



CONCEPTUALISATION OF SERVICE QUALITY, LEAN MANAGEMENT AND PATIENTS' SATISFACTION AMONG DENTAL HOSPITALS IN INDONESIA

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Abstract:

Patient satisfaction is the outcome of health services, so that patient satisfaction is one of the goals of improving the quality of health services that need to be considered by the hospital in this era of competition. Patients or communities getting satisfaction on health services held will tend to comply with advice, loyalty or obedience to an agreed treatment plan. Customers can also be said to be satisfied if what they receive are more significant than what they expected. Therefore, every hospital needs a healthcare quality assurance approach which is one of the essential tools for the company that manages or plans health services. For that, the current paper emphasises on the conceptualisation of service quality, lean management and patients' satisfaction among dental hospitals in Indonesia. The dental hospitals in Indonesia should highlight the institution's ability to manage the tangibility dimension and improve assurance and empathy dimensions. Moreover, Indonesian hospitals should stress on tangibility and reliability while boosting the most crucial dimension called empathy.

JEL: O14; I10; I15; I18

Keywords: conceptualization, service quality, lean management, patients' satisfaction, dental hospitals, Indonesia

1. Introduction

Quality assurance services have contributed a great deal to healthcare, whether involving the organization, planning or administering of the health services themselves (Pohan,

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2006). One of the business systems or methods of quality approach that has been recognized in world level management is the concept of Lean Six Sigma that developed recently in the United States. The concept is an appropriate systematic approach to process improvement, error proving and waste reduction (Kim et al, 2006). According to Gasperz (2007), Lean Six Sigma is a combination of Lean and Six Sigma that can be defined as a business philosophy, a systemic and systematic approach to identifying and eliminating waste and non-value-added activities through a radical continuous improvement to achieve six sigma level performances. Nowadays, the need for the lean application to health services and hospitals in the world is increasing through the approach of quality, safety, and efficiency (Kim et al, 2006 in Pertiwi, 2012). At this time, the hospitals that pioneered Lean Hospital or Lean Healthcare in Virginia Mason at Seattle, Flinders in Adelaide, and Thedacare in Wisconsin (Fillingham, 2007).

On the other hand, the concept of Lean Hospital has a positive impact on time-saving services. This is evidenced by Taninecz's 2004 study which states that there is a decrease in response time and emergency service time at Grace Hospital Ontario Canada. Another study also obtained similar results, namely the implementation of lean hospital on the waiting period of laboratory examination at Brigham Women's Hospital Boston-MA decreased from 21 minutes to 11 minutes (Melanson et al, 2009). At UMMC, Hobson, the implementation of Lean Hospital can improve the productivity of Human Resources (HR) and nurse response in serving patients (Hintzen et al, 2009). Changes in employee work culture also proved better and decreased levels of work stress on employees at Salisbury District General Hospital. The results suggest that there was a drastic increase in service processes and a decrease in inventory factor, a reduction in management error of 42% after three months of lean application. In addition, the productivity of hospital human resources also proved to be higher than before the implementation of lean.

Today's patients are better informed and also more demanding, and as such, hospitals need to be consumer-driven and have their ear close to the ground, so to speak in order to know what patients need and expect in order to achieve patients' satisfaction. Also, patients now have a choice or are more willing to switch, and they will therefore go to whoever can give them the quality services they believe they deserve (Ramsaran-Fowdar, 2008).

In light of what has been mentioned above, quality can affect satisfaction directly or indirectly for satisfaction can be affected by the lean management, which can positively influence the quality and provide patient satisfaction. As such, this current study will seek to determine if lean management can alter or enhance the relationship between SQ and PS in Indonesia. Furthermore, this present study will also strive to identify the specific quality dimensions along with lean management; which does influence patient satisfaction in the healthcare context.

The quality of healthcare in Indonesia has been a central issue in many policy documents and a key objective of health sector reform policies. However, this quality of healthcare initiatives is still not available at all levels of the Indonesian healthcare system, and the quality of healthcare services remains poor in general (El Taguri et al., 2008).

Additionally, a general model in healthcare is lacking, and there is no clear agreement on how quality initiatives should be implemented in the Indonesian healthcare sector (Abdelmotleb, 2008).

Even very few hospital organizations have infrastructure such as resources that support the requirements when changing the hospital process with the Lean system. All can occur because of a lack of commitment of time and energy by leaders and staff. The application of Lean hospital will only be a side project; it would be very unfortunate if examples of lean implementation occur like that. This is the fact that the company only moves the lean system or adopts it without knowing how to implement it through a basic concept that connects team members and leaders as well as between departments.

Other common mistakes made by hospitals, do not practice standardization. Please note that the core or the main purpose of Lean is Standardization. Continuous improvement will not last long if it is not made standard in every improvement, and one of the big challenges in health care is getting people who are highly educated and trained can also adjust to work standards. Through standardization, it will certainly make it easier all organizational teams identify the problems that occur. So that handling can be done before the emergence of the problem has an impact on the hospital's performance itself.

Although many Jordanian hospitals have begun to adopt different quality improvement initiatives in the last two decades, the literature on patient perception regarding the quality of health services is still unsatisfactory (Al-Damen, 2017). As observed by Elarabi and Johari (2014), there have been some improvements but 'the poor quality of health services remains' according to a report of the Indonesian Health Ministry (2017). The poor performance of the healthcare sector has been attributed to the following factors: critical staff are absent, essential supplies are generally unavailable, facilities are inadequate, and the quality of staffing is poor. The problems of supervision and accountability also exacerbate the problems; and if corrupt practices are added to the list, it is not difficult to imagine the predicament of the patients. These factors and general public perception of poor and unreliable services may explain why those who can afford it have been seeking healthcare services in other countries. In fact, lean can help CEO and hospital owners to understand that quality is bad, not because of bad people, but because the system is not working. So that the repair process actually starts small, by employees knowing the process independently, there are already many hospitals in the world that implement lean and show a significant increase in quality control as well as costs.

2. Conceptualisation of Service Quality

One of the most explored disciplines in service marketing is SQ (Thawesaengskulthai et al., 2015). As mentioned by Thawesaengskulthai, et al. (2015), many previous studies have connected SQ to customer satisfaction (Cronin & Taylor, 1992; McAlexander, Kaldenberg, & Koenig, 1994), behavioural intention (Headley & Miller, 1993; Zeithaml, Berry, & Parasuraman, 1996) and value and satisfaction (Cronin, Brady, & Hult, 2000).

SQ perception has commonly established that SQ is a multi-dimensional, higher order construct and there has been no consensus among researchers regarding whether SQ perceptions should be measured or not (Gronroos, 1984; Parasuraman, Zeithaml, & Berry, 1988). Similarly, Pollack (2008) argues that service quality is a multi-dimensional construct and researchers have suggested a range of SQ determinant factors. For instance, Gronroos (1984) pointed to two categories of SQ: technical quality (i.e. what the customers receive from the service), and functional quality (i.e. how the service is rendered). Gronroos (1984) has also recently proposed that SQ can be holistically defined to encompass professionalism and skills, attitudes and behaviour, being accessible and flexible, reliable and trustworthy, service recovery, servicescape, reputation and credibility (Gronroos, 2000).

On the other hand, Lehtinen and Lehtinen (1991) mentioned three SQ dimensions- physical quality, corporate quality and interactive quality. The interactive quality dimension perceives SQ as arising from the service provider interacting with the service receiver which is thus required to augment the customer-centred perspective of SQ which is the current dominant paradigm (Svensson, 2006).

As an extension of the study by Rust and Oliver (1994), Brady and Cronin (2001) suggested hierarchically conceptualising SQ as comprising three dimensions: outcome quality (how the customer evaluates the core service.), interaction quality (how the customer evaluates the process of service delivery), and the quality of the physical environment (how the consumer evaluates any tangible aspect in relation to the service. Besides all these, Brady and Cronin (2001) mention three SQ dimensions which constitute the SQ: interpersonal quality, outcome quality, and environmental quality. Babakus and Boller (1992) state that SQ may be complex and multi-dimensional for some services and one-dimensional for others. This aspect provides the basis for the development by the merger of the SQ scales.

Originally, SERVQUAL had ten dimensions of SQ: security, competence, reliability, courtesy responsiveness, accessibility, credibility, communication, awareness, and knowledge of the customer and tangibles. Generally, the most commonly-accepted concept of SQ encompasses five dimensions, namely tangibility, reliability, responsiveness, empathy, and assurance (Parasuraman et al., 1988). In the early 1990s, the model was popular as RATER, which is the acronym for Reliability, Assurance, Tangibility, Empathy, and Responsiveness (Chan et al., 2003).

In the SQ Model proposed in 1985, there were ten dimensions discovered. For the purpose of examining the dimensionality of the scale, the reliability of the components and the development of the instrument to measure SQ in 1985, Parasuraman et al. conducted a quantitative research approach to establish an instrument to measure SQ, now widely known as SERVQUAL, which is used "*to measure customer perception of SQ in service and retailing firms.*" The instrument's definition of SQ refers to a particular attitude, associated with but not quite the same as satisfaction, which is derived from a comparison of what a consumer perceives and what is expected of the service experience (Parasuraman, Zeithaml, & Berry, 1988). A premier quality healthcare service is the

primary significance of the health sector in the 20-year vision document as SQ is a fundamental concern in the healthcare sector (Ali, Hamid, & Emadi, 2015). SQ is recognised as a multi-dimensional construct (Pollack, 2008) and scholars have provided a range of SQ determinants (Teshnizi, Aghamolaei, Kahnouji, Teshnizi, & Ghani, 2018).

This research comprises the dimension of SQ, which is divided into five combined dimensions from an original number of 10 which are:

- 1) Tangibility: this dimension comprises the appearances of physical facilities, equipment, and of personnel.
- 2) Reliability: this dimension comprises the ability to provide the stipulated service reliably and with accuracy.
- 3) Responsiveness: this dimension comprises the intention to assist customers with prompt service.
- 4) Assurance: this dimension comprises the knowledge and courtesy of employees instil trust and confidence.
- 5) Empathy: this dimension comprises the caring, persona; attention provided the customer.

According to the model, by comparing the customer's service expectation with the perception of the actual performance, the SQ can be measured. The model uses 22 questions to measure service expectation and perception respectively. The tangibility dimension comprises the physical service features such as the presence of employees, equipment, and facilities. The reliability dimension comprises accurate, reliable, and dependable performance of the service (service outcome). The remaining three dimensions represent features of the interaction quality. The responsiveness dimension implies being prompt and willing to attend to the customer. Caring and personalised attention and also awareness of customer needs and convenient access to the service are included in the empathy dimension. Lastly, the dimension of assurance encompasses the capability, courteousness and trustworthiness of employees who produce customer trust and confidence (Pollack, 2008). A SERVQUAL instrument has been utilised in diverse service categories such as education, construction, travel, hospitality, and dentistry and healthcare, (Al-Neyadi, Abdallah, & Malik, 2016). Numerous researches to measure SQ have been conducted on the healthcare industry (Kitapci, Akdogan, & Dortyol, 2014). Some of these studies have been done on public healthcare (Kitapci, Akdogan, & Dortyol, 2014; Aagja, & Garg, 2010; Andaleeb, & Millet, 2010; Camilleri, & O'Callaghan, 1998; Manaf, 2005) while some of them have been focused in private healthcare (Kitapci, Akdogan, & Dortyol, 2014; Andaleeb, & Millet, 2010; Camilleri, & O'Callaghan, 1998; Butt, & Run, 2010).

Many researchers have used the SERVQUAL model to measure SQ in various areas of the service sectors, including travel and tourism, dental services, business schools, higher education, hotels, car servicing and car rental, hospitality, architectural services, accounting firms, business-to-business channel partners, recreational services, airline catering, banking, apparel retailing, hospitals and local government (Buttle, 1996).

3. Quality Measurement of Healthcare Services

Over the past two decades, the growth in the study on SQ has been extensive and substantial (Thawesaengskulthai et al., 2015). Intangibility, inseparability, heterogeneity, and perishability are the features that differentiate service from the product. Due to these features, it is tougher to evaluate services unlike products, which usually can be checked and assessed for quality before the purchase has occurred (Zeithaml, Parasuraman, & Berry, 1985).

Quality measurement is confined to the perspective of the evaluator and will be dependent on some issues: the goal of the evaluation, method of evaluation, and approach to knowledge as well as for whom the evaluation is carried out. Traditionally, the quality of healthcare used to be evaluated and measured by healthcare professionals (Shelton, 2000). This was usually done through setting standards and evaluating quality against these standards (Ellis & Whittington, 1993). Øvretveit (1998) argued it is worth noting that quality evaluation differs from the quality measurement. This is because the measurement is a concept which tends to mean the process of quantifying the amount of an item and does not involve judging its value.

Shelton (2000) also contended that assessment measures used by health professionals to evaluate and ensure quality, such as clinical and cost-effectiveness, are insufficient to ensure the quality of healthcare because such measures do not give rise to PS. Problems are not only limited to concern about who should evaluate quality, but also to what is to be evaluated and which aspects of quality are the most appropriate to evaluate. Øvretveit (1998) identified three common approaches to evaluating the quality of care: outcome, process, and experimental evaluation. In outcome measures of quality, the focus tends to be placed on outcome only, regardless of the service process and its internal activities. Brook et al. (1996) identified five methods that can be used to measure quality based on the process or outcome data. The first three are implicit, and the last two are explicit: Implicit methods: have no prior standards or agreement about what reflects good or bad quality. Brook et al. (1996) pointed out that the results of quality measurement will differ depending on the method utilised. Moreover, specific process-based methods are stricter than implicit outcome methods.

Along with it, developed for the measurement of the SQ of a wide array of services, SERVQUAL has been utilised to measure the SQ of banking, credit card services, repair and maintenance and long-distance telephone services (Parasuraman et al., 1988; 1991). While each service provided is unique in many aspects, the justification that validates the development of this SERVQUAL dimensions applies to all services in general (Thawesaengskulthai et al., 2015). Even though the SERVQUAL was not developed specifically for assessing quality in the hospital sector, the model has been improvised and adapted to match the attributes of the hospital sector. Along with it, the model has been proven valid and reliable for the hospital sector (Chan et al., 2003; Duffy et al., 2001; Babakus et al., 1992).

The dimensions of the SERVQUAL model have been questioned, with many authors suggesting that adaptation of the dimensions chosen depends on the sector the model is implemented for (Finn DW et al. 1991). Furthermore, a few researchers have also warned of the risk of patients having high expectations (Clow et al., 1993). The outcomes evaluated by Parasuraman et al. (1998, 1991) have stated that the SERVQUAL is a valuable tool for evaluating SQ of healthcare services. SERVQUAL is not just a tool to evaluate SQ but also to identify the most effective and ineffective dimensions that affect the SQ; It simply identifies the dimensions that need improvements to enhance the PS.

4. Healthcare Quality and SERVQUAL Scale

Various researches have indicated that perceived SQ depends on service type, which means that one generic SQ measure is not suitable for all services (Ramsaran-Fowdar, 2008). Authors use various healthcare quality indicator terms. Even though they are not unique, numerous similarities can be detected: care process convenience, concern, satisfaction, value, communication, cost, facility, and tangibility, competence, empathy, reliability, assurance, and responsiveness (Choi et al., 2004). The most widely known and most commonly recognised measurement scale for SQ is "SERVQUAL," which was initially designed by Parasuraman et al. (1985, 1988) who later refined it (cited in Ladhari, 2009). The studies reported that the SERVQUAL dimensions have been found to be beneficial and have relevance to the study of SQ in the healthcare industry. On the other hand, they focused mainly on measuring SQ in order to improve the service.

For a wide array of sectors, the SERVQUAL framework has been proposed to assess the perceived SQ. Among the wide array of sectors are the hospitality industry (Nadiri, & Hussain, 2005); internet marketing (Poolthong, 2008, Mandhachitara, 2009, Ehigie, 2006, Karatepe, Avci, & Tekinkus, 2005, Long, & McMellon, 2004, Jabnoun, & Al-Tamimi, 2003, Zhou, Zhang, & Xu, 2002, Mei, AWO. Dean, & White, 1999), banking sector (Mels, Boshoff, & Nel, 1997, (Butler, Oswald, & Turner, 1996, O'Neill, Watson, & McKenna, 1994); restaurants (Qin, Prybutok, & Zhao, 2010); and insurance (Tsoukatos, & Rand, 2006). There have been many studies about perceived SQ that have been done on the healthcare industry as well. There have also been studies done on private healthcare (Butt, & Run, 2010, Andaleeb, & Millet, 2010, Camilleri, & O'Callaghan, 1998); while some have been done on public healthcare (Andaleeb, & Millet, 2010, Aagja, & Garg, 2010, Manaf, 2005), Camilleri, & O'Callaghan, 1998).

The past studies on SQ of healthcare were mostly focused on the service performance methodologies while on the other hand, the literature can benefit from studies on the application of the gap-theory methodology for analysing the service gap (Butt & Run, 2010). This has resulted in the development of the conceptual theory-based model which focuses on the dimensions of the patient's expectations of healthcare SQ. The conceptual theory-based model was developed from the best practices in marketing and service research. The applicability of the developed SERVQUAL dimensions to a healthcare service has also been examined via structural equation modelling analysis

(Işık, Tengilimoğlu, & Akbolat, 2011). The examination results indicated that the SERVQUAL instrument is a valid measurement tool to assess and monitor SQ in hospitals, enabling the hospital management to identify the service dimensions that require improvement or PS from the patient's perspective (Natcha et al., 2015).

Lang B. (2011), reported that SQ is an important influencer of customer satisfaction besides word-of-mouth communication. The relationship between the study states that: perceived SQ, directly and indirectly, affects behavioural intentions such as positive word-of-mouth (Ladhari, 2009); perceived SQ determines the customer's satisfaction (Murray, & Howat, 2002, Lee, Lee, & Yoo, 2000); while positive relationship exists between SQ, satisfaction, and revisit intention (Lee, Kim, & Sagas, 2011) and good SQ positively influences customer satisfaction (Kuo, Wu, & Deng, 2009).

The literature reveals that there are many studies on SQ and satisfaction with different contributions from many researchers worldwide (e.g. Cronin & Taylor, 1994; Parasuraman et al., 1994; Zeithaml et al., 1996). On the other hand, all without exception have been based on the SERVQUAL scale, which is the basis of the other works. There is a consensus that the 22 items are quite appropriate predictors of SQ in its entirety. A primarily significant element of the SERVQUAL analysis is the ability to establish the relative significance of the five dimensions and influence patients' overall quality perception (Lim et al., 1999). The researchers have assessed quality dimensions such as access, personnel, clinical outcome, and patient satisfaction. Therefore, the model brings outpatient satisfaction as a multi-dimensional concept that needs to be put into practice to be evaluated under the relevant contexts (Turner & Pol, 1995).

Tucker and Adams' (2001) integrative patient evaluation model demonstrates how caring, empathy, reliability, responsiveness, access, communication, and outcome dimensions can be predictors of satisfaction and quality as moderated by the patients' socio-demographic characteristics. Conway and Willcocks' (1997) integrated model involves the application of SQ to healthcare settings, incorporating influential factors like patient personality and socio-economic factors with measurement issues (i.e. reliability, responsiveness). The structure of the dimensions of perceived SQ for this research has some of the elements with the original five dimensions of SERVQUAL research, but with modifications and some other items.

Consequently, SQ can be employed as a strategic differentiation weapon to develop a distinctive non-replicable advantage not available to competitors and many service sector organisations have recognised the potential of SQ as a source of sustainable competitive advantage (Lim & Tang, 2000).

5. Importance of Patients' Perceptions of Quality

Research on evaluating healthcare from the user's perspective is often conceptualised as patient satisfaction, which has been extensively studied over the years. A definition of satisfaction is "*fulfilling expectations, needs, or desires*" (Sitzia & Wood, 1997). Satisfaction suggests that healthcare users compare their expectations against the actual service and

that this leads to either a positive or negative feeling. If expectations are exceeded, healthcare users are more satisfied (Harteloh et al., 1992). Because satisfaction is a result of both expectations and experience, variations in scores can be a result of differences in expectations or experiences (Sixma et al., 1998). For example, when healthcare users have unrealistically high expectations, their experiences will never meet these expectation criteria thus resulting in low satisfaction. This is a serious problem when patients' perceptions are used as a factor in identifying better performers, or where improvements in quality are needed (Sofaer & Firminger, 2005). To overcome this, considerable effort has been made to develop a method to 'report about events' (experiences). A definition of reporting on events is "*Reports on experiences illustrate if healthcare users did or did not experience action in their interactions with healthcare providers and the healthcare system*" (Browne et al., 2010). Reporting on events tends to reflect the quality of care better. Also, this type of reporting is more interpretable and actionable for quality improvement purposes (Sixma et al., 1998).

Although professionals' and other healthcare stakeholders' perceptions of the quality of healthcare services are important for this study, patients' perceptions are the main focus in this part. A salient theme is that SQ differs from manufacturing quality, and thus different considerations have to be taken into account when evaluating it. SQ is a multidimensional, value-laden concept and therefore different stakeholders (patients, doctors, managers, etc.) will have different perceptions and opinions regarding its value and assessment (Øvretveit, 1998). It is increasingly being recognised that patients' perspectives on quality, alongside those of other stakeholders, are very important in any quality initiative.

A wide range of contexts can be identified to explain the growing importance of eliciting patients' perceptions in general. For example, there is a quality agenda where patients' perceptions are increasingly seen as an essential part of service evaluation (Øvretveit, 1998; Hall, 2004). Another context is the tendency, at least in Western societies, to emphasise a political perspective and the need to democratise or counteract the democratic deficit in healthcare services through public participation and a market economy approach to healthcare services (Harrison et al., 2002a; Harrison et al., 2002b).

As Carr-Hill (1992) pointed out that patients' perceptions can be seen not only as a counterpoise to the hegemony of medical professionals but also as a component in a wider "*consumer sovereignty*" where healthcare services should be shaped and tailored according to patients' "*demands and preferences*". There is also an ethical dimension, particularly for certain groups of patients such as the chronically ill, who need to be fully informed about the benefits and risks of their treatments (Tritter & Calnan, 2002). In an evaluation of the quality of healthcare, it is important to take into account not only clinical effectiveness, economic efficacy, and equity, but also patients' perceptions of quality, and whether or not the healthcare provided is acceptable to them. Thus, different stakeholders' perspectives (managers, professionals, and users) need to be given equal weight or at least be taken into account.

In the UK, Tritter and Calnan (2002) noted that the importance of patients' role as evaluators of the healthcare they receive is increasingly stressed. The legislation of successive governments has emphasised the importance of eliciting patients' perceptions, and it has become a statutory duty for the National Health Service (NHS) to respond to these perceptions by putting the required changes into practice. Secondly, patients' perceptions can also be considered as part of a wider initiative of involving patients in democratic participation and the decision-making process (Harrison et al., 2002b). In this sense, patients' perceptions can be employed at several stages, and thus there are various degrees to which patients can be involved. At one end of the spectrum, there is passive involvement (that can be regarded as minimal-level involvement in healthcare services), where providers elicit patients' perceptions about particular aspects of the healthcare they receive. A further level is an active involvement, which includes getting patients involved in electing members of the community to the policy-making body of healthcare services so that they have the opportunities to participate in the decision-making processes. Whether or not a higher level of involvement automatically leads to better quality has yet to be empirically tested.

Considering patients' perceptions is vitally important for the general evaluation of healthcare quality because if they are not taken into account, negative patient attitudes may affect the impact of quality programmes – patients might not comply with treatment, miss appointments, be unhappy, dissuade other patients, not get better, and adversely influence the outcome of the health service. Moreover, the managerial (economic efficiency) and professional (clinical effectiveness) agendas of quality programmes may be unachievable if patients' perceptions and perspectives on quality are not synstudyed and amalgamated in a quality evaluation initiative. There is agreement among scholars that the quality of healthcare is considered to be a multi-dimensional concept, and it has been given different meanings in the literature.

As Larsson and Larsson (1999:34) indicate, *"Patients' views on what is important in connection with the care they receive may be seen as one aspect of quality of care, and PS has increasingly come to be used as an indicator of this quality."* Consequently, patients' perspectives of what constitutes good quality of healthcare are increasingly recognised as an important source of quality indicators.

In short, the realisation of the importance of patients' perceptions of healthcare services has developed over a long period and has been strengthened by some academic disciplines. As Marshall and Campbell (2002:3) pointed out, *"Demands to improve the quality of healthcare are part of a bigger picture, reflecting the changing society in which we live."* An account of the main forces contributing to change in current health services would require a broad look at changes that have taken place within the HS due to economic constraints, increased demand for healthcare (Graham, 1995), and the decline of power and orientation from treatment to prevention (Reeder, 1972) within the political system (i.e. interest to use health issues for election purposes) and, most importantly, within society (i.e. demographic changes, narrowing knowledge gap, cyberchondria (BBC, 2004).

SQ is described as an abstract concept as it cannot be objectively quantified like physical goods (Zeithaml, Parasuraman et al., 1990). The specificities Downloaded by University of Florida at 20:13 30 October 2017 (PT) hospitality services such as the absence of predefined standards, need for consistency and high level of interaction, and exchange of information add to the complexity of conceptualising and measuring SQ (Akbaba, 2006).

Nevertheless, it is an important construct that has attracted the attention of researchers as well as practitioners (Peng, Zhao et al. 2015). Following a comprehensive review of past models of SQ for hospitality services, Mok, Wu et al. (2009) developed a holistic framework for SQ which forms the basis of the first-order factors proposed in the present research. Accommodation infrastructure emerged as an important sub-dimension of SQ in Wu's (2009) study. This dimension usually includes the overall physical environment of the service provider, such as décor, design, cleanliness, and ambience of the accommodation. Some other studies also suggest that these different aspects of accommodation infrastructure are important to SQ in a hospital (Cristobal, Flavian et al., 2007).

6. Discussion and Conclusion

Many studies have applied different constructs (or factors) in representing "satisfaction" (Ygge & Arnetz, 2001) while others have included satisfaction into their survey instrument by requesting participants directly to show their satisfaction with care for each item representing healthcare quality (Badri et al., 2009). Senarath et al., (2006) believed that PS could be assessed by a 16-item instrument covering several key dimensions of client satisfaction: accessibility, interpersonal aspect of care, physical environment, technical aspects of care, and outcome of care. PS can be predicted by factors associated with caring, empathy, reliability, and responsiveness (Tucker & Adams, 2001). Other dimensions have also been used to obtain patients' healthcare assessments (Fowdar, 2005), such as core services, customization, professional credibility, competence and communications.

However, patient satisfaction is a complex concept and difficult to measure, so that many hospitals that wish to implement new strategies based on the patient's desired service have found that the process of identifying the preferences of medical service from patients' perspective would be very difficult (Ali, Hamid, A., & Emadi, 2015).

Lean has a methodology that is able to improve the process so that it can provide better, faster and lower cost products & services (Antony & Laureani, 2011). Lean can be applied to all organizations including health service organizations such as hospitals. Lean provides the opportunity for staff with even the lowest position to speak out, convey their ideas & take the actions needed for improvement efforts.

After understanding the concept of Lean, hospital managers might be faced with the question of how to implement it. According to Liker (2004), implementing Lean does not mean copying what is done by Toyota (as the origin of the Lean concept) or from

other hospitals that are considered successful in implementing Lean. Hospital managers can develop Lean according to the conditions of their hospitals or work units. At present, Lean Management is used by various hospitals as an effort to carry out quality control of cost control in the era of National Health Insurance.

One of the next obstacles facing hospitals these days is continually rising in patient's expectations and subsequent demands for service improvement (Kandampully, 1998). Driven by intensification of ever-changing technological advancement and treatment facilities, the pressure of patient's demands for quality improvement, on hospitals have to use different approaches to live up to patient's expectations (Porter, 1980). Therefore, hospital managements need to identify the critical SQ dimensions that contribute to improving SQ, lean management and PS (Ladhari, Ladhari, & Morales, 2011). The findings of this study add that, the ultimate success of a hospital depends on the PS via SQ.

The findings of this study also have enlightened hospital management in both Indonesian dental hospitals in identifying the dimensions of SQ that influence lean management and PS. Priority of the hospitals is to draw attention to the dimension depending on the origin type of hospital. In Private Indonesian hospitals, tangibility and reliability are the most important dimensions in determining lean management and PS respectively. The Private Indonesian hospitals could offer better patient satisfaction by emphasising these two dimensions, whereas, in Indonesian Public hospitals empathy and assurance is the most important dimension in determining lean management and PS respectively. Indonesian Public hospitals could achieve better PS by emphasising these two dimensions.

Hospital management in both dental hospitals should focus on the most important dimensions in their overall SQ. The Private Indonesian hospitals should emphasise the institution's ability to manage the tangibility dimension and improve the assurance and empathy dimensions while Indonesian Public hospitals should stress tangibility and reliability while boosting the most important dimension, which is empathy. Given that reliability, assurance and empathy are mainly human interaction, both types of hospitals should invest financial resource in training programmes to raise staff awareness on the importance of these dimensions in achieving better PS and implant a culture of service excellence in the hospital's vision and mission.

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