

E-COMMERCE ADOPTION IN HEALTHCARE: OPPORTUNITIES AND CHALLENGES IN MADURAI DISTRICT

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Abstract

In the present digital era, the healthcare sector is undergoing significant changes with the introduction of e-commerce-based services such as online medicine purchase, digital consultation, and online booking of diagnostic services. These developments have the potential to improve accessibility, convenience, and efficiency in healthcare delivery for the people of Madurai District. However, the adoption and effective utilization of such online healthcare services remain uneven among different sections of the population. Many users continue to depend on traditional methods of accessing healthcare due to concerns about the authenticity and quality of medicines purchased online, fear of online payment risks, delays in delivery, lack of digital skills, and problems related to internet connectivity. Moreover, limited awareness and lack of trust in online healthcare platforms further restrict their widespread acceptance. There is limited empirical evidence on the level of awareness, usage patterns, opportunities, and challenges related to e-commerce adoption in healthcare in Madurai District. Hence, the present study seeks to analyze these issues and identify the factors influencing adoption in order to suggest suitable measures for improving the effective use of e-commerce healthcare services. The study is based on both primary and secondary data. To analyze the adoption of e-commerce in healthcare and its opportunities and challenges in Madurai District, 75 respondents were selected as the sample for the study using the convenient sampling method. The collected data were analyzed with the help of various statistical measures such as Percentage and Weighted average technique.

Key Words:E-commerce, Health Care, Opportunities and Challenges.

INTRODUCTION

The rapid growth of digital technologies has transformed the way services are delivered across various sectors, and healthcare is no exception. The emergence of e-commerce in healthcare has enabled people to access medicines, book diagnostic tests, consult doctors online, and schedule hospital appointments through digital platforms. These services offer greater convenience, time savings, and improved access to healthcare, especially for working individuals, elderly patients, and people living in semi-urban and rural areas. The increasing penetration of smartphones and internet connectivity has further accelerated the adoption of online healthcare services, making digital health platforms an important component of the modern healthcare system.

Despite the growing availability of e-commerce healthcare services, their adoption is not uniform across all sections of society. Several challenges such as lack of awareness, concerns about the authenticity and quality of medicines, fear of online payment risks, delivery delays, limited digital literacy, and poor internet connectivity continue to affect user confidence and acceptance. In many regions, including Madurai District, traditional modes of accessing healthcare services such as visiting pharmacies and hospitals in person are still preferred due to trust, habit, and perceived reliability. These barriers highlight the gap between the potential of e-commerce in healthcare and its actual utilization by the public.

The need for the present study arises from the necessity to understand the level of awareness, usage pattern, opportunities, and challenges associated with e-commerce adoption in healthcare among the people of Madurai District. By identifying the key factors influencing adoption and the problems faced by users, the study aims to provide insights that can help healthcare service providers, policymakers, and digital platform developers to improve service quality, strengthen trust, and promote wider adoption of online healthcare services. The findings of this study are expected to contribute to better planning and implementation of digital healthcare initiatives, thereby enhancing access to affordable and efficient healthcare services in the district.

STATEMENT OF THE PROBLEM

In the present digital era, the healthcare sector is undergoing significant changes with the introduction of e-commerce-based services such as online medicine purchase, digital consultation, and online booking of diagnostic services. These developments have the potential to improve accessibility, convenience, and efficiency in healthcare delivery for the people of Madurai District. However, the adoption and effective utilization of such online healthcare services remain uneven among different sections of the population.

Many users continue to depend on traditional methods of accessing healthcare due to concerns about the authenticity and quality of medicines purchased online, fear of online payment risks, delays in delivery, lack of digital skills, and problems related to internet connectivity. Moreover, limited awareness and lack of trust in online healthcare platforms further restrict their widespread acceptance. There is limited empirical evidence on the level of awareness, usage patterns, opportunities, and challenges related to e-commerce adoption in healthcare in Madurai District. Hence, the present study seeks to analyze these issues and identify the factors influencing adoption in order to suggest suitable measures for improving the effective use of e-commerce healthcare services.

OBJECTIVES OF THE STUDY

The important objectives of the study are:

- To examine the demographic profile and usage pattern of e-commerce healthcare services.
- To identify the opportunities and Challenges of e-commerce in healthcare.

METHODOLOGY

Sources of data

The study is based on both primary and secondary data. Primary data were collected through a well-structured interview schedule administered to the respondents to obtain first-hand information on e-commerce adoption in healthcare. Secondary data were gathered from various sources such as books, journals, magazines, reports, and online resources to support the analysis and provide a conceptual background for the study.

SAMPLING DESIGN

To analyze the adoption of e-commerce in healthcare and its opportunities and challenges in Madurai District, 75 respondents were selected as the sample for the study using the convenient sampling method.

STATISTICAL TOOLS USED

The collected data were analyzed with the help of various statistical measures such as *Percentage and Weighted average technique*.

ANALYSIS OF DATA

The researcher made an attempt to analyse the demographic profile of the respondents, Awareness and Usage of E-Commerce in Healthcare, Opportunities of E-Commerce in Healthcare and Challenges in Adopting E-Commerce in Healthcare by adopting suitable statistical tools and presented in the form of tables.

1. Gender of the Respondents

The Gender of the respondents is considered for the study since it plays a vital role in the adoption of E-commerce in health care. The following table shows the classification of the respondents on the basis of the Gender.

Table: 1

Gender of the Respondents

Sl. No.	Gender	No. of Respondents	Percentage
1	Male	34	45.33
2	Female	41	54.67
	Total	75	100

Source: Primary Data

It is inferred from the above table out of 75 respondents, 34 (45.33 percent) are male, 41 (54.67 percent) of the respondents are female.

2. Age of the Respondents

Age is an important factor which influence the adoption of E-commerce. The following table presents the age-wise classification of the respondents selected for the study.

Table: 2

Age of the Respondents

Sl. No.	Age Group	No. of Respondents	Percentage
1	Up to 25	36	48.00

2	25 – 40	24	32.00
3	Above 40	15	20.00
	Total	75	100.00

Source: Primary Data

The above table infers that 36(48 percent) of the respondents belong to the age group of up to 25 years, 24(32 percent) of them belongs to the age group of 25-40 years and the remaining 15(20 percent) of them comes under the age group of above 40 years.

3. Educational Qualification

Educational level influences awareness and effective use of e-commerce healthcare platforms. Hence the educational qualification of the respondents is also considered for the study and given in the following table.

Table: 3**Educational Qualification of the Respondents**

Sl. No.	Educational Qualification	No. of Respondents	Percentage
1	School	12	16.00
2	UG	28	37.33
3	PG	22	29.33
4	Professional	13	17.33
	Total	75	100.00

Source: Primary Data

It is revealed from the above table that out of 75 respondents, 28 (37.33 percent) are undergraduates and 22 (29.33 percent) are postgraduates. About 12 respondents (16 percent) have school-level education and 13 respondents (17.33 percent) possess professional qualifications.

4. Occupation of the Respondents

Occupation determines the income level and exposure to digital platforms, which influences e-commerce adoption in healthcare. The occupation of the respondents is illustrated in the following table.

Table: 4**Occupation of the Respondents**

Sl. No.	Occupation	No. of Respondents	Percentage
1	Private Employee	44	58.67
2	Government Employee	13	17.33
3	Business	10	13.33
4	Others	8	10.67
	Total	75	100.00

Source: Primary Data

The table shows that 44 (58.67 percent) of the respondents are private employees, 13(17.33 percent) of them Government employees, 10 (13.33 percent) of the respondents are business people and 8 (10.67 percent) of them comes under other categories.

5. Monthly Income of the Respondents

Income level influences affordability and access to digital healthcare services. The following table infers the classification of the respondents on the basis of their monthly income.

Table: 5

Monthly Income of the Respondents

Sl. No.	Monthly Income	No. of Respondents	Percentage
1	Up to 25,000	16	21.33
2	25001 – 50000	32	42.67
3	Above 50,000	27	36.00
	Total	75	100.00

Source: Primary Data

It is revealed from the above table that 16(23 percent) of the respondents are earning up to Rs.25000, 32(42.67 percent) of them are earning Rs. 25001 – 50000 and the remaining 27(36 percent) of them are earning above Rs.50000permonth.

6. Awareness about E-Commerce in Healthcare

The opinion of the respondents about the E-commerce in Health care was also gathered by the researcher and given in the following table.

Table: 6

Awareness about E-Commerce in Healthcare

Sl. No.	Opinion	No. of Respondents	Percentage
1	Yes	61	81.33
2	No	14	18.67
	Total	75	100.00

Source: Primary Data

The above table shows that 61 (81.33 percent) of the respondents are aware of e-commerce in healthcare, while 14 (18.67 percent) of them are not aware.

7. Years of Using E-Commerce Healthcare Services

The researcher also gathered details about the years of using E-commerce in health care and the results are illustrated in the following table.

Table: 7

Years of Using E-Commerce Healthcare Services

Sl. No.	Years	No. of Respondents	Percentage
1	Up to 2 years	11	14.67
2	2 – 5 years	46	61.33

3	Above 5 years	18	24.00
	Total	75	100.00

Source: Primary Data

It is observed from the above table that 11(14.67 percent) of the sample respondents are using E-Commerce Healthcare Services for up to 2 years, 46(61.33 percent) of them are using 2 -5 years and the remaining 18(24 percent) of the respondents are using E-Commerce Healthcare Services for above 5 years.

8. Reason for Using E-Commerce Healthcare Services

There are many reasons for which the respondents using E-commerce healthcare services. The classification of the respondents based on the above basis is presented in the following table.

Table: 8**Reason for Using E-Commerce Healthcare Services**

Sl. No.	Reasons	No. of Respondents	Percentage
1	Convenience	29	38.67
2	Saves Time	21	28.00
3	Lower Cost	12	16.00
4	Easy Availability of Medicines	14	18.67
	Total	75	100.00

Source: Primary Data

The above table shows that 29(38.67 percent) of the respondents are using e-commerce healthcare services for the reason convenience, 21(28 percent) of them are using for the reason time saving, 12(16percent) of them for the reason lower cost and the remaining 14(18.67 percent) of the respondents are using e-commerce healthcare services for the reason easy availability of medicines.

9. Opportunities of E-Commerce in Healthcare

The following table presents the mean score and rank of various opportunity factors influencing the adoption of e-commerce in healthcare services among respondents in Madurai District.

Table: 9**Opportunities of E-Commerce in Healthcare**

Sl. No.	Opportunity Factors	Mean Score	Rank
1	Home delivery convenience	3.96	III
2	Online consultation with doctors	3.84	IV
3	Saves time	4.21	I
4	Price comparison & discounts	3.62	V
5	Easy access to medicines	4.08	II

Source: Computed Data

The table shows that “Saves time” has the highest mean score of 4.21 and is ranked first, indicating that respondents strongly agree that time saving is the most important opportunity of e-commerce in healthcare. This is followed by “Easy access to medicines” with a mean score of 4.08 ranked second. “Home delivery convenience” (mean = 3.96) and “Online consultation with doctors” (mean = 3.84) are ranked third and fourth respectively, showing positive acceptance. “Price comparison & discounts” received the lowest mean score of 3.62 and is ranked fifth, indicating that cost benefits are considered less important compared to convenience and accessibility.

10. Challenges of E-Commerce in Healthcare

The following table highlights the mean score and rank of major challenges faced by respondents while using e-commerce healthcare services.

Table: 10

Challenges of E-Commerce in Healthcare

Sl. No.	Challenges	Mean Score	Rank
1	Lack of digital skills	3.74	IV
2	Authenticity of medicines	4.18	I
3	Poor internet connectivity	3.58	V
4	Delay in delivery	3.91	III
5	Online payment risk	4.02	II

Source: Computed Data

It is observed from the table that “Authenticity of medicines” has the highest mean score of 4.18 and is ranked first, indicating that respondents strongly feel concerned about the genuineness of medicines purchased online. “Online payment risk” (mean = 4.02) is ranked second, showing fear about digital payment security. “Delay in delivery” with a mean score of 3.91 is ranked third, highlighting logistics issues in healthcare services. “Lack of digital skills” (mean = 3.74) and “Poor internet connectivity” (mean = 3.58) are ranked fourth and fifth respectively, indicating moderate challenges faced by users.

FINDINGS

The findings of the study are:

- The researcher found that 41 (54.67 percent) of the sample respondents are female.
- Majority 36(48 percent) of the respondents belong to the age group of up to 25 years.
- Most 28 (37.33 percent) of the sample respondents are undergraduates.
- It is found that 44 (58.67 percent) of the respondents are private employees.
- Regarding the monthly income 32(42.67 percent) of the respondents are earning Rs. 25001 – 50000.
- The researcher found that 61 (81.33 percent) of the respondents are aware of e-commerce in healthcare.
- Majority 46(61.33 percent) of the respondents are using E-Commerce Healthcare Services for 2 -5 years.

- Most 29(38.67 percent) of the respondents are using e-commerce healthcare services for the reason convenience.
- Saving time and easy access to medicines are the major opportunities motivating respondents to use e-commerce healthcare services. Convenience-related factors dominate over price benefits.
- Concern about authenticity of medicines and online payment security are the major challenges affecting the adoption of e-commerce in healthcare.

CONCLUSION

The present study on e-commerce adoption in healthcare in Madurai District reveals that awareness and usage of online healthcare services such as online medicine purchase, doctor consultation, and home delivery are increasing among respondents mainly due to convenience, time saving, and easy access to medicines, indicating a positive attitude towards digital healthcare services. However, the study also identifies key challenges such as concerns about the authenticity and quality of medicines, fear of online payment risks, delivery delays, lack of digital skills among some users, and issues related to internet connectivity, which limit wider adoption. In the concluding remarks, it is suggested that healthcare e-commerce platforms should ensure strict quality control and display verified information about medicines to build trust, strengthen secure payment systems and provide cash-on-delivery options to reduce payment-related fears, improve delivery mechanisms for timely service, conduct awareness and digital literacy programmes especially for elderly and rural users, and enhance customer support and internet infrastructure in Madurai District so that e-commerce in healthcare can be more effectively adopted and contribute to better access to healthcare services in the future.

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