


Using Social Media Data for Exploring Healthcare Service Quality

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ABSTRACT

The provision of quality services in the healthcare sector has become a highly prioritized goal, as it is seen as a key factor in the satisfaction and loyalty of patients. This study aims to explore patients' perception of service quality in the UAE, a topic that has not yet been extensively studied. A qualitative approach, using social media data, was employed. Grounded theory techniques were used to analyze online feedback and comments on clinical services posted by patients. Results revealed five key factors that shape patients' perception of service quality: time efficiency, human interaction, complementary facilities, value for money match, and accountability. This study's findings and implications, particularly regarding how technology can be used to guarantee quality services and address issues raised in the research, are discussed.

KEYWORDS

Healthcare, Patients, Satisfaction, Service Quality, Social Media, UAE

INTRODUCTION

Quality of service has increasingly become an important part of our lives as we continuously strive to seek the best quality in products and services. In the context of healthcare, quality has become a basic requirement for consumers and healthcare providers. Medical organizations, including hospitals and clinics, recognize quality as an indispensable element in attaining competitive advantages (Mosadeghrad, 2014a). A plethora of literature is available on the subject of healthcare service quality in which researchers have identified many factors that influence the quality. In previous studies, quantitative research was conducted with a questionnaire instrument to measure and test healthcare service quality using known models such as SERVQUAL (service quality), a generic quality of service model that has been used in many different areas and sectors (Lucadamo, Camminatiello, D'Ambra, 2021; Sharifi et al., 2021; Akdere, Top, & Tekingündüz, 2020; Al Bolushi, Olorogun, Boubacar, & Houjeir, 2017; Al-Neyadi et al., 2018; Upadhyai et al., 2019; Parasuraman et al., 1988). The model consists of five quality dimensions: tangibility, reliability, responsiveness, assurance,

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and empathy. Previous researchers in the UAE context also used the SERVQUAL questionnaire to evaluate healthcare service quality (Al-Neyadi et al., 2018; Al Bolushi et al., 2017). In the context of healthcare, HEALTHQUAL model, which primarily focuses on care processes and outcomes, was developed by Lee (2016). This model comprises five components: empathy, tangibles, safety, efficiency, and the degree of improvement in care services. According to Lee (2016), HEALTHQUAL is an integrated model that assesses healthcare service quality from multiple perspectives, including patients, hospitals, and accreditation institutions.

Although the SERVQUAL model has wide application for measuring the quality of service in many different sectors, including healthcare, the model has been criticized at the methodological and conceptual levels (Purcărea, Gheorghe, & Petrescu, 2013; Upadhyai et al., 2019). Ladhari (2008) argued that the SERVQUAL model is context-specific and emphasized that the instrument, typically a questionnaire, is not universally applicable. It needs to be tailored to specific services within particular contexts. Consequently, the present study does not adopt the SERVQUAL model or its extended versions, such as the HEALTHQUAL model for assessing healthcare service quality. This decision is based on the understanding that the dimensions of healthcare quality can vary depending on factors such as country, culture, public or private institutions, healthcare requirements, rural or urban locations, and the types of healthcare practitioners involved (Upadhyai et al., 2019). For instance, Sohail's (2003) research on service quality measurement in hospitals in Malaysia did not validate any of the five generic SERVQUAL dimensions. Similarly, Yesilada and Direktor (2010) measured SERVQUAL model dimensions at private and public hospitals in Northern Cyprus using factor analysis and did not confirm the model's five generic dimensions. Estiri et al. (2023) also pointed out that other studies had claimed that assessing health care patients' expectations is a complicated task, and that SERVQUAL should be modified rather than being used as it is. Thus, in the present study, existing models such as SERVQUAL and HEALTHQUAL were not used, as the quality dimensions cannot be generalized as each context (i.e., healthcare service in Dubai) might be unique beyond the five generic dimensions of SERVQUAL or HEALTHQUAL service quality. In the present study, a qualitative research approach was used instead of predefined constructs examined using a questionnaire as qualitative research permits new quality issues and dimensions to emerge from the context itself.

This paper is divided into the following sections: In the second section, a literature review of healthcare service quality is provided. In the third section, the research methodology is discussed. In the fourth section, the results are presented. In the fifth section, the practical implications of the findings are discussed. In the last section, the main research contribution is summarized, ideas for future research are provided, and the research limitations are discussed.

LITERATURE REVIEW

The term quality has several meanings, as cited by Mosadeghrad (2014a, 2014b), such as "value," "excellence," "conformance to specifications," "conformance to requirements," and "meeting and/or exceeding customers' expectations." In the healthcare context, various definitions of quality of service focus on different aspects and dimensions of quality. For instance, Schuster et al. (1988) defined quality as "providing patients with appropriate services in a technically competent manner, with good communication, shared decision making and cultural sensitivity." Mosadeghrad (2012) defined quality as "consistently delighting the patient by providing efficacious, effective and efficient healthcare services according to the latest clinical guidelines and standards, which meet the patients' needs and satisfies providers" (p. 78). The subject of healthcare service quality has been investigated intensively in literature; many previous researchers attempted to identify, test, and measure the factors and drivers that lead to the provision of high-quality healthcare services and thus, patient satisfaction, using the SERVQUAL model. In the UAE context, a search of the Scopus database for refereed publications on this subject, from the period 2000 to 2020, produced only a few articles. Furthermore, almost all these research articles adopted the SERVQUAL model and used a questionnaire instrument to test

existing quality dimensions and constructs described in the introduction (see, for example, Al-Neyadi et al., 2018; Al Bolushi et al., 2017).

Quality reflects patient satisfaction, which depends on many factors, such as admission procedures, physical facilities, diagnostics services, staff behavior, cleanliness, food, and techniques (Ross & Venkatesh, 2015; Srivastava et al., 2015). Mosadeghrad (2014a) identified several factors that affect the quality of healthcare services, such as supportive visionary leadership, healthcare practitioners' personalities, knowledge and technical skills, and practitioners' ability to effectively communicate and collaborate with other healthcare professionals. He also identified that a staff shortage can negatively affect the quality of healthcare services. Haque et al. (2012) found that personnel support is one of the main drivers of service quality and patient satisfaction. Incompetence of healthcare practitioners and poor communication channels negatively affect the delivery of healthcare services (Mosadeghrad, 2014b; Wanjau et al., 2012).

The quality of healthcare services could be improved with the adoption of the latest technologies and systems, according to studies (Bouaiti et al., 2016; Farzianpour, Byravan, & Amirian, 2015; Mosadeghrad, 2014a; Nasir, Herani, & Ahmad, 2012; Wanjau et al., 2012). Effective information systems may benefit healthcare service quality in different ways: visitor appointments, admissions, patients' histories and records, diagnoses, treatments, bed management, work shifts, stock management, reductions in time lags in feedback for patients, and most importantly, assurance of patient safety by minimization of medical errors. The role of technology was found to be significant by Almoajel, Fetohi, & Alshamrani (2014) and Srivastava et al. (2015), who demonstrated that patients were dissatisfied with poor technology used in a laboratory as this may cause delay and harm to patients.

Satty and Ansari (2014) and Srivastava et al. (2015) highlighted also the importance of the physical environment as an influential factor of the quality of service and patient satisfaction. This includes good building infrastructure with beds, adequate room space, and waiting areas, a water supply, electricity, cleanliness. Saeed et al. (2013) referred to the tangible elements within a healthcare environment such as room and toilet facilities, which should be clean and well-presented as this reduces patient stress. Additionally, parking areas should be easily accessible and close to healthcare facilities. This makes the patients' journey from parking their car to the healthcare destination as short and simple as possible, which is key to enhancing patients' experiences and satisfying patients' needs (Qadri et al., 2012; Satty & Ansari, 2014).

Other important factors identified as influencing the quality of service include waiting timing (e.g., timely presence of a nurse and the time it takes to be seen by a doctor), hospital size, speed of admission, filing processes, and discharge procedures (Al-Harajin, Al-Subaie, & Elzubair, 2019; Bamidele, Hoque, & Heever, 2011; Farzianpour et al., 2015; Gok & Sezen, 2013; Soleimanpour et al., 2011). Obviously, quality is expensive, as high-quality resources (staff, technology, facilities, etc.) are needed to provide high-quality services (Mosadeghrad, 2014a).

Other studies have sought to identify whether there is a relationship between demographic variables and patient perception of healthcare services quality. For example, Sahin et al. (2006) found that satisfaction levels were significantly higher in younger age groups. In emergency healthcare specifically, Rahmqvist and Bara (2010) indicated that a patient's age, health status, and level of education could contribute to their satisfaction with healthcare services. Specifically, they found that younger patients were the least satisfied, whereas older patients with an excellent health status were the most satisfied. In addition, those with less education were more content with the healthcare services compared to those with more education. Alzolibani (2011) and Othman, et al. (2015) found that female patients were found to be more satisfied than male patients regarding physicians' explanations of diseases. Bjertnaes, Skudal, & Iversen (2013) posited that age and educational levels have a significant impact on the way in which patients evaluate healthcare. Older respondents were more satisfied than younger respondents (Othman et al., 2015). (Mosadeghrad (2014a) found that more educated patients have more realistic expectations of healthcare. In contrast, Abdelhafez et al.

(2012) found that patient demographics, such as age and gender, do not affect overall satisfaction with healthcare services.

The literature review showed that little research has been conducted on healthcare service quality within the UAE context. Most researchers used the SERVQUAL model and a questionnaire to test existing quality dimensions. Thus, in this study, we explored healthcare service quality from the patient perspective, experience, and expectations. As this study was exploratory, we did not apply any of the previous models or theories to test a predefined hypothesis. Instead, we used the qualitative inductive approach to allow new issues to emerge from the context of this study (i.e., the UAE). We focused on the UAE, to identify whether there are factors specific to this context, and whether there are additional issues that extend the literature, or confirm previous research findings, taking into consideration that cultures, perceptions, and expectations of people, quality, and standards of living differ across countries.

RESEARCH METHODOLOGY

In this study, we adopted an interpretive research paradigm which assumes that scientific knowledge can be captured through understanding individuals' perceptions and social interactions by which the individuals construct their subjective meaning of reality (Walsham, 1995). Within this research paradigm, a qualitative research approach involving social media data and content analysis (using grounded theory techniques) was employed. This approach is appropriate for this research study as we aimed to understand users' opinions and beliefs about the quality of healthcare services. Scholars have proposed the adoption of social media as a research method with grounded theory (Pousti, Burstein, & Urquhart, 2013; Urquhart & Vaast, 2012; Wills, 2016). Grounded theory techniques (Strauss & Corbin, 1990) including coding, constant comparative analysis, and categorization were applied in this study. The data was gathered from a website that gives patients a platform for providing reviews of healthcare services of particular clinic in Dubai. The clinic is considered to be one of the best private clinics in the UAE. It is part of an international, private hospitals group operating in multiple countries. The clinic, which has around 100 doctors, claims to provide patients with high-quality healthcare services.

In this study, the identities of the participants were anonymized, and reference numbers given to each one (P1, P2, P21, etc.). Samples of patients' reviews and feedback on the quality of healthcare service provided by a clinic in Dubai city were compiled and are presented in Table 1 in the Appendix. Patients' names were anonymized for privacy reasons. The clinic name was also removed from the text (i.e., quotations). The reviews and feedback texts were not altered, and are shown in the Appendix without corrections of the English (e.g., misspellings, wrong and incomplete words, etc.).

The units of analysis were the reviews and feedback which were written in a textual format and were available for free from the social media platform. The content was analyzed using grounded theory techniques (i.e., coding and constant comparative analysis). Comparative analysis was performed by each author to ascertain whether they would identify similar or identical codes and categories. This procedure was undertaken to ensure the validity of the results. Despite minor differences regarding code and category naming, the authors identified similar codes and categories in general. Unique codes or categories combined together which resulted from the analysis of both authors' analyses are presented in the following section.

The coding process was applied to all data by highlighting significant words and phrases in the text (i.e., patients' reviews and comments presented in Table 1 in the Appendix) until all possible codes were identified. Then, the codes were constantly compared with each other where similar. Related codes were combined and refined to form the categories. For instance, from the following quotations, it is clear that the time efficiency category is one of the key factors that determine the quality of healthcare services according to patients. Key codes that reflect this are presented below as quotations:

- P2:** “Everything always takes ages! Right from waiting for the doctors, to paying your bill and the pharmacy. Terrible service.”
- P3:** “So if they’re busy, be prepared to stand about like an idiot until somebody can assist you, take your prescription, give you a number, so you can then wait your turn.”
- P13:** “One lady at reception doing everything. Customer enquiry registration appointment. Multi tasking. 20 minutes to complete registration. Things can be better improve.”
- P18:** “Called for directions never answered calls! Waited 1 hour for my wife’s MRI scan! Still waiting!”
- P19:** “Been there 4 times. Minimum of 30min late every time.”

Following the same process, the research findings revealed five categories (i.e., factors) that determine the quality of healthcare service as perceived by the patients which are presented in the following section.

FINDINGS

Through data analysis, five factors (or categories) were identified: time efficiency, human interaction, value for money match, complementary facilities, and accountability. These factors will be discussed in the subsequent sections.

Time Efficiency

It was clear in the data that time efficiency is one of the main factors that affect patients’ satisfaction. As the patient data revealed (P1, P3, P4, P7, P8, P9, P11, P13, P14, P16, P17, P18, and P19), patients had to wait an unnecessarily long time until they were seen by a staff member (e.g. receptionist or a healthcare professional). This was due to many reasons. One reason was the lack of staff, which then overloaded other members of staff, namely, the receptionist who had to perform multiple tasks at a time, including complicated procedures in which, for example, the registration process required filling forms that took a considerable length of time. Furthermore, a manual queuing system that wasted time and was inefficient was used. A general lack of guidance regarding what to do, where to go, and who to ask which, in turn, made the patients feel lost and confused was also mentioned.

Human Interaction

Human interaction describes the interaction between patients and clinical staff, including receptionists, nurses, pharmacists, and doctors providing the healthcare service. Data revealed that there was poor communication in general between patients and clinical staff which led to patient dissatisfaction (P1, P2, P5, P11, P12, P14, P15, P16, P17, P19, and P20 for details). The unsatisfactory interaction between patients and clinical staff took different forms, such as the staff ignoring patient phone calls and emails, lack of empathy and trust (staff were unconcerned or unhelpful), staff personality (rude, snobbish), and staff skills where untrained/nonprofessional staff often provided unclear answers or vague guidance to patients, sometimes taking a long time to complete certain processes (e.g., making an appointment and administering a payment) or providing the wrong information to patients.

Value for Money Match

Some patients were unsatisfied with the service as it is costly and overpriced. They felt that the clinic is purely a profit-making scheme (P6, P7, P11, P12, and P21). Although the financial aspect is integral to private companies, it was also expected that patients would receive a high-quality service in return, which was not the case here, according to the experiences of some patients. If the healthcare service quality is high, patients may be happy to pay even though it is more expensive than other clinics. Some patients (e.g. P21) commented that the clinic charged patients as if they were being treated at the Mayo Clinic, which shows that the amount paid might be acceptable if the

level of service matched well-known five-star clinics. Almost all residents of the UAE have health insurance, so insurance companies have to pay the costs. Nevertheless, some medical cases are not covered (partial insurance); thus, patients must pay all or most of the costs themselves. In the present case, it was clear that the value of the service did not match the amount paid by patients.

Complementary Facilities

Clinics or hospitals offer not only medical services but also complementary facilities (e.g. valet parking, Wi-Fi, kids zone) that patients can use or expect to see when they visit the clinic. These facilities are essential in medical care centers as they help shape patients' overall experience and help in the evaluation of the quality of the healthcare service. Patients P14 and P15 pointed out that, because there were no parking facilities and signs, they missed their appointment and consequently, had to wait an additional three hours for the next available appointment. Paying attention to non-medical facilities is important from a patient's perspective as evident by the comment from P15: "Although interior is better than the other branches." Another patient (P13) commented: "Things can be better improved. No good mobile coverage as well for Du (internet service provider)" This shows that the patient believed that the service was not satisfactory as there was no Wi-Fi signal available in the building.

Accountability

The internal monitoring system for staff performance was poor according to some patients' perspective. Therefore, if a patient has a complaint or would like to raise a certain issue, there was nothing in place for that, as pointed out by patient P1. The lack of internal staff tracking activity was also raised by other patients (P9 and P10) who commented that some doctors prescribed unnecessary medication which required careful attention by the hospital or clinic senior management, unless the senior management urged doctors to do so to achieve more revenue or just to please patients. This practice would not only incur a cost to the patient or insurance company but also lead to wasted medication as it would not be used by the patient.

DISCUSSION

This study revealed five constructs that determine the quality of healthcare service. Some are clearly similar to constructs presented in the literature review (human interaction issues, time efficiency, and complementary facilities), and some were uncovered in the present study, such as value for money match and accountability. The first three constructs found in this research conform to recent research (Aburayya et al., 2020; Akderea et al., 2020; Al-Yateem, 2020) which found that service effectiveness, efficiency, and responsiveness or timeliness of care were significant determinants of quality of healthcare service, and they were included in the quality service models (e.g., SERVQUAL).

However, additional characteristics of previously identified factors were identified in the present study. For example, the human interaction construct identified in this study included issues such as clinic staff personality, attitude, empathy, knowledge, and skills which demonstrated that construct clearly as revealed by patients' comments (P1, P2, P5, P11, P12, P14, P15, P16, P17, P19, and P20 for details). Lack of empathy and compassion, for instance, as suggested by previous studies, can have a considerable impact on patient mental and physical health (Decety & Fotopoulou, 2015). Thus, patients feeling understood and accepted by the clinic staff and physicians is a critical factor for evaluating the quality level of the service and thus, satisfaction.

Furthermore, in this study, it was evident that patients were concerned not only about the quality of the healthcare service but also the complementary services and facilities offered, as indicated by some patients. Modern clinics and hospitals may need to provide free Wi-Fi, areas for relaxing, as restaurants and cafés, a modern building with attractive architecture, and valet parking. These factors put patients at ease and make them feel psychologically and physically comfortable during their visits to the clinic. This is particularly important considering the patient is being treated for pain or illness,

which clearly is an unpleasant experience. This finding is in line with research conducted in Switzerland by Ronca et al. (2020), who found that providing transportation support is a determinant of satisfaction with healthcare services quality. Transportation support can be considered a complementary service that patients expect to receive. In contrast, in a study conducted in Turkey, Akdere et al. (2020) found that a hospital's attractive physical facilities, such as interior and exterior buildings, furniture, decor, and lighting, are perceived by patients as the least important determinant for assessing the quality of healthcare services. This different perception might refer to people's different levels of quality of life. Quality of life and service are high in the UAE when compared to other countries in the world and the region. Therefore, patients expect healthcare service quality (by private sector) to be consistent with the government's high-quality public services.

Many issues raised in this study can be addressed through technology. For example, time inefficiency and the issues identified through interactions between patients and clinical staff could be largely eliminated if the services and processes were enabled through technology. For example, creating an online appointment reservation system, text alerts regarding appointments, mobile queuing system, artificial intelligence systems to take on or complement the role of nurses, and a self-service check-in system. These factors can help eliminate human error, wasted time, and communication problems. Many services should also be made available independently to avoid human misunderstanding and limited human capability. This is where artificial intelligence can be of huge benefit as such systems can work with no time limit, as is the case with humans. The use of artificial intelligence systems in clinics is not limited to critical machines for medical diagnoses and surgeries, but could enable and facilitate patients' healthcare services. AI machines do not experience fatigue or act in an impolite or indifferent manner as humans do so they could solve many of human interaction problems.

The use of technology would enable the emergence of new services that raise patients' satisfaction levels by reducing human error and increasing productivity. The UAE is ranked the 26th happiest country in the world, (World Happiness Report, 2023) and aims to be among the highest in this ranking through offering high-quality five-star public services. In the present study, the case clinic/hospital was a private organization that must learn from the accomplishments of the public sector which has exceeded the private sector in this regard. For example, the UAE government has changed the name of customer service departments in its ministries and authorities to customer happiness, which sends a clear message that the service trend in this century is not just to serve customers but also to make their experience pleasant to attain continuous satisfaction.

Regarding the accountability construct, technology with big data analytics in clinics and hospitals can easily monitor staff performance (including that of administrators, nurses, and doctors). Management can analyze a huge amount of data in patients' medical history and prescriptions, and can identify doctors who may be prescribing too much medication or medication that is unnecessary, and thus, will be able to correct their actions. Furthermore, customer feedback on the offered services (through a small tablet) should also be provided at each interaction point (help desk, customer service/happiness desk, doctor room, nurse station, toilet, valet parking, etc.) to give immediate feedback on the quality of the service. This information can then be taken into account to resolve issues and improve services. Designing a consistent monitoring system would make staff behave more professionally, as they would be aware that they are being monitored and evaluated, and may be rewarded if they work hard and receive high praise from patients.

If these technological solutions are implemented, consumers would receive high-quality service that is equal to the money they are paying. If the status quo is maintained, and patients do not receive high-quality service, they will be unwilling to pay the requested amount and may decide to be treated elsewhere, where they will receive better service. This, therefore, results in not only patient dissatisfaction but also a loss of clients that will affect the profitability of the institution and its reputation.

CONCLUSION

This research paper contributes to the literature on healthcare service quality by providing new evidence from the UAE context that was not clearly investigated previously by researchers using the methodological approach in this paper. The research confirmed previous quality dimensions, such as time efficiency, human interaction, and complementary facilities included in the SERVQUAL and HEALTHQUAL models. However, the paper provided results for new unique indicators, including value for money match and accountability, for quality healthcare service as perceived by patients.

Future research might include a quantitative questionnaire to measure the constructs identified in this study in a large sample to increase validity. This would provide results that can be generalized. For methodological research development, future research might be conducted in two situations: first, by gathering patient data through face-to-face interaction, and second, by using data obtained from social media to identify whether there is consistency regarding these issues or differences. Issues identified online can also be used as case protocol questions for face-to-face interviews. Such research would provide new insights and methodological guidelines concerning the use of social media and traditional methods of data collection.

The study had several limitations. Data was gathered from patient feedback and reviews that were available online on a review website. Data was not collected directly through face-to-face interaction with patients. Thus, there was no way to ensure that the feedback was posted by genuine patients. In addition, there was no opportunity to observe patients in the clinic and understand their behavior in different situations.

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APPENDIX

Table 1. Patients reviews and feedback on quality of health care service

Patient reference no.	Patient review/feedback	Categories
P1	My kids Doctor was unconcerned and unhelpful. The reception staff and phone operator are unconcerned about anything. Some are helpless. Although some doctors are good. Cannot raise your concerns to anyone. When you ask to speak to someone in charge. The answer is a cold no ! You are at the mercy of the doctors... Just a meat shop !	Human Interaction Accountability
P2	The pharmacy has a weird system where you need a number to be served (fair enough) but you have to get it from the pharmacist. So if they're busy, be prepared to stand about like an idiot until somebody can assist you, take your prescription, give you a number, so you can then wait your turn.	Human interaction Time efficiency
P3	Everything always takes ages! Right from waiting for the doctors, to paying your bill and the pharmacy. Terrible service.	Time efficiency
P4	I would have to say the frustration with the check out lady sucks but if that's the only issue in telling you these doctors knew exactly what to do. I can't believe the reviews. I didn't have problems with parking bc I got valet two levels down from the clinic. I would have to say best doctors in the world in my opinion I have ever encountered. They were fast and got every single issue taken care of. Every single issue. I'm really pleased	Time efficiency
P5	The cashier was being rude and snobbish, when asking basic questions about the insurance.	Human Interaction
P6	Overrated and overpriced clinic with mostly unprofessional, ignorant, overrated, overpriced and inconsiderate doctors. Wasted thousands of dirhams on several doctors here for absolutely nothing. I didn't want to come here or see any doctors but my persistent mother was convinced I needed to visit a psychiatrist and psychologist and wouldn't take no for an answer. I knew I was heading right into a complete rip-off.	Value for money match
P7	terrible administration and back-office. Went there in pain, was told authorisation would be requested from my medical aid for tests. 2 days later the request had still not been sent by Mediclinic as they had a back log! Waited an hour at pharmacy because they are short staffed. Pure profit motive.	Time efficiency Value for money match
P8	Absolutely shocking customer service, they fail to mention that it may take you an hour to find parking. Therefore I was late for my appointment and they asked if I would be happy to wait in the waiting area potentially for 3 hours on the off chance the doctor would 'squeeze' me in. Would not recommend using this clinic to anybody	Time efficiency
P9	Terrible pharmacy outside. Sent the wrong medicine (for eye and ear vs. nose) to Insurance for approval, got rejected (not surprisingly) and made me pay for it. I only found out when I called to insurance to check why they rejected (Insurance sent me a screen shot as proof) this was after 15 minutes of waiting so be calm and check everything	Time efficiency Accountability
P10	Poor service. I got recommended antibiotics for a stress fracture on my foot. One of the doctors even recommended medication I did not necessarily need because my insurance would cover it, so "why not".	Accountability

continued on following page

Table 1. Continued

Patient reference no.	Patient review/feedback	Categories
P11	Terrible customer service! MRI re-scheduled three times, specialist consult re-scheduled twice. Emails and phone calls unanswered. Frustrating organisation to deal with. But...they are quick to bill you for everything. If customer service attitude is any indication of clinical treatment - I would NEVER wish to do business with them again. Absolutely shambolic!	Time efficiency Human interaction Value for money match
P12	Awful experience. Doctor told me I needed Physio and that I would receive a call within 3 days. Had to call up 5 separate times each time being told I would be called straight back until finally I got through to a lady that told me I was not covered. Nice to know that the real reason (clinic name was removed) is in business is for people's wellbeing...Oh wait, it's not, It's solely to make as much money as possible...Disgraceful!	Time efficiency Human Interaction Value for money match
P13	One lady at reception doing everything. Customer enquirey registration appointment. Multi tasking. 20 minutes to complete registration. Things can be better improved. No good mobile coverage as well for Du	Time Efficiency
P14	Terrible customer service. Was late 9 minutes because of lack of parking. they first refused to accept my 5 year old daughter then said doctor will see us in 2 to 5 mins. 1 hour later and no doctor. Such an irony. Rude staff and worst service.	Human Interaction Time Efficiency Complimentary facilities
P15	In some days, finding a parking there is difficult. Staff is not friendly nor helpful like the other branches although interior is better than the other branches.	Human Interaction Complimentary facilities
P16	Not good customer serviced taking long time for registration though i have file in (clinic name was removed). I dont recommend at all	Human Interaction Time Efficiency
P17	I was offered a appointment as a double and told it would have to be quick !!!! But charge the same, reception staff very vague !!! in efficient	Human Interaction Time Efficiency
P18	Been there 4 times. Minimum of 30min late every time.	Time Efficiency
P19	Called for directions never answered calls! Waited 1 hour for my wife's MRI scan! Still waiting!	Human Interaction Time Efficiency
P20	They have to improve their customer service as well call center.	Human Interaction
P21	And you'll be charged like you are being treated in Mayo Clinic, but by doctors whom I suspect are barbers in disguise. Don't risk your life.	Value for money match

Mohanad Halaweh is a Professor of Information Systems and an active researcher with a long list of publications in internationally ranked journals and conferences (all of which appear in SCOPUS and/or ABDC). He has attended many international top-tier conferences in the IS field, such as ICIS, PACIS and ACIS. Additionally, he has been the recipient of several research awards. He has also served as a program committee member and reviewer for various international journals and conferences, as well as a speaker and chair for international conferences. His research focuses on e-commerce/digital innovations, IT adoption, and the impacts of emerging technologies.

Fathi Fayeq Salameh received his Ph.D. in Hospital Management from the University of Wales in 2001. His MA was also in Hospital Management from the University of Leeds in United Kingdom, and his BA in Management from An-Najah National University in Palestine. Dr. Salameh worked as the head of the 'Health Care Administration Department', and Assistant Professor in the same department of AL- Ghad International Colleges for Health Sciences- Najran Branch- KSA. He joined the College of Business at Al Falah University for the Academic Year 2017 – 2018. Currently, he is working for Liwa College in the Department of Health Management. In addition to his academic position, Dr. Salameh worked as a managing director of a hospital and a trainer in self-development. These divert skills and background helped him to put theories of management into practice in his academic and research activities.