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A STUDY ON MEASURING E-SERVICE QUALITY OF ONLINE E – PHARMACY.

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ABSTRACT

There is growth of E-pharmacy/Online medicine post covid. The purpose of the study is to examine E-service quality of E-pharmacy and give appropriate suggestions to improve the overall E-service quality of E-pharmacy. Parametric t-test is applied to evaluate significant gap analysis of various dimensions of E-service quality. It is seen that customers are satisfied towards Application Design, Reliability, Responsiveness and Information of the portal and customers are not satisfied towards security dimensions of the portal. Further studies can be conducted by building a Structural equation model to evaluate impact of E-service quality on customers satisfaction and customers loyalty.

KEYWORDS – *E-Pharmacy, E-Service quality, Online medicine*

INTRODUCTION

Health is an important aspect of everyone's life. Without proper health, there is no life beyond. In that context, there has been a rapid growing popularity of delivery of healthcare services via the Internet. In the traditional manner, medical stores are the very source of procuring medicines, but through changing times and everything becoming digital, the medical and healthcare stores and services have also adopted the digital route. The healthcare services have started step by step and turning from offline-to-online nature.

The healthcare industry is one of the widest growing industries all around the world and after the COVID-19 has hit, it has been growing on a more rapid scale. The pandemic has hit major industries on a negative note, but the healthcare industry has witnessed a major rise and has been rapidly growing. The healthcare industry has seen a sudden surge in its market and is also being expected to surge by more three-fold to Rs 8.6 trillion by the end of 2022. The pandemic has led to a major reliance over online services and mobile technologies in the healthcare platform. Brands such as Pharmeasy, Netmeds and Practo has already made a firm foot over making their presence before the pandemic as well and during the pandemic had become meaningful to the consumers. The consultations are now available online and also due to the outbreak of COVID-19, purchase of medication has become important.

A PROPOSED SCALE FOR MEASURING E-SERVICE QUALITY:

The reviews that have been extracted from the earlier studies of research, it has been examined and found a new model or a new scale. The new scale recognizes a new scale for SERVQUAL dimension which has added a few newer dimensions that recognize e-service portals. Each dimension had been illustrated and explained through different accreditations.

Application Design

Designing of the Application is among the most significant tangible components from SERVQUAL scale that includes the tangible, physical components related to a service like equipments, premises, personnel and material for communication. As it is seen, that, the services provided by the e-service are managed with the help of online portal, main focus is put on physical, tangible element that comprises the website designing, for the organization which provides acre for users directly to company, helps them to enable the process of purchase. Instances if the application designing of the company is not proper and lacks reliability then it may be subjected to a negative impression in the consumers mind that could be leading to customers switching to

other firms. The application designing is being referred to as the first step through which the company tries to establish a relation with the customer and in gaining their confidence.

Reliability

Reliability is another significant dimensions and tangible component related to the SERVQUAL scale that represent the organization's capability to deliver what they promise they had made to the consumers at the time of offering their products and services. This is among the most important dimension of SERVQUAL scale. A company could only be successful, if their consumers trust them with delivering the correct and accurate services, which the company promised them at the time of sale through the online portal.

Responsiveness

It is another of the most important tangible component of the SERVQUAL scale which is related to witnessing the readiness of the organization in relation to solving complaints and queries as well as in providing quick services to them. The factor of responsiveness with relation to the e-service is comparatively narrow to the SERVQUAL scale. The firm should always be in a position for providing quick services to customers and seeking quick redressal to their complaints and queries witnessed during online purchase.

Security

It is another of the most important tangible component of the SERVQUAL scale which deals with the abilities of the organization in building trust and confidence among their consumers via application of knowledge as well as etiquettes. This will help in reducing the doubt's, dangers as well as risks that would come up during the processing of the service. Customers always have the fear of facing risks at the time they deal with anything online most probably regarding to inaccurate and illegal use of personal and financial information. Thus, it is a significant constraint that leads in customers not using the online portals for the purpose of purchasing goods on a more frequent basis.

Information

It is another of the most important tangible component of the SERVQUAL scale as the services that are provided on the online platform is also considered information oriented. It's an information driven process. The availability of information is considered crucial while making any decisions by the consumers. As the consumers are not able to physically verify the things they are looking for and also anything related to the company. Consumers are needed to have proper information while making decision related to purchase and conducting of self-service.

The importance of the study elaborates important scope to enhance the healthcare services and facilities from the point of view that spending for healthcare has increased the overall GDP percentage. Brands such as Pharmeasy, Netmeds, Practo and 1mg.com is surged from 45 -50% with respect to visits and search engine has increased by about 58% after lockdown. The growing popularity of this newer category had also witnessed the emergence of e-commerce giants such as Amazon who have recently had come into this space by launching Amazon Pharmacy.

REVIEW OF LITERATURE

1. Hadwich, K. et al (2010) examined in the research paper relates to the quality of health services provided that would impact as an important dimension determining the consumer's satisfaction towards health services and their behavioral intentions. The main aim of conducting this research is to investigate the requirement for e-health services and to develop a model that would help in measuring to analyze a construct model for "perceived e-health service quality." The model thus apply the C-OAR-SE technique to develop the scale which has been proposed by Rossiter. The focus of the research is on the relationship between physician and patient which forms a significant dyad with relation to providing the healthcare services. The study involves different in-depth interviews conducted in 2 parts in Switzerland; one where there are 6 patients who will be raters and second includes 2 experts from the healthcare who will be deemed as judges. The e-health service quality construct has been explained via an abstract formative objects and explains it in by listing 13 items, that are; accessibility, competence, information, usability/user friendliness, security, system integration, trust, individualization, empathy, ethical conduct, ability to respond, degree of performance and reliability.

2. Lankton, N. et al (2007) mentioned in study about satisfaction of customers with relation to e-services that are used as a measure for calculating the match among customer's performance perceptions and their initial expectations. The research applies the cognitive theory as the base for proposing past experiences i.e. knowledge, participation and Internet experiences of the customer, self-efficacy and the affective factors such as enjoyment and prior satisfaction influences the e-health service expectations. The researchers test the model with direct relation with direct-effects model of satisfaction in patients who have been registered for the e-health service. The findings show that the particular antecedents explain 39% of changes in the level of satisfaction. The conclusions derived shows that this antecedent form a significant part in fulfilling the expectations of the patients and thus are able to provide a prior guidance towards developing of a successful e-health service.

3. Sánchez-Pi, N. et al (2010) pointed out in the research about proposing multi-agent home care system describing the way agent's are coordinating with the decisions taken by them for providing e-services to the patients after hospitalization at their homes. The research focuses on adapting a system for evaluation which was developed previously for supporting challenges for e-Health environment as well as for multi-user evaluation. The specified methods of evaluation both offline and online provides users which includes the patient, relatives and kin of the patients and the professionals in the healthcare services to provide their feedback in the system.

4. **Mutingi, M. (2018)** conducted in the research study about the awareness being brought out among the healthcare service providers for to improve the experience of the customer by making provision for customer-centric services, for making it available on the online platforms the healthcare services which would focus on customer-centric metrics. In the research, an important examination of the prevailing evaluation initiatives has been presented through the point of view with respect to e-health service. The main area of the e-health services is being examined for determining the dimensional qualities that influences the customer experiences. Through the research, customer-centric evaluation framework is being proposed, which comprises 4 quality scales for e-health services. This model provide platform for e-health services for the purpose of continuous improvement.

5. Preaux, J. et al (2022) surveyed in the research study about the objective of developing a theoretical model of Service Quality for the purpose of Direct-To-Consumer consultations regarding telemedicine. This would help in changing the care system for much better, it becomes important for creating appropriate tools for measurement for collection and analyzing the perceptions of the patients about the Service Quality for identifying the pitfalls in services and encouraging a faster adoption. The review of literature regarding health as well as e-Service Quality model was studied for identifying suitable instruments for research. The study used 60 studies for the research. The findings from the research concluded with 3 major points: 1) the present models for Service Quality is not adequate, it doesn't covers every dimension of DTC telemedicine services; 2) LeRouge et al.'s quality model for Telemedicine service encounter being applied as reference models, but is not able in transposing the study's context; and, 3) the Service Quality model of DTC telemedicine is interdisciplinary.

6. Yaya L. et al (2012) examined in the study with relation to seek a holistic undertaking related with a comprehensive review of existing state of the E-S-QUAL model. The research study involves information which was being collected via applying a search process which was exhaustive in nature, wherein the search engines and the databases was applied such as ScienceDirect, Emerald Insight, Google Scholar, EBSCOhost and ABI/INFORM. Through the research, the results reveal the effectiveness of the scale in capturing the main essence of e-service quality in about 11 countries as well as in various e-service settings as well.

7. Bhatt H. (2020) pointed out in present study about 8 dimension of e-SQ model in predicting the service experiences of the consumers. For the study, primary survey was being conducted through which a structured questionnaire was prepared in an attempt in identifying the effects of the quality dimensions of e-service on consumers service experiences. Questionnaire was being examined through application of the sample t test, multiple regression analysis and the ANOVA one way test. The conclusions derived from the study show that the variables of e-SQ like accessibility, perceived content applicability, tangibility, easiness in use, responsiveness, tangibility, credibility, assurance as well as attentiveness & security is showing positive effect over the quality of services.

8. Shankar A. et al (2020) highlighted in research paper related to exploring problems related to process of developing of the scale and at the same time using the content analysis of the literature related to e-SQ. The research also analyses in identifying the important dimension of the e-SQ measurement scale through different aspects of e-services. The study shows that the main focus should be made upon application designing, security, reliability, privacy, efficiency, system availability and the easiness in use. The research focuses on providing a proper framework related to the antecedents and the consequence of the scale for helping the researchers as well as the managers to evaluate e-SQ.

Objectives

1. To analyze E-service quality of E-Pharmacy
2. To give appropriate suggestions to improve the overall e-service quality of E-pharmacy

Hypothesis of the Study:

Hypothesis 1

Ho: There is no significant difference in perceived and expected score of application design of E - Pharmacy

H1: There is a significant difference in perceived and expected score of application design of E - Pharmacy

Hypothesis 2

Ho: There is no significant difference in perceived and expected score of Reliability of E - Pharmacy

H1: There is a significant difference in perceived and expected score of reliability of E - Pharmacy

Hypothesis 3

Ho: There is no significant difference in perceived and expected score of responsiveness of E - Pharmacy

H1: There is a significant difference in perceived and expected score of responsiveness of E - Pharmacy

Hypothesis 4

Ho: There is no significant difference in perceived and expected score of security of E - Pharmacy

H1: There is a significant difference in perceived and expected score of security of E - Pharmacy

Hypothesis 5

Ho: There is no significant difference in perceived and expected score of information of E - Pharmacy

H1: There is a significant difference in perceived and expected score of information of E - Pharmacy

Research Methodology:

The existing research study is based upon descriptive research design.160 users of telemedicine using non probability purposive sampling technique have been selected. (Faul ,F (2019) at effect size of 0.5, alpha of 5%,and power 95% the minimum required sample size for paired t-test =54).Both primary and secondary data collection sources have been used for the current study. The tool used for the current study is SPSS and technique used for the current study is paired t-test.

Data analysis and interpretations

Table No. 1: Reliability Analysis

SERVICE QUALITY	EXPECTED	PERCEIVED
Application Design/ Website	0.745	0.782
Reliability	0.768	0.789
Responsiveness	0.755	0.807
Security	0.800	0.885
Information	0.744	0.787

All the values of the Cronbach's Alpha as stated above are more than 0.70 which indicates high level of reliability.

Table No. 2: Gap Analysis- Application Design/ Website.

	Expected		Actual		GAP	t- Value	p-Value
Service quality	Mean	SD	Mean	SD	(Perceived Mean- Expected Mean)		
Application is Attractive and well Structured	2.4557	1.05972	5.1899	1.01370	2.7342	-17.677	0.000
Application is Well Managed	3.0253	0.99968	5.3767	1.27404	2.3514	-16.460	0.000
Application is Compatible	3.3291	1.20598	5.2025	1.10221	1.8734	-8.353	0.000
Overall	**8.8101**	**3.26538**	**15.7691**	**3.38995**	**6.959**	**-42.49**	**0.000**

Source: Collected from primary data

There is a high level of customer satisfaction in case of application design as the overall gap is **6.959**. From the above table it can be seen that expected score is less as compared to perceived score. Thus, user or taxpayers has high satisfaction level towards the application design of online medical stores.

Table No. 3: Gap Analysis- Reliability

	Expected		Actual		GAP	t- Value	p-Value
Service quality	Mean	SD	Mean	SD	(Perceived Mean- Expected Mean)		
Promise made to the users is not breached	2.577	1.0741	5.2089	1.0175	2.6319	-8.521	0.000
Application is open and available 24X7	2.358	1.0478	5.2180	1.1105	2.8600	-8.410	0.000
There is accuracy in service delivery.	2.584	1.0825	5.2980	0.85400	2.714	-8.250	0.000
Overall	**7.519**	**3.2044**	**15.7249**	**2.9820**	**8.2059**	**-25.181**	**0.000**

Source: Collected from primary data

There is a high level of user's satisfaction in case of Reliability as the overall gap is **8.2059**. From the above table it can be seen that expected score is less as compared to perceived score. Thus, the user has high satisfaction level towards the reliability dimension of online medial stores.

Table No. 4: Gap Analysis- Responsiveness

	Expected		Actual		GAP	t- Value	p-Value
Service quality	Mean	SD	Mean	SD	(Perceived Mean- Expected Mean)		
Quick response is given on users Queries.	3.3671	1.68079	5.1519	0.87835	2.95558	-8.353	0.000
Quick redressal on users' problems (return of medicine)	3.1139	1.75042	5.3418	0.86062	2.2279	-8.834	0.000
There is Proper and sufficient information regarding contacts and performance delivery.	2.9241	1.76702	5.3165	0.94114	2.3924	-10.584	0.000
Overall	**9.4051**	**5.19823**	**15.8101**	**2.68011**	**7.57588**	**-27.771**	**0.000**

Source: Collected from primary data

There is a high level of user's satisfaction in case of Responsiveness as the overall gap is **7.57588**. From the above table it can be seen that expected score is less as compared to perceived score. Thus, the application needs to maintain same level of service in future to increase users base.

Table No. 5: Gap Analysis- Security. Negative

	Expected		Actual		GAP	t- Value	p-Value
Service quality	Mean	SD	Mean	SD	(Perceived Mean- Expected Mean)		
Application helps in protecting the user's personal information.	5.105	1.1950	3.528	0.89935	1.577	18.805	0.000
Application helps in Protecting the Banking details of the users.	5.208	1.1754	3.579	0.78508	1.629	19.206	0.000
Safety and security of the application.	5.2690	1.1825	3.122	0.94201	2.147	19.019	0.000
Overall	**15.582**	**3.5529**	**10.229**	**2.62644**	**(5.3530)**	**57.03**	**0.000**

Source: Collected from primary data

There is a high level of user's satisfaction in case of Security as the overall gap is negative **5.3530**. From the above table it can be seen that expected score is more as compared to perceived score. Thus, online medical stores are not secure as per above analysis.

Table No. 6: Gap Analysis- Information.

	Expected		Actual		GAP	t- Value	p-Value
Service quality	Mean	SD	Mean	SD	(Perceived Mean- Expected Mean)		
The Application provides up to date information.	2.0127	0.79249	5.5696	0.61360	3.5569	-29.191	0.000
Application provides information which is easier to comprehend.	2.3924	0.93942	5.5823	0.63261	3.1899	-25.536	0.000
Application provides correct and reliable and piece of information.	2.6709	0.79617	5.6582	0.63823	2.9873	-27.833	0.000
Overall	**7.0759**	**2.70808**	**16.8101**	**1.88444**	**9.7342**	**-82.56**	**0.000**

Source: Collected from primary data

There is a high level of user satisfaction in case of Information as the overall gap is **9.7342**. From the above table it can be seen that expected score is less as compared to perceived score. Thus, it can be concluded that information on the application is correct, accurate and updated.

Conclusion

The overall expected mean score in case of all dimension of e-service quality except security is less as compared to perceived mean score. Thus, E-Pharmacy need to focus on security so that sensitive information provided by the customers are not leaked. This can be done with the help of regularly reviewing security measures, deploy professional hackers and develop security practices. This will help to expand the user base and users will feel more friendly. Positive response received from customer assures that their customers are willing to use telemedicine in future if they continue to meet expectations. Vital data of the users must not be shared by the E-pharmacy to the hospitals/institutes etc. Also Financial data of the users must be protected through various security measures by the E-pharmacy firms.

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