ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– I/A Jan – Feb, 2024

OPEN ACCESS Original Research Article

MEDICINE DELIVERY APPS: A STUDY OF DETERMINANTS INFLUENCING CONSUMERS' BUYING DECISIONS

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Abstract

This research paper aims to understand the determinants influencing consumer buying decisions towards medical delivery apps. The study aims to examine the impact of user experience and interface design on consumer preferences and also to analyse the pricing strategies on consumer choices within the context of medicine delivery apps. The primary data survey technique was utilized as data collection tool, with 150 respondents selected through convenience sampling. Data analysis was conducted using percentage analysis and ANOVA. The result of the present study revealed that user experience, interface design and pricing strategies significantly influenced the respondents' buying decisions toward medicine delivery apps.

Keywords: *Consumer, Consumer Buying Decisions, Medicine Delivery Apps, Pharmaceutical*

1. Introduction:

1.1 Indian Pharmaceutical Industry

Indian pharmaceutical sector comprises a network of 3,000 drug companies and 10,500 manufacturing units, holding a significant position in the global pharmaceutical industry. India is rightly recognized as the "world's pharmacy" because of its reputation for producing medicines of high quality at low costs. The Indian pharmaceutical industry is renowned worldwide for its generic drugs and affordable vaccines. Over the years, it has evolved into a dynamic sector and currently ranks third in global pharmaceutical production by volume. In terms of value, it is the 14th largest pharmaceutical industry in the world. The pharmaceutical sector in India currently contributes approximately 1.72% to the country's GDP. As per the Indian Economic Survey for 2021, it is anticipated that the domestic pharmaceutical market in India will experience significant growth in the coming decade. In 2021, this market was valued at approximately US$ 42 billion. It is expected to reach around US$ 65 billion by 2024, and there are forecasts that it will expand further, potentially reaching a substantial range of US$ 120-130 billion by the year 2030.

1.2 Medicine Delivery Apps

In an era defined by digital innovation and the growing importance of healthcare accessibility, the emergence of Medical Delivery Apps stands as a significant

ISSN–2278-5655

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milestone in the realm of healthcare delivery systems. These innovative applications have revolutionized the way individuals access essential medical supplies, medications, and healthcare services. With the increasing demands for convenience, speed, and precision in healthcare management, Medical Delivery Apps have emerged as a pivotal solution, bridging the gap between patients and their healthcare needs. The most popular medicine delivery app are as follows:

1.2.1 1mg

Founded in 2015 under the name 1MG Technologies Pvt. Ltd. in Gurgaon, Haryana, India, by Prashant Tandon, Gaurav Agarwal, and Vikas Chauhan, the company swiftly expanded its operations throughout India. Leveraging its platform, 1mg efficiently connects customers to nearby pharmacies and medical stores, ensuring timely delivery of orders. Notably, 1mg has emerged as the leading online medicine delivery app in India, boasting over 10 million downloads on both the Android Play Store and Apple's App Store. Its services extend to major Indian cities, including Delhi, Mumbai, Bangalore, Hyderabad, Chennai, among others, offering a wide array of medicines and healthcare-related products through its platform.

1.2.2 PharmEasy

PharmEasy stands as a prominent medical and healthcare delivery application, successfully serving numerous cities throughout India. In addition to providing medications, this app offers the convenience of accessing diagnostic and lab tests in over 40 major Indian cities. Notably, PharmEasy ensures swift delivery of orders, typically reaching customers within a rapid 24 to 48-hour timeframe.

Founded in 2015 by Dharmil Sheth, Dhaval Shah, and Mikhail Innani, under the registered company Axelia Solutions Private Limited, PharmEasy operates from its headquarters in Mumbai, Maharashtra, India. The core mission of PharmEasy is to deliver medicines to the doorstep of its customers with speed and efficiency. The app has gained popularity in various Indian cities, including Bangalore, Pune, Hyderabad, Chennai, Delhi, among others.

1.2.3 Practo

Practo is a prominent online platform for consulting with doctors, offering a comprehensive range of healthcare services. In addition to facilitating doctor appointments, it also provides a convenient avenue for ordering medications. This all-inclusive medical solution app allows users to schedule appointments with healthcare professionals, access diagnostic services and labs, and purchase health-related products from its online store. One noteworthy feature of the app allows users to upload handwritten prescriptions from their doctors, seamlessly adding the prescribed medications to their online cart for easy ordering. Founded in 2008 by Abhinav Lal and Shashank ND, Practo Technologies Private Limited is headquartered in Bangalore, Karnataka, India.

1.2.4 Netmeds

Founded in 2010 as Netmeds Marketplace Limited by Pradeep Dadha in Chennai, Tamil Nadu, India. Netmeds also includes services like Lab test and doctor consultation. In August 2020, Reliance Retail acquires a majority stake in Netmeds for Rs 620 crore. So, the company expected to increase its service to more remote locations and make it available anywhere in India.

1.2.5 Medlife

Medlife is a rapidly growing medication application in India, committed to delivering orders within a swift 2-hour timeframe. With a user base exceeding 500,000 installations on the Play Store, this app extends its services to all major Indian cities, including Mumbai, Delhi, Bangalore, Pune, and more.

1.3 Consumer Behaviour

In a world increasingly characterized by the digitalization of services, understanding consumer

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– I/A Jan – Feb, 2024

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behaviour in the context of medical delivery apps is of paramount importance. By unravelling the motivations, concerns, and preferences that guide consumer choices, this research not only serves as a valuable resource for app developers and healthcare providers but also contributes to the broader discourse on healthcare accessibility and innovation. Ultimately, it seeks to shed light on how these apps are reshaping the healthcare landscape and the factors that influence consumers' trust and reliance on them for their healthcare needs.

2. Literature Review:

Syed Asif Hassan and Tabrej Khan, (2017) in their research paper identified the need and requirements to develop e-pharmacy application for buying and selling medicine online. The researchers used an e-commerce-based approach for selling medicine online and they named it "Saudi-e-pharmacy". The study revealed that selling medicinal product online will be successful. They concluded stating that development of the pharmacy application and e-prescription practices will pave the way for tapping enormous benefits of unexplored sector of e-commerce in Saudi Arabia.

Mr. Sandeep L.Sarkale et.al., (2022) in their research articles focused on online retailers. The goal of their study was to find out consumer perceptions of internet pharmacies. Data was collected from 244 participants the factors were analysed quantitatively using SPSS. They concluded stating consumers are gradually favouring the online pharmacy business model because of its extra advantage including a discount, efficient customer services and seamless doorstep delivery in Pune city.

Udita Bansal, (2022) in the research paper examined multiple elements, including age, gender, and the influence of religious festivals on nostalgia marketing. Additionally, the study explored the direct effects of nostalgia on consumers' purchasing patterns, repeat buying choices, brand loyalty, trust in brands, and product recommendations. Ultimately, the findings of the research paper affirmed that nostalgia marketing significantly influences consumer decision-making.

Wenjie Li et.al., (2022) in their research paper studied the layout, design elements and users' visual perception of different terminal interfaces. The multi-terminal interfaces of 40 existing responsive websites were studied in a hierarchical grouping element, six typical interface layouts were classified and extracted. It was an exploratory study, the research focused on the homepage interface design of smartphones, tablets, and desktop computers. They concluded that proposal B had better user experience satisfaction overall.

Kms Radhitya Pratama K and Ratna Roostika, (2023) the researchers aim was to understand the factors contributing to impulsive buying. The study found out that impulsive buying patterns such as moods, and situations all positively influence impulsive purchases. The other elements such as spending patterns , are not significant. Researcher concluded that impulse buying tendencies, moods, one's situation, retailer motivational activity, and product attributes influence consumer decisions to buy products at online store impulsively/sudden/unplanned.

Siti Intan Nurdiana Wong Abdullah et. al, (2023) the researchers studied the marketing mix impact of product, price, place and promotional strategies on customer purchase of organic products among Malaysia and China consumers. A questionnaire was designed, and data was collected using purposive sampling from a total of 484 respondents, whereby 150 were Malaysians and 334 were China consumers. The structural equation modelling (SEM) technique was employed to test the hypothesized relationship using AMOS software. The study revealed that only price, product, and promotional strategies influenced the respondents' buying decisions towards organic products.

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3.Objectives of the Study:

1. To identify the key determinants that influence consumers when making purchasing decisions on medicine delivery apps.
2. To examine the impact of user experience and interface design on consumer preferences for medicine delivery apps.
3. To analyse the influence of pricing strategies on consumer choices within the context of medicine delivery apps.

Hypotheses of the Study:

1. User experience and interface design

Null Hypothesis: (H_{10}): User experience and interface design have no significant impact on consumer preferences for medicine delivery apps.

Alternative Hypothesis: (H_{11}): User experience and interface design significantly influence consumer preferences for medicine delivery apps

2. Pricing strategies and consumer choices

Null Hypothesis: (H_{20}): Pricing strategies have no significant effect on consumer choices in medicine delivery apps

Alternative Hypothesis: (H_{21}): Pricing strategies significantly influence consumer choices in medicine delivery apps.

Research Methodology:

In this study, the data was obtained from both primary and secondary sources. The primary data was collected using questionnaire method and the secondary data was collected from the books, newspapers, magazines and websites.

Sample Design: The method of convenience sampling has been used to collect the data from the respondents.

Sample Size: The sample size was 150 respondents.

Data Analysis and Interpretation: The data was analysed and interpreted using Microsoft Excel 2007.

Limitations of the Study:

1. The study was limited to Mumbai Suburban because of time constraints.
2. Sample size used for the study was small. Hence, the results cannot be taken as universal.
3. The accuracy of the figures and data are subject to the respondent's view.

Data Analysis and Interpretation:

Table: 1. Socio economic factor of respondents

Particulars	Categories	Frequency
Gender	Male	65
	Female	85
Age	Less than 20	60
	21-30	51
	31-40	20
	41-50	11
	51-60	6
	Above 60	2
	Total	150
Qualification	SSC	08
	HSC	41
	Graduation	51
	Post Graduation	38
	Doctorate	06
	Below SSC	06
	No formal education	00
	Total	150

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

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Marital Status	Married	39
	Unmarried	111
Profession	Government Jobs	18
	Private Jobs	48
	Business	06
	Others	78
	Total	150
Monthly Income	Less than 20,000	84
	Rs.20,001 to Rs.40,000	37
	Rs.40,001 to Rs.60,000	08
	Above 60,000	21
Familiar with online pharmacy	Yes	99
	No	33
	Maybe	18
	Total	150
Have you ever purchased medicine in online apps?	Yes	70
	No	80
	Total	150
Frequency of medicine in online	Weekly	01
	Monthly	22
	Twice a Month	07
	Occasionally (in a span of 3months to a year)	40
	Total	70
Medicine delivery app used for shopping.	PharmEasy	29
	Netmeds	08
	1mg	07
	Practo	05
	Medlife	05
	Others	16
	Total	70

Source: Primary data

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– I/A Jan – Feb, 2024

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Table:02 Average amount spent in medicine delivery apps

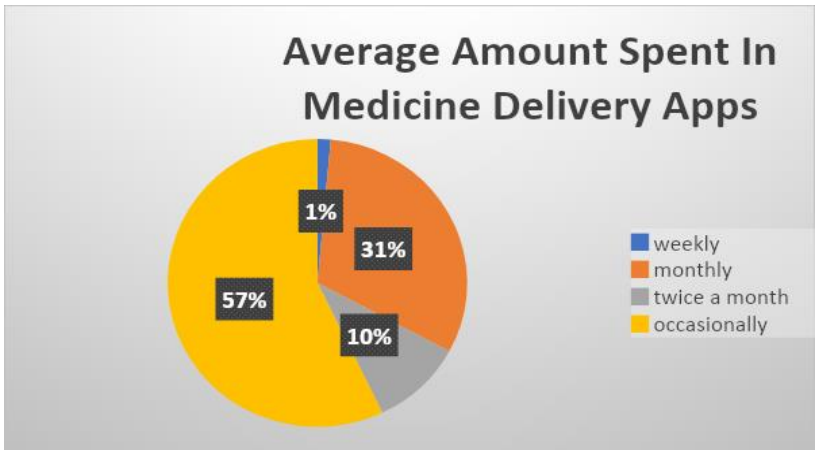

Table 2 : As per the above diagram 57% of the respondents' spend occasionally in the medicine delivery apps and 31% of the respondents' states that they spend monthly in the purchase of medicines in the online delivery apps.

Table:03 Do you go through customer review before making purchases?

Table 3: As per the above diagram 57% of the respondents go through the customer reviews before purchasing from the online apps. 27% of the respondents never go through the review before making a purchase in online.

Table 4: User experience and interface design

Groups	*Count*	*Sum*	*Average*	*Variance*
Have you ever purchased medicine in online apps?	150	230	1.533333	0.250559
Reason for using Medicine Delivery Apps: User Interface Design [Design of the Apps]	150	368	2.453333	1.135391
Reason for using Medicine Delivery Apps: User Interface Design [Easy Navigation]	150	325	2.166667	0.824385
Reason for using Medicine Delivery Apps: User Interface Design [User Friendly]	150	316	2.106667	0.807338
Reason for using Medicine Delivery Apps: User Interface Design [Medication Listing]	150	332	2.213333	0.920626

ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– I/A Jan – Feb, 2024

OPEN ACCESS Original Research Article

Reason for using Medicine Delivery Apps: User Interface Design [Options for payments]	150	310	2.066667	0.854586
Reason for using Medicine Delivery Apps: User Experience [Clear instructions]	150	336	2.24	0.868188
Reason for using Medicine Delivery Apps: User Experience [Filter]	150	345	2.3	0.895973
Reason for using Medicine Delivery Apps: User Experience [Reminder for refills]	150	337	2.246667	0.85821
Reason for using Medicine Delivery Apps: User Experience [Transparent privacy policies]	150	334	2.226667	0.901298
Reason for using Medicine Delivery Apps: User Experience [Voice command]	150	370	2.466667	0.868009
Reason for using Medicine Delivery Apps: User Experience [Quick loading time]	150	339	2.26	0.878255

ANOVA						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	93.66	11	8.514545	10.15367	3.47E-18	1.793993
Within Groups	1499.36	1788	0.838568			
Total	1593.02	1799				

ANOVA single factor test was performed to examine the relationship between user experience and user interface and consumer preferences. The result of the test indicates that there is significant relationship between the user experience, user interface and consumer preferences as the F >F Critical. So null hypothesis is rejected and alternative hypothesis is accepted.

Table 5 Pricing strategies and consumer choices

Groups	***Count***	***Sum***	***Average***	***Variance***
Have you ever purchased medicine in online apps?	150	230	1.533333	0.250559
Do you think purchase of online medicine is cheaper than offline medicine?	150	282	1.88	0.77745
If Yes, Does the lower cost of medicines in online influence your purchase decisions?	150	272	1.813333	0.662908

ANOVA						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	10.15111	2	5.075556	9.004975	0.000147	3.015899
Within Groups	251.9467	447	0.563639			
Total	262.0978	449				

ANOVA single factor test was performed to examine the relationship between pricing strategies and consumer choices. The result of the test indicates that there is significant relationship between the pricing strategies and consumer choices as the F >F Critical. So null hypothesis is rejected and alternative hypothesis is accepted.

ISSN–2278-5655

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Findings:

- 66% of the consumers were aware about the online pharmacy.
- 53.3 % of the respondents had never purchased in medicine delivery apps. The main reason was lack of physical evaluation.
- PharmEasy is the most popular medicine delivery apps followed by 1mg and Netmeds.
- Consumers spend less than Rs.1000/- per month towards medicine.
- Pricing, time saving and home delivery are the main reasons for buying the medicines in online.
- Consumer prefer cash on delivery for their purchases.

Suggestions:

- Increase awareness regarding the online pharmacy.
- Implement customer feedback to identify the areas of improvement.
- Providing more information about the safety and reliability of the medicine delivery apps.
- Ensure the medicine delivery apps and the associated pharmacy are licensed and regulated by the relevant authorities.
- Review the app's privacy policy to understand how your personal and health information is handled.

Conclusions:

This research paper has identified several key determinants that significantly influence consumers when making purchasing decisions on medicine delivery apps. These determinants include factors such as pricing, user experience, interface design, and the availability of a wide range of medications. Understanding these determinants is crucial for businesses operating in this sector to customize their strategies and enhance their offerings to meet consumer expectations effectively. This research provides valuable insights that can inform marketing and operational decisions within the medicine delivery app industry.

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ISSN–2278-5655

AMIERJ Aarhat Multidisciplinary International Education Research Journal

Volume–XIII, Issues– I/A Jan – Feb, 2024

OPEN ACCESS Original Research Article

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Cite This Article:

Dr. Venkatesh S. & Ms. Clayton S. (2024). *Medicine Delivery Apps: A Study of Determinants Influencing Consumers' Buying Decisions. In Aarhat Multidisciplinary International Education Research Journal: Vol. XIII (Number I, pp. 70–78).* ***AMIERJ.*** ***https://doi.org/10.5281/zenodo.10565922***