



## Research article

## Transforming traditional CRM into social CRM: An empirical investigation in Iraqi healthcare industry

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## ABSTRACT

The unprecedented growth of social media usage questions the conventional customer relationship management (CRM). Social CRM strategy is a novel version of CRM empowered by social media technology that offers a new way of managing relationships with customers effectively. The aims of this study are two-fold, examining the important determinants of the successful adoption of the social CRM; and to validate the outcomes on this novel social CRM adoption in the healthcare industry. The proposed adoption model of this study derived with theoretical support from TOE, DOI and ISS theories in IS/IT, social media, and CRM literatures. This undertaking focuses on the use of structural equations modelling, to examine a theoretical social CRM (Social Customer Relationship Management) model involving 17 Iraqi hospitals, and a sample total of 428. The model's principal independent constructs are associated to the viewpoint of top management, IT staff and operational staff, regarding the grounds for social CRM adoption, the operations performed on social CRM, and the themes employed. PLS-SEM was applied for statistical analysis, to evaluate the hypothesized linkages between the variables. The results show that, social CRM adoption has a tremendous impact on healthcare organizations with its perceived benefits. According to the results attained, all constructs have significant impact on social CRM adoption except for leadership knowledge. Consequently, adoption results in remarkable outcomes that gives credence to the intervening performance of social CRM. Following an examination of the model, which included a scrutiny of its pathways, we are of the view that the concerns, past history, and potential let-downs with regards to social CRM adoption, need to be thoroughly investigated. This study is one of the few researches that provide the in-depth knowledge about the constructs impacting CRM transformation and the benefits attained. The results can guide healthcare providers during their efforts to develop effective marketing techniques, and advance the perceived benefits, particularly in the healthcare profession. Moreover, this study contributes to the IS literature by suggesting the empirically extended TOE model which advances the conventional TOE model.

## 1. Introduction

Social CRM has to do with the development of schemes, approaches and expertise, to integrate the social media to CRM procedures. The connection, of social media to the customer database through Social CRM, also facilitates the relaying of relevant information from an organization, to its customers (Woodcock et al., 2011). Social CRM provides an avenue for the distribution of information (especially those related current affairs and viewpoints) by way of the internet. Social CRM users not only absorb and share such information with others, but also create and share contents of their own (Arnold, 2012). In short, social CRM has paved the way towards ground-breaking approaches for communication,

information sharing, and teamwork. It allows users to fabricate ideas and share them with others, by way of the 'many to many' communication mode, instead of the conventional 'one too many' mode. Among the wide variety of services, technologies and applications frequently linked to social CRM are social networks, blogs, podcasts, wikis, RSS feeds, forums, media sharing and social bookmarking (Harrigan et al., 2015; Harrigan and Miles, 2014; Küpper et al., 2015; Trainor, 2012). Social media can be described as a means of electronic interaction, via social networking and micro blogging websites. Users engage these websites, for the development of online communities, through which they share information, personal messages, proposals, and other notifications, in the form of videos. Facebook, Friendster, and MySpace are among the most

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frequently used social networking sites. Social media sites also feature YouTube, photo bucket and Flickr, as well as other sites promoting the sharing of photos and videos. Also included in the social media content bucket, are the news aggregation and online reference sources Digg and Wikipedia (Lehmkuhl and Jung, 2013). The social media is fast becoming an essential instrument for communication and information sharing (Malthouse et al., 2013b) In the opinion of Sussin (2015), the somewhat speedy, undemanding and cost-effective approach of the social media, for linking up with customers, renders it an ideal business promotion tool (Tarofder et al., 2019). This approach is particularly appropriate for healthcare organizations, which require immediate and effective measures for new ventures, but are lacking the monetary support, and technical acumen required, for the engagement of more conventional procedures (Trainor et al., 2014).

The effectiveness, of social media utilization for CRM, is highly dependent on an organization's ability to devise a scheme, outlining the way in which social media is to be used, and the purpose of its usage. The current challenges of social CRM usage amongst healthcare organizations are the lack of awareness, unstandardized usage of social media platforms along with their current CRM, lack of policy and privacy measures to the information shared on those platforms (Rupert et al., 2020). Hence, the current dilemmas found from studies related with social CRM can be categorized into two main dimensions. The first, tends to concentrate either on SM in healthcare context (Panahi et al., 2014; Pentescu et al., 2015; Denecke et al., 2015; Heras-Pedrosa et al., 2020), or CRM in healthcare context (Baashar et al., 2016; Johnson, 2018; Chatterjee et al., 2019; Shahid, 2019). These two scenario cases can result in inconsistent usage of social media among healthcare organizations in terms of response, reliability and privacy, at social media level, and deficiency in CRM at functional level. Therefore, the intent to examine how healthcare providers utilize SM as their CRM tools is extremely important. According to Küpper (2016), the dearth of awareness stops the entity from recognising the potential that utilising social media platforms for engagement with consumers will overcome the insufficiency of resources. Many academics (Markerink, 2016; Charlesworth, 2018) have observed the lack of effectual usage of social media platforms in healthcare organizations and application of the acquired information resources by means of CRM. Kantorová & Bachmann (2018) observed that the inability to accomplish customer relationship management functions by utilising the social media path is reflected not just by the lack of awareness about social media portals but also by a dearth of awareness of how the digital communication avenue could be used in business communication. The second dimension is the impact which the usage of social customer relationship management has on the businesses (Ahani et al., 2017). Charlesworth (2018) suggested future research for exploring how the usage of social media in CRM might aid healthcare providers in engaging with their consumers with an emphasis on the impact and the aptitude of healthcare organizations to retain more gains.

This research undertaking begins, with an investigation on the adoption of social media by healthcare organizations, and a discussion on whether the influence and economic significance of social CRM, is calculable. The effective adoption, of social CRM for healthcare, is highly dependent on the healthcare organization's capacity, to predefine and comprehend the potential of the social CRM. The study aims to ascertain the significant determinants affecting the successful adoption of social CRM, and to evaluate the expected advantages stemming from this adoption. The identified factors were based on extended TOE adoption model with theoretical support of DOI and ISS theories namely, perceived privacy, interactivity, leadership knowledge, social media policy and bandwagon pressure. Whereas, the dependant variables were based on information system success theory (ISS) namely, strategic and operational benefits. Social CRM is important for healthcare organizations, social CRM studies in healthcare context are uncommon. In contrast, social media usage has distinguished CRM research in healthcare theme (Harrigan and Miles, 2014; Küpper et al., 2015), studies related to the

adoption of social CRM in the healthcare sector, and its accompanying advantages, have been rather few and far between.

## 2. Review of relevant literature

The initial internet generation, referred to as 'read only' web 1, held merely the invariable contents of sites. These contents derive from specific persons or sources, and users of web 1 could only benefit from the information presented. No opportunity was available for the user to create contents, or to alter the contents presented. Currently, however, internet users are provided with the avenue to not only select their preferred contents (Ang, 2011; Salem, 2021), but also to create their own contents, alter the contents presented, impart information, and convey disapproval (Normalini et al., 2019). As such, a portion of data processing is conducted on the side of the consumer, while each user can be deemed both the user and creator of the content (Al Harbi et al., 2019; Salem and Salem, 2019). This is termed 'customer engagement' (Tarofder et al., 2017). The expression social CRM refers to the broad variety of interactions, and user-prioritized applications, which pave the way for the integration of CRM activities into the social media (Preetly & S, 2012). The emergence of social CRM provided organizations with the opportunity to develop their own social communities, connect with customers, and convert social data into predictive analytics (Choudhury and Harrigan, 2014). Moreover, social CRM has a strong technical capability, which allows creation and sharing of user-generated content (Harrigan et al., 2015).

This study considers social CRM adoption to manage the relationship with customers. According to literatures related with social CRM, there is a dearth of studies regarding social CRM adoption. Factors influencing the adoption of CRM, electronic CRM, mobile CRM, and social CRM have been investigated in some studies; however, there are few social CRM adoption studies in healthcare context. The existing challenge is with the unstandardized usage of social media in all healthcare interactions with their customers/patients and consequently the deficiency of CRM in managing relationships (Küpper et al., 2015; Denecke et al., 2015; Heras-Pedrosa et al., 2020). Investigations emphasized mostly on primary, rather than on secondary adoption. While primary adoption entails the adoption of social CRM by healthcare organizations, secondary adoption alludes to social CRM adoption by individuals, within a healthcare organization (WHO, 2015). The organizational adoption process begins with an assessment of the latest available technologies, followed by deliberations on whether or not these technologies can be successfully implemented. Subsequently, the information gathered from this exercise, is passed on to fellow players in the industry (Spruit and Lytras, 2018). A variety of hypothetical concepts, regarding the adoption of information technology by organizations, have been proposed. A combination comprising the social media and standard CRM was observed to have a positive effect on the general operations of an organization. Several industries (such as the airline industry), are in agreement that this combination of technologies, can lead to significant operational improvements (Zheng et al., 2018). Thus, it can be surmised that the adoption of social CRM can elevate the overall performance level of an organization (Kordzadeh, 2016). As such, it comes as no surprise, that organizations across the globe, are committing considerable efforts towards the adoption of social media elements, into their CRM (Castro et al., 2016). Researchers in this domain have employed a variety of models and concepts, to ascertain the issues, influencing the successful adoption of social CRM technology. Among the most frequently employed approaches, involves the identification of a set of contingency factors, that portrays the innovation diffusion as a whole (Yeoh and Popović, 2016). Other investigators favoured the utilization of the 'technologies organizational-environment' (TOE) model. Initially developed by Depietro et al. (1990), this model comprises the factors influencing the adoption of IT innovations. The effectiveness of this model, which has been verified through several empirical investigations, has been extended into several other innovation related undertakings

(Oliveira et al., 2014; Zhai and Liu, 2013). The TOE model implies that the successful implementation of organizational technology is dependent on three determinants: perceived features of contemporary technology; organizational attributes; and environmental circumstances.

### 2.1. Current situation of Iraqi healthcare system

According to a National Action Plan for Health Security (NAPHS) of Iraq which was made in March 2019. Iraq plans to develop and bring Iraq's national healthcare system up to International Health Regulation (IHR) standards in the upcoming 5 years, investment in IT in Iraq healthcare will be increased by 6.1 percent compared to the 2018. Thus, Iraqi healthcare is in a development and recovery stage due to several wars that the country has suffered for the past few decades. In Iraqi healthcare system, information flows from facilities and the district health office to the governorate directorate of health and then to the central ministry of health, largely using paper forms. Although some computerization has occurred at the central health and vital statistics department, this development has not led to improved capacity for analysis, dissemination, or use of information. Moreover, currently Iraqi healthcare system is using CRM in their daily communication activities and interactions with patients. Although, with the high IT spending in Iraq and great benefits of using web technologies in business activities, many recent studies (Ibadi, 2018; Lafta et al., 2018) have shown that Iraqi healthcare organizations are not using social media in their CRM activities. In this regard, the level of web technology using in Iraqi healthcare organizations is unsatisfactory. The social media usage is not either oriented mainly towards engaging customers and managing relationships with them nor attracting potential ones. This is due to knowledge gap, it is seen through the lack of knowledge and awareness of the incorporated social media into CRM as new technology called Social CRM.

In view with literature, the current challenges of social CRM usage amongst healthcare organizations are the lack of awareness, unstandardized usage of social media platforms along with their current CRM, lack of policy and privacy measures to the information shared on those platforms (Rupert et al., 2020). Hence, the current challenges can be categorized into two main dimensions. The first, tends to concentrate either on social media in healthcare context (Bharati et al., 2015; Pentescu et al., 2015; Denecke et al., 2015) or CRM in healthcare (Johnson, 2018; Chatterjee et al., 2019; Shahid, 2019). These two scenario cases can result in inconsistent usage of social media in terms of response, reliability and privacy, at social media level, and deficiency in CRM at functional level. Therefore, the intent to examine how healthcare providers utilize SM as their CRM tools is extremely important. While the second dimension, is the influence that the use of social customer relationship management has on the organizations (Rupert et al., 2020). A study was done by (Pershad et al., 2018) recommended future studies to explore how the use of social media in CRM could help healthcare providers to engage with their customers with a focus on the effect and the ability of healthcare organizations to retain more benefits. Therefore, healthcare hospitals not being able to realize and obtain the benefits of such technological tools. As a result, it is clear that research on social CRM adoption and reaping benefits from it, is in the rudimentary stage.

### 2.2. Social CRM policies with regards to healthcare

The emphasis of social CRM, in the context of healthcare, is on the applications that are dependent on social media platforms, and the premise that patients are the mainstay of the healthcare network (Abbasi et al., 2018). The five fundamental features of social CRM schemes are patient focus (P2C), patient activity (C2P), patient engagement (C2H), health communities (C2C), and healthcare professionals (P2P). Patient focus refers to the fact that the development, of social CRM applications, is aimed at meeting the needs of patients, through healthcare specialists. Patient activity suggests that the

structure of CRM systems, facilitate the active involvement of patients, in terms of the provision and accumulation, of health associated information, that are directly related to them, or are of interest to them. Patient engagement is in reference to the capacity of social CRM systems, to provide patients with the avenue to manage certain facets of their health issues, by way of social media platforms. P2P alludes to the development of social CRM platforms, for the exchange of information among healthcare specialists. For instance, discussion boards can be set up for discussions on specific ailments, treatments, medications, surgical procedures, medical technologies and other healthcare related subject matters. This will ensure that healthcare specialists remain in the know, about the latest developments in the healthcare domain. C2C refers to the community healthcare feature deriving from the application of social CRM, which allows for the sharing of views concerning individuals, business activities, merchandises and facilities. Developments in the social media field, has reached the point where the sharing of digital photos and video clips online, is currently commonplace. Users can now vote on news links, and gain access to the most sought after reports (Kordzadeh, 2016). The health information systems of today come in a vast variety of technologies, ranging from telehealth applications, to online patient communication instruments and platforms. Health-related technologies pave the way for healthcare seekers to get actively involved, in the providing and receiving of health information relevant to them. Extant literature refers to this form of socially enabled technology, as a patient-driven healthcare system. The employment of social CRM technologies for health-related exchanges comes with a variety of benefits. For a start, these technologies provide the avenue for patients to manage their health care, through communications with their fellow patients, which brings about a sense of belonging and support (Kordzadeh, 2016). The communication with fellow patients can serve to reduce the feeling of 'being alone', and this will go a long way towards improving a patient's attitude, when it comes to coping with his/her medical condition. Generally, the use of technological applications, by patients, can help them to better manage their medical conditions. These benefits, together with the low costs involved for the implementation of social CRM, render the abovementioned social media platforms feasible facilitators, for health-related communication, and social support exchange exercises, via the internet.

While the benefits that come with the utilization of the health social media is irrefutable, its adoption is held back by several issues. For example, social platform users may be doubtful about the effectiveness of the security measures in place, as well as the confidentiality of the personal health information posted on these platforms (Antheunis et al., 2013; Kordzadeh, 2016). Also, the unknown dependability and quality of information presented through these platforms, as well as the unidentified status of those posting medical advice and experiences, may cause users, providers and administrators to be wary about their involvement (Hoffman-Goetz et al., 2014; Isaac et al., 2019). As such, it is essential that a pre-adoption process be developed, to consider, examine and comprehend, the main issues influencing the implementation of social CRM, in the healthcare division. Therefore, based on the theoretical and empirical foundations documented in literature, with regards to technological developments, we fashioned a model for the adoption of the new social CRM in the Iraqi health industry, and assessed its impact through empirical testing for perceived benefits. Relevant literature identifies diverse determinates that have an influence on different technologies such as; Web technologies diffusion, Web services, Web technologies, EDI, cloud computing, and social networking, which have been empirically tested in different technological contexts (Feo and Kitson, 2016). According to information gleaned from relevant literature regarding the TOE structure, several factors need to be taken into account, prior to the organizational adoption of social CRM. An investigation of these factors, prior to the adoption of social CRM, can serve to enhance the applicability and functionality of the TOE structure (Curtis et al., 2014; Devoe and Sears, 2013; Esmaeilzadeh and Sambasivan, 2016; Flott et al., 2016).

### 2.3. Hypotheses development and conceptual model

To investigate the factors that affect the adoption of innovative technology, researchers formed several concepts and models. Two primary categories of adoption concepts exist: one type that functions at the individual level and the second one that functions at the organizational level (Igwe, 2020). The concepts that function at the individual level include the TAM (technology acceptance model), the TPB (theory of planned behaviour), and UTAUT (unified theory of acceptance and use of technology). The concepts that function at the firm level comprise the TOE and the DOI framework (Ahani et al., 2017). The TOE and DOI theories chiefly guide research on majority of the IT adoptions of innovative technologies (Malak, 2017; Zhai and Liu, 2013). As stated by Matias & Hernandez (2019), combining theories from different frameworks provides increased capability to improve the perception of the adoption of innovative technologies and advances.

The conceptual model was developed based on three grounded theories namely, TOE (Technology, Organization, Environment), DOI (Diffusion of Innovation) and ISS (Information System Success) theories. The study has considered theory as its well-established theory in the IS research field. TOE is known with its comprehensiveness at organizational level. The TOE model has a concrete and consistent theoretical foundation, reliable empirical support and the possibility to be applied to other domains of IS innovation and has been defined as a “generic” theory. The theoretical groundwork guiding this research integrates three renowned theories (DOI, TOE and ISS) in the domains of adoption and perceived benefits (Tarofder et al., 2013). Although the ISS model has been used in several contexts and spheres, there are regular and growing demands to extend and further comprehend the theory in various contexts such as organization, technology and environment that bring about a positive effect of information system (IS) applications on organizations (Petter et al., 2013). Petter et al. (2013) also proposes that the framework should be verified in different spheres to ensure its robustness and consistency. As per (Petersen and Nguyen, 2017), among all the frameworks that were created to measure success of IS, ISS is the most systematically tested theory in measuring and expounding the success, usefulness and impact of different innovations, both in public and private sector organizational spheres. Nevertheless, with the nature of social CRM technology the technological attributes were selected based on DOI as it investigates the characteristics of the new technology in particular as found in the literature related to social media and CRM in healthcare (Pershad et al., 2018; Algashaam, 2016), issues concerned with privacy, misleading information and interactions remain unsolved. While the ISS theory was integrated in order to validate the perceived benefits of social CRM adoption in healthcare organizations. Therefore,

the study proposes well grounded adoption model consist of critical factors categorized in three dimensions of the extended TOE, and the benefits on the basis of ISS as showing in Figure 1.

#### 2.3.1. The impact of technological factors on the adoption of social CRM

Relevant literature, suggests that two technological factors, significantly influence the adoption of social CRM: perceived privacy and interactivity. The relevancy of these factors is associated to the nature of social CRM, and its technological characteristics in healthcare organizations. Figure 2 below illustrates the hypotheses as H1 and H2.

#### 2.3.2. Perceived privacy

The term perceived privacy is defined as the security and privacy level provided in social CRM, in the context of healthcare organizations. According to relevant literature, in terms of healthcare organizations, perceived privacy is deemed to have a major impact on the integration of social media with CRM (Sinclair and Vogus, 2011). Since social CRM platforms extend to external parties (customers), it is vital that organizations protect important data, customer's record, customer's review etc (Yoon and George, 2013). Hence, perceived privacy is highlighted in order to ensure the security of social CRM platforms. In view of the above, the following hypothesis was formulated.

**H1.** *There is significant positive association between Perceived Privacy and Adoption of Social CRM.*

#### 2.3.3. Interactivity

Interactivity defines the flexible nature of social CRM in healthcare organizations. The results derived from this investigation, identified interactivity as a significant technological factor. This is in agreement with the results from previous studies conducted by Campbell et al. (2010) and Zhao and Lu (2012). This is an indication, that the interactivity aspect of the technology is a significant factor, during the integration of the social media into the CRM system. This is in line with the outcome from an investigation conducted by (Van Noort et al., 2012) which verified the significant influence of interactivity, when it comes to the utilization of social media applications by organizations. It is probable, that this outcome is linked to the perceived interactive trait of social CRM applications, which promotes a two-way communication mode with end users, rather than a one-way communication mode, as in Web 1 technologies. Thus, the hypothesis below was formulated, to denote the influence of interactivity, during the incorporation of the social media, into the CRM system:

**H2.** *A significant constructive relationship exists between interactivity, and the adoption of Social CRM.*

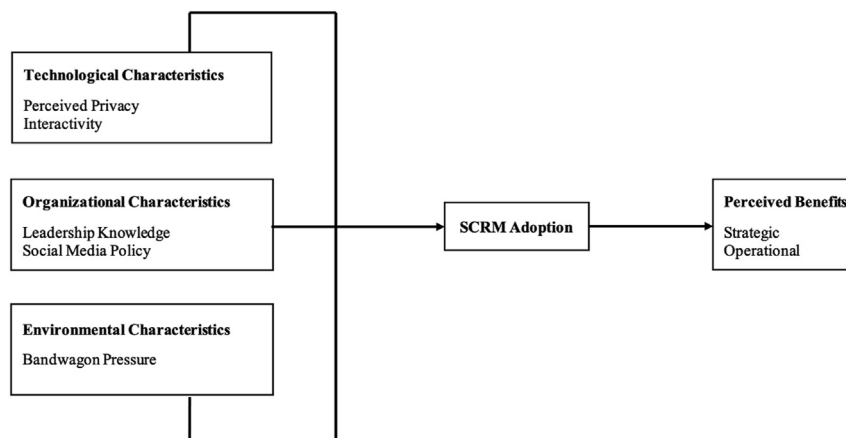


Figure 1. Proposed social CRM conceptual model.

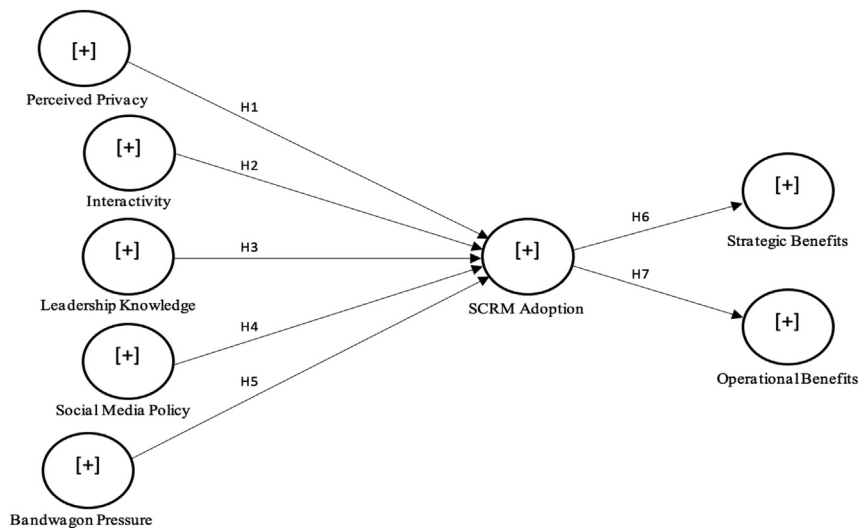


Figure 2. Social CRM adoption conceptual model.

#### 2.4. Relationship between organizational factors and social CRM adoption

As documented in literature relevant to this subject matter, leadership knowledge and social media policy are the organizational factors identified, as the main antecedents of social CRM adoption. Figure 2 below illustrates the hypotheses as H3 and H4.

##### 2.4.1. Leadership knowledge

Leadership knowledge is a crucial factor, during efforts by healthcare organizations, to successfully adopt social CRM. Anshari and Almunawar (2012) claims that many healthcare organizations lack employees who are well-versed in online networking. This has resulted in some employees taking on several online networking tasks simultaneously. Several investigations have verified the fact that the element of leadership knowledge, is crucial to a health organization's capacity, to adopt and utilize modern day technologies. Askool and Nakata (2012) is in favour of a combination comprising social CRM and Web 2.0, for the upgrading of online correspondence, between health organizations and their patients. The following hypothesis was conceived to underline the positive link, between leadership knowledge and the adoption of social CRM.

**H3.** *There is significant positive association between Leadership Knowledge and Adoption of Social CRM.*

##### 2.4.2. Social media policy

When it comes to the adoption of social CRM by healthcare organizations, it is crucial that the function of SMP be clearly understood. This will ensure that employees keep to a predefined policy, when replying to comments from customers and clients, more specifically when dealing with negative comments that may impact on the organization's branding and services (Mergel and Bretschneider, 2013; Oliveira et al., 2014). Thus, it is highly recommended, that an effective policy be developed and implemented, during the social CRM adoption process of healthcare organizations. This will set a guideline for hospital staff during their dealings with customers on their social CRM platforms. Therefore, the following hypothesis was formulated, to demonstrate the important role that SMP plays, in the context of social CRM in healthcare.

**H4.** *There is significant positive association between Social Media Policy and Adoption of Social CRM.*

##### 2.4.3. Relationship between environmental factors and social CRM adoption

According to literature on TOE, many studies have shown that in the context of technological adoption at an organizational level, the role of

environmental factors need to be taken into consideration. Among the environmental factors examined during this endeavour is the bandwagon effect, which is deemed significantly influential, when it comes to social CRM adoption by the healthcare industry. Figure 2 below illustrates the hypothesis as H5.

##### 2.4.4. Bandwagon pressure

The term bandwagon pressure is given prominence in literature associated to social media, as an organization can be influenced by its competitors to follow suit, when it comes to the adoption of new technology. The term bandwagon effect was concocted by Sinclaire and Vogus (2011) and Yoon and George (2013), to highlight the fact that such an adoption by an organization, stems from the activity of other organizations. This stand is in agreement with that of Parameswaran and Whinston (2007) who used the term herd behaviour to describe the bandwagon effect. They opine that the bandwagon effect, can serve to reduce the difficulties hampering the adoption social CRM, by the healthcare industry. In view of the above, the following hypothesis was conceived to express the influence of the bandwagon effect on the adoption of social CRM.

**H5.** *There is significant positive association between the bandwagon pressure and the adoption of Social CRM.*

##### 2.4.5. Relationship between social CRM adoption and perceived benefits

Perceived benefits refer to the possible advantages to be gained from social CRM Adoption. In this study, perceived benefits are characterized as the foreseen advantages to be obtained, when healthcare organizations adopt the new social CRM. Howard and Parks (2012), opined that social CRM can provide healthcare organizations with a variety of operational and strategic benefits (Aldholay et al., 2018). The adoption of social CRM brings about social changes in organizations. This includes organizations involved in business ventures and healthcare services. Social CRM revolutionizes the way people communicate, promotes teamwork, and facilitates easy access to simultaneous communication. These factors can be construed the basis for social change. The term social CRM derives from the communication mode of the system, which involves the integration of web-based technologies (Greenberg, 2010). The engagement of these social networks by patients, facilitates the sharing of information regarding their diagnoses, medications and healthcare experiences among others. More often than not, this sharing of information occurs in an unstructured communication mode. This unstructured form of communication can serve to enhance the expertise of those involved in the management of health status and chronic

diseases issues (Askool and Nakata, 2012; Woodcock et al., 2011). Figure 2 below illustrates the hypotheses as H6 and H7.

#### 2.4.6. Strategic benefits

Perceived benefits can be defined as the expected operational and strategic benefits reaped, upon the adoption of social CRM by a healthcare organization (Howard and Parks, 2012). Social CRM emphasizes on: (a) the internal and external aspects of community development, (b) the access to customer dialogue to ascertain customer preferences, and (c) the integration of systems into social networking sites. Thus, social CRM facilitates customer interaction, for discussions on mutual interests (Jalal et al., 2019b). Organizations scrutinize the information acquired from these discussions, to gauge the improvements attained by the assimilation of social CRM strategies and/or technologies, into the business (Askool and Nakata, 2012). Social CRM has the potential to enhance the ROI (return of investment) of organizations, as the information amassed from customer discussions, can be exploited for the offering of goods and services, to a specific faction of customers. Furthermore, by taking heed of customers' likes and dislikes, organizations can take the proper steps to improve the quality of their goods or services. This in turn will serve to enhance the relationship between organizations and their customers (Malthouse et al., 2013b). The better understanding of customer preferences, provided by social CRM, can also help to improve an organization's marketing strategy. In the opinion of Keramati et al. (2010), the development of communities by social CRM around the brand, and the exploitation of an organization's accumulated customer information, can open the door to new opportunities, improve cross sell or up sell capabilities, enhance research and development expertise, reduce commission expenditures, encourage the open exchange of opinions, improve communication among customers, and lower customer service expenses through self-help groups (Jalal et al., 2019a). The hypothesis below was conceived, to express the effects of social CRM adoption, in the context of healthcare organizations.

**H6.** *There is significant positive Social CRM adoption influence on the strategic benefits of healthcare organizations.*

#### 2.4.7. Operational benefits

An organization's objective and subjective operational benefits are gauged through the assimilation of social media into the CRM. To be precise, the performance of an organization determines its operational benefits (Zailani et al., 2012). A good performance serves to lower costs, convey comprehensive information, and ensure the delivery of high-quality services. Put differently, the integration of social CRM into healthcare organizations, reduces the time gap between interactions, enhances flexibility in terms of deliveries, improves the management of suppliers and patients, as well as encourage the sharing of information (Tonelli et al., 2016). In the opinion of Torres et al. (2017), the assimilation of social CRM into the operations of an organization, lowers transaction expenditures, raises the level of interaction between healthcare providers and patients, elevates productivity, promotes internal communication, enhances operational proficiency, and makes easy the acquirement of information on the needs of the community (which provides the organization with a competitive edge). In view of the above, the following hypothesis was formulated:

**H7.** *There is significant positive relationship between Social CRM Adoption and the operational benefits of Social CRM Functions.*

### 3. Research methodology

In order to test the hypothesis, this study employed a quantitative approach, which mainly emphasized both descriptive and causal method. Firstly, descriptive will be able to predict the frequency of the occurrence of the important phenomenon of CRM practices by the healthcare industry. However, this approach is not able to signify the association between variables (Cooper and Schindler, 2013). Hence, causal study was

used to examine the effect of the predictors on the outcomes. To perform the quantitative test, a structured questionnaire was deployed to collect primary data (Hair et al., 2013). The two key reasons of using a structured questionnaire were: (a) structured questionnaire can be obtained relatively better structured responses than interview; and (b) this instrument is only possible way of obtaining standard responses from the huge number of responses. This study adopted all the important steps suggested by Sekaran & Bougie (2016) in order to prepare the final questionnaire, which included conceptual and operational definitions, selecting appropriate scales for items, validity test, pretest and pilot test, and lastly, reliability test. Table 1 provides the details about the conceptual and operational definitions of all the variables including items and measurement scale used for each item. 36 items were adopted from different prior studies, which ensured face, construct and content validity for this study. Additionally, two different types of scale were used to measure the items, namely, categorical and 5-point Likert scale.

#### 3.1. Instrument development

The quality questionnaire is attributed by being attractive and brief, covers items that reflect the research objectives only and focuses on items built from single topic or idea explains ambiguous terms and constructs questions with clear words and organize them from general to specific. A careful attention is directed at questionnaire length, in addition to question content, order, and length. This study develops the questionnaire by adapting questionnaires from previous studies. The questionnaire has been designed to aggregate data that can measure and evaluate all the core constructs and paradigms recommended above. The structured questionnaire was deployed in order to obtain standard responses from big sampling in the healthcare industry. The instruments to measure the variables are adapted from range of previous studies in the domain of social media, CRM, social CRM and technological innovations. Measurement development is crucial to achieving quality data (Eccles et al., 2011). For gathering data, the rating scale for this work is Five Likert rating scale which permits the respondent to specify how intensely she or he agrees or disagrees with a statement (Saunders et al., 2012), on 5-point Likert scale: 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neutral (N), 4 = Agree (A), 5 = Strongly Agree (SA). In organizational research, the Likert Scale is generally the most commonly used measure of behaviours and attitudes (Sekaran and Bougie, 2013). The 5-point scale is adopted due to its ability to have better estimate of a normal response curve and extract greater variability among respondents (Cooper and Schindler, 2013). The items for each variable of this study are provided in appendix A.

#### 3.2. Sampling

An appropriate population was identified at the beginning of the sampling process, which comprised of top, senior, and middle management of the healthcare industry in Iraq. Despite the lack of proper sampling frame, this study used non-probability convenient sampling. However, this study listed 22 hospitals in Iraq, which have been using social media for their marketing activities, including, awareness program, and promotional activities and so on. An initial invitation was sent to all the 22 hospitals by explaining the reasons of the study. Due to the policies, 5 hospitals did not participate in this survey. The study applied face-to-face self-administrated survey method in order to ensure higher response rate, with 4 months effort to collect data, thus 428 responses were obtained from 17 hospitals in Iraq. Pertaining to sample size, this study adhered the rule of executing structural equation modelling (SEM). Similarly, the SEM affected by many other factors including complicated model, numbers of latent variables and the items. However, Hair et al. (2013) strongly recommended that more 200 responses is adequate to conduct SEM, hence 428 was enough to execute the SEM for this study. In relation to, non-response bias, this study used independent sample 't' test between early and late responses from the same hospitals. Results clearly

Table 1. Demographic results.

Characteristics	Item	Frequency	Percent
Gender	Male	270	63.08%
	Female	158	36.91%
Age	25–30	58	13.55
	31–35	107	25
	36–40	113	26.40
	41–45	51	11.91
	46–50	62	14.48
	>50	37	8.64
Highest level of education	Bachelor	214	50%
	Master	137	32%
	PhD	77	17.99%
I am working as	Senior manager	124	28.97%
	IT director	117	27.33%
	Marketing manger	50	11.68%
	CEO	89	20.79%
	COE	48	11.21%
Total number of employees	300–400	169	39.48%
	400–500	97	22.66%
	500–600	68	15.88%
	600–700	41	9.57%
	>700	53	12.38%
Annual revenue of your hospital	\$10 - \$15 million	203	47.42%
	\$15 - \$20 million	87	20.32%
	\$20 - \$25 million	103	24.06%
	> \$25 million	35	8.17%
Do you use social media in your business process?	Yes	407	95.10%
	No	21	4.90%
How many years?	2	12	2.80%
	3	21	4.90%
	4	16	3.73%
	5	103	24.06%
	>5	276	64.48%
	Do you use CRM in your organization?	Yes	362
	No	66	15.43%
Purpose of using CRM?	Marketing	90	21.02%
	Information collection	72	16.82%
	Sharing info	108	25.23%
	Engagement	75	17.52%
	Creating awareness	83	19.39%
Have you heard about Social CRM?	Yes	187	43.70%
	No	241	56.30%
Does your hospital use social media?	Yes	340	79.43%
	No	88	20.57%
How long has your hospital been using social media?	1 Year	24	5.60%
	2 Years	46	10.74%
	3 Years	102	23.83%
	4 Years	106	24.76%
	5 Years	108	25.23%
	>5	42	9.81%
What are the challenges of adopting Social CRM?	Lack of budget	113	26.40%
	Technological issues	40	9.34%
	Lack of training	141	32.94%
	Lack of skills	95	22.19%
	Technical challenges	14	3.27%
	Others	25	5.84%

showed that there is no significant variance between these two groups. Moreover, correlation results also indicated that there is no significant value between these two groups.

## 4. Data analysis

### 4.1. Respondents' attributes

Frequency test was used to understand the characteristics of respondents for this study. Results revealed that most of the hospitals (47.42%) generated revenue between \$10 to \$15 million, followed by \$20 to \$25 million (20.32%). Results also indicated that most of the respondents were senior managers (28.97%), followed by marketing managers. Every respondent reported that their hospital has been using social media for more than 5 years for different marketing activities. 21.02 percent respondents reported that they use social media for their marketing activities, followed by sharing information, and awareness and so on. Moreover, most of the respondents were male (63.08%), and most of them have bachelor's degree. Results also indicated that most of the hospital have 300–400 employees followed by 400–500. 32.94 percent respondents utterly agreed that lack of training is one of the most noticeable challenges of social CRM adoption in their hospitals, followed by lack of budget, skills and so on.

### 4.2. Discriminant validity

The results for discriminant validity of the construct demonstrated in Table 4 which is in fact the Fornell-Larcker criterion matrix. The matrix showed that validity is achieved because the measure within column is not above the square root of the AVE (Hair et al., 2016). Table 2 below displays that all the correlation values are adequate. While Table 3 below displays the ratios based on heterotrait-Monotrait Ratio (HTMT). Results of cross loading are in appendix B.

## 5. Results of structural model

To test the proposed model, this study used SmartPLS version 3.2.8 software, which consisted of two approaches including measurement and structure model. According to Henseler & Fassott (2010), measurement model helps to assess the validity and reliability of the construct, whereas structural model provides the evaluation of the final model. The table in Appendix B presents the results of the measurement model, which indicated cross loading scores for each item. These results helped to evaluate both internal and discernment validity. The existing research assessed the Cronbach's alpha measure for the reliability and consistency of the constructs. The present research using the same method evaluated Cronbach's alpha value and the results showed the value of 0.70 which is considered a suitable value for internal consistency (Hair et al., 2016). The reliability of the whole constructs demonstrated in Table 4. The validity of the construct analyzed by examining composite reliability, discriminant validity, and convergent validity. As mentioned earlier the value of Cronbach's alpha higher than 0.7 confirmed the reliability and internal consistency for all the constructs. For evaluating the convergent validity, we analyzed the mean of the average variance and outer loading. The outer loadings more than 0.5 are reflected substantial and spectacle convergence validity. Respectively, the average variance extracted (AVE) ought to be greater than 0.50 to show appropriate convergent validity. The results for reliability and AVE for the present study presented in Table 4 and demonstrated satisfactory convergent validity. Results showed no collinearity issues between the variables since the values of Variance Inflation Factors (VIF) were all at the conventional level 0.2 to 5.0.

The current research used PLS SEM algorithm to evaluate the model. Figure 3 illustrates the structural model analysis result and hypothesized interactions with the variables. Conferring to Hair et al. (2016), the R<sup>2</sup> value can validate the portion of variance clarified by constructs and can have a value between 0 and 1. R<sup>2</sup> is considered strong if the value is above 0.7, considered moderate if the value between 0.50 and 0.75, and weak if the value is between 0.20 and 0.50. The results in Figure 3 and Table 5, showed that altogether the model can explain 70.4 %, 51.9 %, 7

**Table 2.** Discriminant validity by Fornell-Larcker Criterion Matrix.

	BP	Adopt	Intera	LK	OB	PP	SB	SMP
BP	0.808							
Adopt	0.743	0.820						
Intera	0.527	0.652	0.811					
LK	0.148	0.134	0.083	0.902				
OB	0.580	0.737	0.469	0.065	0.887			
PP	0.339	0.464	0.321	0.085	0.271	0.861		
SB	0.528	0.720	0.465	0.104	0.531	0.296	0.857	
SMP	0.342	0.498	0.329	0.128	0.410	0.324	0.385	0.835

**Table 3.** Heterotrait-monotrait ratio (HTMT).

	BP	Adopt	Intera	LK	OB	PP_	SB	SMP
BP								
Adopt	0.821							
Intera	0.661	0.762						
LK	0.178	0.153	0.094					
OB	0.709	0.847	0.526	0.071				
PP_	0.417	0.537	0.364	0.094	0.300			
SB	0.656	0.842	0.531	0.112	0.595	0.334		
SMP	0.424	0.586	0.381	0.147	0.460	0.371	0.443	

**Table 4.** Reliability and validity of the structural model.

Constructs	Loading	AVE	VIF	Cronbach's alpha	Composite Reliability
Perceived Privacy (PP)	0.897	0.742	3.009	0.884	0.920
	0.869		2.605		
	0.870		2.700		
	0.808		2.941		
Interactivity (Interac)	0.787	0.658	2.982	0.870	0.906
	0.823		2.332		
	0.857		2.538		
	0.813		2.208		
Leadership Knowledge (LK)	0.774	0.814	2.049	0.924	0.946
	0.928		4.545		
	0.921		5.037		
	0.915		3.755		
Social Media Policy (SMP)	0.843	0.697	2.473	0.854	0.902
	0.837		2.185		
	0.883		2.533		
	0.776		2.774		
Bandwagon Pressure (BP)	0.839	0.653	2.013	0.732	0.849
	0.846		2.618		
	0.725		2.280		
	0.847		2.658		
Adoption (Adopt)	0.846	0.673	2.005	0.836	0.891
	0.746		2.577		
	0.796		2.779		
	0.886		2.517		
Strategic Benefits (SB)	0.866	0.734	2.656	0.876	0.936
	0.909		3.674		
	0.910		3.245		
	0.730		2.499		
Operational Benefits (OB)	0.889	0.786	2.968	0.909	0.916
	0.907		3.335		
	0.870		2.504		
	0.880		2.549		



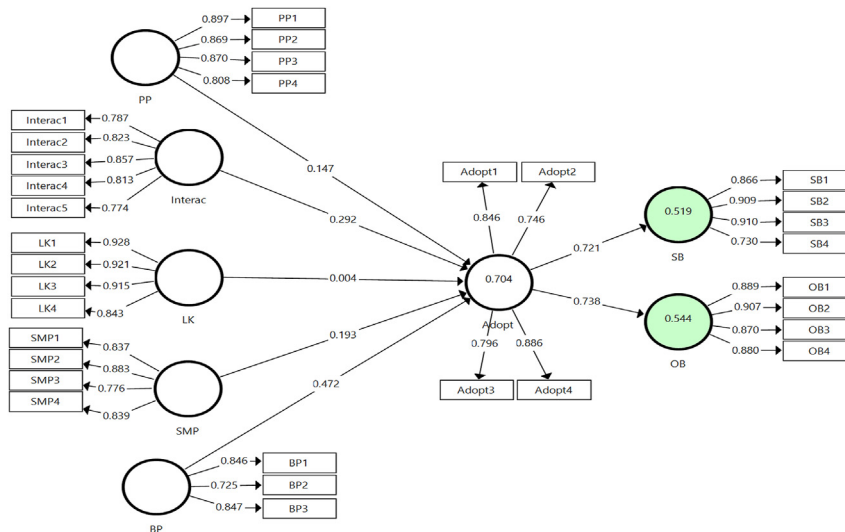


Figure 3. Structural model analysis.

Table 5. R<sup>2</sup> and Q<sup>2</sup> outcomes.

Construct	R <sup>2</sup>	Q <sup>2</sup>
Adopt	0.704	0.466
SB	0.519	0.425
OB	0.544	0.378

and 54.4 % of the variance in perceived privacy, interactivity, leadership knowledge, social media policy, bandwagon pressure respectively. Another important value which is allied with R<sup>2</sup> is called Q<sup>2</sup> and calculate the relevance of the endogenous variables. Q<sup>2</sup> values are considered as minor if between 0.02 and 0.15, considered medium if the value is between 0.15 and 0.35, and as large if the value is higher than 0.35 (Hair et al., 2016). Tabulated outcomes in Table 6, exhibit the large Q<sup>2</sup> values of 0.466, 0.425, and 0.378 for the three stages of social CRM adoption respectively.

The results of the hypothesized associations are tabularized in Table 6. It indicates that almost all the indirect paths “Hypothesis” which represented as (H), H1, H2, H4, H5, H6, and H7 are supported except for H3. The rejected hypotheses stand for the Leadership Knowledge. H1, H2, H4, H5, H6, H7 which stand for the perceived privacy and adoption, interactivity and adoption, social media policy and adoption, bandwagon and adoption are supported since statistics measure were above 1.96 (Hair et al., 2016). The associated t-statistics measures are 5.328, 8.417, 6.515, 14.954, 27.951, and 33.077, while the associated path coefficient values are 0.147, 0.292, 0.004, 0.193, 0.472, 0.721, and 0.738. The following Figure 3. Shows the model with the correlations. And Table 6 below shows more in details all the values from the analysis.

### 6. Discussion

As social media becomes integral component of the marketing communication, understanding its importance in customer relationship management is must, however, very little attention has been to this area till to date. Lack of empirical investigation, inadequate theoretical discussion is very much observed in this important arena. This study, therefore, is one of the few endeavors that address this issue. This study combined several information system theories to understand the adoption process of the next wave of social media. Based on these results, four out of five determinants of social CRM adoption are statistically significant. Leadership knowledge, however, was not significant statistically. In other words, social CRM adoption is not affected by leadership skills in the healthcare industry. Consistent with prior studies (Ahani et al., 2017; Heras-Pedrosa et al., 2020) bandwagon pressure became the most important determinants for the social CRM adoption. It implies that pressure from competitors, industry plays important role in adopting social CRM. Despite having greater acceptance of perceived privacy as one of the important determinants for the innovation adoption in many theories, bandwagon pressure gradually took over the position of the perceived privacy. Hence, it is wise to suggest for the practitioners to be more responsive to the changes in the industry. Surprisingly, though many prior studies (Joo and Teng, 2017; Charlesworth, 2018) utterly agreed, interactivity became the second most important determinants for the social CRM adoption. These findings can be a breakthrough for the information technology theorists. Very limited number of theories consider interactivity as the primary determinants for the technology adoption. Results of this study confirmed that interactivity feature of the social CRM determines the rate of adoption in the healthcare industry. Almost every prior study Stohl et al. (2017) utterly mention that interactivity is an essential component of the 21<sup>st</sup> century's marketing

Table 6. Hypothesis testing and relationships measurement.

Hypothesis	Path	Path coefficient(β)	T Statistics	P Values	Decision
H1	PP → Adopt	0.147	5.328***	0.000	Supported
H2	Interac → Adopt	0.292	8.417***	0.000	Supported
H3	LK → Adopt	0.004	0.144	0.885	Not Supported
H4	SMP → Adopt	0.193	6.515***	0.000	Supported
H5	BP → Adopt	0.472	14.954***	0.000	Supported
H6	Adopt → SB	0.721	27.951***	0.000	Supported
H7	Adopt → OB	0.738	33.077***	0.000	Supported

communication. Therefore, it would be a fruitful suggestion for the practitioners to develop an interactive social CRM for their end users particularly to the healthcare industry.

Recently many countries raise the issue of having effective social media policy for their citizen. In similar fashion, results of this study explicitly indicated that social media policy plays important role in the adoption process of social CRM. More specifically, having effective policy for the social CRM became the third most important factor for accelerating its adoption in the healthcare industry. Healthcare industry, inherently, has strict policy and procedures, as the industry deals with very sensitive information of their clients. Hence having an effective policy before adoption of social CRM is the first step. Another significant finding concerned with perceived privacy results show that it is the fourth important factor that influences the adoption process of the social CRM. Privacy is an important concern in the social CRM that must be addressed transparently to the clients before the adoption. Most web users concerned with their personal data and how it's been used and with what purpose, hence social CRM platforms must attain, control and protect the client's personal information for more effective engagement (Marolt et al., 2020).

Numerous researchers opine that perceived benefits are primary determinants of decisions concerning technology adoption (Akca, 2014). Nevertheless, there has been contradictions, for instance, Al-Qirim (2007) opined that strategic benefits were not the determinants for the adoption of an e-commerce platform concerning small organizations in New Zealand. A relatively new study by Yoon & George (2013) specifies a lack of significant influence concerning strategic benefits in virtual worlds on the organizational propensity for technology adoption. Still there is no conclusive decision despite having few studies pertaining to the benefits of social CRM adoption (Ahani et al., 2017). In contrast with the prior studies, results of this study which have statistically shown significant potentiality to enhance the strategic and operational activities of healthcare organizations. Remarkably results clearly indicated that social CRM is able to enhance strategic benefits for the healthcare industry by managing relationship with their clients. These findings will encourage the non-adopters by providing an empirical and substantial evidence that social CRM accelerate strategic benefits for the healthcare. Similarly, operational benefits foreseen of the adoption of social CRM in terms of cost saving, effective operations and interactions.

## 7. Implications of the study

Social CRM has been extensively studied in terms of adoption and this study provided insightful empirical evidence of both adoption factors and benefits of the adoption of social CRM. In relation to theoretical contributions, this study explicitly expressed the important determinants of social CRM adoption based on the successfully extended TOE adoption model along with ISS theory, which can be an additional knowledge to those popular IS theories. Similarly, this study also validated the ultimate outcome of such adoption as strategic and operational benefits. Additionally, this study also contributes to the practitioners, especially, in the healthcare industry. The extended TOE model was by adding the technological characteristics from DOI in order to comprehensively address the technological characteristics of social CRM in the new context. Furthermore, TOE was also extended by adding the perceived benefits from ISS theory in order to predict and validate the foreseen benefits result from the adoption. Giving this empirical proof, practitioners will be motivated to adopt social CRM in their marketing communication system. In fact, this study can help them to strategize their adoption process of social CRM, as based on the results the model remarkably explains the adoption and its benefits in healthcare industry. In respect with managerial implications the finding will guide both adopters and non-adopters and help them to realize the importance of developing social CRM policy these findings are noteworthy for the practitioners in the healthcare industry. Iraq is faced with difficult challenges in the healthcare sector. According to (Kadham, 2016), Iraqi healthcare still

considered legs behind as social media has been used inconsistently among healthcare organizations, overwhelmed with data obtained and system efficiency concerns. Thus, social CRM can play a major role in facing this challenge as social CRM expand the reach of healthcare services and equity of healthcare sector.

## 8. Limitations and further research

Despite the positive insightful findings of the study at theoretical and practical, the study faces limitations which are investable in every research. This study, however, found with limitation by adhering scientific and systematic methods suggested by prior studies, one of the main concerns related to this study is sampling. More specifically, this study only collected data from the adopters of social CRM, which is the scope of this study. However, this current study can be extended by collecting data from non-adopters and compare the findings between them. Other limitation to this study is the findings generalization, study was based on Iraqi in healthcare context which therefore might not be relevant to other countries and different settings. Hence it is wise to reinvestigate the findings of this study from different industry, such as banking, insurance, hotel and so on. Beside the samples, this study developed a model with only five independent variables. Current research can be improved by adding more variables such as complexity and compatibility of the social CRM in the healthcare industry for further investigation. Another limitation is researchers could test the outcome from an individual perspective rather than organizational benefits only. A moderating role of effective engagement in terms of interaction could also exist, which makes it viable area for researchers to explore. As technology is advancing rapidly, it could be beneficial to validate the findings in longitudinal settings to explore how social CRM influences customers' interactions.

## 9. Conclusion

The growing advancement of web technologies has impacted most industries in general and healthcare service delivery in particular and reshaping the future of healthcare services and communications. In attempt to solve the problems faced by Iraqi healthcare sector in terms of the unstandardized usage of social media among healthcare organizations, deficiency of CRM system interaction in managing their relationships with clients, and weak infrastructure, this study examined the potential of social CRM in redefining the healthcare's marketing strategy and interaction with their customers. The results indicated that the proposed model was successful in addressing the constructs that impact the adoption of social CRM in healthcare organizations. Bandwagon was remarkably significant, which indicate that the healthcare organizations' decision can be influenced by the peer's pressure in the same field of business. The outstanding role of interactivity has showing great impact on the adoption process of social CRM, thus this suggests that the interactivity of social CRM platforms plays an important role the adoption decision making process. Nonetheless, the emerging concern with social media policy from literature was support with the findings of this study as social media policy has very significant impact on the adoption, which means healthcare providers need a standardized policy in attaining, responding, and sharing information over those platforms. Similarity, privacy has showing no less importance in impacting the adoption of social CRM among healthcare organization, according to results privacy is statistically influential factor and social CRM platforms are encouraged with high level of data privacy and security. Eventually, the concluding remarks of the study seen with the contribution that social CRM has for healthcare organizations, consistent with the literature related with perceived benefits. Based on the results the study validated and supported the prior studies. The findings of the study are of utmost importance from theory and practical perspective, limitation associated with the study have been noted and directive future research suggestions were included.

## Declarations

### Author contribution statement

Abdullah Nabeel Jalal, Mahadi Bahari, Arun Kumar Tarofder: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

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### Data availability statement

Data will be made available on request.

### Declaration of interests statement

The authors declare no conflict of interest.

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