The impact of significant factors of digital leadership on gamification marketing strategy

Yousef Hichaim Sultan[1], Karar Saleh Suhail[2]
[1]Professor, University of Kufa, Kufa, Iraq
[2]Assistant Professor, University of Kufa, Kufa, Iraq

ABSTRACT

An organization that has a better understanding of customer experience creates offerings promise greater value-in-use than similar competing offerings, which enable the most innovative organizations in the world to outperform their competitors. Therefore, they are looking for employing modern concepts in marketing with research based on success factors. Therefore, this study aims to identify the effect of significant factors of digital leadership on gamification marketing strategy. This study was applied in Iraq. A conceptual model was developed to explain the relationship between the variables. The measurement scale examined the basic factors (digital culture, digital insights, digital competence, and digital strategy) and their effect in gamification marketing strategy in order to identify the relationships between the variables, the study reached the conclusion that there is a great positive importance to the use of digital leadership factors in gamification marketing strategy.

Keywords— Strategy, Digital culture, Digital insights, Digital competence, Digital strategy, SEM

1. INTRODUCTION

The health sector in Iraq suffers from severe conditions during many periods, after a decade of war, the Iraqi government embarks in the strengthening of private firms after years of sanctions. The government of Iraq for the preceding period after the international war and a series of several sanctions that negatively affected the medical system focused on the development of the old medical system. Therefore, they are looking for factors that can contribute to the development of the healthcare system. In this context, several management concepts have emerged and have proven outstanding success stories, such as digital leadership and gamification marketing strategy.

Past studies have tried to link digital marketing and business operations such as marketing and selling. Digital leadership has been supported by the development of computers. Introduction of 'World Wide Web' accelerated digital leadership. Digital leadership is characterized by three Cs which are communication, computing, and content[1]. Several factors including changes in technology and globalization have forced the world to transform from a traditional form of leadership to digital leadership. Digital leadership is not always about big projects but about transforming the people within the organization and their ways of working[2]. In digital leadership, skills are developed across the whole organization including the marketing department and not across a single department. Teams and the hospital board has to be inspired by the benefits of digital leadership for it to be effective.

Furthermore, the concept of gamification is still new among professional who are dwelling in traditional careers such as medicine and even business. Gamification is the application of games principles and game-like designs in a non-gaming context to achieve specific goals[3]. The game has rules and interactive interface which guide both participants in achieving the desired goals. The rules of the game can be applied in the concept of marketing to involve clients and suppliers to encourage participation[4]. Therefore, the principle of gamification in healthcare may be affected by digital leadership which includes digital culture, digital insights, digital competence and digital strategy[5]. Therefore, this study will explore the literature review of digital leadership and salient components and explore the impact of significant factors of digital leadership on gamification marketing strategy in the healthcare sector.

2. LITERATURE REVIEW

2.1 Digital leadership

Within the field of organizational behavior, leadership is one of the topics that has received the most attention, both from academics and from employers. As for the academics, these have sought to reach consensus on conceptualization and, referring to employers, they have tried to understand what models could implement in their organizations in order to improve their effectiveness. Thus, for decades a large number of studies and important analyzes have been carried out, from which it has been possible to expand knowledge about leadership, proposing models, theories and intervention strategies.

Digital leadership is a new concept in the corporate world in which management functions are achieved via digital platforms. The digital leadership style uses democracy in most instances since it is an open platform which attracts a variety of people, organizations and even platforms[6]. Consequently, the emergence of the three C's in management style denoted as computing, communication and content in digital form style of management is the basis of digital leadership[7]. Leaders need to think, act and react differently to make their organizations succeed in the digital world as shown in figure 1.

Leaders need to think, act, and react differently to make their organizations succeed in a digital world		
Cognitive transformation (THINK differently)	**Behavioral transformation (ACT differently)**	**Emotional transformation (REACT differently)**
Conceptualizing possibilities in a virtual world	Adapting to constantly shifting power and influence	Tolerating an environment of risk and ambiguity
Handling ever-increasing cognitive complexity	Collaborating with ease across many different teams	Showing resilience in the face of constant change
Thinking divergently about new ways of doing things	Valuing the contribution of new work partners and different interest groups	Being brave in challenging how things are being done
Making decisions quickly without all of the information	Investing huge amounts of energy into getting things right; try, fail, try again	Having the confidence to take the lead in driving change

Fig. 1: Leadership capabilities needed for succeed in the digital world

Leadership has the concept of influence which implies, for a leader to achieve what will be described as digital leadership he must engage the digital aspects namely internet computing, communication and must have relevant content[8]. Digital leadership includes four dimensions with seven pillars as shown in figure 2.

Fig. 2: Pillars of digital leadership

2.1.1 Digital culture: Digital culture is the use of digital products, platforms and sites which encourages participatory, communication and convergence of people having the same interest. Digital culture is the movement of people from a print culture such as newspapers and printed books to an online source of information[9]. Digital culture is stirred by digital leadership as per each category but remains to be an informal form of interaction in which professionals and clients can interact and discuss issues regarding their roles while giving their views on real time[10]. For instance, the digital platform is taking the majority of the tasks involving marketing in which all participants observe the unwritten rules[11].

2.1.2 Digital Insights: Digital insights are a subset of digital leadership. Digital insight includes aspects such as information on the use of the products, specific consumer data and information about products offered in the market. Digital insights provide a clue to the digital leadership to effectively achieve and promoted in the process[12]. Digital insights target precise information which affects specific groups of consumers such as medical clients and even supplier to the private hospitals. The digital insights aim to turn large quantities of data into meaningful action and executable function in driving the medical market[13].

2.1.3 Digital Competence: The target market of any provides the channel in which the message can reach the potential customers and the existing customers. The concept of digital competence is achieved when digital leadership is aligned with the abilities and capabilities of digital consumers and all clients affiliated to private hospitals[14]. The shift of the global health system towards preventive approaches has forced many people to be digitally competent and conversant with the usage of the digital platform for information acquisition and even interacting with caregivers in matters healthcare[15].

2.1.4 Digital Strategy: A digital strategy is the use of the digital platform to generate a scheme which aims at a long term goal. The digital strategy employs the principles and tactics of strategic management which include the use of computers, online sites and online games[16] in transforming the perception and the direction in which the customers will undertake[17]. The digital aspect strategy is embedded within the leadership which is administered via online platforms. Since the online sphere is significant and that each internet user can be reached, made to interact and retained within the required course, digital strategy sums all the tasks and roles that aim at reducing stiff competition from the competitors by providing attractive platforms, application and combination of all comparative advantages of the firm in achieving the desired marketing goals[18].

2.2 Gamification Marketing Strategy

Gamification is the concept of applying rules of games in the non-gaming arena. Any marketing system implemented as tradeoffs which have been a problem in achieving a self-sustaining marketing approach other than the use of resources[19]. The concept of gamification marketing plays an essential role in achieving customers' and suppliers' attention among private hospitals. Gamification marketing includes the use of rules which ensure the entity facets and affiliates interact with the customers in all dimensions. The ideology of marketing within the context of healthcare uses rules which have rewards such that it is goal-oriented interaction. Gamification marketing strategy is a marketing strategy that demands the active involvement of the consumer[20]. In gamification marketing, consumers are allowed to interact with the product provider as opposed to passive brand awareness. The interactive platform such as a social media site can be provided by a third party to allow communication between the hospital and the consumers.

3. MATERIAL AND METHODS

3.1 Measurement instrument

A questionnaire consisting of multiple choice questions was used for the study. Most of the items in the questionnaire are designed to measure respondents' perceptions and attitudes, and therefore the Likert scale is more relevant and reliable. The tool aims to measure key variables using a 5-point Likert scale, ranging from (strongly disagree to strongly agree). Studies confirm that the range of the scale between 5 and 7 was determined to be more reliable than otherwise. For the development of the study, a structure questionnaire was used, consisting of 28 questions divided into 3 different sections the first one about the respondent's characteristics and the second one about the use of Digital Leadership (DL), among which are: Digital Culture (DCu), Digital Insights (DIn), Digital Competence (DCo), Digital Strategy (DSt), the other section is about gamification marketing strategy (GM) as dependent variable. The data obtained from a questionnaire and checked the validity and analyzed in an analytical way to observe the relationship between variables.

3.2 Research Model and Hypotheses

According to the literature the conceptual model consists of the digital leadership and its dimensions (Digital culture, Digital insights, Digital competence, and Digital strategy) as independent variable and gamification marketing strategy as the dependent variable as it is shown in figure 3.
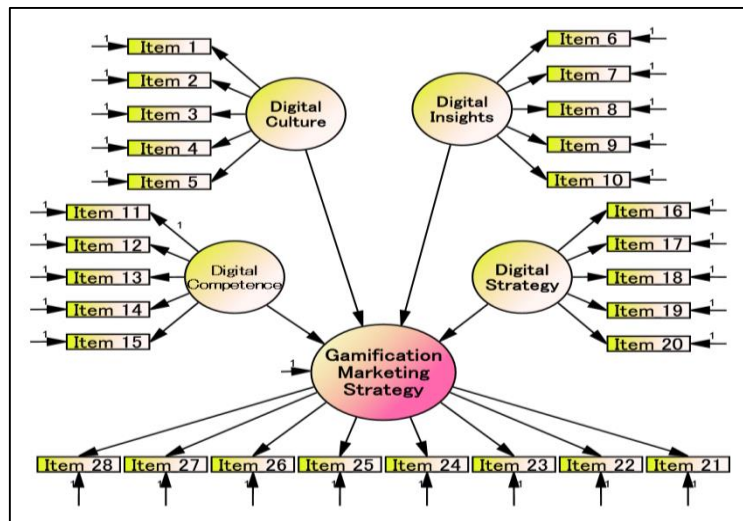
Fig. 3: Research conceptual model

3.3 Sampling

Most of the measures were adapted using multi-item scales from prior research. The healthcare sector was chosen as a field of this study. The target customers were those who deal with private hospitals. The study instrument was an online questionnaire for the purpose of data collection, the total target population was about 400 and the sample was 319.

3.4 Respondent's characteristics

Table 1 shows the respondents characteristics that refer to the majority of the sample is male (67.4%) and (32.6%) female, the age refer to (39.8%) less than 30 years, (26.3%) between (30-40) and (20.4%) between (41-50) and the other (13.5%) are more than 50 years, and about the education it been the majority of respondents are BSC (55.2%), the (27%) MSC and (17.9%) PhD.

Table 1: Respondent's characteristics

Gender	Male	215	67.4%
	Female	104	32.6%
Age	<30	127	39.8%
	30-40	84	26.3%
	41-50	65	20.4%
	>50	43	13.5%
Education	BSC	176	55.2%
	MSC	86	27%
	PHD	57	17.9%

4. RESULTS

According to the results of table 2, it is clear that there is a significant correlation between the independent digital leadership and gamification marketing strategy and the dependent variable gamification marketing strategy of 0.799, at a significant level of 0.05, that support (H1) hypothesis. The correlation between the sub-variables was the correlation between the digital culture and the gamification marketing strategy 0.799 which is a significant correlation at the level of 0.05, that support (H11) hypothesis . And the correlation between the digital insights and gamification marketing strategy 0.861 which is a significant correlation at the level of 0.05 that support (H12) hypothesis. And the correlation between the digital competence and gamification marketing strategy is 0.801 which is a significant relationship at the level of 0.05 that support (H13) hypothesis. Also, the correlation between the digital strategy and gamification marketing strategy is 0.847 which is a significant relationship at the level of 0.05 that support (H14) hypothesis.

The results of table 2 show that there is a significant impact of digital culture on gamification marketing strategy (B0=0.081, B1=0.933, R^2=0.638, p<0.001), H21 outcomes are thus supported. And the gamification marketing strategy is affected positively and significantly to digital insights (B0=0.172, B1=0.910, R^2=0.742,p<0.001), this result support H22. Moreover, gamification marketing strategy is positively and significantly affected by digital competence (B0=0.047, B1=0.917, R^2=0.641, p<0.001), H23 outcomes are thus supported. Gamification marketing strategy is positively and significantly affected by digital strategy (B0=0.087, B1=0.947, R^2=0.717, p<0.001), this result support H24.

Table 2: Regression Results

Variable	B0	B1	r	R^2	T	F	Sig
DCu	0.081	0.933	0.799	0.638	23.620	557.903	0.000
DIn	0.172	0.910	0.861	0.742	30.159	909.585	0.000
DCo	0.047	0.917	0.801	0.641	23.816	567.215	0.000
DSt	0.087	0.947	0.847	0.717	28.647	802.478	0.000
DL	0.273	0.916	0.866	0.750	30.451	951.05	0.000

After conducting this study analysis, strong relationship between a dependent variable and independent variable can be obtained by the structural modeling to get the multiple relations. Table 3 and figure 4 show the results of the estimates of the multiple relationships between the four factors of digital leadership and their impact on gamification marketing strategy. Estimates of multiple linear regression were obtained by SEM. The results showed that there was a significant effect of factor (DCu) with regression coefficient of (0.13) (P<0.05), while the results of the analysis showed that there was no statistically significant effect of the factor (DLn) because the degree of significance was not within the acceptable range (P>0.05). As for factor (DCo), it was found that there was a statistically significant effect with a regression coefficient of (0.58) (P< 0.05). The results also indicate that there is a significant effect for the factor (DST). With a regression coefficient of (0.64), (P<0.05). With a coefficient of determination (R2=0.770).

Table 3: Multiple Regression Results

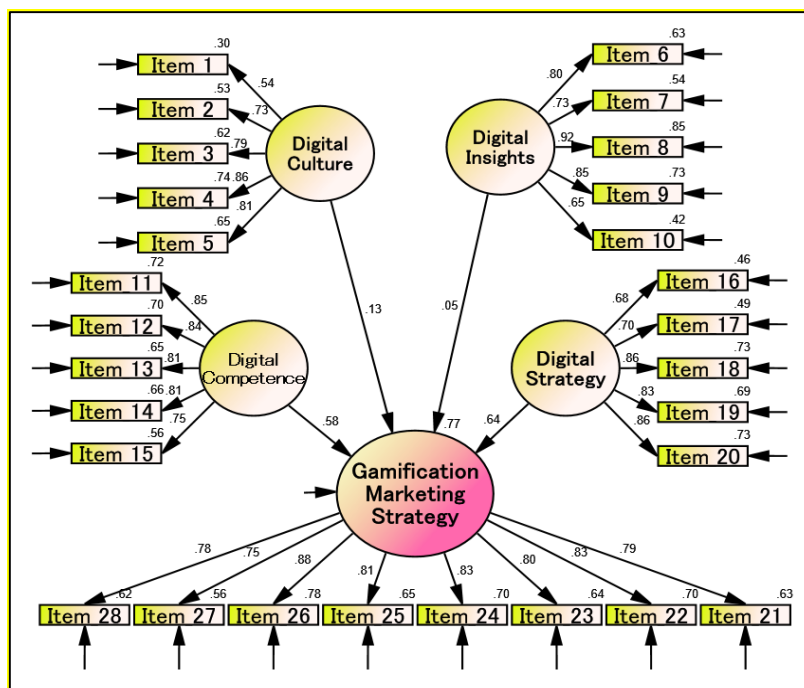| Path	Value	R^2	Sig
DCu……>GM	0.13		0.000
DIn……>GM	0.05	0.770	0.214
DCo……>GM	0.58		0.000
DSt……>GM	0.64		0.000

Fig. 4: SEM For the relation between DL and GM

5. DISCUSSION AND CONCLUSION

Digital culture affects the marketing of gamification strategy, where the culture of the organization determines how things are carried out in the organization. Digital culture in the organization means that the culture of the organization is shaped by the use of digital techniques in all activities of the organization[21]. The culture of the organization depends on the influence of the leadership of the organization. Digital hospital leadership affects people to use digital techniques in their activities. In this case, the marketing department will be influenced by the use of digital techniques in marketing strategy. Digital culture is encouraged to increase customer interaction[15]. On the other hand, the goal of gamification marketing is to increase customer interaction in order to establish a long-term relationship with the customer.

The impact of digital insights has been positively reflected in the gamification marketing strategy. This is in line with the study of Duerr et al., (2018)[12], which analyzed eleven business cases to understand the requirements of digital culture. In conclusion, scientists state that a deep understanding of digital elements is required to lead the digital leadership of the organization. To achieve the goal of gamification marketing through digital leadership, leaders and people in the hospital must have a clear understanding of the hospital's business operations. In addition, they must understand the objective of marketing. Leaders must have a good future knowledge of the elements of digital leadership that can achieve gamification marketing strategy[21].

Digital competence has been demonstrated in marketing strategy, since the use of the ability of people within the organization to use the elements of digital marketing to achieve the objectives of the organization. Digital strategy has finally proven its positive impact in gamification marketing strategy. The digital strategy aims to develop customer loyalty and trust and must be difficult for competitors to copy. The hospital should develop information technologies that allow patients to interact with caregivers. This can be done by enabling messaging systems that allow patients to access their records and communicate with caregivers. For example, the hospital benefits from social media to develop consumer communities of similar interests. Therefore, the digital strategy integrates services that can help the customer with the required information about the product.

6. REFERENCES

[1] Sheninger E. Digital leadership: Changing paradigms for changing times. Corwin Press; 2014 Jan 10:10-20.

[2] Khan S. Leadership in the digital age: A study on the effects of digitalization on top management leadership; 201:105-15.

[3] Werbach K. (Re) defining gamification: A process approach. International conference on persuasive technology, Springer, Cham. 2014 May 21: 266-272.

[4] Ferrer Conill R. Gamifying the news: Exploring the introduction of game elements into digital journalism, Doctoral dissertation, Karlstads universitet.2018: 15-28.

[5] Oprescu F, Jones C, Katsikitis M. I PLAY AT WORK—ten principles for transforming work processes through gamification. Frontiers in psychology. 2014 Jan 30; 5:14.

[6] Hanna, N. (2018). A role for the state in the digital age. Journal of Innovation and Entrepreneurship. 2018; 7(1):5-15.

[7] Snider C, Gopsill JA, Jones SL, Emanuel L, Hicks BJ. Engineering Project Health Management. IEEE Transactions on Engineering Management. 2018 Jul 12(99):1-2.

[8] Schmitt U. Rationalizing a personalized conceptualization for the digital transition and sustainability of knowledge management using the SVIDT Method. Sustainability. 2018 Mar; 10(3):831-9.

[9] Horst HA, Miller D, editors. Digital anthropology. AandC Black; 2013 Aug 1:10-16.

[10] Hambach J, Kümmel K, Metternich J. Development of a digital continuous improvement system for production. Procedia CIRP. 2017 Jan 1; 63:330-5.

[11] Robson C, McCartan K. Real world research. John Wiley and Sons; 2016 Jan 19:19-25.

[12] Duerr S, Holotiuk F, Wagner HT, Beimborn D, Weitzel T. What is digital organizational culture? Insights from exploratory case studies. In Proceedings of the 51st Hawaii International Conference on System Sciences 2018 Jan3:6-16.

[13] Laudon KC, Traver CG. E-commerce: business, technology, society. 2016 11:11-20.

[14] Redecker C. European framework for the digital competence of educators: DigCompEdu. Joint Research Centre (Seville site); 2017 Nov3:6-19.

[15] Gallardo-Echenique EE, de Oliveira JM, Marqués-Molias L, Esteve-Mon F, Wang Y, Baker R. Digital competence in the knowledge society. MERLOT Journal of Online Learning and Teaching. 2015 Mar 1; 11(1).

[16] Matt C, Hess T, Benlian A. Digital transformation strategies. Business and Information Systems Engineering. 2015 Oct 1; 57(5):339-43.

[17] Nylén D, Holmström J. Digital innovation strategy: A framework for diagnosing and improving digital product and service innovation. Business Horizons. 2015 Jan 1; 58(1):57-67.

[18] Matt C, Hess T, Benlian A, Wiesbock F. Options for Formulating a Digital Transformation Strategy. MIS Quarterly Executive. 2016; 15(2):6.

[19] Manchanda P. Gamification Design for Mobile Marketing Effectiveness.2015; 34:25-36.

[20] Huotari K, Hamari J. A definition for gamification: anchoring gamification in the service marketing literature. Electronic Markets. 2017 Feb 1; 27(1):21-31.

[21] Mihailidis P, Viotty S. Spreadable spectacle in digital culture: Civic expression, fake news, and the role of media literacies in "post-fact" society. American Behavioral Scientist. 2017 Apr; 61(4):441-54.