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Beyond Promotion: A Critical Assessment of Healthcare Marketing Communication, healthcare service quality and Its Influence on hospital Outpatient Satisfaction

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ABSTRACT

The study attempts to fill the research gap in innovative healthcare marketing literature by examining the impact of innovative healthcare marketing communication and healthcare services quality on hospital outpatient satisfaction. The research adopts the positivists research philosophy with simple random as recruitment strategy. A total of 317 hospital outpatients were selected from 15 modern care hospitals. A self-developed questionnaire was adopted to elicit quantitative data from hospital outpatients. The Means, Standard deviation and Regression analysis were computed to understand the impact and relationship between variables. The three sub-variables of innovative healthcare marketing communication showed that -value creation ($\beta = 0.397$, $t=8.268$, $p<0.05$) and telemedicine ($\beta = 0.479$, $t=7.746$, $p<0.05$) significantly predicted outpatient satisfaction, and prescription management ($\beta = 0.108$, $t=1.411$, $p>0.05$ at 0.159). Service quality variables showed that reliability ($\beta = 0.374$, $t=5.882$, $p<0.05$), responsiveness ($\beta = 0.121$, $t=2.295$, $p<0.005$), empathy ($\beta = 0.333$, $t=6.795$, $p<0.05$) and tangibility ($\beta = 0.292$, $t=3.650$, $p<0.05$) significantly predicted outpatient satisfaction. Assurance ($\beta = -0.132$, $t=1.664$, $p>0.05$ at 0.97) was insignificant. The study concludes on appropriate users' trust in clinical services such as accurate diagnosis, availability of medical personnel, reliable mobile network service, measurable risk and service assurance.

1. Introduction

Globally, hospital outpatient satisfaction has continued to be on the front burner of policy analyst and healthcare practitioners (Liu *et al.,* 2022). With the increasing quest for healthcare system effectiveness, a more profound understanding of hospital outpatient satisfaction is critical (Lumish *et al.,* 2022). Studies have shown that hospital outpatient satisfaction is molded by an amalgamation of factors not excluding effective marketing communication strategies, accessibility, service quality and efficiency (Usher and Denis, 2024; Sharkiya, 2023). For instance, service quality trust in healthcare providers has been linked to explain hospital outpatient

satisfaction, highlighting the importance of assurance and empathy (Sharkiya, 2023). The fundamental change relating to patient-centered care has been identified as a critical element of promoting patients' satisfaction, especially in today's problematic healthcare environment. The role of effective healthcare communication, especially in telemedicine and prescription management in averting patients' waiting or consulting times have also been identified as a precursor to outpatient satisfaction (Ofri, 2017).

Healthcare marketing communication seeks to establish trust between patients and providers for an enabling environment. The level and efficiency of communication between the healthcare providers and patients is upheld by several responsibilities in the areas of decision making, emotions and improving self-management. The quality of the measurement of effective healthcare marketing communication includes effective and uninterrupted consultations, and the use of unambiguous language or medical terms (Sharkiya, 2023). Effective healthcare marketing communication also includes good listening hears and paying utmost attention to the patient during consultations. Assessing service quality for hospital outpatients is a more daunting task than the assessment of any tangible products (Wulandari *et al*., 2024). Patients evaluate the quality and standard of healthcare services through perceptions of the outcome of services received and treatments procedures.

Service quality is increasingly known as crucial in distinguishing and developing a competitive advantage in professional service organisation. However, in the backdrop of hospital, outpatient satisfaction is shaped by hospital brand image, service quality, and the efficacy of treatment. Hospital outpatients' satisfaction can also be influenced by the extent of competitiveness among healthcare organisations (Jayawinangun *et al*., 2024; Liu *et al.,* 2022). Hospital outpatients perceive satisfaction as a reflection of hospital responsiveness towards their needs, the quality of healthcare rendered by the hospital, and the level of empathy and relationship that exist between doctor-patients. In a sense, it is very critical for hospitals to understand and apply the key factors that determine outpatients' satisfaction (Meesala and Paul, 2018). Hospitals should evaluate patients' desires, values and expectations and how they perceive the quality of care received. Hospitals can utilize patients' information for service enhancement and quality, and the right methods to employ and the timing when these methods can be utilized (Sharkiya, 2023) can all be inferred from the patient's satisfaction information.

The Nigeria case, particularly Lagos State is clear with evidence of poor innovative healthcare marketing strategy and service quality with diminishing outpatient satisfaction and experience (Okpalaobi and Egbule, 2022). The cultural environment, human perception and non-compliance with service quality ethics remain challenges to improved hospital outpatients' satisfaction (Iheme, 2023). Enhancing outpatients' satisfaction includes how healthcare providers can effectively address negative publicity and resentment arising from poor healthcare marketing communication, outpatient patients' empathy, assurances and responsiveness to patients concerns and challenges. The application of effective innovative healthcare marketing communication strategies and service quality measures are critical for the identification of patient's health problems and concerns with the aim of providing sustainable satisfaction and experience. The patients-providers' healthcare marketing is contingent to a very extent on customers' satisfaction, desires and expectations. Therefore, infusion and usage of marketing concepts like healthcare marketing communication and healthcare service quality have resulted in effective innovative healthcare strategies required for improving outpatients' satisfaction and experience.

The innovative healthcare marketing literature is awash with studies in the arena of healthcare communication, service quality, innovative advertising and social marketing among others. These include measuring the impact

of healthcare service quality of hospitals on customer satisfaction (Wulandari *et al*., 2024); the role of healthcare communication skills and their impact on outpatients' satisfaction at a public hospital (Jayawinangun *et al*., 2024); service quality, customer satisfaction and loyalty in hospitals: thinking for the future (Meesala and Paul, 2018); quality communication and improve patients centered health outcomes among older patients (Sharkiya, 2023) and artificial intelligence-based medical devise technologies implementation strategies in the Nigerian healthcare industry (Iheme, 2023). Although, these studies share similar variables interrogated in this current study, their research context portrayed major distinctions. While Iheme's (2023) study shares similar research context, the emphasis on artificial intelligence and implementation also establishes a major distinction with the current study. These distinctions convey the originality and contribution to extant literature on innovative marketing healthcare. Essentially, the study contributes to both theory and policy. The theoretical contribution supports the sparsity of studies available on hospital outpatients' satisfaction from the relationship between marketing communication and service quality. Thus, the study contributes to extant literature debates on best practices and satisfaction of hospital patients through marketing and service quality dialogues, particularly in the context of Nigeria. The study contributes to policy by appropriating for effective mechanism and supports structure for hospital outpatients improved satisfaction. This contribution will see hospitals harnessing digital communication tools for improved experience and sustained service delivery.

The study attempts to understand how innovative marketing communication and healthcare service quality can contribute to hospital outpatient satisfaction from the distinct context of Lagos State, Nigeria. In specific, the objective of this study is to understand (a) the impact of healthcare marketing communication (prescription management, telemedicine and co-value creation) on hospital outpatient satisfaction (b) the impact of healthcare service quality (service reliability, service responsiveness, service assurance, service empathy and service tangibility) on hospital outpatients' satisfaction. The paper begins with a review on innovative healthcare communication. Thereafter, we review commentaries on innovative healthcare service quality with emphasis on the different service quality measurement. The Signaling Theory was reviewed on a theoretical basis. In what follows were the explicit methodological explanations.

2.0 Literature Review and Hypotheses Development

2.*1 Innovative healthcare communication*

The conceptual understanding of innovative healthcare marketing communication focuses on delivering relevant and engaging content to the targeted audience in a way that creates awareness and promotes brand loyalty (Basu and Wang, 2009). It aims to build trust, educate and influence people's behaviours and perceptions about healthcare products and services. Innovative healthcare marketing communication is essential in today's digital age, as it enables healthcare organizations to connect with patients, build brand awareness, and establish themselves as thought leaders in the healthcare industry. Marketing communication has played critical and strategic role in traditional and innovative healthcare service industry (Dery *et al.,* 2017). This strategic role has been appreciated by many healthcare professionals in the industry (Pandey and Singh, 2016). During the traditional era of marketing communication in healthcare, the process of transmitting sensitive information between the industry players has always been assumed. The act of levity in the flow of unspoken interactions between these players have caused serious damage, exposure and insecurity to healthcare communication data (Clark, 2022).

Innovative healthcare marketing communication flows across various sections, offering different services such as communication between physician and patient, health educator and client, pharmacist and consumer (patient

and non-patient), parent and children in family health management. Communication process in the healthcare environment has the tendency and capability of providing both negatives and positives that could mislead and contribute to the system respectively (Evans and Stoddart, 2017). The healthcare system in their dealings with human lives demand clinical and error free process for diligent and quality service delivery. For instance, a perceived poor communication on misdiagnosis or drug prescription and consumption may have major implication on human lives. Welcome (2011) traced failure in the Nigerian healthcare service system to poor and ineffective communication process in healthcare service delivery. Dery *et al.,* (2017) identifies medical errors, patient confidentiality, non-effective delivery care and poor patient health communication.

Healthcare professionals have highly advanced innovative technologies to adapt to the market forces for effective communication. The depth of this advancement is the peak of innovative healthcare marketing communication (Renu, 2021). The healthcare service system leverages innovative marketing communication strategies to develop and improve the level of interaction between healthcare organisations and their customers. Healthcare communication researchers identify these measures as persistent patient engagement (Usher and Denis, 2022), online healthcare consultation service (Fan *et al*., 2022), online physician-patient interaction (Liu *et al*., 2022) and consumer co-value creation (Pfannstiel and Rasche, 2017), among others.

The proliferation of innovative healthcare marketing communication has given access and wide variety of strategies to healthcare communicator (Ventola, 2014). The advent of internet technology has had a profound effect on almost every aspect of modern life including the ability to disseminate health-related information to large groups of people as well as more specific subsets of the population (Russo and Cristina, 2020). Traditionally, marketing campaign has a structural leverage on mass communication such as public news and announcement on radio, television, newspaper and billboard (Turow, 2011). The healthcare services are taking extensive measures to increase their channels while utilizing new and trending technologies to transmit messages, building interactive engagement with consumers and community at large, among other ongoing digital exchanges on quality healthcare service delivery (Vogenberg and Santilli, 2018). Several healthcare communication research (Arora and Sagar, 2023; Kite *et al.,* 2016) have agreed that the foundation of every marketing plan is effective communication process and delivery.

Hi: Innovative healthcare marketing communication has a significant influence on outpatient satisfaction in Lagos state, Nigeria

2.2 Innovative healthcare service quality

The concept of service is an economic activity that produces value and offers benefits for consumers at certain times and locations by effecting a desired change in or on behalf of the receiver. Healthcare service is the process associated with a physical product since the performance is ephemeral, often intangible, and typically does not result in ownership of any sources of production. Due to its inherent distinctions such as perishability, inseparability, tangibility, and heterogeneity, researchers have deemed the brand to be the most significant character in services (Malik *et al*., 2011). Service quality is the difference between the level of service expected by customers and the actual level of service (Parasuraman *et al*., 1985). This explains the gap between the level of service anticipated by consumers and the actual level of service.

Service quality in the context of innovative healthcare marketing refers to the degree to which healthcare services meet or exceed customer expectations (Daqar and Constantinovits, 2020). It involves delivering high-

quality healthcare services that meet or exceed customer expectations in a way that is innovative, personalized, and patient-centric. This includes leveraging technology to improve the delivery of healthcare services, creating unique and personalized experiences for patients, and ensuring that healthcare services are reliable, responsive and empathetic (Fattahi *et al*., 2022). The weight of quality measurement in the healthcare service cannot be undermined. This is due to the criticality and sensitivity in the healthcare service where a perceived low quality may pose heavy damage to human life (Daqar and Constantinovits, 2020).

The idea of including the word "clinical" in healthcare service depose an error free activity either from drug prescription or through the process of performing surgical treatment to patient in the theatre room (Vincent, 2011). Therefore, the significance of service quality in healthcare is undebatable for ensuring wellness and wellbeing of the consumers upon consultation. Innovative healthcare marketing in this digital era has serious weight on service quality and consumer wellbeing (Meesala and Paul, 2018). In many developing countries, Nigeria inclusive, there are reported cases of government failure in regulating the activities of online healthcare service which supposedly take consumers' clinical health for levity (Malik *et al*., 2011). However, in the context of this study, Parasuraman *et al.,* (1988) five dimensions of service quality are adopted and discussed below:

2.2.1 Service Reliability

Service reliability measures the degree to which a promised service is performed dependently and accurately. Reliability is the capability to provide the specified service sincerely and responsibly (Wahjudi *et al*., 2018). It is one of the most essential and fundamental aspects of conventional service (Parasuraman *et al*, 1985). The customer's perception of reliability as a key component of service quality entails the capacity to perform a promised service consistently and precisely. Some clients tend to lose faith in a healthcare organisation if they perceived its operations as unreliable (Chassin and Loeb, 2013). Reliability consists of how effectively and precisely firms fulfil orders, efficiently manage records, charge without mistake, calculate commissions, and honour service commitments (Parasuraman *et al*., 1985).

Fleming *et al.,* (2023) identified the trust of health practitioner expertise in terms of practical knowledge and experience. For example, it has become a culture for pregnant women and their families to carryout search about a hospital and the level of knowledge and experience of their healthcare practitioners before registering for antenatal. Among other findings by these individuals include investigating successive rate of child delivery, failed delivery and the causes (Meesala and Paul, 2018). According to Fleming *et al.,* (2023), it has become a norm for hospital patients to be sceptical about their hospital service and their medical team of expert. This, however, does not limit human knowledge, rather, it extends to availability of facility in terms of resources that guarantees service reliability.

Customers with full satisfaction on service reliability of a healthcare product have the tendency of referring more customers (Meesala and Paul, 2018). Online healthcare services are quite difficult to entrust with reliable service unless the services are piloted on the hospital long term existing customers. Bocking *et al.,* (2022) shifted the perception of customer on service reliability to supportive digital tools. The author argued that human expertise does not only determine the reliability of service in health organization rather than consider the possible error or malfunctioning of robotic designed technologies such as incessant internet network, robotic fitness instrument, but failure of power supply used on healthcare gadgets to sustain patients under critical health conditions, among others (Bocking *et al.,* 2020).

2.2.2 Service Reliability

Service responsiveness means enthusiasm to assist clients and provide service on schedule. It is the willingness of service providers to assist consumers and deliver prompt services (Ventola, 2014). It defines an organisations employees' willingness to serve their clients and provide dependable service. Service responsiveness describes how quickly an organization's personnel give service to clients (Parasuraman *et al*, 1988). For instance, the hospitals have convenient operating hours which vary often from 24 hours a day and seven days a week, as well as recognizing the requirements and desires of their customers, attention to difficulties, and customers' safety during healthcare service (Kumar *et al*., 2009). Service responsiveness in healthcare has been discovered to be generally poor (Abuosi and Atinga, 2013). Ho (2023) trace this to the resistance of the practitioner to accept the intervention of marketers in health. Today, the need for marketing expert to sell healthcare goods and service are increasingly emerging. This also confirms the significance of marketers in gaining and sustaining competitive position in the industry (Agarwal *et al*., 2020). The service responsiveness in the healthcare context explains the ability of the healthcare organisation and their healthcare practitioners to provide prompt feedback and useful information to consumer request and complaint.

Lee (2011) revealed the connections between service responsiveness and innovative healthcare marketing, particularly, from the angle of patients under supporting digital tools-SDTs. The SDTs, either wearable or non-wearable, deserve close monitoring for possible urgent attention that could save a life (Berkowitz, 2021). Some hospitals apply smart measure by designing a ring-bell gadget at one punch to signal the nurses for urgent attention when the patients under SDTs need one (Delle- Monache *et al*., 2022). Outside the physical, the beauty of new technology has equally made it possible for prompt check up on patient in different geographical location (Wahyuningtyas, 2017). The multifunctional features of SDTs have this under control (Petersen and Hempler, 2017). On this, service responsiveness to patient or customers in healthcare industry is a significant measure of service quality.

2.2.3 Service Assurance

Service assurance is the degree to which service providers are informed, and able to instill confidence and trust in their customers. Fundamental to this are service providers competence and capacity to inspire 'trust and confidence'. Sadiq *et al*., (2019) argued that the fundamental implications of service assurance include courteous, pleasant, affable personnel, easy access to account information, learned and experienced administrative group. The author argued that medical practitioners have a variety of roles and responsibilities in providing healthcare services to humanity (Sadiq *et al*., 2019). Healthcare service in its broadness comprises of various knowledge areas for individual practitioner’s specialization. Bandura and Ramanujam (2019) classified service assurance under three tiers, namely, guarantee under expertise, guarantee by participation of multiple field experts and guarantee by faith. The first two is quite calculative with marketing techniques used by marketers to guarantee service assurance at the point of sales to convince the consumer for service patronage, while the third is non-practical and non-calculative as all responsibility is being shifted on God (Delle- Monache *et al*., 2022). The relevance of marketing in service assurance in the healthcare business environment entails various techniques and mechanisms. For instance, it is easy for healthcare organisation to guarantee their customers of service assurance based on their existing available resource (e.g. men, money, machine, material), however, the consumer in their sensitivity might want further sealed assurance (World Health Organization, 2013).

The healthcare organisation has the capacity to weigh their service in accordance with the state of health of their patient to arrive at scalable and feasible chance (i.e. single, double or multiple) and available alternatives to prepare their patients for service assurance. Schenker *et al*., (2014) considered this as an ethical standard for practice in the healthcare service industry. In Nigeria, an example of a case was reported wherein a patient sought the services of a surgeon for the purpose of buttocks enlargement, unfortunately, the procedure was unsuccessful and resulted in significant damage to the patient's buttocks (Okpalaobi and Egbule, 2021). This shows the importance of service assurance to marketing healthcare service for ascertaining quality service and customer satisfaction.

2.2.4 Service Empathy

Service empathy is the extent to which an organisation offered considerate service and personalised care (Wieseke *et al.,* 2012). It describes the individualized care offered by healthcare organisation to their consumers. Empathy denotes a thoughtful and individualized interest for consumers. Healthcare organisation that practices service empathy places themselves in the position of the customer to experience what the consumer feels (Wilder *et al*., 2014). Boykin *et al.,* (2013) assert that a thorough comprehension of consumers' wants and expectations is a necessity for obtaining customer satisfaction. Service empathy is one of the elements in the component of service quality. This element addresses customer resilience and their relationship with service providers towards achieving specific goals and objectives at mutual interest. The consumers in their sovereignty have every right to react to an unfavourable service outcome (Zhang *et al*., 2023).

The coalition of interest between the customer and their service provider labelled service empathy a significant measure for retaining and sustaining customers. For Bove (2019), every employee of an organisation should be trained in such a way that they would see their customers as themselves. From healthcare context, service empathy has become one of the key marketing strategies to retain and sustain customers. The ability of the healthcare practitioners to show caring behaviour and attitude towards their patient has significant effect on customer satisfaction. Many health customers regardless of their health conditions, be it critical or not, require caring and serious attention from their health practitioners.

Ofri (2017) identified a listening ear and a persistent maintenance of eye-to-eye contact as the means through which healthcare practitioners empathize with their customers during service consultations on an online healthcare platform. A doctor who is consistent would avoid overlooking any aspect of a consumer's health complaint while simultaneously documenting the data in real time (Boykin *et al.,* 2013). When a consumer observes a health practitioner displaying empathy, they are always aware (Lumish *et al*., 2022). Nembhard *et al.,* (2023) further elongate this as pure observation with true and imaginary smile to allay fears in health customer during admission.

2.2.5 Service Tangibility

Service tangibility indicates the extent to which physical facilities, equipment and staff appearance are appropriately exhibited (Pakurár *et al*, 2019). It defines the physical appearance of offices, employees, hardware and textual documents. Wahjudi *et al.,* (2018) established that service tangibility involves the use of organization's physical facilities, equipment, personnel, and communication materials. Consumers assess all physical and non-physical aspects of an organization's service quality in full sensitivity. Some consumers place a high value on being able to physically interact with a service, and this factor might influence their purchasing

decisions. In the context of healthcare, service tangibility refers to the extent to which a healthcare service or innovation can be perceived, experienced or measured in a tangible or physical form. It explicates the ability of a healthcare service or innovation to be touched, seen or felt by the patient or the healthcare provider. It involves the physical amenities put in place for the purpose of creating a conducive atmosphere for the consumers.

The intention of creating consumer friendly physical environment is to stimulate the sense of the consumer about the organisation and service quality. Lumish *et al*., (2022) emphasize consumers' first visit to a hospital and their sensory assessment of their environment which influence their service quality. For example, a consumer's perception of a terrible setting in a hospital they are visiting for the first time might send a message of poor care or a trace of deception in their service. This, however, could prevent or discourage consumer from granting first service trial and in the long run could reduce customer's patronage (Carpman and Grant, 2016). Ambient factors in the hospital such as bright light, check-out beeps, among others, have an impact on customers' assessment of quality service (Carpman and Grant, 2016).

Hi: Healthcare service quality has a significant influence on outpatient satisfaction

3.0. Theoretical Framework

The eminent economist, Michael Spence develops the Signaling Theory in 1973 in response gaps in understanding businesses and its potentials (Connelly *et al.,* 2011). The Signaling Theory is developed to address issues in communication. The theory assumes how one agent (the receiver) determines if another agent (the signaller) is speaking the truth about a situation or event in which the signaller has a vested interest in misrepresenting (Densley and Pyrooz, 2019). The Signaling Theory addresses how a signaller convinces a receiver of the truth, regardless of whether it is indeed the truth (Dunham, 2011). Connelly *et al.,* (2011) identified the signaller, the message, and the receiver as the three components of the Signaling Theory. These three-pronged query may emerge whenever there is asymmetric information, where the signaller is in a better position to know the truth than the receiver, and the interests of the signaller and the receiver diverge or conflicting (Connelly *et al.,* 2011).

The utmost reflection of clinical healthcare services should be a strong hold of this theory. The signaling process and the intensity of signals are critically dependent on the signalling environment (Connelly *et al*, 2011). Patients may place greater weight on a single factor, such as service experience or professional expertise when making decisions about which healthcare services to employ and evaluate. If patients are given access to two sets of information, one may quickly become the primary emphasis while the other is forgotten. This, however, is one of the major criticisms of signaling theory as it failed to initiate further measure towards addressing the levity of misinterpreted messages from signaller to their receiver towards ensuring quality delivery. A misinterpret message during the healthcare process has the tendency of imposing risk to clinical health practices and sustaining outpatient satisfaction (Cornet and Holden, 2018).

There are distinctive signaling procedures and signallers in existence where the doctor is the sender of the professional status signal, and the patient is the receiver. Patients who have already seen the doctor are the signallers of service feedback, whereas those who have not seen the doctor are the signallees. The information sent by each signal (either signaller or signallee) is unique (Yasar *et al.*, 2020). In the medical field, a doctor's qualifications, experience, and knowledge may all be reflected in the designations and responsibilities they have

in a professional healthcare organization (Dunham, 2011). The signaling theory stipulates that, where one kind of signal diminishes when another becomes accessible, it is therefore labelled as 'substitutes' (Cornet and Holden, 2018). This is because each type of signal represents some information about a facet of the signaller that is positively related to the receiver's choice.

Service providers may also have an incentive to mislead their customers and conceal essential adverse facts due to potential conflicts of interest (Densley and Pyrooz, 2019). There is a significant information gap between service providers and their customers when it comes to gauging the quality of expert services (Cornet and Holden, 2018). On this note, Signaling Theory is adopted as the major theory underpinning this study. Also, to level the playing field between patients and physicians, Signal Theory is often used in healthcare, particularly, from the angle of innovative healthcare communication as stated in the study hypothesis. The expected outcome of this study is hoped to show ways of reducing the knowledge gap between physicians and patients' communication.

4.0 Material and Methods

The study is grounded on the positivist research philosophy with emphasis on testing sets of assumptions for generalisation of findings (Quinlan, 2011). The positivist supports law and cause effect, and this can only be ascertained through experimentation or the conduct of a survey where causal relationship is being established between variables (Saunders *et al*., 2009). Thus, research findings in positivist research philosophy are conducted through the quantitative approach. This study embraces the assumption of the positivist to quantitatively understand the relationship between healthcare communication, healthcare service quality and hospital outpatient satisfaction. Being a quantitative study where data are pulled from a wide range of population, the survey research design becomes appropriate. Survey research design is often employed in a study for the collection of large data through questionnaire administration. The study under context surveyed many hospital outpatients from selected local government areas in Lagos State considered to have modern care hospitals with innovative healthcare practices. The survey design is justified as the entire hospital outpatients in the selected hospitals cannot be accessed, hence a representative sample of these population becomes accessible through survey and findings generalized on the larger population.

A total of 32, 996 hospital outpatients were identified from the 15 modern healthcare hospitals representing 7 Local Government Areas of Lagos State (Lagos State Bureau of Statistics, 2022). Lagos State has a total of 20 constitutionally recognised Local Government, and a total of 16 are considered metropolitan. From these 16 metropolitan recognized Local Government Areas, only 10 are considered to have modern care hospitals with innovative healthcare practices and services (Lagos State Bureau of Statistics, 2022). For this study, only 7 Local Government Areas with 15 modern healthcare services were considered as the study population representing about 70 percent (see Table 1). The total number of 32, 996 hospital outpatients were accessed from the Lagos State Ministry of Health for the year 2022 (Lagos State Bureau of Statistics, 2022). The aggregate number of modern healthcare hospitals and hospital outpatients representing each Local Government are depicted in Table 1.

Table 1: Distribution of the study population

Local Government Areas	**Modern care hospitals**	**Population**
Amuwo-Odofin	1	1024
Lagos Island	2	7694
Eti-Osa	5	7179
Ikeja	4	6976
Apapa	1	3523
Surulere	1	6245
Agege	1	355
7	15	32, 996

Bureau of Statistics Lagos State, 2022

The sample size was calculated with the Yamane (1967) sample determination formula. The formula is expressed as follows:

$$n = \frac{N}{1 + N(e^2)}$$

Where n= sample size
N= The total population; **32,996**
1= Constant
e= limit of sampling error= **0.05**
The sample is calculated below:

$$n = \frac{32{,}996}{1 + 32{,}996(0.05^2)} = 400$$

To ensure equal allocation of sample size based on each representative LGAs, the Bowley (1926) proportional allocation formula was adopted. The formula is indicated below:

$$n1 = \frac{n(n1)}{N}$$

n= sample size i.e 400; n1= population of each LGAs; N= Total population 32,996

Table 2: Proportional allocation of sample

Local Government Areas	**Modern care hospitals**	**Population**	**n(n1)/N**	**Sample**
Amuwo-Odofin	1	1024	400 (1024)/32,996	12
Lagos Island	2	7694	400 (7694)/32,996	93
Eti-Osa	5	7179	400 (7179)/32,996	87
Ikeja	4	6976	400 (6979)/32,996	85
Apapa	1	3523	400 (3523)/32,996	43
Surulere	1	6245	400 (6245)/32,996	76
Agege	1	355	400 (355)/32,996	4
	15	32, 996		400

Source: Field work

Simple random sampling was employed. For instance, the entire population of 32, 996 cannot be sampled, hence a random selection is appropriate where every element of the population will have the opportunity to be part of the sample (Sekaran and Bougie, 2016). For instance, for the case of Amuwo-Odofin with 1 modern care hospital, 12 sample size was randomly selected from the population of 1024 hospital outpatients without preference or bias to who makes the sample size. This approach followed with the toss of numbers from 1-100, and only odd numbers were part of the sample. This procedure was subsequently followed in the recruitment of other samples from Lagos-Island with 2 modern care hospitals, Eti-Osa with 5 modern care hospitals, Ikeja with 4 modern care hospitals, Apapa with 1 modern care hospital, Surulere with 1 modern care hospital, and Agege with 1 modern care hospital respectively (see Table 2).

A self-administered questionnaire was employed. The 5-point Likert-Scale measurement was adopted in the design of the questionnaire. The questionnaire covers questions on healthcare market communication and healthcare services quality. While healthcare marking communication consists of 9 items, healthcare service quality consists of 10 items. The items contained in the questionnaire were flexible to allow participants to rate their preferred responses. Out of the 400 distributed, 345 were returned with only 317 found usable for data analysis representing 79.25 percent. The validity of the questionnaire was done through ensuring that repetition of questions was avoided, and that the items speak directly to the research aim. The reliability of the questionnaire was ensured with the Cronbach's alpha for the consistency and reliability of the data with 25 pilots. An 0.70 reliability co-efficient was considered consistent and reliable (Shields and Rangarajan, 2013). Table 3 presents the reliability co-efficient for healthcare marketing communication and healthcare service quality.

Table 3: Reliability co-efficient

Variables and sub-variables	**Pilot sample**	**Items**	**Co-efficient**
Healthcare marketing communication			
Prescription management	25	3	0.803
Co-value creation	25	3	0.658
Telemedicine	25	3	0.859
Total		**9**	**.869**
Healthcare service quality			
Service reliability	25	2	0.747
Service responsiveness	25	2	0.640
Service assurance	25	2	0.922
Service empathy	25	2	0.907
Service tangibility	25	2	0.747
Total			**0.879**

Source: Field work

The study followed appropriate ethical guidelines. The Nigeria Institute of Medical Research (NIMR) approves the study with an ethical reference number IRB/23/065. The Lagos State Ministry of Health also cleared the study with ethical number LS/C.350/S. I/V/878. The participants were appropriately briefed about the study, and consent sought through filling and signing of the consent forms. The participants were advised of their voluntary participation, right not to participate or quit even as the study unfolds. Participants' privacy and confidentiality were strictly protected by concealing all forms of identification. All data were appropriately stored

and protected in a safe place, only accessible by the researchers. The safety and wellbeing of participants were also ensured during and after the data collection process. Data was analysed with the Statistical Package for Social Sciences (SPSS) including Means, Standard Deviation and Regression Analysis. The Means and Standard Deviation were used to understand the disparity of the data, while Regression was employed to understand the level of impact and interaction between the variables.

5.0 Data Analysis

5.1. Innovative healthcare marketing communication and outpatient satisfaction

Table 4 and Figure 1 showed outpatients perception of innovative healthcare marketing communication. The respondents agreed that new age health technologies offer personalised features that suit their health needs; they have once participated in activities that improve wellness and wellbeing; perceived strength in contemporary healthcare solutions over traditional healthcare practices; and shared objectives and goals in modern healthcare solutions have improved their healthcare experience. These results are justified based on the high mean scores of 3.54, 3.68, 3.62 and 3.61, corresponding standard deviations of 0.90, 0.97, 0.88 and 0.89, respectively. On the contrary, the respondents fairly agreed on the view that they have used mobile health Apps (e.g., Flo, Fooducate, GoogleFit, SmartBP, MediSafe, MyTherapy, etc.) to manage their health; they have used wearable health devices (e.g., smartwatches, fitness trackers, blood pressure monitors, etc.) to monitor their health; they have once scheduled a healthcare appointment online to consult with their healthcare provider; they have once used an online video conference to converse with their healthcare provider; and remote healthcare consultation service has improved their experience of health innovations. These results are justified based on the mean scores of 3.20, 3.29, 3.09, 2.91 and 3.33, corresponding standard deviations of 1.10, 1.16, 1.10, 1.10, 1.10, 1.10, 1.10 and 1.00, respectively. However, the findings show an overall positive influence of innovative healthcare marketing communication on outpatient satisfaction.

Table 4: Mean and standard deviations on innovative healthcare marketing communication and outpatient satisfaction

Questions	N	Mean	Std. Deviation
I have used mobile health Apps (e.g., Flo, Fooducate, GoogleFit, SmartBP, MediSafe, MyTherapy, etc.) to manage my health.	317	3.2049	1.10090
I have used wearable health devices (e.g., smartwatches, fitness trackers, blood pressure monitors, etc.) to monitor my health.	317	3.2938	1.16129
New age health technologies offer personalized features that suit my health needs.	317	3.5391	.89772
I have once participated in activities that improve wellness and wellbeing.	317	3.6765	.97424
I perceived strength in contemporary healthcare solutions over traditional healthcare practices.	317	3.6199	.88136
Shared objectives and goals in modern healthcare solutions have improved my healthcare experience.	317	3.6146	.89122
I have once scheduled a healthcare appointment online to consult with my healthcare provider.	317	3.0889	1.09552

I once used an online video conference to converse with my healthcare provider.	317	2.9137	1.09943
Remote healthcare consultation service has improved my experience of health innovations.	371	3.3315	1.00030

Source: Field work

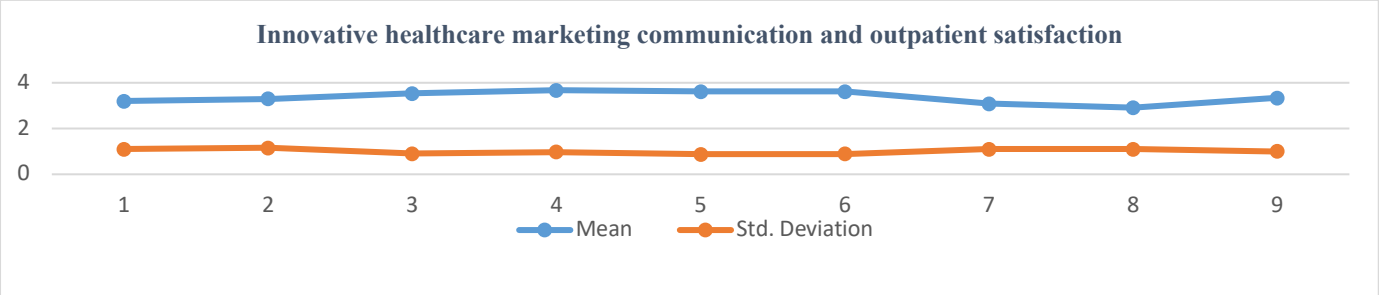

Figure 1: Innovative healthcare service quality and outpatient satisfaction

5.2. Innovative healthcare service quality and outpatient satisfaction

Table 5 and Figure 2 showed outpatients perception of service quality. The respondents highly rated the quality of innovative healthcare services (e.g. telemedicine, mobile health Apps, etc.) and goods (e.g. smartwatches, fitness trackers, blood pressure monitors, etc.); responsive, innovative healthcare goods and services; trust and confidence in innovative healthcare goods; privacy and confidentiality in their information; empathetic to individualised attention, actively listening, respect and emotional support; layout quality and up-to-date facilities in innovative healthcare goods for your health needs; and healthcare providers' professional appearance and presentation in innovative healthcare services. These results are justified based on the high mean scores of 3.68, 3.73, 3.75, 3.73, 3.64, 3.65, 3.58, 3.58, 3.62 and 3.71 with corresponding standard deviations of 0.88, 0.81, 0.90, 0.88, 0.92, 0.94, 0.89, 0.87 and 0.87 respectively. However, the findings show an overall positive influence of service quality in healthcare service on outpatient satisfaction in Lagos State.

Table 5: Mean and standard deviations on innovative healthcare service quality and outpatient satisfaction

	N	**Mean**	**Std. Deviation**
How would you rate the quality of innovative healthcare services (e.g. telemedicine, mobile health Apps, etc.) for your health needs?	317	3.6819	.88298
How would you rate the quality of innovative healthcare goods (e.g. smartwatches, fitness trackers, blood pressure monitors, etc.) for your health needs?	317	3.7305	.80714
How responsive are innovative healthcare goods for your health needs?	317	3.7493	.90298
How responsive are innovative healthcare services for your health needs?	317	3.7251	.87604
How would you rate your trust and confidence in innovative healthcare goods for your health needs?	317	3.6442	.89297

How would you rate the privacy and confidentiality of your information in innovative healthcare services?	317	3.6523	.91555
How empathetic is your healthcare provider to individualized attention and actively listening to your health needs?	317	3.5849	.94451
How empathetic is your healthcare provider to respect and show emotional support for your health needs?	317	3.5849	.89151
How would you rate the layout quality and up-to-date facilities in innovative healthcare goods for your health needs?	317	3.6173	.86937
How would you rate healthcare providers' professional appearance and presentation in innovative healthcare services?	317	3.7116	.87014

Source: Field work

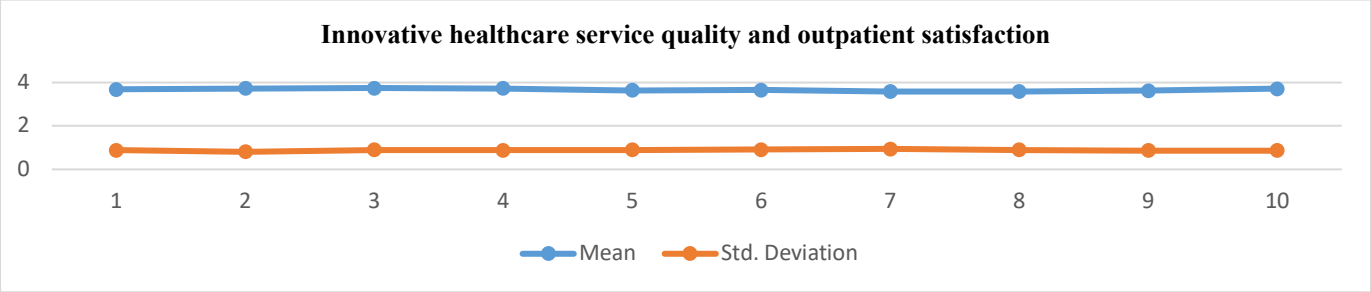

Figure 2: Innovative healthcare service quality and outpatient satisfaction

6.0. Testing of Hypotheses

Table 6 summarizes the regression analysis on innovative healthcare marketing communication and outpatient satisfaction. Prescription management, co-value creation and telemedicine were used as the independent variable to test the outcome of outpatient satisfaction. The coefficient of determination R^2 value of 0.944 indicates that the dimensions of innovative healthcare marketing communication contribute 94.4 percent variation in outpatient satisfaction. The adjusted R^2 value of 0.944 indicates no difference with R^2. The model accounts for a high level of fitness and the actual independent variables that predict the dependent variable. However, the R-value of 0.972 indicates a strong and positive relationship between the variables. Based on the standardized coefficient (β), it was found that co-value creation (β = 0.397, t=8.268, p<0.05) and telemedicine (β = 0.479, t=7.746, p<0.05) significantly predicted outpatient satisfaction. On the other hand, prescription management (β = 0.108, t=1.411, p>0.05 at 0.159) was insignificant despite having a positive influence based on the evidence from the standardized coefficient at β = 0.108.

The constant (1.177) is the predicted value of outpatient satisfaction when all independent variables (x_1, x_2, and x_3) equal zero. It represents the baseline level of outpatient satisfaction without prescription management, co-value creation, or telemedicine efforts. The coefficient for prescription management ($\beta_1 x_1 = 0.108$) indicates that outpatient satisfaction is expected to increase by 0.108 units for each unit increase in prescription management efforts, assuming other factors remain constant. This suggests that more extensive prescription management efforts are associated with higher levels of outpatient satisfaction. The corresponding p-value (p<0.159) indicates that the statistical significance is not as high as the other two. The coefficient for co-value creation ($\beta_2 x_2$ = 0.397) implies that outpatient satisfaction is expected to increase by 0.397 units for each unit increase in co-value creation activities, while other factors remain constant.

This suggests that increased co-value creation efforts positively correlate with outpatient satisfaction. The coefficient for telemedicine (β_3x_3 = 0.479) suggests that outpatient satisfaction is expected to increase by 0.479 units for each unit increase in telemedicine, holding all other factors constant. This implies that increased telemedicine efforts are positively associated with higher outpatient satisfaction. Meanwhile, the F-sig., P-value (.000) < 0.05 indicates that all three variables identified as innovative healthcare marketing communication components (i.e. prescription management, co-value creation, telemedicine) were found to have a statistically significant positive influence on outpatient satisfaction. Since two of the three components of innovative healthcare marketing communication significantly influence outpatient satisfaction, the hypothesis (H_0), which stated that innovative healthcare marketing communication does not have a significant influence on outpatient satisfaction in Lagos state, Nigeria, is hereby rejected. The alternative hypothesis (H_1) stating that innovative healthcare marketing communication significantly influences outpatient satisfaction in Lagos state, Nigeria, is thus accepted.

Table 6: Regression analysis of innovative healthcare marketing communication and outpatient satisfaction

Model 1	**ß**	**βeta**	**t-value**	**p-value**	**R**	**R^2**	**F-Stat**	**Adj R^2**	**F-sig**
(Constant)	1.177		23.261	.000	0.972	0.944	2076.3	0.944	0.000
Prescription Management	.079	.108	1.411	.159					
Co-Value Creation	.342	.397	8.268	.000					
Telemedicine	.332	.479	7.746	.000					

Model 1: Predictors (Constant), Prescription Management, Telemedicine, Co-Value Creation

Dependent variable: Outpatients Satisfaction

Table 7 summarizes the regression analysis on healthcare service quality and outpatient satisfaction. Service reliability, responsiveness, assurance, empathy, and tangibility were used as the independent variable. The coefficient of determination R^2 value of 0.955 indicates that the dimensions of service quality in healthcare contribute 95.5 percent variation in outpatient satisfaction. The adjusted R^2 value of 0.954 indicates no large difference with R^2. The model accounts for a high level of fitness and the actual independent variables that predict the dependent variable. The R-value of 0.977 indicates a strong and positive relationship between the variables. Based on the standardized coefficient (β), it was found that service reliability (β = 0.374, t=5.882, p<0.05), service responsiveness (β = 0.121, t=2.295, p<0.005), service empathy (β = 0.333, t=6.795, p<0.05) and service tangibility (β = 0.292, t=3.650, p<0.05) significantly predicted outpatient satisfaction. Service assurance (β = -0.132, t=1.664, p>0.05 at 0.97) was insignificant and weak with negative influence based on the evidence from the standardised coefficient at β = -0.132.

The constant (0.839) is the predicted value of outpatient satisfaction when all independent variables (x_1, x_2, x_3, x_4, and x_5) equal zero. It represents the baseline level of outpatient satisfaction without service reliability, service responsiveness, service assurance, service empathy, or service tangibility efforts. The coefficient for service reliability (β_1x_1 = 0.374) indicates that for each unit increase in service reliability efforts, outpatient satisfaction is expected to increase by 0.374 units, assuming other factors remain constant. This suggests that more extensive service reliability efforts are associated with higher levels of outpatient satisfaction. The coefficient for service

responsiveness (β_2x_2 = 0.121) implies that outpatient satisfaction is expected to increase by 0.121 units for each unit increase in service responsiveness activities, while other factors remain constant. This suggests increased service responsiveness efforts are positively associated with higher outpatient satisfaction. The coefficient for service assurance (β_3x_3 = -0.132) suggests that for each unit decrease in service assurance, outpatient satisfaction is expected to decrease by 0.132 units, holding all other factors constant.

A decrease in service assurance may slightly impact on outpatient satisfaction. The coefficient for service empathy (β_4x_4 = 0.333) indicates that outpatient satisfaction is expected to increase by 0.333 units for each unit increase in service empathy efforts, assuming other factors remain constant. This suggests that more extensive service empathy efforts are associated with higher levels of outpatient satisfaction. The coefficient for service tangibility (β_5x_5 = 0.292) implies that outpatient satisfaction is expected to increase by 0.292 units for each unit increase in service tangibility, while other factors remain constant. This suggests that increased service tangibility efforts positively correlate with higher outpatient satisfaction.

The F-sig., P-value (.000) < 0.05 indicates that all the five variables identified as service quality components (i.e. service reliability, service responsiveness, service assurance service empathy and service tangibility) were found to have a statistically significant positive influence on outpatient satisfaction. Since four of five components of service quality in healthcare significantly influence outpatient satisfaction, the hypothesis (H_0), which stated that there is no specific factor of service quality in healthcare service that influences outpatient satisfaction in Lagos state, Nigeria, is hereby rejected. The alternative hypothesis (H_1), which stated that there is a specific factor of service quality in healthcare service that influences outpatient satisfaction in Lagos state, Nigeria, is thus accepted.

Table 7: Regression analysis on factors of service quality in healthcare service and outpatient satisfaction

Model 1	**ß**	**Beta**	**t-value**	**p-value**	**R**	**R^2**	**F-Stat**	**Adj R^2**	**F-sig**
(Constant)	.839		22.785	.000	0.977	0.955	1532.1	0.954	0.000
Service Reliability	.306	.374	5.882	.000					
Service Responsiveness	.090	.121	2.295	.022					
Service Assurance	-.100	-.132	-1.664	.097					
Service Empathy	.256	.333	6.795	.000					
Service Tangibility	.234	.292	3.650	.000					

Model 1: Predictors (Constant), Service Tangibility, Service Empathy, Service Responsiveness, Service Reliability, Service Assurance

Dependent Variable**:** Outpatients Satisfaction

7.0 Discussion of Findings

The study attempts to understand how innovative healthcare marking communication and healthcare service quality predicts hospital outpatient satisfaction. The study shifts from the traditional understanding of innovative healthcare practices and hospital patients' satisfaction to a more specific emphasis on hospital outpatient satisfaction and experiences. Understanding these issues in Nigeria, particularly from selected modern care hospitals in Lagos State, offers a rich explanation of innovative healthcare practices as a modern healthcare strategy for improving hospital outpatient satisfaction. The study found a positive influence of innovative healthcare marketing communication on outpatient satisfaction. The use of mobile health Apps (e.g., Flo, Fooducate, GoogleFit, SmartBP, MediSafe, MyTherapy, etc.) for health management; use of wearable health devices (e.g., smartwatches, fitness trackers, blood pressure monitors, etc.) for health monitoring; scheduling of healthcare appointment online to consult healthcare provider; use of online video conference to converse with healthcare provider; and remote healthcare consultation service on user's experience of health innovations have all been fairly high. This finding corroborates the study Nembhard *et al.,* (2023) and Fan *et al*., (2022) that the growing interest in digital health has made marketing communication a practical element with a positive impact on achieving competitiveness in the industry.

Prescription management was statistically insignificant with the possibility that it may not significantly influence outpatient satisfaction. Although prescription management is a crucial element in innovative healthcare service activities, the increase in co-value creation and telemedicine efforts are linked to greater outpatient satisfaction based on the statistically significant positive coefficient for the variables. Lumish *et al*., (2022) and Russo and Cristina (2020) similarly argued this view that the prescription system in the contemporary healthcare service is characterized by co-value creation to achieve stakeholders' satisfaction.

Among other factors, there was a negative coefficient discovered for service assurance which reveals that absence of service assurance will negatively influence outpatient satisfaction. Although, the other factors in these findings show a positive coefficient for service reliability, indicating that better service reliability is linked to higher outpatient satisfaction. Service responsiveness has a positive coefficient, indicating that improved responsiveness relates to greater outpatient satisfaction. The summary of the regression shows that service quality in healthcare service significantly influences outpatient satisfaction. Among these factors, there was a negative coefficient discovered for service assurance which reveals that low service assurance will negatively influence outpatient satisfaction. This was also suggested in the study of Sadiq *et al*., (2019) and Fattahi *et al*., (2022) that clinical healthcare has no room for error regardless of how low the rate is due to the fragility in human health and wellness. A perceived service failure in the healthcare system could cost a life despite the weight of the levity (Agarwal *et al*., 2020).

Although, the other factors in these findings show a positive coefficient for service reliability indicating that better service reliability is linked to higher outpatient satisfaction. Service responsiveness has a positive coefficient, indicating that improved responsiveness relates to greater outpatient satisfaction. It is critical to respond to patient requirements at appropriate times. The positive coefficient for service empathy emphasizes the significance of empathy in healthcare. Increased empathy among healthcare personnel can lead to increased outpatients' satisfaction. Service tangibility has a positive coefficient indicating that enhancing the tangible features of service delivery can improve outpatient satisfaction. This finding is supported by the study of Bocking *et al*., (2022) and Fleming *et al*., (2023) which emphasised the significance of that service quality for wellness

and wellbeing in the healthcare system.

8.0 Conclusion

Innovative healthcare is considerably luxurious due to the Nigerian economic downturn, low health organisation capability, and inadequate facilities to effectively maintain dual service operations on physical and online. The study concluded that there is little doubt that effective healthcare marketing communication significantly improves outpatient satisfaction. It is essential to note that there is a significant obstacle due to the high cost of digital health channels and their management, which is made worse by Nigeria's economic problems, as well as the inefficient organisational capacity and adequate facilities to effectively maintain dual service operations (both physical and online). Healthcare patients have low users' trust in clinical services such as accurate diagnosis, availability of medical personnel, reliable mobile network service, measurable risk and service assurance. The finding underscores how important it is for healthcare practitioners to put their patients' trust as top priority.

Considering the inefficient health organisation capability and adequate facilities to maintain dual service operations physically and online effectively, the study recommends that healthcare organisations liaise with investors to generate funds to develop innovative healthcare systems. This would help the organisation to fund a business subsidiary on innovative healthcare goods and services while maintaining a consistent operation to meet market demand. The study recommends appropriate users' trust in clinical services such as accurate diagnosis, availability of medical personnel, reliable mobile network service, measurable risk and service assurance. Healthcare organisations should endeavour to strengthen their healthcare service quality while ensuring that only quality wearable healthcare gadget is acquired and sold to the right user. This also includes the healthcare management's ability to design an operational structure capable of assigning virtual-based medical practitioners to work irrespective of their specialization. This structure would also include providing accurate and appropriate review and information on the patient's state of health before, during, and after consultation, particularly under the online consultation service. This approach would ensure the right personnel are always available on customers' requests for online consultation.

Declaration of Conflicting Interests.

The author state there are no conflicts of interest concerning this article's research, authorship, or publication

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