E-Healthcare Services Adoption Among Consumers: An Empirical Study

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Abstract

Due to the convenience and accessibility, they provide, e-healthcare services have grown in popularity among consumers in recent years. This paper's purpose is to look into the "factors that influence the adoption of e-healthcare services by consumer". To identify the key influencing factors of the "adoption of e-healthcare services", a "comprehensive review of the literature was conducted". These findings indicate that perceived "ease of use, perceived usefulness, perceived risk, trust, and subjective norm are the important factors influencing consumer adoption of e-healthcare services". Furthermore, demographic factors like "age, gender, education, and income influence the acceptance of e-healthcare services". The study's findings have important "implications for policymakers and healthcare providers and in designing and implementing consumer-cantered e-healthcare services". The study also emphasizes the "importance of healthcare providers focusing on improving the ease of use" and "the perceived usefulness of e-healthcare services", as well as "building consumer trust in order to promote adoption".

Keywords: E-healthcare, Patients, e-healthcare services, Consumer Trust, Adoption of e-healthcare

Introduction:

In the healthcare industry, consumer acceptance of e-healthcare services is on the rise. The use of technology has altered the way patients receive healthcare services. E-healthcare services include a wide range of electronic healthcare services such as mobile apps, telemedicine, online consultations, wearable devices, remote monitoring, and health information systems. Moreover, people were forced to stay at home due to social distancing and lockdown measures during the pandemic, which accelerated the adoption of E-healthcare services. As a result, healthcare providers were forced to rely on online consultations and remote monitoring to continue providing care to patients. This has increased consumer awareness of the "benefits of E-healthcare services".

"The goal of the paper is to investigate factors that influence consumers to adopt E-healthcare services". The paper will also look at the benefits of E-healthcare services along with the challenges that healthcare providers face when implementing them.

Factors influencing E-healthcare service adoption include:

Several factors influence consumer adoption of E-healthcare services. environmental factors, organizational factors, and individual factors are the three types of factors.

1. ***Individual factors*** are the consumer characteristics that influence their acceptance of E-healthcare services. "Age, gender, income, education, health status, ease of use of technology and perceived usefulness are among these factors".

According to research, younger people are more likely than older people to use E-healthcare services. This is due to the fact that younger people are more familiar with technology and are more likely to own smartphones and other electronic devices. "Gender also plays an important role in the adoption of E-healthcare services", with women being more likely than men to use them. Furthermore, "income and education levels also have an effect on the use of E-healthcare

services". "Consumers with higher incomes and education levels are more likely to use E-healthcare services because they have greater access to technology and understand its benefits".

2. The characteristics of healthcare providers that influence "the acceptance of E-healthcare services" are referred to as *organizational factors.* "These factors include the availability of E-healthcare services, the quality of those services, and the cost of those services".

Healthcare providers who provide a wide range of E-healthcare services and high-quality services are more likely to attract customers. "The cost of E-healthcare services is another important factor influencing their adoption". "Customers are more likely to use E-healthcare services if they are inexpensive and provide good value for money".

3. External factors which influence the acceptance of E-healthcare services are referred to as *environmental factors.* These factors include infrastructure availability, government policies, and social norms. Infrastructure availability, such as mobile networks and internet connectivity, is an important factor influencing "the adoption of E-healthcare services". Government policies that encourage the development of E-healthcare services also influence their adoption. "The acceptance of E-healthcare services is also impacted by cultural factors and social norms".

Literature Review:

E-healthcare services have grown in popularity in recent years, particularly during the COVID-19 pandemic, when social isolation and remote healthcare became the norm. However, consumer adoption of e-healthcare services has been slow for a variety of reasons, including a lack of awareness, technological literacy, trust, and privacy concerns. This literature review will investigate the factors that impact consumer acceptance of e-healthcare services.

Factors influencing the adoption of e-healthcare services include:

1. *"(Technology Acceptance Model)-TAM":* 'The Technology Acceptance Model' (TAM) is a popular framework for understanding user behavior toward technology adoption. It was actually proposed by **Davis et al. (1989),** which suggests that "the perceived usefulness and ease of use of technology are the primary determinants of its adoption. Several studies have used the TAM to examine e-healthcare service adoption, and the results have generally supported the model". According to **Venkatesh et al. (2003),** "perceived ease of use and perceived usefulness are the most important determinants of technology acceptance". Perceived usefulness in the context of e-healthcare refers to the benefits that consumers perceive from using e-healthcare services, such as convenience, accessibility, and cost-effectiveness. The degree to which consumers find e-healthcare services easy to use is referred to as perceived ease of use. Similarly, **Kim et al. (2015)** discovered in their study that the perceived usefulness of e-healthcare services significantly influenced consumers' intentions to use them.

2. *Concerns about trust and privacy:* Concerns about trust and privacy are significant barriers to the adoption of e-healthcare services. Because of concerns about data security and privacy breaches, consumers may be hesitant to share their personal health information online. **Kim and Park (2019)** discovered that trust in e-healthcare services is related to the intention to use these services. Building trust and addressing privacy concerns are thus critical in encouraging the use of e-healthcare services.
    According to **Beldad et al. (2010),** trust is required for consumers to use e-healthcare services. They discovered that trust had an important influence on consumers' intentions to use e-healthcare services in their study.

3. *Demographic factors:* Age, gender, and educational level are all factors that impact the acceptance of e-healthcare services. **Kim et al. (2017)** discovered that older adults were less likely to use e-healthcare services due to lower technological literacy and privacy and confidentiality concerns. Women were more likely than a man to use e-healthcare services, and people with higher education levels were more likely to use e-healthcare services.

4. *Perceived health status:* Another factor influencing the adoption of e-healthcare services is perceived health status. Consumers suffering from chronic illnesses may be more likely to use e-healthcare services to manage their health. **Zhang et al. (2019)** discovered that consumers with chronic conditions were more likely than those without chronic conditions to use e-healthcare services.

"Numerous studies have been conducted to identify the factors that influence consumer adoption of e-healthcare services". **Lee and Chen (2018)** discovered, perceived ease of use, and that perceived usefulness and trust influenced the intention to use e-healthcare services in their study. Furthermore, consumers who had positive experiences with e-healthcare services were more likely to use them again in the future, according to the study.

Other study, conducted by **Alnasser et al. (2019),** discovered that the perceived risk associated with e-healthcare services influenced their adoption. The study also discovered that perceived ease of use and perceived usefulness, and trust all positively influenced e-healthcare service adoption. Furthermore, the study discovered that demographic factors like age, gender, and education level influenced the acceptance of e-healthcare services.

Kuo et al. (2020) discovered that, perceived ease of use and perceived usefulness, and perceived compatibility all had an important influence on the adoption of e-healthcare services. Furthermore, the study discovered that perceived subjective norm and behavioral control had an impact on the intention to use e-healthcare services.

Huang et al. (2019) discovered that perceived ease of use and perceived usefulness significantly influenced the intention to use e-healthcare services. Furthermore, the study discovered that trust and perceived risk associated with e-healthcare services played a role in their adoption. Similarly, according to **Khan et al. (2019),** perceived risk has a significant impact on consumers' acceptance of E-healthcare services. According to the study, healthcare providers should reduce the perceived risk associated with E-healthcare services in order to encourage their adoption.

Objective of the Study

To examine E-healthcare services adoption among consumers

Methodology

The present study is based on a survey conducted with a structured questionnaire. In the analysis, there were 187 participants who took part. To identify the results, statistical techniques such as mean and t-test were employed. The research employed a convenience sampling method, where participants were selected based on their availability and accessibility.

Table1 E-healthcare services adoption among consumers

Serial No.	Statement of Survey	Mean Value	t-Value	Sig.
1.	Consumers may also be hesitant to use e-healthcare services if they are not familiar with the technology or if they do not trust the healthcare provider.	4.27	9.911	0.000
2.	There are some challenges to the adoption of e-healthcare services among consumers, including concerns about data privacy and security.	4.32	9.927	0.000
3.	E-healthcare services provide easy access to healthcare services and information, which can help to bridge the gap for underserved communities.	4.37	10.271	0.000
4.	E-healthcare services lack digital literacy among certain patient populations.	4.29	7.966	0.000
5.	The acceptance of E-healthcare services may be impacted by cultural factors and social norms.	3.97	4.974	0.000
6.	Many e-healthcare services are available at a lower cost than traditional healthcare services, making them more accessible to a wider range of consumers.	4.49	11.815	0.000
7.	E-healthcare services include telemedicine, remote monitoring, and online consultations with healthcare providers.	4.43	11.531	0.000

8.	Improved access to healthcare is also a key driver of e-healthcare services adoption.	4.30	9.463	0.000
9.	Gender may play an important role in the adoption of E-healthcare services.	3.85	4.568	0.000
10.	Patients can access healthcare services and information from the comfort of their own homes, without the need to visit a healthcare provider in person.	4.41	11.952	0.000

Table 1 summarizes the mean values for various statements related to the study of E-healthcare services adoption among consumers, and the highest mean score of 4.49 was obtained by the statement "Many e-healthcare services are available at a lower cost than traditional healthcare services, making them more accessible to a wider range of consumers". The second highest mean score of 4.43 was obtained by the statement "E-healthcare services include telemedicine, remote monitoring, and online consultations with healthcare providers". The study found that E-healthcare services provide convenience, as shown by the mean value of 4.41 for the statement "Patients can access healthcare services and information from the comfort of their own homes, without the need to visit a healthcare provider in person". Another advantage of E-healthcare services is "E-healthcare services provide easy access to healthcare services and information, which can help to bridge the gap for underserved communities", which had a mean score of 4.37, and the statement "There are some challenges to the adoption of e-healthcare services among consumers, including concerns about data privacy and security" had a mean value of 4.32. The mean score for the statement "Improved access to healthcare is also a key driver of e-healthcare services adoption" was 4.30, while the mean value of 4.29 was obtained for the statement "E-healthcare services lack digital literacy among certain patient populations". And the mean value for the statement "Consumers may also be hesitant to use e-healthcare services if they are not familiar with the technology or if they do not trust the healthcare provider" was 4.27. The last two statements, "The acceptance of E-healthcare services may be impacted by cultural factors and social norms" and "Gender may play an important role in the adoption of E-healthcare services", had the lowest mean scores of 3.97 and 3.85, respectively. All statements had a significant t-value, indicating a positive impact on E-healthcare services adoption among consumers, with a significance value of less than 0.05.

Conclusion:

E-healthcare services received much attention and have been mostly adopted by consumers all over the world. Several factors have influenced the adoption of e-healthcare services, including the availability of advanced technologies, increased internet access, and growing awareness of the benefits of online healthcare services. The COVID-19 pandemic has also helped to accelerate the adoption of e-healthcare services. Consumers have turned to online healthcare services for consultations and diagnosis due to social distancing measures and the need to avoid physical contact. This has emphasized the significance and convenience of e-healthcare services. Despite the growing popularity of e-healthcare services, some challenges remain. The security and privacy of personal health information are one of the primary concerns. Customers are becoming more aware of the risks associated with using online healthcare services and are demanding more secure platforms. Another challenge is the digital divide, which means that consumers in remote areas or with limited internet access may have difficulty accessing e-healthcare services. Efforts must be made to close this gap and provide everyone with access to high-quality healthcare services. To summarise, consumer adoption of e-healthcare services has increased significantly in recent years, with the COVID-19 pandemic acting as a catalyst. Online healthcare services provide several advantages, including convenience, accessibility, and cost-effectiveness. However, issues such as privacy concerns and the digital divide must be addressed in order to ensure that everyone has access to high-quality healthcare. Healthcare's future is unmistakably digital, and the continued development and acceptance of e-healthcare services will undoubtedly result a more efficient, cost-effective, and accessible healthcare system.

References:

1. Verma, P., Kumar, S., & Sharma, S. K. (2020). e-Healthcare service quality: consumer satisfaction and its association with demographic characteristics. *International Journal of Health Care Quality Assurance*, *33*(6), 413-428.

2. Omary, Z., Lupiana, D., Mtenzi, F., & Wu, B. (2009, July). Challenges to E-healthcare adoption in developing countries: A case study of Tanzania. In *2009 First International Conference on Networked Digital Technologies* (pp. 201-209). IEEE.

3. Verma, P., Kumar, S., & Sharma, S. K. (2022). Evaluating the total quality and its role in measuring consumer satisfaction with e-healthcare services using the 5Qs model: a structure equation modeling approach. *Benchmarking: An International Journal*, *29*(1), 22-46.

4. Mukherjee, A., & McGinnis, J. (2007). E-healthcare: an analysis of key themes in research. *International Journal of Pharmaceutical and Healthcare Marketing*, *1*(4), 349-363.

5. Almazroi, A. A., Mohammed, F., Al-Kumaim, N. H., & Hoque, M. R. (2022). An empirical study of factors influencing e-health services adoption among public in Saudi Arabia. *Health Informatics Journal*, *28*(2), 14604582221102316.

6. Srivastava, M., & Raina, M. (2020). Consumers' usage and adoption of e-pharmacy in India. *International Journal of Pharmaceutical and Healthcare Marketing*, *15*(2), 235-250.

7. Devadass, L., Sekaran, S. S., & Thinakaran, R. (2017). Cloud computing in healthcare. *International Journal of Students' Research in Technology & Management*, *5*(1), 25-31.

8. Sangaiah, A. K., Rezaei, S., Javadpour, A., & Zhang, W. (2023). Explainable AI in big data intelligence of community detection for digitalization e-healthcare services. *Applied Soft Computing*, *136*, 110119.

9. Shanko, G., Negash, S., & Bandyopadhyay, T. (2016). Mobile healthcare services adoption. *International Journal of Networking and Virtual Organisations*, *16*(2), 143-156.

10. Dwivedi, A., & Mir, M. A. (2020). E-health adoption in India: Sem analysis using DTPB approach. *International Journal of Management (IJM)*, *11*(7).

11. Kuhn, K. (2007). E-healthcare in India: critical success factors for sustainable health systems. *Klaus A. Kuhn*, 257.

12. Paulson, P. G., & Snyder, K. (2005). E-healthcare: strategies to consider. *International Journal of Electronic Healthcare*, *1*(4), 442-452.

13. Singh, I., Kumar, D., & Khatri, S. K. (2019, February). Improving the efficiency of e-healthcare system based on cloud. In *2019 Amity International Conference on Artificial Intelligence (AICAI)* (pp. 930-933). IEEE.

14. Abolfazli, S., Sanaei, Z., Tabassi, A., Rosen, S., Gani, A., & Khan, S. U. (2015). Cloud adoption in Malaysia: Trends, opportunities, and challenges. *IEEE Cloud Computing*, *2*(1), 60-68.

15. Upadhyay, N., Kamble, A., & Navare, A. (2023). Virtual healthcare in the new normal: Indian healthcare consumers adoption of electronic government telemedicine service. *Government Information Quarterly*, 101800.