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## **Exploring the use of social media sites for health professionals' engagement and productivity in public sector hospitals**

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### **Abstract**

#### **Purpose**

Competitive pressure and social influence for technology adoption has increased among developed, developing, and emerging countries. The influence of social structure, organizational forces, and political forces varies between public sector hospitals in countries where there are more social media restrictions. This study aims to explore how the use of social media can influence employee engagement and productivity in the workplaces of public sector hospitals.

#### **Method**

The study follows a social constructivist approach to understand: employee attitudes, motivation culture; political forces; and the local context. Data were collected from health professionals of five public sector hospitals using a non-directive and semi-structured interview method.

#### **Findings**

The results show that the use of social media sites has increased collaboration, coordination, and cooperation among health professionals, especially in critical situations. They are more socialized, connected, and engaged, which helps them to exchange useful knowledge using instant messaging apps. Conversely, there are no organizational policies and specific laws and too little support from management and senior doctors to drive the use of social networking sites in public hospitals. The use of social media has enhanced health professionals' engagement and productivity as

they are able to share their expertise, knowledge, and information with their colleagues and subordinates.

### **Implications**

The results can guide policy makers, researchers, hospitals, doctors, and the Ministry of Health about the positive use of social networking sites in the workplace. The positive use of social networking sites in the workplace can enhance information, knowledge, and coordination which may help to enhance employee engagement and productivity.

### **Originality**

The present study provided a social media health organization workplace (SMHOW) model which explains how individual and organizational contexts can influence the actual use of social media in health care organizations.

### **Introduction**

According to Smith (2017), 95% of top service hospitals use social media platforms for communication and hospital marketing. A survey was performed with the help of 4,000 physicians and it was found that 65% of physicians use social media sites for professional purposes and 90% of physicians use social media sites in their personal life (Courtney, 2013; Fogelson et al., 2013). Research has explored the role of social media in hospitals and found that only 50% of US hospitals use Facebook pages (Hawkins et al., 2016). According to Social Media Stats Pakistan (2019), more than 91.67% of people use Facebook, while less than 10% use Twitter, YouTube, Instagram and other social media platforms in Pakistan. The survey was conducted on 65 countries with the purpose of identifying the number of countries that impose full or partial restrictions on social media, and the number that do not regulate social media platforms; the survey found that 15 countries exerted no controls, 21 countries placed full restrictions, and 29 countries placed partial restrictions on social media (Pakistan was among the countries with restrictions on internet freedom, 2019).

Pakistan is one of the countries that places partial restrictions on internet use at home and in the workplace. According to a recent report, the Government of Pakistan is planning to restrict the use of social media in public sector organizations because it believes that social media is negatively influencing individual and organizational performance (Govt to restrict use of social media by public servants, 2019). However,

no specific mechanisms, rules and regulations, or technologies have been introduced by the Government of Pakistan to restrict the use of social media in public sector organizations (Aslam et al., 2018; Imran et al., 2019).

Previous studies have explored the use of social media from different perspectives, including nursing education (Peck, 2014), professional education (Maloney et al., 2014; Ventola, 2014), perceived quality, interaction, and education (Hawkins et al., 2016; Courtney, 2013), medicine (George et al., 2013), general information about hospitals (Griffis et al., 2014), communication and hospital marketing (Smith, 2017), hospital quality (Lagu et al., 2016), legal issues and risk management (Lambert, 2012), ethical concerns and opportunities (Pirraglia & Kravitz, 2013), social media marketing (Keegan & Rowley, 2017), and entrepreneurial orientation and performance (Parveen et al., 2016). According to Martinez-Millana et al. (2017), although the presence of public and private Spanish hospitals is high on social media platforms, the impact of these social technologies on overall performance is very limited. McCaughey et al. (2014) suggested that future studies must uncover organizational factors that can either encourage or discourage the use of social media sites in the workplace. Courtney (2013) stated that there is limited literature available with respect to how social media sites can influence the performance of professionals in hospitals. There is a potential gap in the literature regarding how social media can influence engagement and productivity among health care professionals. Previous studies have revealed that there is no information on how organizational factors such as routines and policies can influence the use of social media in the workplace (Childs & Martin, 2012; Moorhead et al., 2013; Peck, 2014). The present study aims to explore how the use of social media can influence employee engagement and productivity in the workplace of public sector hospitals. Moreover, the study intends to determine how factors of organizational context, such as resources, routines, and policies, can influence the adoption and use of social media sites in public sector hospitals. Furthermore, this study aims to provide an understanding regarding how social media usage can enhance knowledge sharing, learning, and coordination among health professionals which may be useful to reduce the organizational work overload in public sector hospitals.

## **Literature review**

According to health management studies, social media applications promote social networking (i.e. Facebook, WhatsApp, Twitter, and Google Plus), media exchange (i.e. Flickr and YouTube), professional connections (i.e. LinkedIn), virtual reality (i.e. Second Life), information gathering and exchange (Wikipedia), and content generation and exchange (i.e. microblogs and Twitter) (Dizon et al., 2012; George et al., 2013; Lambert et al., 2012). According to Ventola (2014), social media encourages and motivates health professionals to share their experiences with the purpose of educating and engaging colleagues, caregivers, and medical students. Other researchers have found that social media is useful to share information and knowledge about health discoveries, and to engage health professionals (Dizon et al., 2012; Ventola, 2014; Lagu et al., 2016). The use of social media has increased in hospitals, professional groups, health systems, and pharmacy companies (Courtney, 2013; Fogelson et al., 2013). Courtney (2013) highlighted that studies are increasingly focused on interventions via social media to decrease levels of obesity, intense sexual behaviour, and tobacco smoking cessation.

Previous research has looked at the adoption of technology, and how technology impacts on employee performance specifically in health care settings (Reychav et al., 2019). However, social media technology is quite different to other organizational operational technologies because it offers both personal and organizational choices (Imran et al., 2019). For example, some studies have highlighted that social media wastes the time of employees, since many use social media applications extensively for personal use especially where organizational restrictions are too limited (Aslam et al., 2018; Martin et al., 2019). Previous research suggested that the level of information, the use of technology, and the nature of organizational restrictions may vary between developing and developed countries (Imran et al., 2019; Naeem, 2020). Therefore, the use, control, and perceptions of social media applications and restrictions in developing countries, such as Pakistan, are likely to differ from those in developed countries (Imran et al., 2019).

Existing literature explains the significance of collaboration, coordination, social interaction, social motivation, and social influence, all of which are useful to enhance the use of social media in services organizations (Naeem, 2020; Barnes et al., 2018). Some studies suggested that employees' social motivation and social influence encourage the sharing of knowledge and engagement with each other (van Zoonen et

al., 2017). According to social cognitive theory (SCT), social connections are only developed when people share skills, knowledge, and capabilities with others (Mazziotta et al., 2011; Salarzadeh et al., 2017). Therefore, these factors have been added to a theoretical framework, which is the product of this research, to establish social media as a means to foster information exchange in public health care workplaces. The enablers, motivational causes, and uses of social media vary among countries, cultures, and sectors, and there is limited research available on this issue (Naeem, 2020). In particular, research is needed to understand the use of social media in public hospital workplaces.

### **Theoretical framework**

Although the majority of social networking tools are primarily designed to facilitate communication and the exchange of information, this research seeks to explore how collaborative social media facilitates and improves employee productivity in public health care organizations. Collaborative media is a term that illustrates how to implement and accept social media to improve and sustain organizational knowledge through workplace learning (Gáti et al., 2018). Yokoyama and Sekiguchi (2014) described workplace learning as a process individuals engage with while developing education courses, training programs, or any form of learning-based experiential activity in order to acquire the competencies essential to meet future and current work requirements. Collaborative media acts as a tool that enables organizational members to frequently communicate with others to improve their collective and individual performance (Leonardi et al., 2013). Different individuals have varied perceptions and intentions towards social media, which influence their use of it in the workplace (Archer et al., 2018); therefore, qualitative methods are appropriate to understand the subjective realities at individual and organizational levels.

As such, this study picks up that challenge using an exploratory research design. Although there are studies that explored individuals' technology acceptance behaviour (Rauniar et al., 2014; Zhao et al., 2016; Erkan & Evans, 2016; Abbasi et al., 2015), there are two major factors that play a key role in technology acceptance and use: individual factors and organizational factors. In the context of individual factors, SCT is helpful when it comes to understanding social learning behaviour (Lin et al., 2008) through social media in the workplace. Bandura (1986) considered feelings (e.g.

anxiety) and thoughts (e.g. anticipated expectations about outcome) as cognitive elements that are important to understand an individual's intention and behaviour. Lin and Chang (2018) proposed that an individual's intention and behaviour in relation to technology use is influenced by personal cognition (i.e. individual self-efficacy), which is constructed through their social environment. SCT indicates that an individual's confidence in their own skills and abilities can enhance their motivation to use social media (Lin & Chang, 2018) to complete tasks in the workplace. An individual's confidence in their own skills and abilities can enhance knowledge sharing and collaboration for technology use (Lin & Chang, 2018; Lin et al., 2008). However, SCT is unable to explain how organizational or leadership supportive or unsupportive behaviour can influence the actual use of social media in health care organizations. Social practice theory provides understanding about social practices within the social world (Shove et al., 2012), while affordance of technology theory provides understanding about the feasibility of technology for social actors. However, this study is focused on individual and organizational perspectives within the public sector context, therefore, social practice theory and affordance of technology theory cannot support the proposed objectives for this study.

The technology acceptance model (TAM) is useful to understand an individual's technological perceptions and behaviours towards social media use (Rauniar et al., 2014; Zhao et al., 2016) in the workplace in health care organizations. For example, perceptions about ease of use and usefulness are guided by how much an individual believes that social media is easy to use and able to enhance employee productivity in the workplace (Rauniar et al., 2014; Zhao et al., 2016). According to Davis et al. (1996), the acceptance or rejection of a technology depends on the extent to which it is considered helpful in terms of being able to perform tasks (perceived usefulness) and the extent to which learning the technology is effortless (ease of usage). Therefore, this study has used SCT and TAM to aid understanding of individuals' technological perceptions and behaviours towards social media use (Rauniar et al., 2014; Zhao et al., 2016). However, SCT and TAM are not very useful where the aim is to understand the technological intentions of organizational management and leadership toward the use of social media among employees in health care organizations. For example, according to a recent report, the Government of Pakistan is planning to restrict the use of social media in public sector organizations because it

believes that it is negatively influencing individual and organizational performance (Govt to restrict use of social media by public servants, 2019). Therefore, it is important to understand the organizational context with the help of the technology-organization-environment (TOE) framework and diffusion of innovation (DOI) theory.

According to DOI theory, communication of innovation occurs over time through special channels and in the context of the social system of an organization (Rogers, 2003). This theory also states that the degree of organizational willingness towards the adoption of innovations varies from leader to leader, and that is why any proportion of a population that adopts innovations is normally distributed over time (Rogers, 2003). At the organizational level, this innovation process becomes more complicated due to the involvement of large numbers of stakeholders, which usually include both opponents and supporters of the innovation or new idea; both are an important component of innovation decisions. Rogers (2003) studied DOI theory at the organizational level and observed that innovation has a strong association with independent factors, such as the internal characteristics of organizational structure, external organizational characteristics, and individual (leader) characteristics.

The TOE framework provides understanding about organizational aspects, such as organizational context, environmental context, and technological context, and it can help stakeholders to understand the public health organizational context in terms of social media use in the workplace. Overall, the TOE framework and DOI theory can be used to explain organizational structure (power, control system, decision making, communication), organizational characteristics (i.e. existing technology, history, previous experiences), and perceptions about leadership, which can influence individuals' behaviour towards the actual use of social media in health care organizations. In summary, SCT and TAM cover individual perspectives, whereas TOE and DOI explain organizational contextual factors. Based on this discussion, the study developed a theoretical framework for this research (see Figure 1).

**< Insert Figure 1: Theoretical framework here >**

## **Research methodology**

### ***Research philosophy, approach, and method***



Social constructivism is extensively used to understand and synthesize the multiple realities of different disciplines, including psychology, sociology, philosophy, and health sciences (Thomas et al., 2014; Taylor & Francis, 2013). In health science, social constructivism theory is useful where the aim is to understand how health professionals integrate and obtain new knowledge, and practice behaviour that can increase their decision-making performance (Thomas et al., 2014). Social constructivists believe that we are living in social world that has unique social, cultural, and local contexts, and these contexts differ from person to person, from country to country, and from region to region (Finlay & Ballinger, 2006; Taylor & Francis, 2013). Therefore, the knowledge insights generated from using social constructivism are different and unique because they are obtained through shared language, shared meaning, shared beliefs, social norms and values, and collective culture (Thomas et al., 2014). Social constructivists or interpretivists construct knowledge based on social and cultural values. Therefore, they prefer to shape, see, and understand things as per the views of the social world. In this study, the role of the researcher is as an outsider, but involvement is high, with the purpose of capturing and understanding what is being observed. The national culture, institutional forces, social structure, individual abilities and capabilities, the use of social media platforms, the level of knowledge exchange, and organizational policies are subjective realities. Therefore, these each have a different impact with respect to employees' work productivity in public sector hospitals. The study has provided a research process that clearly indicates how social constructivism, the interpretive method, data collection, and analytical techniques are interlinked (see Figure 2).

**<Insert Figure 2: research process here>**

### ***Population and sampling***

The present study focused on public sector hospitals, which are highly influenced by social, cultural, and institutional forces. Multiple hospitals were selected with the purpose of gaining different and rich insights from health professionals in public sector hospitals in Lahore, Pakistan. The selected hospitals are Jinnah Hospital, Lady Aitchison Hospital, Services Hospital, Citi Hospital, and Shaikh Zayed Hospital. These public hospitals have a rich institutional and technological history, and most health professionals are attracted to work in these hospitals to gain rich experiences.

The exact sampling framework is unknown because many doctors work as visiting doctors in these public hospitals. Furthermore, three of the public hospitals were prepared to provide sampling frameworks, but two public hospitals declined to provide sampling frameworks. Therefore, it became necessary to use a non-probability sampling technique for this study. Purposive sampling is a common and useful sampling technique in studies of health sciences, especially when the researcher is familiar with the sampling framework and wants to select respondents who have useful knowledge about the objectives of the research study (Jeanfreau & Jack 2010, Polgar & Thomas, 2011). Therefore, the present study used purposive sampling. Data were collected from 32 participants who were emergency room doctors, hospitalists, surgeons, head nurses, and nurses in public hospitals who fulfilled the following inclusion criteria, they were health professionals:

- ✓ over 18 years of age,
- ✓ working in public hospitals for a minimum of two years,
- ✓ who had a minimum of one active social media account,
- ✓ who were voluntarily ready to offer research data.

The demographic characteristics of the selected respondents are provided in Table 1.

**< Insert Table 1: Demographic information here >**

### ***Data collection and analysis techniques***

Using interpretative methods, rich insights can be gathered with the help of observations, narratives, diaries, stories, and semi-structured interviews (Taylor & Francis, 2013; Thomas et al., 2014). Among the available interpretative methods, interpretivists more commonly use semi-structured interviews because they offer rich insights and produce answers to different questions, such as why, how, and what (Stuckey, 2013; Kallio et al., 2016). Semi-structured interviews are more extensively used because they provide flexibility to modify or add interview questions. They are more focused on obtaining specific answers as compared to open-ended or structured interviews (Stuckey, 2013; Kallio et al., 2016). This study therefore used semi-structured interviews based on a face-to-face approach. Examples of the semi-structured interview questions are: How do you see the role of social media with respect to your performance in the workplace?; What is your individual and organizational perception of the use of social media in hospital?; What socialization

factors may be useful to increase your productivity?; and, What are the challenges that have a negative influence on the use of social media in your hospital?

For this study, thematic analysis was used because it can extract common patterns and keywords. These common patterns and keywords are useful to construct themes and sub-themes. According to Braun and Clarke (2006), the researcher can identify codes and keywords that are most commonly or repeatedly used by interviewees during interviews.

### **Findings and analysis**

Thematic analysis was used because it can explore data which have common sets of patterns or themes. Using transcriptions of the interviews, the researcher developed various initial codes with the purpose of supporting the main themes: employee work engagement using social media and organizational context to adopt social media. These main themes, codes, and keywords were constructed and rechecked to enhance their internal and external homogeneity (Patton, 1990). Based on the thematic analysis for this study, Figure 3 presents a thematic analyses process of social media health organization workplace (SMHOW) model.

**<Insert Figure 3: Thematic analyses process of SMHOW Model here>**

### ***Employee engagement in the workplace***

Leading public and private health organizations are very interested in finding out how they can enhance employee engagement in the workplace (Othman & Nasurdin, 2013; Simpson, 2009). Employee engagement is directly linked with employee productivity in the workplace (Othman & Nasurdin, 2013). According to Bhatnagar (2007), organizations that have higher engagement may be able to enhance the level of employee productivity. Supervisors and leaders are able to enhance or decrease employee engagement through motivation, information sharing, workover overload, and coordination (Bhatnagar, 2007). Another study argued that organizational contextual factors, such as trust in leadership and organizational justice, can enhance employee engagement (Agarwal, 2014); however, there is limited understanding regarding how social media platforms can influence employee engagement and productivity.

Social networking technologies have a very important role to play in enhancing the engagement of employees in the workplace (Aslam et al., 2018). Employee

engagement is an approach that can lead to working conditions that can influence individual and organizational goals, values, well-being, and success. Four sub-themes were derived based on employee engagement in the workplace. These sub-themes were: maintaining coherence, conflict, knowledge sharing, and productivity. Maintaining coherence refers to those factors which can enhance closeness, collaboration, and interaction among employees with the purpose of increasing information and social capital in the workplace using social media platforms. Conflict refers to all factors that can inversely influence employee engagement in the hospital workplace. Knowledge sharing refers to the use of social media to promote expertise, information, and skills among colleagues in the workplace. Health professionals' productivity refers to how the acquired skills, expertise, knowledge, and level of information of employees help to enhance motivation, education, and self-management. Details of the theme, definition, sub-themes, and keywords are given in Figure 4.

**<Insert Figure 4: Codes and Keywords of SMHOW Model here>**

*Maintain coherence and employee engagement*

The respondents were asked about the usefulness of social media platforms to connect, collaborate, coordinate and exchange information in the workplace. A 34-year-old head nurse noted, *"we have created a group on WhatsApp with the purpose to collaborate for work, especially in critical situations. Whenever there was an emergency situation, we shared message at WhatsApp and asked for the help of on duty doctors and nurses. Sometimes, doctors and nurses are on rounds or busy with their patients, but they are immediately alert and respond on WhatsApp message. The use of WhatsApp has increased collaboration, coordination, and interaction in the workplace"*. The nurse suggests that the use of WhatsApp has increased coordination and engagement. Colleagues can collaborate and coordinate better, especially in critical situations, and this increases their level of engagement and skills to cope with stressful work environments in emergency situations.

A 51-year-old doctor noted, *"there are only two doctors and four nurses who work in the emergency department on night shift. We have created a group on WhatsApp and Facebook Messenger where we can ask for immediate help from each other. The use of these social tools has increased the ambience, closeness, teamwork, and work-related information. Several times we can inform or ask nurses about any particular*

*injection or medication or condition of any patient along with doing another job*". This doctor highlights how the use of Messenger and WhatsApp messaging increased teamwork and coordination because they can instruct, guide, or ask about medications as well as the condition of patients whilst working on other tasks. A 45-year-old doctor stated, *"the use of social media platforms has increased socializing because we usually share birthday, marriage ceremony, funeral, or promotion-related news, which increased our get togethers, awareness, as well as our help for each other, especially when we are on duty"*. Further, a 33-year-old head nurse reflected as follows, *"it is tough to do call with seniors or colleagues on duty, but the sharing of recorded messages, pictures, texts makes taking instruction, guidance and help from each other easy"*. Therefore, the use of social media applications increases work-related information exchange to ultimately improve employee work engagement.

#### *Conflict and employee engagement*

The results show that the use of social media platforms increases socialization and collaboration among employees in the workplace. However, there are some issues which can negatively influence the usefulness of social media platforms in the workplace. For example, a 48-year-old doctor highlighted that *"there is no organizational policy to use the mobile in the workplace for work-related information. Even sometimes when nurses are asking for help about some medication or patient situation in social media groups, then citizens' reaction is negative because they assume that we are using a mobile for personal entertainment purpose"*. A 38-year-old head nurse said, *"there is a common perception that whenever our doctor recommended to us a particular injection or medication for any specific patient on WhatsApp group, then we always responded with ok even when we were busy with other work. Therefore, sometimes it built a perception in a doctor that we had immediately done the assigned task while we were busy with other tasks. It raised arguments, and operational and service quality conflicts among nurses and doctors"*.

The findings highlight that there is no organizational policy when it comes to using social media platforms in public health care settings in Lahore. Furthermore, when nurses and doctors use these platforms for collaboration and coordination, citizens' reactions are negative because they assume that social media is only for personal entertainment. The involvement of interactive communications using WhatsApp and Facebook Messenger groups also increases expectations to respond quickly to

professional and operational conflicts in the workplace. A 42-year-old head nurse noted, *“we are working in a public sector hospital which has limited human capital and resources. Most of the time we are involved to take a screenshot about a patient’s history or symptoms and it is shared with doctors to get their recommendations. Sometimes these group messages created backup, regarding how effectively we dealt with an emergency situation, especially when doctors are not available or busy in an operation theatre. However, most patients and the management of the hospital perceived it as time wasting; therefore, the use of social media increased arguments with stakeholders of the hospital”*. The findings reveal that there are too few doctors, and those who are employed face mounting work pressures. Therefore, it has become essential for nurses to use social media to seek advice, especially when they are dealing with emergency patients. However, hospital management and patients perceive the use of social media as a waste of time.

#### *Knowledge sharing and employee engagement*

The results show that the use of social media platforms has increased the social and professional ties within and outside the workplace among nurses, doctors, and hospital management. Nurses and hospital management can quickly share the voices of patients about their medical history, symptoms, and feelings with the purpose of hiring specialized doctors outside the hospital. The use of social media platforms fosters interactive communication, information exchange, recommendations, and knowledge exchange among nurses, doctors, patients, and management. A 52-year-old doctor argued that *“Due to air pollution, the number of asthma patients is increasing day by day. Most asthma patients are not very educated and they do not have much knowledge about exercise, use of medication, and use of inhaler during asthma attack or emergency situation. Therefore, there are many videos available on YouTube which I usually share with my asthma patients. The knowledge shared increased trust, motivation, and ties between patients and doctor. I always received appreciation and positive compliments on this shared content because it increased patient education and level of information to self-manage their asthma”*.

A 34-year-old head nurse reflected as follows, *“many times doctors and nurses have shared webinars, seminars, YouTube content related to our fields. This content has created more awareness and knowledge about new discoveries and techniques to handle critical patients. Many times we shared this type of content with a patient so*

*that they can deal with severe conditions and maximize their chances to remain healthy and risk-free". A 48-year-old doctor added, "an increasing number of cases of diabetes is very common in developing countries, while there is a limited number of doctors and hospital resources available to deal with these patients. Low blood sugar increases dizziness, profuse sweating, weakness, and confusion. Many times I shared video links on patient's WhatsApp related to how to reduce weight and calories (swimming, cycling, walking, and aerobics) as well as the method to inject insulin to control the diabetes".* The findings reveal that shared content about asthma and diabetes increases awareness among doctors, nurses, patients, and society. It increases knowledge regarding nutritious foods, low calorie diets, useful exercises, and the use of medical instruments to control asthma and diabetes. Nurses, patients, and doctors frequently share this type of content with their close social groups, which increases awareness at personal, organizational, and societal levels. Such shared content also increases social ties, professional ties, and trust among nurses and doctors. The source of information is seen as credible and trustworthy because it is shared by a medical expert.

#### *Productivity and employee engagement*

The results show that the use of social media increases engagement and productivity among nurses, doctors, and other stakeholders in hospitals. Employee productivity refers to how much the use of a technology reduces the time and effort for completing a certain task. For example, when health professionals share information and knowledge then it can enhance patient awareness and activation; as a result, patients' emergency visits may be reduced, which is useful to save the health professionals' time, effort, and resources.

Nurses and doctors frequently share disease-related content with their patients, which increases awareness at personal, organizational, and societal levels. According to a 41-year-old nurse, *"Now, many medical experts have created YouTube channels with the purpose to share knowledge and increase others' skills. The use of graphics, videos, audio, text, and a combination of these media have decreased patients' visits to hospitals as they are now more aware and informed compared to the past. Now, they can self-manage their blood pressure, asthma, diabetes, and high-grade fever. I believe that hospital management's and doctors' sharing of videos and graphics have increased patient activation and education"*. A 34-year-old doctor stated, *"the use of*

*YouTube is more common among young doctors and nurses because we love to read and learn more advanced level techniques and practices related to our specialized medical field. We subscribe to many YouTube channels where we find advanced level content and we love to share that content with our colleagues, nurses, and patients”.* Interviewees perceived that different medical experts who have credibility and social reputation create channels on YouTube. They share information about advanced level instruments, medication, practices, and surgery methods. Young doctors and nurses follow these feeds closely to learn from medical experts and share the content with their patients. This is especially the case in public sector hospitals where there is a lack of human and hospital resources.

### ***Organizational context to adopt social media***

It is very important to understand the organizational context which can influence the use of social media platforms in the workplace. Organizational context refers to resources, technological perceptions, and organizational policies which can positively or negatively influence the use of social media platforms in the context of employee productivity. Resources include tools, processes, systems, and human and organizational capabilities which can enhance skills, expertise, knowledge, and the productivity of employees in the workplace. Technological perception refers to employees, management, leadership, and political perceptions which can influence the use of social networking tools in the organizational context. Technological perception can positively or negatively influence the use of social media platforms in health care settings. Organizational policies are sets of procedures, routines, and practices which can guide and protect management and employees. In such cases, organizational policies include employee conduct, employment practices, and disciplinary procedures regarding the use of sensitive information on social media platforms. Three sub-themes were derived based on organizational context to adopt social media in the workplace: resources, technological perception, and organizational policies.

### ***Resources and organizational context to adopt social media***

The role of resources is very important to determine whether the environment of public sector hospitals can support the use of social media platforms in the workplace or not. Efficient and effective resource utilization helps to build social capital and organizational innovativeness in public sector hospitals. However, the evidence



collected indicates many challenges with respect to technological competencies and experiences. For example, a 55-year-old doctor argued, *“there is a low level of attention on professional socialization and the working environment is boring because most of the tasks are repetitive in nature. Therefore, there is a low level of technological competencies and experiences in public sector hospitals. Without technological competencies and experience, there is a limited chance to build social capital and organizational innovativeness”*.

A 33-year-old head nurse noted, *“the IT department is not very competent because we have been using the same traditional software and systems for many years. There is no technical support and motivation to use social media platforms in the workplace. In fact, most employees believe that the use of social media platforms can increase the pressure to use advanced level of technology and practice”*.

These interviews reveal that there is no urgency to enhance technological competencies in public sector hospitals. Therefore, most tasks are repetitive. The focus of public sector hospitals is to minimize organizational expenses because they have limited organizational resources and competencies. Low levels of technological experience are evident and there is a focus on routine organizational tasks. These are major challenges in the enhancement of service quality and organizational innovativeness.

#### *Technological perception and organizational context to adopt social media*

Public sector hospitals work under government control and with their support. In fact, the performance of public sector organizations is considered a key performance indicator of government performance. However, the government of a developing country faces many challenges with respect to financial and other resources, which can minimize the level of support for public sector organizations. A 28-year-old nurse noted, *“although our political leadership and management are strongly focused on maintaining quality in our organization, they have a low level of knowledge regarding how social networking technologies can enhance the transparency and quality of service in public sector hospitals”*. A 49-year-old doctor stated, *“most senior doctors, nurses, management, and political leadership perceive the use of social media platforms in the workplace negatively. Technology perception is negative because they believe that the use of social media is a time-wasting activity in the workplace”*.

*because they cannot monitor whether employees are using it for personal or organizational purposes. They believe that it can increase the social trend to record video and upload on social media with the purpose to create pressure on public sector hospitals”.*

A 36-year-old nurse reflected as follows, *“our hospital management perceives that the use of social media can empower employees and patients because it can create evidence, and this evidence can enhance a cautious attitude as well as transparency in offered services. The management perceives that the use of these type of technologies can increase the utilization of organizational resources”.* These interviews highlight that senior doctors, staff members, management, and political leadership have negative perceptions regarding the use of social media platforms in the workplace. Senior employees and doctors are less inclined to use social media in the workplace. They believe that it can create a social trend to highlight negligence. Therefore, there is a perceived risk that they can become accountable for every action and reaction in public sector hospitals. Management tends to introduce new practices and systems based on cost-benefit analyses which is not favourable with respect to the use of social media in the workplace.

#### *Organizational policies and organizational context to adopt social media*

Most private and public sector hospitals have no organizational policies with respect to the use of social media in the workplace. Without the support of organizational policies, there is no mechanism to capture evidence with the support of social media to improve the level of transparency, accountability, service quality, employee productivity, and organizational productivity. Government regulations, organizational policies, and laws are some of the important factors that could enhance the use of social networking technologies with the purpose of enhancing organizational productivity. A 55-year-old doctor highlighted, *“organizational policies are mainly focused on avoiding the use of mobiles in the workplace. These organizational policies are constructed with the thought that the use of mobiles can negatively influence employee performance and services quality in the workplace. The organizational policies are aimed at minimizing the use of organizational resources with the purpose of saving the organizational budget”.*

A 37-year-old nurse shared her experience as follows, *“The management and political leadership are afraid to use social media because it can create interactive communication. Interactive communication means a high level of employee and patient empowerment and they fear an increase in negative feedback. Therefore, they do not pay any attention to creating organizational policies with respect to the use of social media platforms in the workplace”*. According to a 41-year-old doctor, *“there are no organizational policies with respect to using a patient’s personal data on social media. There is no law about the safety and security of a patient’s personal information on social media. Furthermore, not every employee has access to a smartphone for the use of social media in the workplace”*. These interviews reveal that there are no organizational regulations or laws with respect to the use of social media platforms. Furthermore, there is no organizational policy with respect to data protection and personal information. Management and political leaders are afraid that the use of social media can increase the pressure to drive service quality, transparency, accountability, and service excellence in public sector hospitals.

## **Discussion**

Both doctors and nurses agree that social media sites have enhanced their collaboration and coordination in the workplace. The results reveal that the use of instant messaging apps (i.e. Facebook Messenger and WhatsApp) have increased teamwork and coordination among health professionals. For example, they can instruct, guide, or ask about medication. Furthermore, it was found that these social apps have been used in emergency situations which necessitate a collaborative approach. Participants revealed that it is not easy to answer calls from colleagues when they are on duty, but social media sites facilitate quick communication in the form of recorded messages, pictures, and texts to share instructions and guidance among colleagues. The use of social media sites has enhanced socialization among health professionals, which may help to build trust and an informal environment for exchanging information and knowledge in the workplace. Socialization-oriented social media, by their nature, are very popular, informal, personal, and public resources (Naeem, 2020; O’Rourke et al., 2018). Twitter, WhatsApp, Facebook, and WeChat are common examples of socialization-oriented social media (Naeem, 2020; O’Rourke et al., 2018).

Although the positive use of social media sites to increase coordination, collaboration, and socialization is clear, there are some issues that increase the level of confusion and issues for social media use. For example, there is no specific organizational policy for social media use and citizens feel that health professionals are using social media for personal purposes. Furthermore, senior doctors use technology to instruct nurses to carry out tasks without asking about their current duties. This raises the level of conflict among health professionals. Therefore, it can be argued that interactive communications using WhatsApp and Facebook Messenger groups increase arguments and the expectation to respond quickly and professionally to address operational conflict among health professionals. Both doctors and head nurses agree that hospital management have negative perceptions about the use of social media, even when public hospitals lack the required level of human capital. However, the use of social media is helpful to effectively capitalize on the human and intellectual resources of health professionals as they are more connected and engaged with the purpose of managing work overload in these hospitals. The socialization of employees with their colleagues enables them to learn more about organizational practices, social norms and culture, and to adopt attitudes and behaviours that are highly acceptable throughout their organization (Maroulis, 2017; Hatmaker et al., 2011; Siciliano, 2017).

The use of social media has increased information and knowledge sharing among health professionals within and outside public hospitals. Due to environmental changes and high levels of air pollution in Pakistan, the number of cases of chronic diseases has increased from previous years. Health professionals share useful videos on YouTube with the purpose of educating their patients. New health discoveries and techniques are frequently shared through instant messaging apps which have increased the knowledge of health professionals. The implementation of socialization-oriented social media in public organizations is a complex task because social media is commonly used by individuals and is complex to manage as an organizational platform to improve employee performance (Meske et al., 2019). On the other hand, social media is a major source of knowledge sharing, information exchange, and collaborative networking and that it can improve employee performance (Forsgren & Byström, 2018; Hammond & Wellington, 2013).

Although the use of social media is increasing knowledge among health professionals, the workplace environment of public hospitals promotes the repetition of tasks. The

lack of technological competencies and experiences are major hurdles to the promotion of social capital and organizational innovativeness in public hospitals. The results of this study reveal that the IT departments of public hospitals still use traditional software and systems that negatively influence service quality and learning abilities about advanced health technologies. Although the use of social media is increasingly transparent, some political authorities and senior health professionals are not optimistic because they believe that the use of social media is a time-wasting activity. For example, they perceive that they cannot monitor whether employees use social media for personal or organizational purposes. Other participants suggested that the use of social media has increased the social trend to record videos to share negative experiences and create pressure for public sector hospitals. Previous studies have documented that social media use is a waste of time in the workplace (Barnes et al., 2018; Forsyth, 2014), whereas others suggested that it adds to knowledge and promotes employee productivity (Thomas & Akdere, 2013; Barnes et al., 2018). A recent press release by the Ministry of Information of Pakistan revealed that the Government of Pakistan is considering banning the use of social media in public organizations because of time wasting and low service quality (Ali et al., 2019). A model of social media productivity based on the discussion of this study is presented in Figure 5.

**<Insert Figure 5: Social media productivity model here>**

The use of social media has created a social trend to share experiences of negligence, which could encourage hospital professionals to become more responsible and accountable for their actions. The findings highlight that there are no organizational policies made with respect to how the evidence captured with the support of social media can be used to improve the level of transparency, accountability, service quality, employee productivity, and organizational productivity. The findings suggest that government regulations, organizational policies, and laws could enhance and motivate the use of social media platforms in the workplace. Political leadership and hospital management think that the use of social media can enhance employee empowerment, responsibility, and accountability. The findings indicate that there is no law regarding how to retain the anonymity of patients across social media in the workplace.

**Contribution**

**<Insert Figure 6: social media health organization workplace (SMHOW) model here>**

There are some studies which have explored the use of social media in the context of employment (Lam, 2016), hope and fear (Opgenhaffen & Claeys, 2017), employee efficiency and satisfaction (Liang et al., 2020), organizational change initiatives (Naeem, 2020), employee selection (Roth et al., 2016), and organizational performance (Parveen et al., 2015). However, there are no specific studies that have sought to explain the usefulness and challenges of social media in a public sector hospital setting, especially in a culture where the number of restrictions on social media is high. The uniqueness of this study is that it covers multiple perspectives, such as how social media can influence health professionals' engagement and productivity. This is the first study that has attempted to explore the benefits and challenges of using social media in the workplace using the perceptions of health care workers in a public hospital. This study has contributed the SMHOW model, which draws on SCT, TAM, TOE, and DOI (see Figure 6).

SCT supports individual factors such as the intentions of health professionals to use social media to:

- enhance human and intellectual capital,
- share webinars,
- share seminars,
- share videos,
- share other information to improve knowledge, capabilities, and the skills of health professionals.

SCT highlights that behavioural factors, such as skills, practice, and self-competency (Bandura, 2004, 2009), are useful to enhance work engagement and productivity (e.g. in a public sector hospital). An example of one of the environmental aspects of SCT in this study, is the Government of Pakistan's plan to restrict/ban the use of social media in public sector hospitals, which may negatively influence the use of social media for work engagement. TAM states that perceived usefulness and ease of use can enhance the intention to use technology, for example to improve work engagement

and productivity (Latib & Bolong, 2013; Al-rahmi et al., 2014). Health professionals also recognize the usefulness and positive outcomes of using social media sites because they help to enhance collaboration, coordination, socialization, interaction, awareness, and the education of health professionals (see Figure 6). For example, they have created a WhatsApp group with the purpose to collaborate for work, especially in critical situations. The use of WhatsApp by health professionals increased collaboration, coordination, and interaction in their workplace.

SCT is helpful when it comes to understanding social learning behaviour through social media in the workplace. TAM is useful to understand technological perceptions and behaviours towards social media use in the workplace in health care organizations. However, both theories are not very useful where the aim is to understand organizational management and leadership technological intentions toward the use of social media among employees in health care organizations. The TOE framework is parallel to DOI theory in the sense that DOI theory also emphasizes not only individual characteristics, but also the external and internal organizational characteristics as key drivers for innovation in organizations. Although these aspects are similar to the organizational and technological context of the TOE framework, DOI does not include an important and new element: the environmental context. The environmental context is very important as it includes both opportunities and constraints related to technological innovation. Moreover, the TOE framework enables DOI theory to describe intra-organizational innovation diffusion. Therefore, both theories are relevant to the development of a theoretical framework for this research.

The study identifies many factors which may increase negative perceptions with regard to social media usage at organizational levels which can influence the actual use of social media in the workplace. For example, the management of hospitals and citizens have negative perceptions about the use of mobile phones because there is no formal organizational policy with respect to accessing social media for professional purposes; therefore, most people perceive that mobile phone interactions are not work related. The study finds that the use of social media enhances expectations as well as conflict among leading doctors and nurses because it has become 'trendy' to advise junior staff via instant messaging apps without asking about their ongoing duties. Although the use of social networking sites has created the backup of chat,

screenshots, medical reports, and doctors' suggestions that have made it easier for nurses to search for relevant information when they need it, people have often perceived that nurses use social media for personal purposes; therefore, people often complain about this without knowing the actual reality.

Findings reveal that social media networks enhanced socialization and collaboration between health professionals. For example, it was found that health professionals and patients are more connected and able to share their views which improved their knowledge and ability to manage a difficult situation. Social media platforms also increased job tasks control and interactive communication between doctors and nurses. Within the organizations, social media networks created an opportunity for instant help as doctors and nurses can instruct, guide, or ask about medication as well as assess the health situation of patients while working on other important tasks. Therefore, social media networking provided leadership support for managing emergency situations in the workplace of health organizations (see Figure 6).

## **Conclusion**

The purpose of this study was to explore how the use of social media sites influences employee engagement and productivity in public sector hospitals. It was found that both doctors and nurses actively use social networking sites, which has increased their engagement and productivity. The results reveal that nurses can take instruction, guidance, and help from senior doctors using social sites even when they are busy with other tasks. On the other hand, it was found that the use of social media has increased the job overload of nurses as doctors are more involved in assigning multiple tasks at the same time. It was also found that instant messaging apps enable hospital management and doctors to share data more quickly with the purpose of seeking recommendations or help from doctors of other hospitals. The results highlight that organizational policies, a lack of management and senior support, a fear of accountability and transparency, and fear of employee empowerment are the major challenges to the use of social media applications in public hospitals.

## **Practical recommendations**

There are many practical recommendations which can enhance positive perceptions, attitudes, behaviours, work engagement, and productivity in the workplace of public



hospitals, especially in the culture of a developing country where there are restrictions and negative perceptions among both internal and external stakeholders.

- ✓ There is a need to specify organizational policies that can ensure social media sites work for professional socialization as well as exchanging knowledge that may enhance skills, capabilities, knowledge, awareness, productivity, engagement, and education.
- ✓ The Government of Pakistan and Ministry of Health have to take steps to ensure that policies and resources must be provided to public hospitals to enhance support to use social media sites instead of making policies that restrict social media use. There are many developed countries that use social media sites to exchange information with internal and external stakeholders in hospitals.
- ✓ There should be social and cultural support that builds awareness as Pakistan has limited human capital and intellectual resources, especially in public hospitals.
- ✓ The management of hospitals and government must collaborate to conduct seminars and webinars that may enhance the level of awareness of the constructive and productive use of social media sites and other technologies to deliver superior service quality.
- ✓ The IT department of public hospitals must adopt advanced systems and other technologies that may increase learning abilities, knowledge sharing, skills and capabilities, work engagement, individual productivity, and overall productivity. Health professionals can find more opportunities by using advanced systems and technologies such as e-HRM and electronic media records.

### **Limitations, delimitations, and directions for future research**

Although the study has provided a practical and theoretical contribution, it is not free from limitations and delimitations. For example, the study has selected a specific geographical location for data collection purposes. Therefore, the selection of public hospitals should be increased and more than one national culture should be selected in future studies to confirm and to enhance the transferability of the study's results. The data were collected from internal stakeholders only, whereas the perceptions of external stakeholders, such as patients and officials from the Ministry of Health, may

be different. Therefore, it would be useful to include both internal and external stakeholders in future studies so that the researcher can gain a richer insight into using qualitative research methods. Although the study has offered a comprehensive research framework with the support of existing theories and literature, the validity of model can be enhanced when future studies use probability sampling and quantitative research methods.

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