided by the medical field companies, thus, it will expand the understanding of the research phenomenon and a more accurate interpretation of the results. Previous research in general talks about the technology acceptance from the different types of customer point of view. In this research we focus on important sectors (health care providers) and their acceptance to digital marketing provided by medical field companies, which does not cover before as per the best researcher knowledge. Healthcare providers reflect an important ground to implement the research, since the medical field companies face a bulk pressure to efficiently reach the broadest healthcare providers with their products knowledge and specifications which make it the first research to knock this door, and that was based on the researcher's best knowledge. This research creates a theoretical and analytical framework about digital marketing acceptance from the healthcare providers in Jordan.

3. Research model

Based on discussion above, the researchers developed the following model to demonstrate the relationship between the research variables:
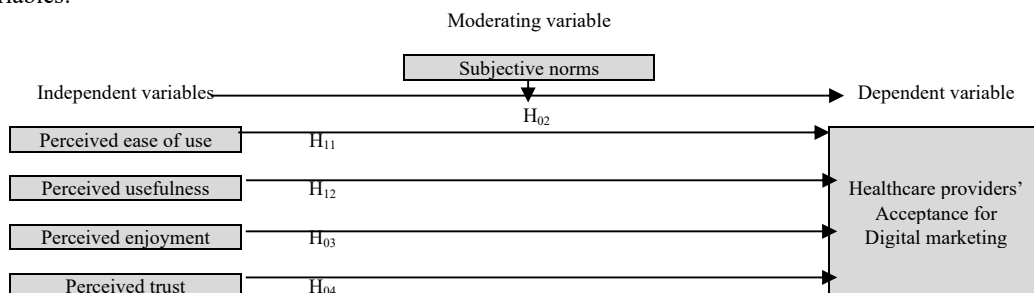

Fig. 1. Research model
Source: the model's structure is adapted from the following studies:
(Kamal, Shafiq, & Kakria, 2020; Bedi, Kaur, & Lal, 2017; Zhao, & Wang, 2020; Schnall, et al., 2015)

4. Research methodology

This research adopted descriptive and analytical approach, in order to test the impact of (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust), with presence of Subjective norms as moderating variable, on healthcare providers acceptance for digital marketing provided by the medical field companies in Amman City. The research population consisted of all healthcare providers working in the medical field sector in Amman city. A convenience sampling technique has been chosen to collect data from respondents. and the determined sample size planned to be (400) respondents; in order to achieve stable statistical analysis. However, the researcher used both (fieldwork and social media) to reach healthcare providers. Thus, after around three months of hard work of questionnaire distribution we reached more than (400) healthcare providers. Unfortunately (388) answers were retrieved and the valid questionnaire for analysis was (375) due to the healthcare providers work pressure difficulty, while the response rate was (97%). The study variables' measurements are developed from a set of previous studies as seen in Table 1.

Table 1
Variable's measurements

Variables	Measurements
Perceived ease of use	(Kamal, Shafiq, & Kakria, 2020; Dhagarra, Goswami, & Kumar, 2020)
Perceived usefulness	Kamal, Shafiq, & Kakria, 2020; Dhagarra, Goswami, & Kumar, 2020)
Perceived enjoyment	(Yim, & Yoo, 2020).
Perceived trust	Kamal, Shafiq, & Kakria, 2020; Dhagarra, Goswami, & Kumar, 2020)
Healthcare providers acceptance for digital marketing	(Shoter, Bataineh, & Salhab, 2016)
Subjective norms	(Al-Swidi, et al., 2014).

4.1 Sample characteristics

Table 2 shows sample characteristics, for the healthcare providers in Amman city.

Table 2
Sample characteristics

Variable	Category	Frequencies	Percentage
Your Job	Nurse	64	17.1
	Physicians	44	11.7
	Specialist Physicians	199	53.1
	Pharmacists	68	18.1
	Total	375	100.0
Are you in contact with regular visits of medical field companies' representatives?	Yes, high contact (more than 10 visits per day)	84	22.4
	Yes, (5 to 10 visits per day)	67	17.9
	Yes, (less than 5 visits per day	115	30.7
	No (no regular visits)	109	29.1
	Total	375	100.0
Are you prescriber for any medical field products?	Yes	278	74.1
	No	50	13.3
	No but having Influence on prescriber	47	12.5
	Total	375	100.0
Years of Experience	Less than 5	45	12.0
	5 - less than 10	111	29.6
	10 - less than 15	91	24.3
	15 and above	128	34.1
	Total	375	100.0
Workplace	Public sector	176	46.9
	Private hospital	90	24.0
	Private clinic	70	18.7
	Private pharmacy	28	7.5
	Chain pharmacy	11	2.9
	Total	375	100.0
Gender	Female	183	48.8
	Male	192	51.2
	Total	375	100.0
Age (years)	22 – less than 30	50	13.3
	30 - less than 38	132	35.2
	38 -Less than 46	105	28.0
	46 and above	88	23.5
	Total	375	100.0

4.2 Validity and reliability

Based on Laher (2010) and Churchil & brown (2014) the researcher used face validity and construct validity. The researcher conducted (pilot research) with professional academic staff from reputable universities in Jordan, and they delivered scientific recommendations that supported the research instrument. For construct validity, the researcher used comprehensive methods in revising related previous work and literature to set the cornerstone for the research model, measurements and hypotheses. Furthermore, EFA + CFA have been applied as follow:

4.2.1 Exploratory factor analysis (EFA)

Exploratory factor analysis (EFA) was performed using the principal component method to evaluate the validity of the independent variable (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust), the dependent variable (healthcare providers acceptance for digital marketing) and the moderating variable (subjective norms). The factor loads (which represent the degree of variation an item contributes to the factor's total variation) should not be less than 40 %, (Laher, 2010). The preferred case is that all questionnaire items load on one factor, but in some cases the items load on more than one factor. In this case the researcher chooses the factor that has the higher loading rather than the other factor. If a factor being extracted with less than three items loaded on it should be deleted. Kaiser suggests the Eigen value as criteria to generate the factors that represent the sum of loadings squares of that factor. If an Eigenvalue of less than one for a given factor, that factor should be deleted and the process of extracting more factors terminates (Laher, 2010). The explained variance of a factor represents the average amount of the total factor's variance per an item, as the value increases the explained variance is positively recognized.

KMO is a test suggested by (Kaiser, Meyer and Olkin) to identify the adequacy of data being used to be analyzed by factor analysis. The test value should be between (0 -1). Practically a value of 0.50 or more is representing sufficient and adequate data (Hair, Black, Babin & Anderson, 2010). The Barlett's test is a test used to explore that the correlation matrix for the variables is an identity matrix (zero matrix) practically the test is provided with a value representing type 1 error ($\alpha \leq 0.05$). If the sig value was ≤ 0.05 the test is positive meaning that the data is convenient to be analyzed by factor analysis as it represents different sampling for the research population. All the mentioned concepts will be used to interpret the results of the upcoming tables considering that the mentioned concepts and criteria were met.

Table 3
EFA analysis for the items representing each factors of the Independent Variables

Dimensions	Code	Factor Loading	Sig	Bartlett's Test of Sphericity – Chi-Square	Explained Variance	KMO
PEU	1	0.77	0.000	151.704	39.165	0.654
	2	0.51				
	3	0.77				
	4	0.79				
	5	0.65				
	6	0.77				
PU	7	0.82	0.000	204.902	55.195	0.754
	8	0.89				
	9	0.94				
	10	0.86				
	11	0.75				
	12	0.74				
PE	13	0.84	0.000	188.856	30.649	0.703
	14	0.51				
	15	0.83				
	16	0.56				
	17	0.79				
	18	0.86				
	19	0.75				
	20	0.81				
PT	21	0.76	0.000	36.504	29.143	0.825
	22	0.67				
	23	0.78				
	24	0.89				
	25	0.87				
Total	**Independent**		0.000	25.452	70.464	0.884

Table 3 shows that for the perceived ease of use the KMO test value is 0.654 So the value of KMO suggests an acceptable data adequacy for the purpose of factor analysis, and the Sphericity test (Barlett's) is 151.704 with sig 0.000. Perceived usefulness the KMO test value is 0.754 So the value of KMO suggests an acceptable data adequacy for the purpose of factor analysis, and the Sphericity test (Barlett's) is 204.902 with sig 0.000. For perceived enjoyment the KMO test value is 0.703 So the value of KMO suggests an acceptable data adequacy for the purpose of factor analysis, and the Sphericity test (Barlett's) is 188.856 with sig 0.000. While perceived trust the KMO test value is 0.825 So the value of KMO suggests an acceptable data adequacy for the purpose of factor analysis, and the Sphericity test (Barlett's) is 36.504 with sig 0.000. However, the test of sphericity suggests significant probabilities among the used factors in the correlation matrix. As could be figured out from the results of probability, all the probabilities were significant at $p < 0.05$ level, meaning significant relationships between the factors included in the analysis. The table shows that the item loadings represent the concept of convergent validity. Typically, a variable is mentioned to be convergent if a loading value 0.40 or greater was achieved. testing the provided results, we can see that all loading values are higher than (0.40) assuming reasonable convergent validity.

Research results indicated that the relative importance of the independent variables (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust) came high in general, where the variable (perceived trust) came first with the highest arithmetic average (3.94), and high relative importance, followed by (perceived usefulness), with mean reached to (3.81), with high relative importance, followed by (perceived enjoyment), with mean reached to (3.80), and high relative importance, followed by (perceived ease of use), with mean reached to (3.73), and high relative importance.

The researchers explains this result by the healthcare providers awareness about the importance of (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust) that helps in facing continuous and rapid changes in the medical field companies digital marketing, as these factors can positively affect their acceptance to the new reality of digital marketing. The result of having (perceived trust) the highest relative importance, in digital marketing acceptance from the healthcare providers, is explained by the fact that perceived trust represents the keys of medical knowledge, data privacy, commitment from the medical field companies, and includes the feeling of safety and security while dealing with such critical, updated and important medical knowledge which may affect patients treatment process and quality of life.

The researcher traits the presence of a high impact of (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust) on healthcare providers acceptance for digital marketing provided from the medical field companies, to the healthcare providers high interest and exposure for the new technologies in the medical field, so that they will be able to accept the new way of medical field company digital marketing specially if these companies aligned with the factors that will improve the acceptance of digital marketing and saving the healthcare providers time and efforts.

This result agrees with the result of (Dhagarra, Goswami, & Kumar, 2020), which indicates that perceived ease of use, perceived usefulness, trust, and privacy concern are directly affect patients' behaviors to accept technology in healthcare services. And as per (Gagnon, et al., 2016) the perceived usefulness and ease of use, privacy and security issues, were the main perceived adoption factors for m-health at the level of healthcare providers. As well as the result of (Kamal, Shafiq, & Kakria, 2020) which found that in addition to TAM, other factors such as perceived risk, trust, conducive conditions, and reluctance to change can help create and provide adequate telemedicine services in underdeveloped nations.

Table 4
EFA analysis for the items representing the Dependent Variable (healthcare providers acceptance for digital marketing) HPADM

Dimension	Code	Factor Loading	Sig	Bartlett's Test of Sphericity – Chi-Square	Explained Variance	KMO
HPADM	26	0.91	0.000	361.421	32.080	0.499
	27	0.86				
	28	0.92				
	29	0.92				
	30	0.82				
	31	0.83				
	32	0.80				
	33	0.84				

The Kaiser-Meyer-Olkin tests the adequacy and suitability of data used for factor analysis. A critical value 0.50 is considered to be the smallest satisfactory value. From the above table we observed that for the healthcare providers acceptance for digital marketing the KMO test value is 0.499 as seen in table 4. So the value of KMO suggests an acceptable data adequacy for the purpose of factor analysis, and the Sphericity test (Barlett's) is 361.421 with sig 0.000. The test of sphericity assumed significant probabilities among the factors used in the correlation matrix. As could be found out from the results of probability, all the probabilities were significant at $p < 0.05$ level, meaning significant relationships between the factors included in the analysis. The item's loadings reflect the concept of convergent validity. Typically, an item is said to be convergent if a loading value of 0.40 or greater was achieved. testing the provided results, we can see that all loading values were above the minimum required (0.40 or greater) suggesting reasonable convergent validity. The results showed that the relative importance of

healthcare providers acceptance for digital marketing from the medical field companies, came to a high degree, where the means ranged between (4.23 - 3.44), this result is due to the awareness healthcare providers about the importance of digital marketing acceptance, aiming at achieving both medical knowledge and efficient engagement with medical field companies, by anticipation and facing challenges that can be experienced by it, and superiority over existing and new marketing strategies.

The researchers explained this result with the interest of the healthcare providers in the acceptance of digital marketing provided from the medical field companies, through the enhancement of the main factors (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust) that affect the acceptance of digital marketing from the medical field companies. This result agreed with the result of the research (Nuseira & Aljumahb, 2020), which The establishes an empirical relationship between digital marketing activities and business performance while controlling for external influences, as well as the result of the research (Rasmi, et al., 2018), which shows the healthcare professionals acceptance of electronic health records system, which shows the effect of trust and other factors on healthcare professional acceptance for new technology to increase the quality of services provided to patients.

Table 5
EFA analysis for the items representing the Moderator Variable (Subjective Norms)

Dimensions	Code	Factor Loading	Sig	Bartlett's Test of Sphericity – Chi-Square	Explained Variance	KMO
SN	34	0.75	0.000	118.866	57.085	0.699
	35	0.84				
	36	0.66				
	37	0.90				
	38	0.58				

The Kaiser-Meyer-Olkin tests the adequacy and suitability of the data used for factor analysis. A critical value 0.50 is considered to be the smallest satisfactory value. For the subjective norms the KMO test value is 0.699 as seen in table 5. So the value of KMO suggests an acceptable data adequacy for the purpose of factor analysis, and the Sphericity test (Barlett's) is 118.866 with sig 0.000. The test of sphericity assumed significant probabilities across the factors used in the correlation matrix. As could be found out from the results of probability, all the probabilities were significant at $p < 0.05$ level, meaning significant relationships between the factors included in the analysis. The item's loadings reflect the concept of convergent validity. Typically, an item is said to be convergent if a loading value of 0.40 or greater was achieved. Inspecting the provided results, we can see that all loading values were above the minimum required (0.40 or greater) suggesting reasonable convergent validity. The results of the research indicate that the relative importance of the (subjective norms) items came high in general, as the arithmetic mean of the items of this variable ranged between (4.07 - 3.31), this result attributed to the interest of healthcare providers to set high role of subjective norms while accepting the medical field companies digital marketing, as well as for the medical field companies as they have to respond to the factors that can strengthen the acceptance of medical field companies digital marketing and taking in consideration the important role of subjective norms. The researcher explains this result that subjective norms is one of the most prominent parts of human behavior, and one of the most important pivotal aspects that go directly into decision making process and affects the acceptance of digital marketing for the better achieving all the main and secondary goals to be done in both the short and the long terms, which makes subjective norms one of the most important tool that ensure the continuity and success of the digital marketing acceptance. This result agrees with the result of the research (Bhatti, & Akram, 2020), which establishes that the Subjective norms standards moderate the link between risks and online shopping behavior.

4.2.2 Confirmatory Factor Analysis (CFA)

This analysis was made by software which delivers both the standardized and unstandardized loading for each item (question) on its proposed variable. The software provides an advantage that it gives hints for the goodness of fit for the overall data variables used in the model. These indicators are numerous. The researcher uses the most common indicators (six) that most studies rely on to decide the goodness of model fit, the comparative fit index CFI, chi square test ($\chi 2$), the normed fit index NFI, the goodness of fit index GFI, the Tucker-Lewis index TLI and the root mean square error of approximate RMESA. Each of these indicators has a reference value below which reflects good model fitting.

In general, the chi square test is the inferential test that uses probability to accept or reject the goodness of fit; the desired situation is that the probability of the chi square test is > 0.05 suggesting no statistical differences between the real (actual measured model) and the theoretical one. One major negative aspect of chi square test is that it is sensitive to the sample size (i.e. its affected depending on the sample size), accordingly it's rare that a researcher gets a suitable desired chi square value (i.e. $p > 0.05$). In the same context the RMSEA indicator refers to the average of squared errors of approximation, so the less the result, the desired situation is, typically a value less than 0.08 is considered to be fair, other suggest that this value should be less than 0.05 to expresses a good indicator (the ideal situation is to equal 0.00). Both the CFI and GFI indicators range

between (0 -1) so a value around 0.90 or higher propose a good fitting. The results pertaining to the independent variable (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust), the dependent variable (healthcare providers acceptance for digital marketing) and the moderator variable subjective norms are provided in the upcoming Tables 6.

Table 6

Matrix of correlation between dimensions correlations

	Dimensions	PEU	PU	PE	PT	independent	Dependent	Moderating
PEU	Pearson Correlation	1	.741**	.659**	.654**	.856**	.727**	.562**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	375	375	375	375	375	375	375
PU	Pearson Correlation	.741**	1	.711**	.746**	.901**	.782**	.655**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	375	375	375	375	375	375	375
PE	Pearson Correlation	.659**	.711**	1	.738**	.901**	.697**	.625**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	375	375	375	375	375	375	375
PT	Pearson Correlation	.654**	.746**	.738**	1	.870**	.843**	.723**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	375	375	375	375	375	375	375
Independent	Pearson Correlation	.856**	.901**	.901**	.870**	1	.851**	.719**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	375	375	375	375	375	375	375
Dependent	Pearson Correlation	.727**	.782**	.697**	.843**	.851**	1	.740**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	375	375	375	375	375	375	375
Moderating	Pearson Correlation	.562**	.655**	.625**	.723**	.719**	.740**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	375	375	375	375	375	375	375

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

The AMOS V.23 software was also used to calculate the relevant indicators related to the research model, and Table 6 shows the results of the analysis.

Table 7

Indicators of complete alignment of the research tool with its dimensions

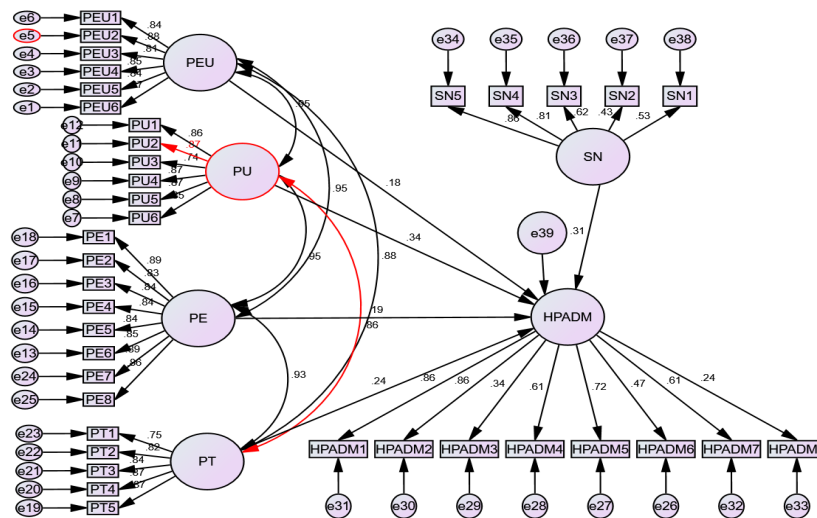| Indicator	Value	Indicator	Value
RMSEA	0.071	GFI	0.910
RMR	0.045	AGFI	0.930
χ^2	3163.919	TLI	0.641
DF	654	CFI	0.908
Minimum Variation χ^2/DF	4.838	NFI	0.889

Fig. 2. Regression model for variable dimensions and its coefficients

As it is shown in the above Table 7, the value of χ2 of the independent variables is (3163.919) in their dimensions is significant at the level of (α≤0.05), with degrees of freedom reached (654), where it was found that the value of the minimum variance (Quotient of χ2 values divided by degrees of freedom DF) was (4.838), which reflects that the independent variables in their dimensions has a good level of fit. Whereas, Arbuckle (2008) suggested that the value of the minimum variance should not exceed the value of (5). In light of the standard regression weights, which are known as validity or saturation coefficients, whose regression weights are supposed to be no less than (0.50) (Mezo & Short, 2012). The table also shows the indicators of the overall compatibility of the scale of independent variables, as the value of each of the GFI and AGFI, (0.910) (0.930) respectively and are close to the value of one. The values of the fit indicators were as follows: (0.889) for the indicator NFI, (0.641) for the indicator TLI and the value of (0.908) for the indicator CFI, which are close to the value of one. In the same context, the value of the Root Mean Square Error of Approximation (RMSEA) was (0.071) and it is very close to the value of zero. This indicates the quality of conformity and the validity of the paragraphs of the independent variables with their dimensions as seen in Fig. 2.

4.2.3 Reliability

Cronbach alpha reliability analysis was used to verify the internal consistency among the (questions) representing each element, dimension of the research variables. Alpha < 0.70 is considered appropriate in administrative sciences (Hair et al., 2010). The results are included in Table 8 below:

Table 8
Reliability analysis (Cronbach's Alpha) results for all research variables

	Variables	No. of items	Reliability
	PEU	6	0.938
	PU	6	0.937
IV	**PE**	8	0.955
	PT	5	0.918
	Independent variable	25	0.981
DV	**HPADN**	8	0.862
MD	**SN**	5	0.788

Table 8 shows the results of Cronbach alpha reliability analysis. The minimum value obtained was (0.788) for subjective norm item, while the maximum value which obtained was (0.955) for the perceived enjoyment item, the reliability mentioned values reflect a satisfactory reliability values (considering that the maximum value that could be reached is 1.00) so a conclusion of a high reliability could be driven (Hair et al., 2010).

5. Testing hypotheses

Table 9 represents the values of mean for the dimensions of the independent variables (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust**)**, we noticed that perceived trust has the highest dimension being rated in independent variables with the rank 1 and the mean is 3.9365, while perceived ease of use is the least one with rate 4 and mean 3.7284.

Table 9
Means for the dimensions of independent variables

No.	Dimensions	Mean	Standard deviation	Level	Rank
1	PEU	3.7284	.95663	High	4
2	PU	3.8089	.91250	High	2
3	PE	3.8033	.95892	High	3
4	PT	3.9365	.87136	High	1
5	**Independent variable**	3.8133	.88337	High	

Means description (1 – 2.33 low, 2.34 – 3.67 moderate, 3.68 – 5 high).

In order to test the research hypotheses; Linear regression was applied to test our hypotheses, but we must first verify the normality of the independent variable distribution. Table 9 below includes the results:

Table 9
The suitability of research data to test hypotheses analysis using VIF test

	Variables	Skewness	VIF	Tolerance
	PEU	-0.74	1.149	0.712
Independent variable	PU	-0.96	1.151	0.601
	PE	-0.94	1.111	0.612
	PT	-0.80	1.259	0.775
Dependent Variable	HPADM	-0.53	1.302	0.556
Moderating variable	SN	-0.47	2.713	0.524

Table 10 presents the results of the Skewness that will be an indication that the research data is close to the normal distribution. As we can see in the above table, all the results ranged between (-0.96) for the perceived usefulness dimension and (-0.47) for the subjective norms dimension. All of the mentioned results are within the acceptable range (in most studies is between -1 and 1).

Table 10
Normal distribution of research variables

Variable	Kolmogorov-Smirnov[a]				
	Statistic	DF	Sig.	Skewness	Kurtosis
PEU	0.11	375	0.874	-0.74	0.415
PU	0.15	375	0.564	-0.96	4.059
PE	0.15	375	0.356	-0.94	3.993
PT	0.14	375	0.754	-0.80	0.482
HPADM	0.09	375	0.958	-0.53	0.971
SN	0.12	375	0.856	-0.47	3.962

It is noted that the distribution of the research variables and their dimensions are all normal, as the ratios of the answers were (0.05), which is an accepted and approved level in the statistics.

The researchers used multiple regression analysis to test the first hypothesis:

H_{01}: There is no impact of (perceived ease of use, perceived usefulness, perceived enjoyment, and the perceived trust) on healthcare providers acceptance for digital marketing in Jordanian medical field at ($\alpha \leq 0.05$).

Table 11
Multiple Linear Regressions Analysis for testing the impact of (PEU, PU, PE,PT) on HPADM

Dependent Variable	Model summery		ANOVA			Coefficient				
HPADM	R	r^2	F	DF	Sig F*	Independent variable	β	Std. Error	T	Sig F
	.862[a]	.743	1077.504	.862[a]	.000[b]		.862	.022	32.825	.000

Table 11 indicates that the value of (r = 0. 862), which means that there is a positive correlation value of (86.2%) which is considered to be high between (PEU, PU, PE,PT) and (HPADM) in Amman city. The coefficient of determination value (r2 = 0.743), which means that the variation in (PEU, PU, PE, PT) has explained (74.3%) of the variance in (HPADM), as the analysis of variance shows that the value of (f) has reached (1077.504) when Confidence level (sig = 0.000) this confirms the significance of regression at ($\alpha \leq 0.05$) level, and at one degree of freedom. From the coefficient table, the value of (β=0.862), meaning that the increase in one unit in the (PEU, PU, PE, PT) variables leads to an increase by (86.2%) in (HPADM), and the value of (t = 32.825) at a confidence level (sig = 0.000) this confirms the coefficient significance at ($\alpha \leq 0.05$) level. Based on the above analysis, we reject the first main null hypothesis and accept the alternative hypothesis that: There is a statistically impact at significance level ($\alpha \leq 0.05$) for (PEU, PU, PE,PT) on HPADM in Amman city.

For the second hypothesis; the researchers used hierarchical multiple regression analysis to measure (perceived ease of use, perceived usefulness, perceived enjoyment, and the perceived trust) impact on HCPs acceptance to digital marketing moderated by subjective norms.

H_{02}: There is no statistically impact at significance level ($\alpha \leq 0.05$) for subjective norms in improving the impact of (perceived ease of use, perceived usefulness, perceived enjoyment, and the perceived trust) on healthcare providers acceptance for digital marketing in Jordanian medical field.

Table 12
Results of hierarchical multiple regression analysis to show the impact of (PEU, PU, PE, PT) on HPADM in existence of subjective norms

Dependent variable	Independent variables	First Model			Second Model			Third Model		
		P	T	Sig	P	T	Sig	P	T	Sig
HPADM	Independent dimensions (PEU,PU, PE, PT)	0.851	31.31	0.000						
	SN				0.264	7.185	0.000			
	Independent dimensions with the presence of SN							0.342	6.709	0.000
	R		0.851			0.871			0.885	
	R^2		0.724			0.758			0.784	
	Delta R^2		0.724			0.034			0.026	
	Delta F		979.993			51.630			45.004	
	Delta sig.		0.00			0.00			0.00	

The distribution is normal when the significance level ($\alpha < 0.05$)

The hierarchical multiple regression analysis based on three models shows that, as the outcome of the first model based on the correlation coefficient value was (R= 0.851) and this value indicates a positive correlation between (PEU, PU, PE, PT) and HPADM.

The results in Table 12 also showed that there was a statistically significant effect of the variables (PEU, PU, PE, PT) on HPADM which is presented by the Δ F value (979.993) at significant level (0.00) was (α<0.050). In addition to the value of the coefficient of determination which indicate the variability observed in the dependent variable when using the independent variable to expect it, R2 was (0.724) which means that a value of (0.724) of changes in HPADM is a result of the change in the presence of (PEU, PU, PE, PT). in addition to the B result was (0.851) which means the increase in (PEU, PU, PE, PT) lead to an increase in HPADM with a value of (0.851), this indicates that the (PEU, PU, PE, PT) justified the variance in HPADM with a percentage of 85.1%. In the second model the moderating variable (subjective norms) was used for the regression model, and the value of the correlation coefficient increased to (R = 0.871).

In addition to the value of the coefficient determination R2 became (0.758), this percentage is statistically significant, as the change was in value (Δ F = 51.630) at a level of significance (α ≤ 0.05). The B value changed to (0.264) at the moderating variable (subjective norms), t value (7.185) at Significance level (0.00). And this shows the role of subjective norms as moderating variable in improving the impact of (PEU, PU, PE, PT) on HPADM, as the variance percentage of explanation in HPADM has increase by (0.034) (from (0.724) to (0.758)). In the model number three the independent variable (PEU, PU, PE, PT) and its dimensions was used with the presence of the subjective norms as moderating variable for the regression model, as the value of the correlation coefficient increased to (R = 0.885). In addition to the value of the coefficient determination R2 became (0.784), this percentage is statistically significant, as the change was in value (Δ F = 45.004) at a level of significance (α ≤ 0.05). The P value changed to (0.342), t value (6.709) at Significance level (0.00). And this confirms the role of (PEU, PU, PE, PT) with the presence of subjective norms (moderating variable) in improving the impact of (PEU, PU, PE, PT) on HPADM, as the variance percentage of explanation in HPADM has increase to (0.784). Based on the sig value (0.000) of the moderation effect, the null hypothesis is rejected and the alternative hypothesis is accepted at that state: There is a statistically impact at significance level (α≤0.05) for subjective norms in improving the impact of (PEU, PU, PE, PT) on HPADM in Amman city.

6. Research results

Results related to the first main hypothesis showed that there is a statistically significant effect of (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust) on healthcare providers acceptance for digital marketing provided by the medical field companies, where the coefficient of determination (0.743), and the level of statistical significance (α ≤ 0.05), which means that the medical field companies have to follow strategies enables it to enhance the (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust), which statistically affects the (healthcare providers acceptance to the medical field companies digital marketing).

The researcher traits this result to the fact that medical field companies seek to pay attention to (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust) from their awareness that encouraging and motivating healthcare providers towards accepting the digital marketing provided by the medical field companies, on the other hand, healthcare providers acceptance to digital marketing leads to many positive results, the most important of which is achieving the medical field companies marketing objectives with full suitable and efficient technique for healthcare providers, increasing the medical field companies competitions and environmental sustainability.

This result is in line with the result of (Schnall et al., 2015) research, whose results was about mobile health needs for perceived ease of use, usefulness, with little perceived risk accompanied by a measure of trust in the technology creators. The results of the current research also agreed with the results of (Dhagarra, Goswami, & Kumar, 2020), which indicate that perceived ease of use, perceived usefulness, trust, and privacy concern directly affect patients' behaviors to accept technology in healthcare services.

This result also agreed with the result of a research of Alhashmi, Salloum, & Mhamdi (2019), whose results in addition to managerial, organizational, operational and IT infrastructure factors also perceived usefulness, and perceived ease of use, should be included as critical success factors to control the execution of artificial intelligence in the healthcare sector. As well as agreeing with (Bedi, Kaur, & Lal, 2017), as this research adds value to marketers to know the strong effect of interactive website experience (perceived enjoyment) for online consumers. Moreover, the results of the research showed that there is statistically impact at significance level (α≤0.05) for subjective norms in improving the impact (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust) on healthcare providers acceptance for digital marketing provided by medical field companies, where the moderating variable (subjective norms) change the determination value of the model from ($R^2 = 0.724$) in the first model, to ($R^2 = 0.758$) in the second model, and ($R^2 = 0.784$) in the third model.

This indicates that (subjective norms) as a moderating variable has a positive impact on the direct impact between (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust) and healthcare providers acceptance for digital

marketing provided by medical field companies, as this moderating variable raised the impact values clearly, and this effect was statistically significant.

The researcher explains this relation of improving and increasing the impact of (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust**)** on healthcare providers acceptance for digital marketing provided by the medical field companies, by having (subjective norms), to what it achieves (subjective norms) from increasing healthcare providers acceptance for digital marketing provided by the medical field companies, to reach the desired strategic success, and achieving goals, in addition to improving the ability of medical field companies to avoid threats that they may encounter in the work environment, thereby achieving higher efficiency, and the ability to continue and compete.

This result agreed with the result of the research (Minton, et al., 2018), which propose that acceptance and consumption differences justified by the country level of pragmatism and culture value, and based on the theory of reasoned action, research found that subjective norms affect the relationship between the level of pragmatism of sample nation and acceptance behavior. Also this result agreed with the result of the research (Bhatti, & Akram, 2020), which establishes that the subjective norms standards moderate the link between risks and online shopping behavior.

7.   Conclusion and managerial implications

Healthcare providers working in Amman are representing healthcare providers in they rely on the use of modern technology, including attention to (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust**)** in their acceptance to digital marketing provided by the medical field companies. Healthcare providers are agreed with (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust**)** focus their attention on (perceived trust), as they are believing in the importance of medical knowledge, data privacy, and commitment from the medical field companies, and includes the feeling of safety and security while dealing with such critical, updated and important medical knowledge which may affect patient's treatment process and quality of life.

The relative importance of (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust**)** on healthcare providers acceptance to digital marketing provided by the medical field companies was high, and this means that these healthcare providers realize the importance of independent variables which represent high level of (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust), that enables healthcare providers to accept the medical field companies digital marketing. The relative importance of healthcare providers acceptance for medical field companies digital marketing in Amman came at a high level, and this indicates the high level of healthcare providers acceptance to digital marketing provided by the medical field companies, through many practices, the most important of which are: their strong believe in accepting digital marketing in the near future and accepting the hybrid module of engagement with medical field companies.

The relative importance of the subjective norm's variable is generally high, and this explains that the healthcare providers in Amman city realize the importance of subjective norms in raising the effect level of (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust**)** on their acceptance to digital marketing provided by the medical field companies. There is a statistically significant effect of (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust**)** on healthcare providers acceptance to digital marketing provided by the medical field companies, and this is what requires medical field companies to continue to pay attention to the (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust) in order to maintain a high level of healthcare providers acceptance to digital marketing provided by them and to ensure its continuity and survival in a competitive environment. The variable (subjective norms) as a moderating variable led to an increase in the value of the impact between (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust**)** and healthcare providers acceptance to digital marketing provided by the medical field companies, this indicates that subjective norms has a positive impact on the direct impact between (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust**)** and healthcare providers acceptance to digital marketing provided by the medical field companies, and therefore attention must be paid to the issue of subjective norms by medical field companies.

8.   Recommendations and future research

Based on the results reached, the researcher presented a set of recommendations and future research, which are the following: (1) The need to continue enhancement to the (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust**)**, through the medical field companies and understand the importance of the (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust**)** to increase healthcare providers acceptance to digital marketing provided by the medical field companies. (2) Healthcare providers should continue developing themselves in the field of technology acceptance in order to preserve their reputation, and keep engaged with medical field companies, due to its importance in efficiency and keeping up to date with the recent medical knowledge. (3) The need to adopt a clear vision in digital marketing acceptance from medical field companies, to enhance healthcare providers' affiliation by giving them special privileges to maintain permanent contact with them, in addition to the need to adopt patterns of subjective norms which may help them

achieve goals and succeed in providing their services. (4) The necessity of working to take proactive measures by medical field companies to create a technology acceptance model, and work to raise the level of healthcare providers acceptance for digital marketing.

On the other hand, the researchers might encourage other researchers to consider in future examining the relevance and applicability of (Perceived ease of use, Perceived usefulness, Perceived enjoyment, and perceived trust) on healthcare providers acceptance to digital marketing provided by the medical field companies in Amman city in Jordan on larger samples, this will help in supporting the results gotten in this research. In addition to the possibility of investigating the influence of other moderating variables. Other researchers might also test the generalizability of the results of this research and evaluate whether similar effects can be repeated between (Perceived ease of use, Perceived usefulness, Perceived enjoyment and perceived trust), healthcare providers acceptance for digital marketing provided by medical field companies, and subjective norms. Researchers might also investigate the effect of various moderating variables such as personal benefits, social class and emotional intelligence or use the research model in comparative research in different business contexts.

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