

Project Dissertation on Study of Mobile Health(mHealth) Adoption

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CERTIFICATE

This is to certify that the case study report titled “**Study of Mobile Health(mHealth) Adoption**” is a bonafide work carried out by **Mr. Arpit Paliwal** of **EMBA 2020-22** and submitted to Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-42 in partial fulfilment of the requirement for the award of the Degree of Masters of Business Administration.

Signature of Guide

Signature of Head (DSM)

Seal of Head

Place:

Date:

DECLARATION

I, **Arpit Paliwal**, students of **EMBA 2020-22** of Delhi School of Management, Delhi Technological University, Bawana Road, Delhi – 42, hereby declare that the market study of “**Study of Mobile Health(mHealth) Adoption**” submitted in partial fulfillment of Degree of Masters of Business Administration is the original work conducted by us.

The information and data given in the report is authentic to the best of my knowledge.

This report is not being submitted to any other University, for award of any other Degree, Diploma or Fellowship.

Place:

Arpit Paliwal

Date:

EXECUTIVE SUMMARY

A mobile/smartphones are amazing gadget fit for planning variety of purpose beyond its basic role of telephony. A lot of promotion among versatile innovation, particularly smart phones, fitness trackers, smart wearables are designed to cater the ever-increasing need of health care industry and personalized health care innovations. People have begun use smart phones / apps for workout regimes, net banking, e-commerce, playing video games, watching movies, recording and editing videos, browsing, travelling industry etc. It is an obvious fact, the impact of technological innovation on our daily lives is progressing by each passing minute. Smartphones, apps and smart wearables are an amazing combination that has made it exceptionally simple and helpful to track day to day activities and monitor them in real time.

Portability and user-friendly devices penetrating even in the medical industry. mHealth is normally can be understood as mobile health it covers a lot under its umbrella, Health related apps, websites, wearables which can track real-time or whenever required are covered under this. Few good examples of these are Practo,1mg, Pharmeasy, Fitbit, Apple watch, Mi trackers, Garmin and many more brands offer from basic to very advanced features to its users. mHealth is about using the technology to cater more and more patients or individuals and to improve their reach to everyone.

In India, there is significant market and untapped space to use mHealth as an optional medical care. Underlying, monetary benefits made big requirement for mHealth. The primary issues are fundamental. Admittance to even basic medical services is a test on the grounds that the supporting framework also, assets are deficient. Monetary requirements like rising medical care expenses and restricted spending designation for medical care by the public authority further compel the medical care environment in India. Conduct factors such as change in way of life have come about in more up to date sorts of sicknesses which expect admittance to experts who are not many in

number and can't be reached through conventional methods for medical care conveyance.

Table of Contents

EXECUTIVE SUMMARY..... 4

Table of Figures..... 6

INTRODUCTION..... 7

Objectives..... 9

Research Design and Methodology..... 9

RELEVANCE OF MHEALTH IN INDIA 10

BENEFITS OF MHEALTH..... 13

BARRIERS TO MHEALTH 16

PRACTO..... 19

 Introduction to Practo Application..... 19

BUSINESS MODEL 29

 Value Proposition..... 30

 Segments of Customers..... 31

 Key Partners..... 31

 Key Resources..... 32

 Key Activities 32

REVENUE MODEL 33

DATA ANALYSIS AND INTERPRETATION 34

HOW TO DRIVE MHEALTH 41

CONCLUSION..... 44

REFERENCES..... 45

ANNEXURE OF QUESTIONNAIRE..... 45

Table of Figures

Figure 1 Reasons for mHealth growth	8
Figure 2. (January 2017) Percentage of mobile traffic w.r.t total internet traffic	8
Figure 3 Statistics on India’s healthcare workforce and infrastructure	11
Figure 4 Snapshot of Indian Healthcare System	12
Figure 5 Top drivers for patients to adopt mhealth in emerging countries and India	15
Figure 6. Playstore screen for downloading Practo app	19
Figure 7 Registration screen	20
Figure 8. Welcome Screen	20
Figure 9. Home screen for video consultation along other available options	21
Figure 10. Preset sickness to reach out to doctors	22
Figure 11. Payment screen.....	23
Figure 12. Payment options	24
Figure 13. Chat window to doctor	25
Figure 14. Video consultation	26
Figure 15. Prescription and medicines are offered.....	27
Figure 16 Personal profile options	28
Figure 17. Practo business model	29
Figure 18. Practo revenue model.....	33
Figure 19. Leveraging mobile phone features for mHealth	42

INTRODUCTION

mHealth is for the most part seen as the conveyance of medical care administrations or data with a cell phone. The administrations accessible today in worldwide markets differ extraordinarily in their degree of complexity. Some give static data about an infection or ailment, while others move significantly up the worth chain by giving complete medical care the board past what could be conveyed by just a vis-à-vis cooperation with a medical care supplier. The accompanying aide separates mHealth administrations at various levels of the worth chain:

Information Services

Information services. A well-known example of this is the Practo website/ mobile app. This service allows individuals to use app or website to have online consultation in various specialization with the convenience of their home.

Individuals can book lab tests and have subscription packages too with doctors. Along with this Practo provides home delivery of the medicines prescribed.

Enabling Services

It acts as a bridge between the providers (Clinics, Doctors, Lab technicians) and Patients. Having app enabled consultation booking and tracking devices which constantly measures and check health status does a great job and keeping an eye out. It opens up window for the people with old age and are not able to travel, it makes their life much easier to get tested and consulted in the comfort of their own home.

The scope for utilizing mHealth as a substitute of usual health care system is huge. India stands second at this with 78%.¹ Unmistakably, there is exponential growth in number of users with internet access especially in last 3 years with JIO and other providers. This huge conduct change is a significant factor for mHealth selection.

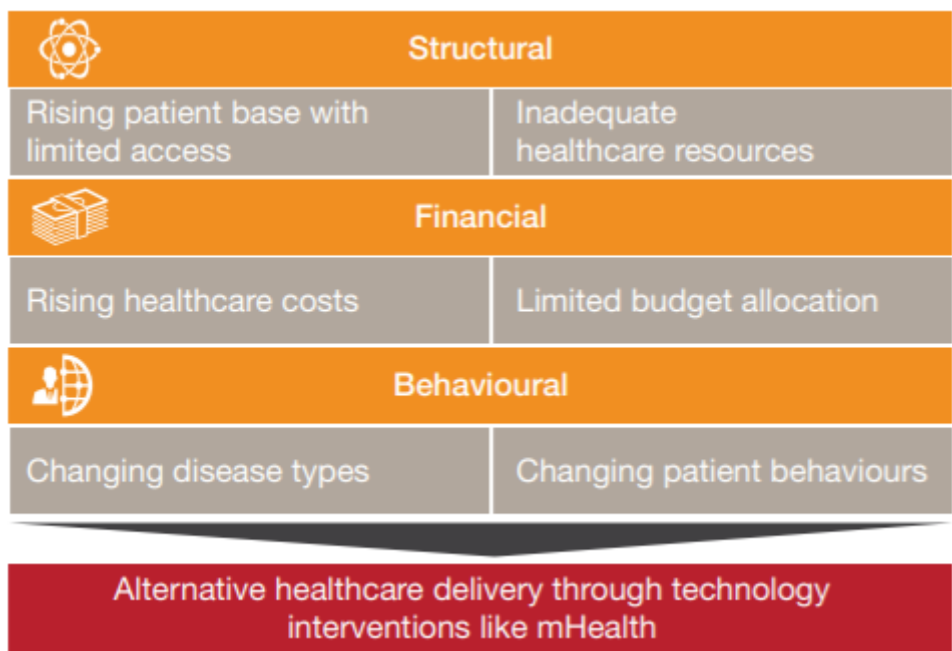


Figure 1 Reasons for mHealth growth

[Source: PwC Analysis Report]

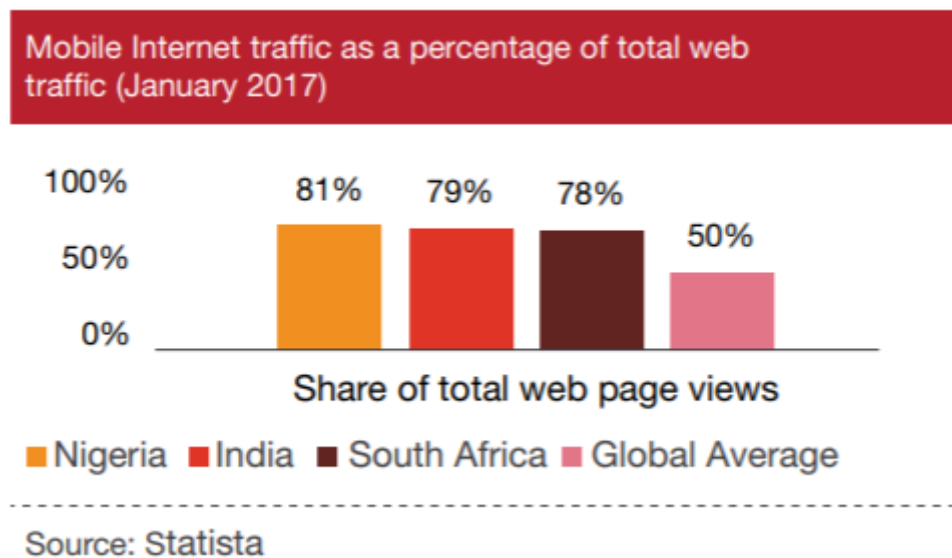


Figure 2. (January 2017) Percentage of mobile traffic w.r.t total internet traffic

[Source: PwC, "The healthcare agenda" (2015)]

Objectives

1. Stats of current medical situation in India
2. Spread of Awareness of health apps
3. Reach of mHealth apps and how they have improved life of consumers
4. What are barriers which are creating hurdles to penetrate the market
5. How companies can drive mHealth in future
6. Research Methodology: Collection of Primary and Secondary data and analysing the results

Research Design and Methodology

Research design is the base on which any researcher proceeds toward the study of the problem once the hypotheses has been established. It refers to the methodology used to conduct the research analysis. It is the foundation of the step by step method of testing the hypotheses and analysis of the obtained data.

A research design is an arrangement of settings for data collecting and analysis that seeks to combine relevance to the inquiry with the goal of procedural economy. In any science, gathering crucial data to prove their hypothesis is an important and different step of study. The goal of developing a study design could be to test hypotheses or to establish a cause-and-effect link in a given circumstance. Primary data and secondary data are the two categories of information sources.

Primary Data

Primary data are information gathered or developed by the researcher/person for the project at hand. When data is obtained for the first time, the original researcher also bears the obligation for data processing. This type of data is also called basic or original data. In other words the primary data refer to observations, measurements, answers, information which the researcher collect for the purpose of research.

Different types of Primary Data are:

Questionnaire

A questionnaire is a popular data collection strategy. Private individuals, researchers, private and public organisations, and even governments are using it. This method involves sending a questionnaire to the person in question and asking them to answer the questions and return the form. A questionnaire is made up of a group of questions that are printed or typed in a specific order on a form or set of forms. The respondent is responsible for answering the questions independently.

Interview

In every field of research, the interview method of research is used very extensively. Only through interview, varied types of data can be gathered intensively and extensively. Besides, interview is a meant for assessing the personality of the respondent. All types of persons whether educated or uneducated can be covered by this method. It is generally, interaction assumed that the personal interview helps to obtain the most accurate information. Interviewing IS a process of social.

Secondary Data

Here the analysis relies on already existing data that may be either published or unpublished. This source of data is updated source of information. Researcher has to collect the data from books in university and libraries, Internet websites and published journals.

RELEVANCE OF MHEALTH IN INDIA

India needs more current and creative ways like mHealth to give mind and repay to the inadequacies of the medical services labour force and framework. The country doesn't meet the base WHO proposals for medical care labour force and bed thickness. An enormous portion of the populace dwells in provincial regions, where the numbers are surprisingly more terrible. Specifically, the low-pay bunch needs admittance to quality medical services.



Figure 3 Statistics on India's healthcare workforce and infrastructure

[Source: PwC Analysis Report]

Additionally, there are some worrisome statistics on the Indian healthcare environment. A large segment of the population is lacking access to even primary healthcare facilities. It is quite important to innovate and find newer and better ways to make quality and affordable healthcare accessible to reach everyone.

Snapshot of Indian healthcare ecosystem



Indians do not have access to primary healthcare facilities.



Indians fall below the poverty line each year because of healthcare expenses.



India's healthcare infrastructure is limited to the top 20 cities.



India accounts for 21% of the global disease burden.

Figure 4 Snapshot of Indian Healthcare System

[Source : (statista.com Article-430830)]

BENEFITS OF MHEALTH

Mobile health is abbreviated as mHealth. The word is most commonly used to describe the use of mobile devices to support the practise of medicine and public health. People can collect health data on fitness, nutrition, and more using mobile health apps like fitness trackers.

The phrase is most usually applied to the use of mobile communication devices for health services, information, and data collecting, such as cell phones, tablet computers, and wearable devices like smart watches.

DATA COLLECTION

Our smartphone gadgets are used by mHealth apps to collect health-related data. As a result, a large amount of important and chronological data is accumulated. If properly utilised, this data can be a gold mine for scientific research, insurance firms, and even the development of new treatments. They have the potential to forever alter humanity.

MHEALTH FOR CAREGIVERS AND FAMILY

Not only professional healthcare practitioners, but also non-professionals such as our family members, can use the data or statistics gathered to prevent any future ailment based on the preliminary symptoms.

Family members can also use mHealth apps to keep tabs on each other, especially the elderly.

ENHANCES PHYSICIAN EFFICIENCY

Physicians have stressed the mental stress they experience on the job, both on the job and off. Their working conditions are extremely stressful, which may have an effect on their diagnosis. Phones and tablets may assist people in solving difficulties more quickly and with less stress.

On mobile devices, physicians may gather patient history with minimal errors. These devices make it easy for consumers to acquire the most up-to-date drug information, allowing them to make more informed decisions.

These programmes also help doctors save time by automating a lot of paperwork.

Doctors can now easily access all of their patients' data, requiring them to spend less

time and effort while yet providing the same level of care. In general, mobile device use in healthcare has improved physician productivity and patient care.

ENHANCES DIAGNOSTIC ACCURACY

Paper records were inconvenient, inaccurate, and a logistical nightmare. Being automated reduces a number of errors in diagnosis and statistics. Automation, which has occurred as a result of the use of software and apps, has helped to relieve the strain on not only doctors, but also a number of other people, such as those who write reports, store data, and so on.

Another area where automation can assist is when it comes to filling medicines. Doctors and nurses are able to preserve detailed and precise records. However, they are well-known for their illegible handwriting, which frequently leads to consumers purchasing the incorrect medications! Prescription errors can be reduced by using mobile apps to do automatic checks on prescriptions and decisions. These gadgets are used as bedside aids to help identify the causes and symptoms of infections and infectious diseases.

CONVENIENCE

Not only have mHealth apps made our lives easier, but so has the universalization of high-tech products. Instead of lugging around heavy books, health care professionals can use their mobile devices to quickly obtain information. They don't have to waste time looking for pertinent text because they can simply 'search' it on their phones. This was from the perspective of a medical professional.

Patients' convenience has also risen as a result of mHealth apps. Doctors and patients can exchange information without ever meeting in person. This is especially important if the patient is too unwell to visit the doctor.

BETTER COMMUNICATION

The usage of mobile devices in healthcare has a clear advantage: improved communication. High-resolution HD cameras allow doctors and nurses to examine the patient's condition in detail. Regular, real-time communication between the provider and the patient also helps to establish rapport.

Mobile devices in healthcare not only improve the doctor-patient interaction, but they also encourage global collaboration, consulting, and knowledge exchange.

Experts from all over the world may exchange and learn from each other in real time. The patients profit from this kind of constructive use.

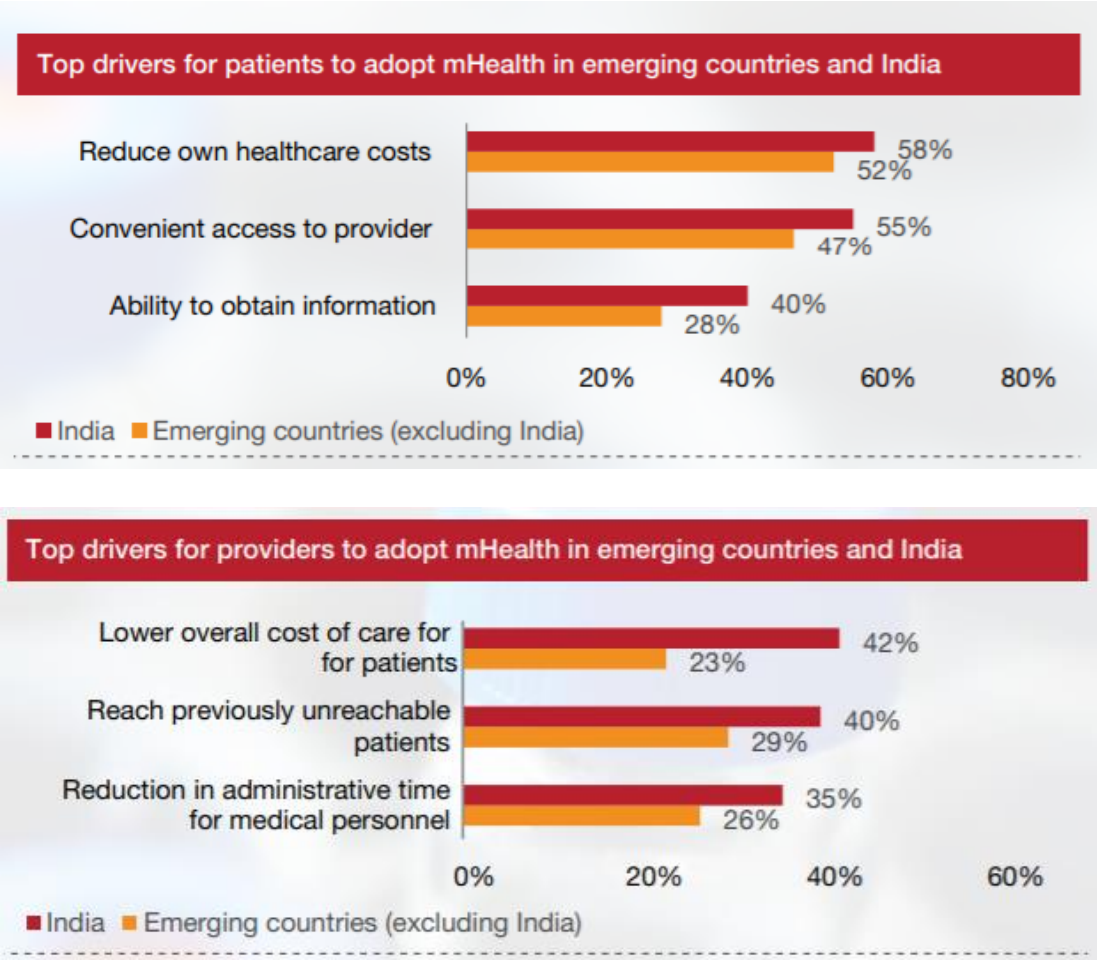


Figure 5 Top drivers for patients to adopt mhealth in emerging countries and India

[Source: PwC analysis based on EIU research (2012)]

BARRIERS TO MHEALTH

The Indian healthcare system was divided into following 3 sectors

- According to the Indian Public Health Standards (IPHS).
- Primary healthcare is provided to the rural people through sub-centres,
 - Primary health centres (PHCs)
 - Community health centres (CHCs)
- Secondary care is provided with the help of district and sub-district hospitals.
- Tertiary care is given in regional/central level hospitals or super specialty hospitals.

Lack of Infrastructure

Inadequate infrastructure in the form of a scarcity of well-equipped medical institutes has long plagued India. Furthermore, the rate of construction of such medical teaching or training institutions remains low in contrast to the urgent requirement.

Government laws required private medical institutes to be built on at least five acres of land for a long time. As a result, a number of private colleges were established in remote locations, making it more difficult to recruit fully licenced, full-time doctors due to a lack of adequate living conditions and poor pay scales.

Shortage of efficient and trained manpower

India's 66% population still lives in rural areas where there is scarcity of medically qualified doctors, nurses and primary health care needs.

WHO recommends 2.5 doctors per 1000 people whereas India only has 0.7 per 1000 people.

High out-of-pocket expenditure remains a stress factor

While public hospitals provide free health care, they are understaffed, underequipped, and primarily concentrated in urban areas. It is well established that public-sector healthcare that is both accessible and inexpensive can significantly reduce reliance on private institutions. Government facilities, on the other hand, offer little choice but to resort to private institutions and pay hefty out-of-pocket healthcare costs. As a result, most health services are supplied by private facilities, and patients in India pay 65 percent of medical bills out of pocket.

Increased health insurance adoption could be one possible answer to the problem. Both the government and private institutions must collaborate in this regard.

Adoption of digital insurance processing technologies that are integrated with the healthcare ecosystem to speed up insurance process turnaround time will also encourage people to get health insurance.

The primary problem with the healthcare system is the government's general lack of attention to the vertical. For years, knee-jerk reaction work has been observed in the development of service quality.

Huge Volume and Fragmented Market

More than 1,64,499 mHealth programming applications are open across the iOS store and Android Play store. A great deal of mHealth applications are of sketchy start and abandoned by the designer after a basic conveyance or one form update. These product applications may perhaps in the advantage of both a facilities and specific individuals the same. Customers are by and large not certain to whom to trust with these applications as information security is a lot of required in medical services area. The amount of downloads can be a clue, anyway it is obviously not a trustworthy one as most mHealth applications can't hold their customers. Moreover, most mHealth application surveys are given by end clients in the application store. As needs be, assessments will overall be established on up close and personal impressions (for instance accommodation and sense of UI) as against to on clinical execution conference quality or even capable reviews.

Lack of awareness

mHealth has had a huge impact in nations like India. Also now there are proven trustworthy apps in market to bank upon. The Public authority of India has dispatched a couple of mHealth drives. Nonetheless, absence of mindfulness is a

gigantic obstacle. We need to make the people, including patients and service providers, be aware of mobile healthcare system its advantages.

Poor Infrastructure and security concerns

Absence of good framework is a significant test in India. Indeed, even essential foundation is absent in numerous spots. The country populace has helpless organization availability. The vast majority of the helpless populace can't stand to purchase a good cell phone which will give them admittance to mHealth. Likewise, in the event that the framework is available, security and protection are significant concerns. On account of mHealth applications, it is extremely unlikely to know whether the application engineer has taken fitting measures to guarantee security and ensure his/her application against pernicious assaults.

Low expectations

The important partners in the medical services local area can't see the value in the capability of mHealth as there is existing industry or a successful corporate running in India as of now. In this way, the blockers and obstacles are many to overcome. Indeed, even the end users loses interest on the off chance that they have a dissatisfied experience on mHealth application. Additionally, an enormous fragment of the patients are just intrigued by health apps. The Government of India is taking initiative towards mHealth apps in improving health care results.

Manual Interventions

Be it the utilization of SMS, applications or sound/video conferences, a great deal of manual intercession is vital for the situation of mHealth, which makes it ugly. This is a major obstruction and the primary explanation most clients nonconformist. There are approaches to computerize certain perspectives and lessen manual intercession. Versatile reconciliation with outside gadgets, sensors and frameworks can assume a major part here. mHealth application engineers need to foster APIs/interfaces to separate furthermore, catch information naturally at every possible opportunity.

PRACTO

Introduction to Practo Application

- Installation of Practo application can be done via AppStore on iOS and Playstore on Android

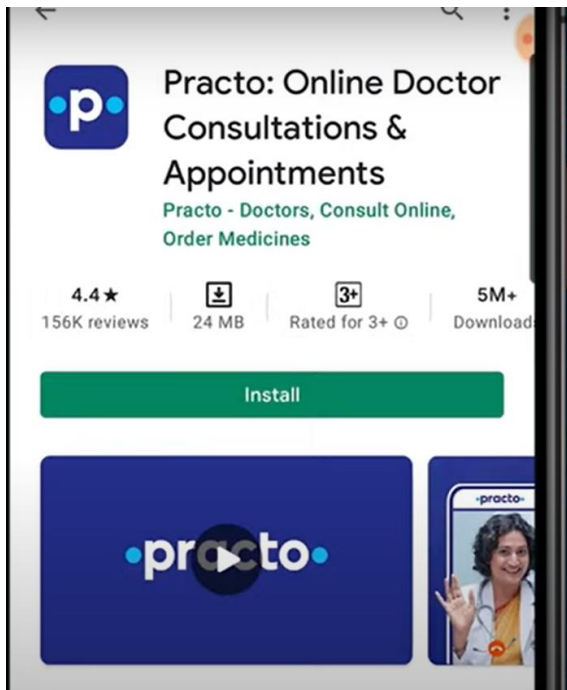


Figure 6. Playstore screen for downloading Practo app

[Source: Practo App tutorial CareerDNA, Youtube]

- Enter your number and register with the help of OTP

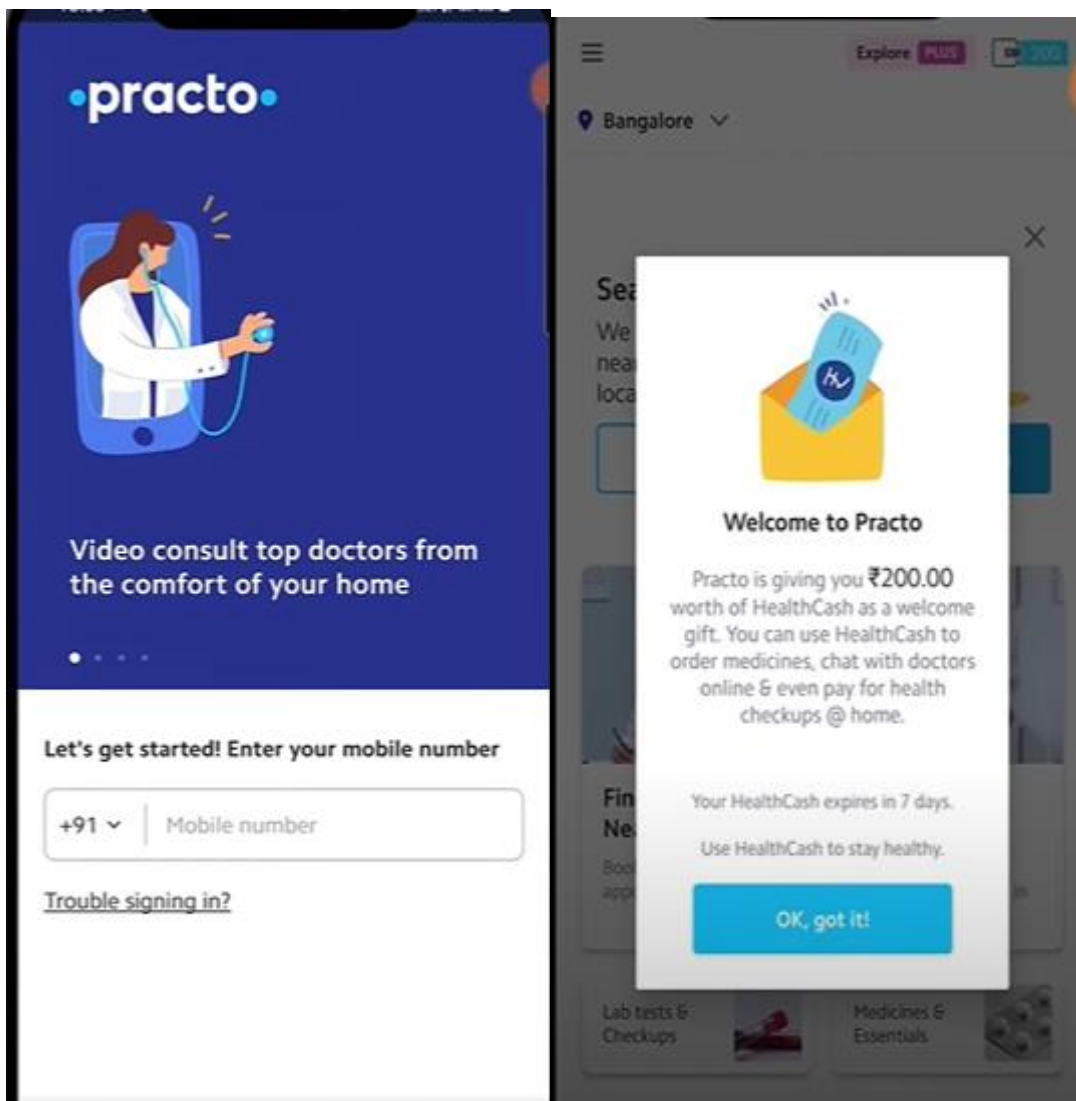


Figure 7 Registration screen

[Source: Practo App tutorial CareerDNA, Youtube]

Figure 8. Welcome Screen

[Source: Practo App tutorial CareerDNA, Youtube]

- You are welcome with home screen
 - Instant Video Consultation enables to have a video call directly to required doctors
 - Find Doctors Near You enables you to find doctors based on your location. This can come in handy when you want to visit a doctor physically

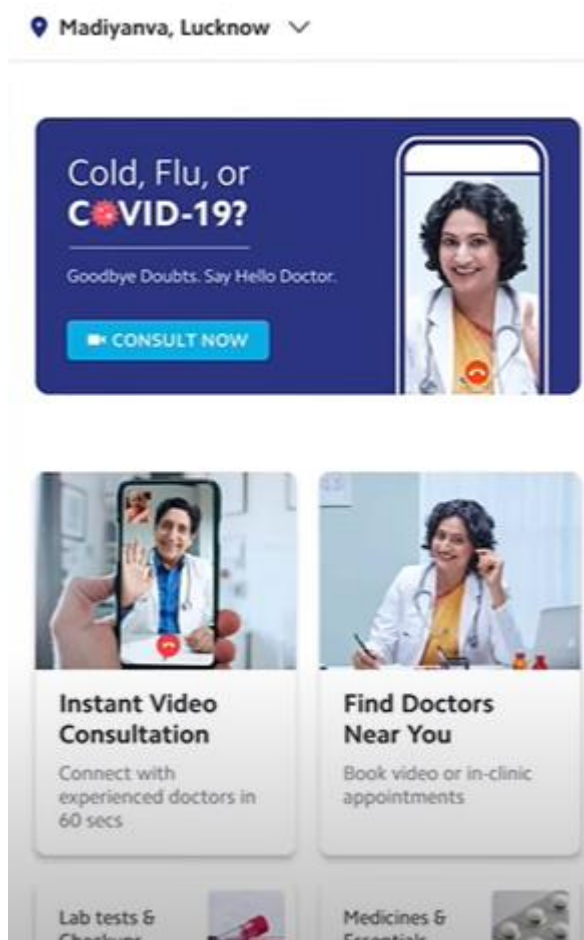


Figure 9. Home screen for video consultation along other available options

[Source: Practo App tutorial CareerDNA, Youtube]

- You have list of predefined illness which are common which you can use to have appointment with doctor

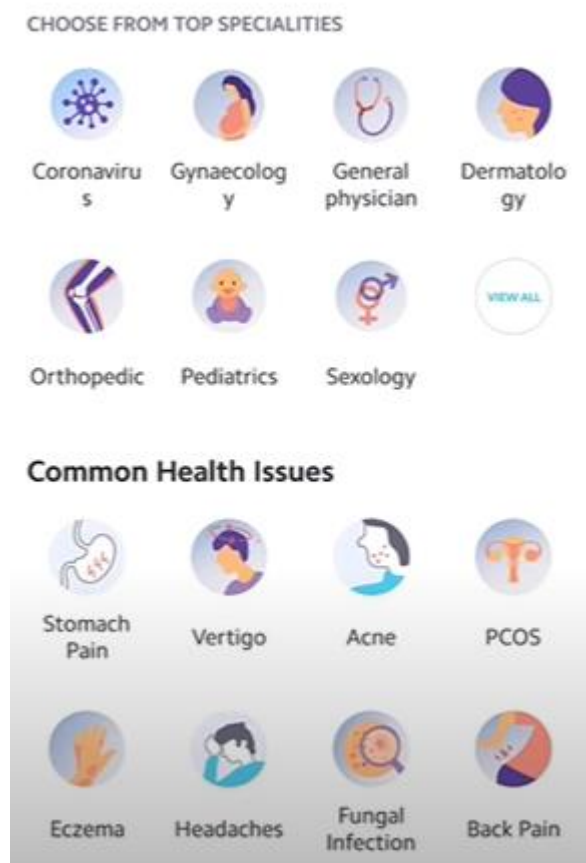



Figure 10. Preset sickness to reach out to doctors

[Source: Practo App tutorial CareerDNA, Youtube]


- Payment will be made before you can have chat and video call with doctor

Consultation with a General Physician



CONSULT WITH VERIFIED, TOP DOCTORS

View doctors in the Practo online consult network



4/5


Dr. Astha Agarwal

General Physician

7 years experience

823 consultations done

Know more



3.5/5

Dr. Sv

General Physician

26 years experience


805 consultations done

Know more


Choose your preferred language

We will try to find doctors who can speak the language.

English

 APPLY COUPON CODE

>



Single online consultation

Chat, audio, video consultation and
free 7 day follow-up

₹ 339.15

₹ 499.00

₹ 339.15

View Breakup

Pay And Consult

Figure 11. Payment screen

[Source: Practo App tutorial CareerDNA, Youtube]

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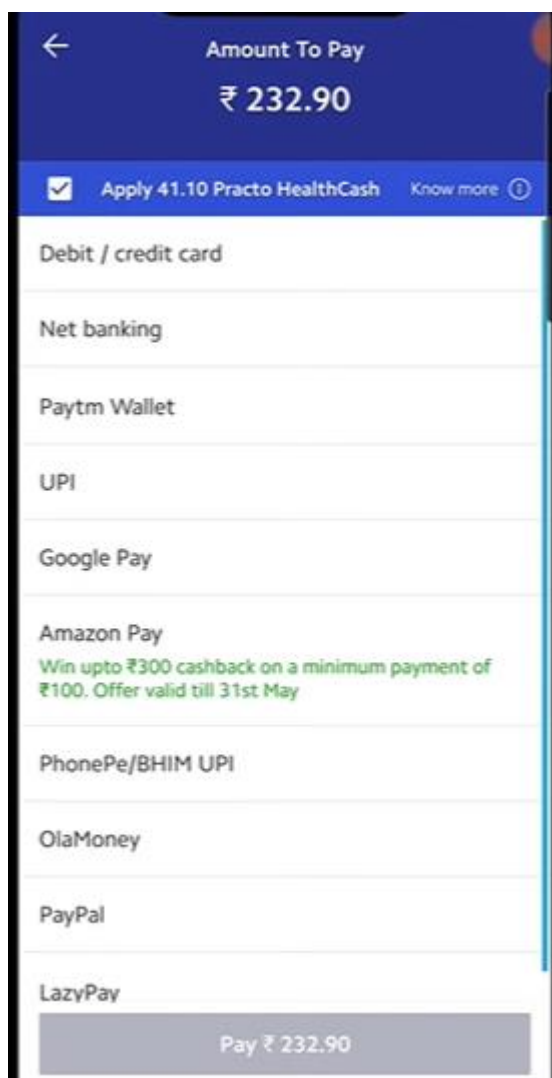


Figure 12. Payment options

[Source: Practo App tutorial CareerDNA, Youtube]

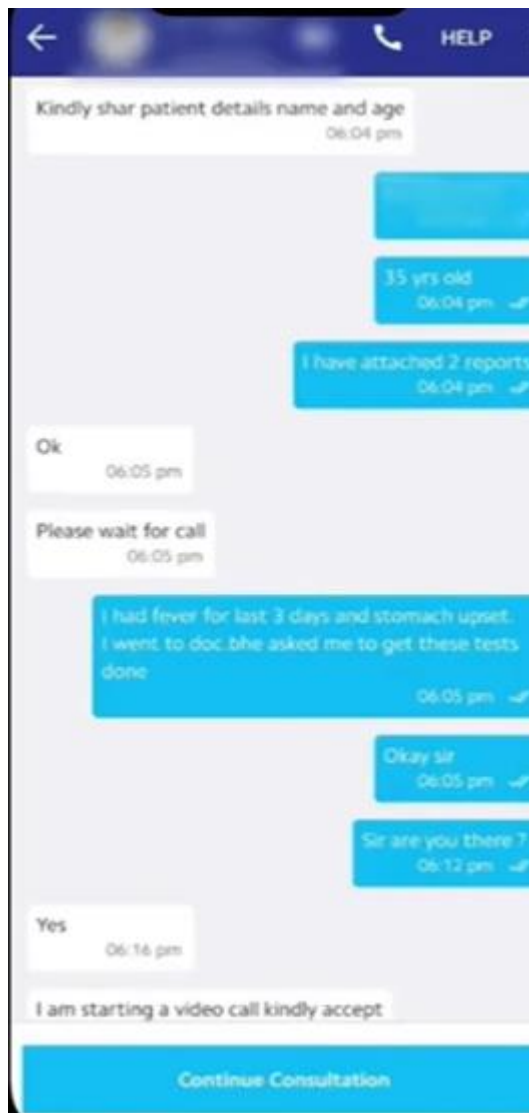


Figure 13. Chat window to doctor

[Source: Practo App tutorial CareerDNA, Youtube]



Figure 14. Video consultation

[Source: Practo App tutorial CareerDNA, Youtube]

- Doctors can prescribe medicines over chat and medicines are delivered to your home as per prescription



Figure 15. Prescription and medicines are offered

[Source: Practo App tutorial CareerDNA, Youtube]

- You can review your:
 - Bookings
 - Earlier Appointments
 - Track Order
 - Book diagnosis at home
 - Have Medical records at a place

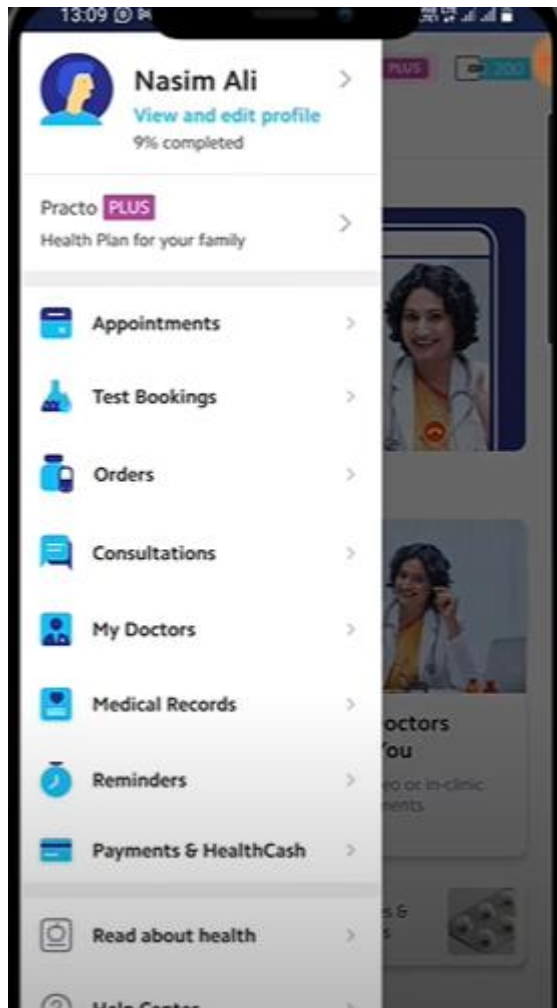


Figure 16 Personal profile options

[Source: Practo App tutorial CareerDNA, Youtube]

BUSINESS MODEL

An organization's Practo business model is a conceptual framework that supports the viability of a product or an organisation. It demonstrates how the company operates, makes revenue, and progresses toward its goals.

As a result, the practo business model entails the procedures and policies that the company follows.



Figure 17. Practo business model

[Source: Apptunix]

Value Proposition

Practo business model offers a variety of business devices, each of which has certain values that can be provided to its users. With the goods and offerings listed below, it offers multiple unique price proposals to its various stakeholders, including patients, doctors, hospitals, clinics, and so on.

For Patients:

- Practo's website and mobile app allow patients to look for doctors, nearby clinics, hospitals, book diagnostic tests, thorough physical diagnosis, reservations, and other medical needs.
- Practo Plus: Practo offers a registration-based patient health plan called Practo Plus.
- Practo also provides detailed written drug information to trained medical practitioners.
- Practo Drive is a tool for storing and accessing electronic medical records. At any time, patients can get access to their instructions, treatment plans, and therapeutic regimens.

For Medical Professionals and Clinics:

- Practo Consult: Doctors can use the Practo application to keep track of their visual acuity or to grow their practise by interacting with more patients online and earning more money.
- Practo Pro App: Automates repetitive tasks for doctors and care takers so that their attention is on patients
- Practo Prime: This is a technology-based solution that assists hospitals and clinics in providing a unique visiting experience to their patients.
- Practo Ray: This product is a full tool for physicians' clinical management and is shown as one of Practo's world-class offerings.
- Practo Reach: This software aids clinics and hospitals in gaining a stronger online presence. It ensures that the patients who are interested in their profiles can see them.

For Hospitals:

Aside from the devices described above, such as Practo Prime and Practo Reach, the Practo portfolio also includes unique hospital products.

- Practo Insta: A hospital management system or a useful tool for managing hospital operations and finances is Practo Insta. Long-term relationships with patients are fostered as a result of this.
- Practo Oikwell: This is a hospital relationship management solution that, among other things, ensures the smooth running of appointments, accepts digital payments, and reduces wait times by reducing patient lines.
- Practo Querent is India's largest AI technology analysis tool for producing in-depth hospital data in order to make better clinical, operational, and business decisions.

Segments of Customers

Practo's clientele is diverse, including:

- Practo for Patients
- Practo for hospitals and clinics
- Pathology Laboratories: Practo collaborates with diagnostic and pathology labs to provide laboratory diagnostic equipment to patients.

Key Partners

- Doctors: Practo offers a variety of medical products and services to physicians. They may easily manage their patient appointments with the Practo App.
- Insurance Businesses: Practo provides insurance companies with a variety of possibilities. He developed Practo Trinity, a cost-effective OPD insurance solution, in cooperation with ICICI Lombard General Insurance.

Key Resources

Practo's digital healthcare site, practo.com, allows customers to report their health issues, communicate with doctors via internet, order medicines online, schedule laboratory testing, and more.

- **Practo App:** It is the main app through which patients can search for near by hospitals, clinics, search for doctors and book tests.
- **Workers vs. Employees:** Practo support staff have a huge amount of experience and technical knowledge in designing in-house software solutions for Practo services.

Key Activities

The following are some of Practo's main activities:

- **Advertising and Promotional Activities:** Practo advertises and promotes themselves using a variety of social media outlets.
- To make a healthcare app like Practo, you must first realise that it is a technology-based product that provides value-added software to supply its users with a variety of health-related commodities.
- Practo's main mission is to grow and develop its stakeholder network, which comprises doctors, clinics, hospitals, diagnostic labs, and patients.

Customer Relationship Management

In Practo's client relationship, the following is the turning point:

- Practo's dedicated, pleasant, and middle-class support team provides personal assistance to its clients. Practo offers email, live chat, and phone support 24 hours a day, seven days a week.
- Practo also manages a number of software vendors who provide speedy and automated services.

REVENUE MODEL

The three Practo revenue streams are as follows:

Starting from the sale of SaaS software solutions to healthcare providers such as hospitals and clinics. Practo provides services to its stakeholders, such as physicians, clinics, and hospitals, using a registration-based platform.

Practo collects revenue for services such as finding physicians and appointments, ordering medications online, and consulting with doctors online.

Revenue from advertising or segregation from hospital-like providers who obtain sponsored listings through the Practo platform. It covers the cost of advertising for a variety of organisations that want to promote their services on the Practo website.

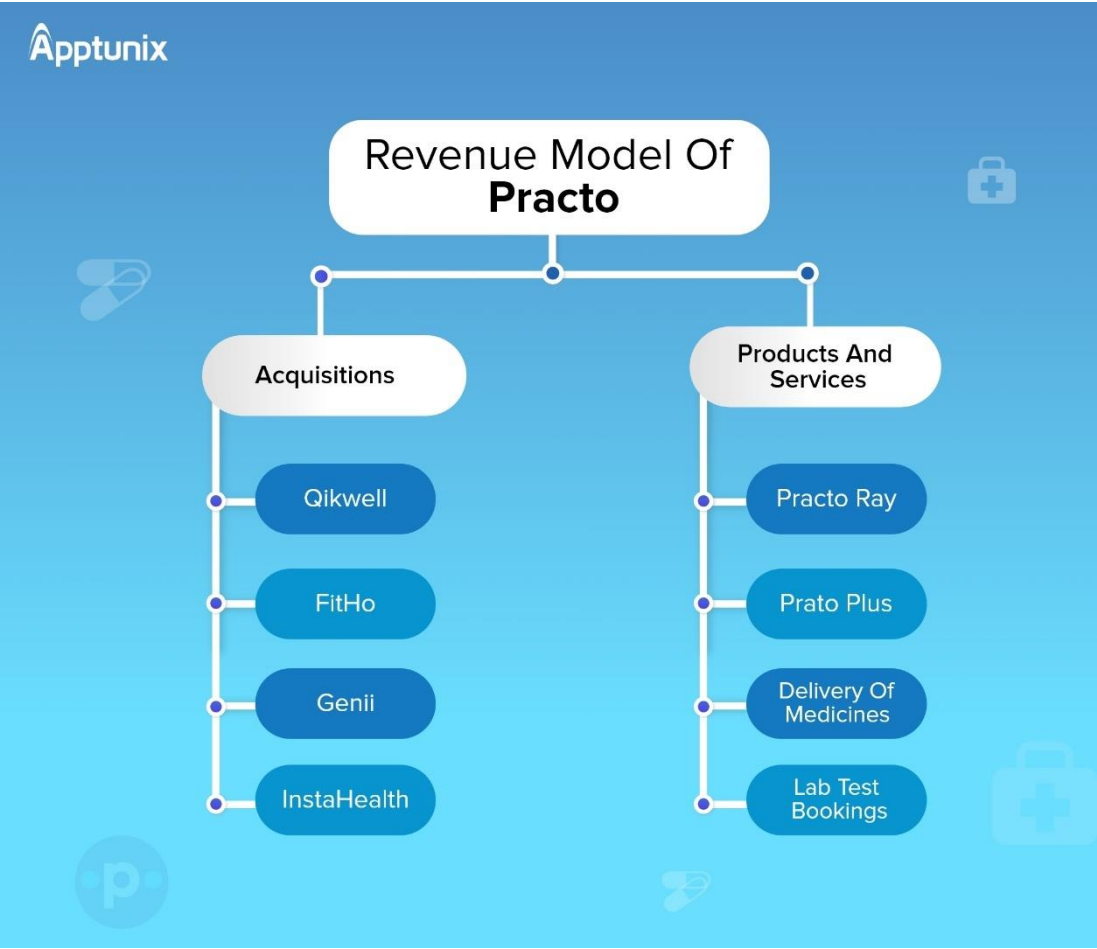


Figure 18. Practo revenue model

[Source: Apputnix]

Practo makes money by selling one-of-a-kind products and services, such as:

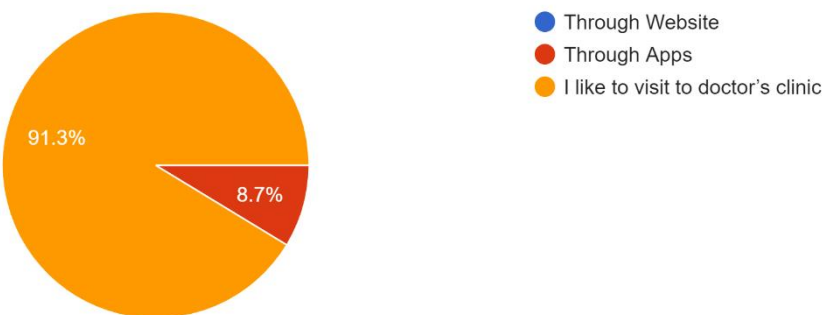
- Practo Ray: This is a subscription based product that requires physicians and medical experts to register.
- Practo Reach is an ad platform that generates revenue. It is available to patients for free, and it is supported by advertisements from hospitals and clinics.
- Medical Delivery: Practo earns from the sale of drugs at various drug and chemical outlets.
- Pathological Lab Booking: Practo charges a fee when medical laboratories schedule laboratory tests for Prato patients.
- Practo has made several acquisitions, including Qikwell (SaaS online reservation software), FitHo (resilience management platform), and InstaHealth (hospital administration software)

DATA ANALYSIS AND INTERPRETATION

A study was conducted over some respondents to observe their behaviour on the mHealth Adoption. These respondents belong to age from 18 to 50 years of age. Respondents are educated and reside in urban area where they have all kinds of access required to access mHealth apps/websites/devices.

How do you prefer to consult to a doctor or order medicine?

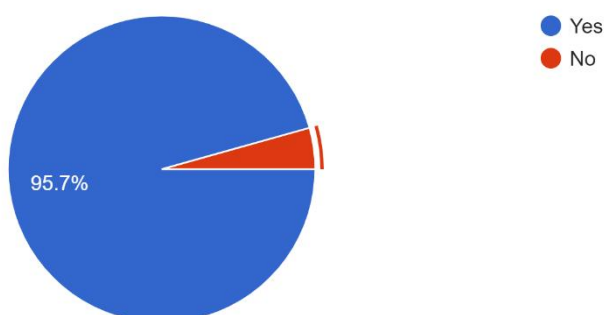
23 responses



- 91.3% people still favors to visit doctor's clinic. There are many factors that might be contributing to this.
 - Belief that they are getting better treatment while getting consultation face to face
 - Doctors are able to check patient in a better way by measuring their pulse rate and BP etc to diagnose better

Have you heard of the Practo?

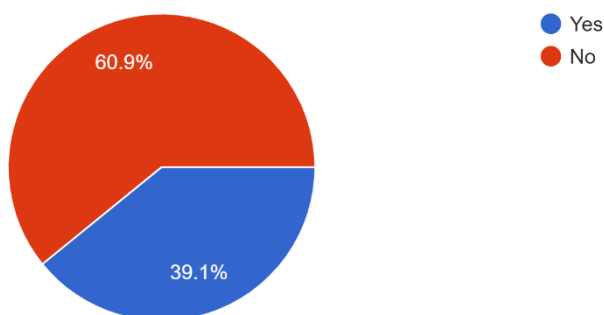
23 responses



- 95.7% of the correspondents have heard about the Practo. But we can see if compared to above data that 91.3% still goes to visit doctor, this shows reluctance of people to use digital apps for booking consultation.

Have you used Practo during Covid lockdown or after it?

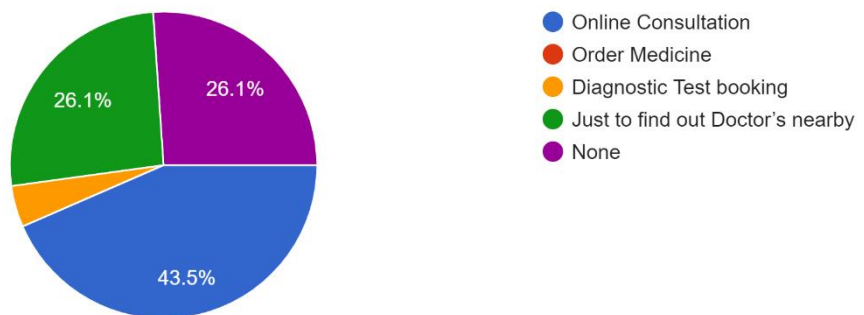
23 responses



- Here is another difference in adoption of mhealth. Now since people are not going out or are hesitant not to risk their health with covid situation. Hence, they are slowly migrating to seek consultations online.
- Online consultations can prove useful for basic sickness atleast like fever, cough, cold, stomach ache or for preliminary care of the patient before getting properly diagnosed.
- Also one more pushing factors is that Doctors itself are not opening their brick and mortar clinics are moved to online only consultation mode which has given this a much needed boost.

For what purpose you generally use Practo?

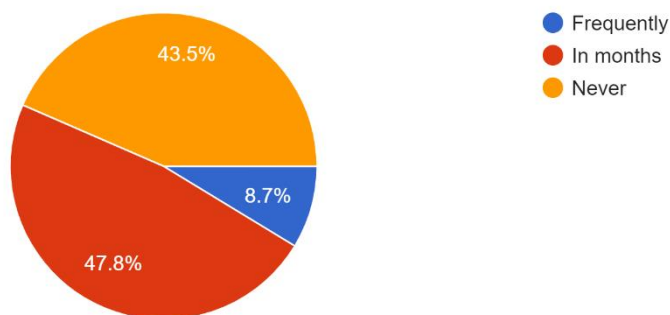
23 responses



- Here we can see some people are using it for Online Consultation which is the primary purpose of the app. Few people are using it just to find out doctors nearby and seeking consultation by going to their clinic.

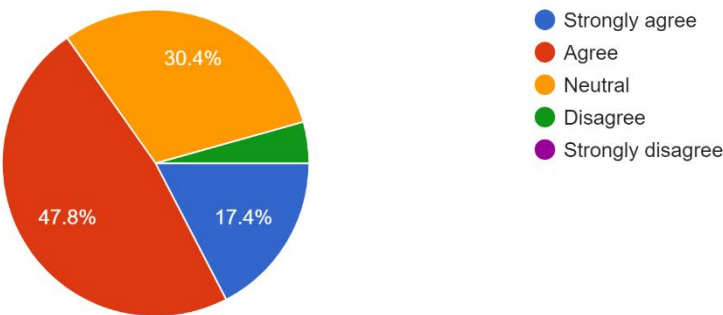
How often do you use Practo services?

23 responses



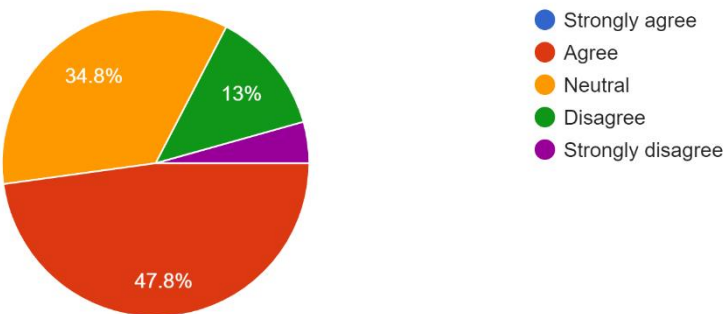
- People are still adapting to the idea of using apps or websites for digital consultation. People are using when circumstances like covid situation are compelling them to use. Otherwise, people are still reluctant to use.

Online Consultation keeps me safe from the chances of getting infected from Covid-19
23 responses



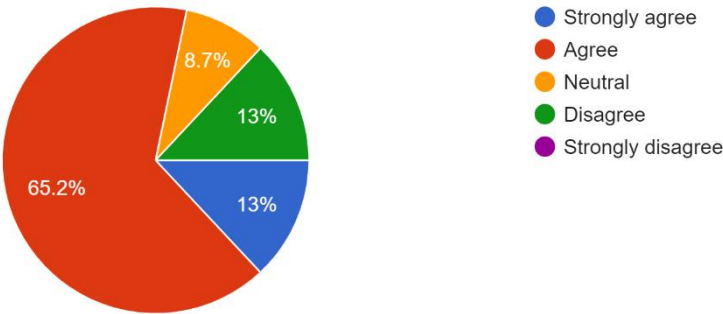
- By this we can assume that behaviour is bound to change with covid in effect and more people during this covid era has become accustomed or learnt to use mHealth so the fear or reluctance has gone by.

Online Consultation are much cheaper than physical appointments
23 responses



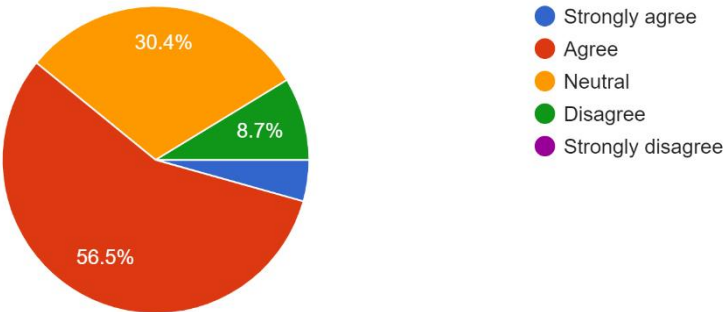
- We can see that few respondents agree that online consultation is cheaper while others are not so sure about it.

Online Consultation gives me benefit cost and time saving like travel and transport cost
23 responses



- There are obvious benefits of online consultation among which one is time saving and travel issues.
- Visiting a Doctor’s clinic can be cumbersome you have to either get your vehicle or get public transport which takes some time to reach also involve cost.
- Sometimes you might be incapable to travel in that case online consultation can be useful.

I am happy to receive prescription from my doctor via Practo
23 responses

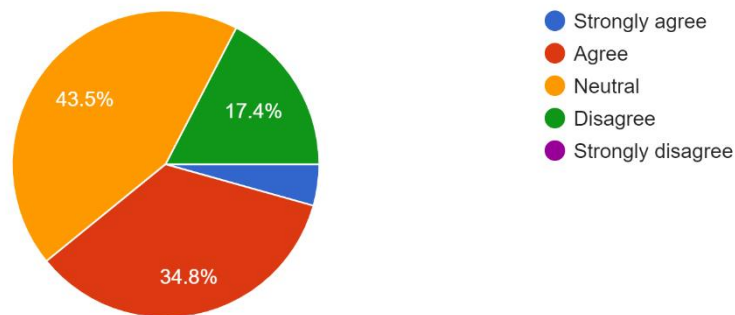


- We can see here the prescriptions % got reduced here which is in line with adoption also.

- As mostly users are not taking consultation hence no prescriptions too. Also people might not be satisfied with consultation they get or they don't want medicines to be delivered via app.

I am happy to share my medical details online

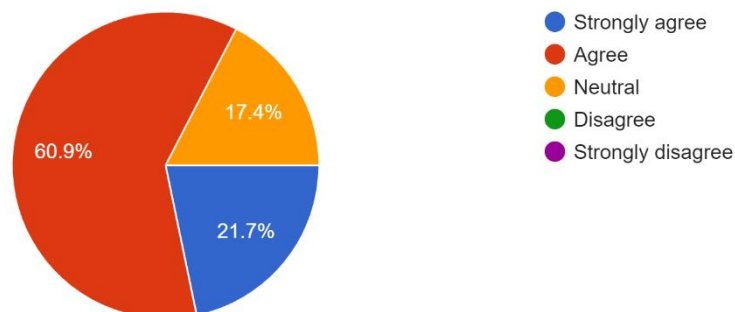
23 responses



- Now this is where trust factor comes into play and you can see there is an inclination of confusion as mostly reacted with neutral, they are not sure if they are safe or not safe.
- However, 34.8% shows people still proceed with it. Adoption rate will increase slowly.

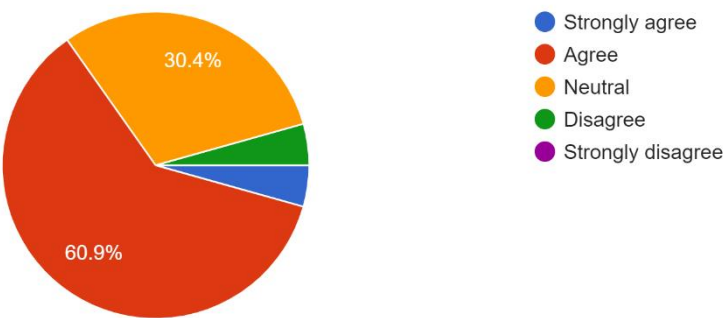
I am happy to provide my medical information to my doctor in his/her clinic/hospital

23 responses



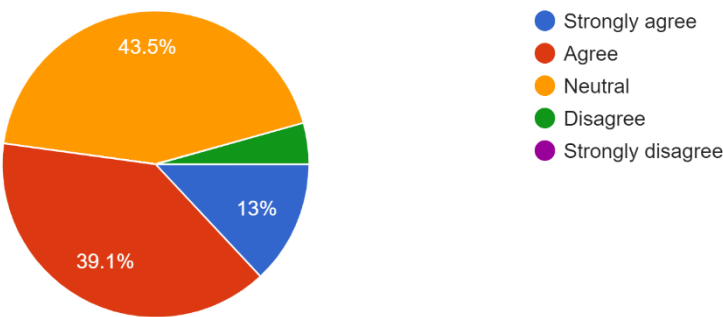
- In contrast to above chart, here you can see that people are happy to share their personal medical info when they are meeting physically with doctors.

I am concerned there may be online sources that provide false medical information
23 responses



- We can observe here that people are not sure about the medical information online. They feel that they are bound to be misguided through internet searches.

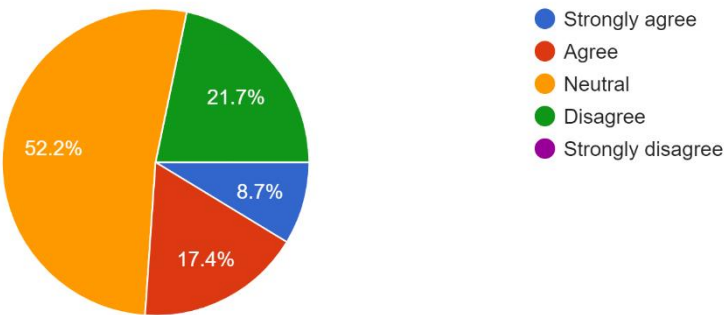
I am concerned these services may leak data to insurance companies or other agencies who can misuse the sensitive data
23 responses



- Concern related to data security has always been there. Cybersecurity is a major concern and cyber attacks are increasing day by day compromising safety of the personal details of the patient which can be misused.
- Recent hacks like Dominos, Mobikwik and other has recent examples of cyber attacks compromising security.

I would highly recommend use of Practo to my family members and colleagues

23 responses



- People are yet not comfortable with the use of the digital consultation. Hence it seems it will take some time for masses to get comfortable with idea of online consultation and booking of tests.

HOW TO DRIVE MHEALTH

- Difficulty of Users

While creating such apps, developers must create user friendly UI. The input from users is something that healthcare providers should look into. Apps should consider not only the availability of a variety of devices on the market, but also the possibility of incorporating health and fitness gadgets into the app.

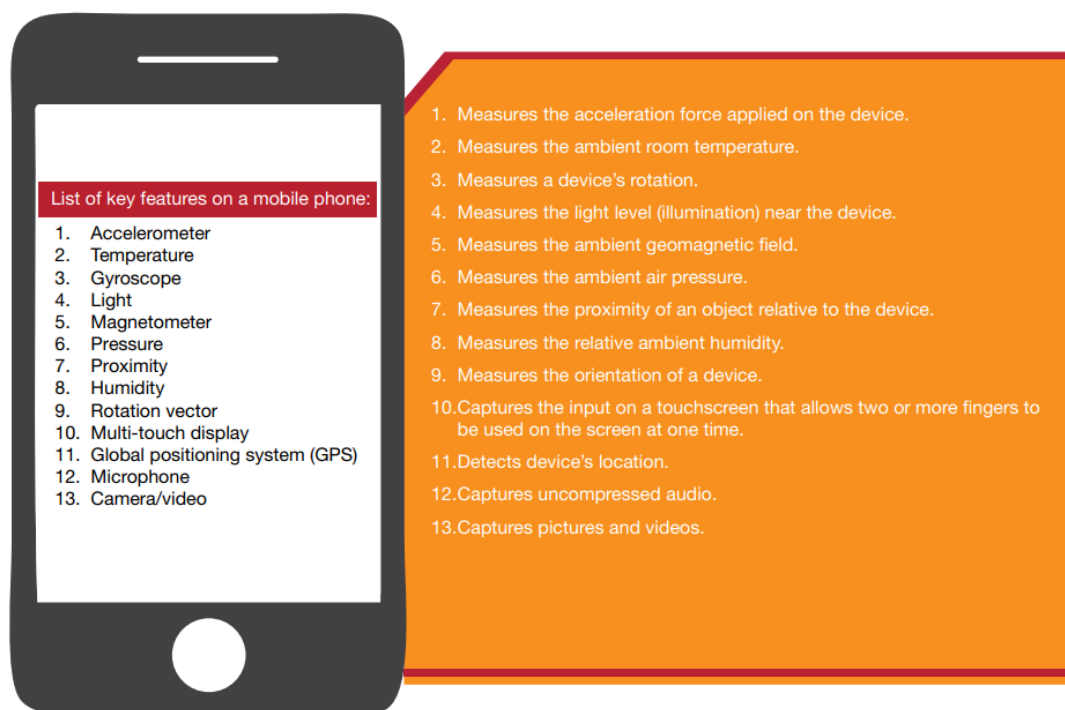


Figure 19. Leveraging mobile phone features for mHealth

[Source: Android Developers]

- **Patient's Concern over Data Privacy**

It is critical to guarantee that no one is unaware of the standards for data privacy established by the Health Insurance Portability and Accountability Act (HIPAA) or the General Data Protection Regulation (GDPR). Healthcare mobile apps must adhere to its requirements and protect the privacy of patients.

- **Responsibility of errors**

A clear medical strategy and guidelines should be created if something goes wrong in m-Healthcare systems and causes harm to patients. These recommendations could include rules concerning who is to blame and how the expenditures will be reimbursed.

- **Security**

Many operators, such as doctors, medical personnel, patients, superintendents, and others, are active in m-Healthcare apps. If their access to EHRs and other medical

data via m-healthcare apps is not restricted, it can pose a serious threat to the system's security. Although all users have access to public records, important medical data should only be viewed by related verified individuals. As a result, users' identities should be verified through an authentication process. These recognised people should be granted access to related capabilities and data as needed, for example, only physicians and no other users should be allowed to alter sensitive medical data in the EHR. An approved physician should be assured that with m-Healthcare systems, he or she may access the EHR and connect with a hospital or patient if necessary.

- **Health Awareness and Literacy**

Healthcare professionals must consider the needs of their patients. The answer rests in determining the target audience's needs and level of health literacy, and then providing an experience that connects with them. Healthcare practitioners must either adapt to the audience's level of health literacy or find a means to assist them understand despite the knowledge gap.

- **Patient Engagement**

The heart of mobile healthcare services is transparency in the relationship between healthcare providers/doctors and patients. Not only must the patients' suffering be alleviated, but they must also be provided with the required health and treatment-related data and information. The healthcare app must include features such as appointment scheduling and cancellation, prescription ordering, and access to medical records. If a patient is in need, a 24-hour consulting service should be made mandatory.

"Medical and public health practise enabled by mobile devices," according to the World Health Organization. In a nutshell, mHealth is here to stay. Hospitals and health systems are continued to look for new ways to employ mobile health to engage patients, improve patient health outcomes and satisfaction, and even save money. Innovators in the mHealth field are also thinking about how the growing number of devices in people's homes, such as Amazon's Alexa or other voice-

activated in-home assistants, could be used for more than just adding items to a grocery list or ordering diapers.

- **Public health policy and proactive healthcare**

The 'Health for All' concept is emphasised in the most current National Health Policy (NHP) 2017, which strives to ensure that everyone has affordable access to high-quality healthcare. However, under the NHP 2017, there is a lot more that can be done. In an ideal world, public health policy would focus on proactive rather than reactive healthcare.

Furthermore, the Pradhan Mantri Jan Arogya Yojana (PM-JAY), the government's universal health insurance programme, has gotten substantially more attention and resources than the Ayushman Bharat scheme's health and wellness centres (HWCs). This disparity must be addressed if healthcare is to grow in the future.

CONCLUSION

We see that people with all the access are still hesitant to use mhealth apps or devices due to multiple reasons. There are multiple factors like trust issues with the internet world as nothing is hidden on internet and misuse of data is very highly possible.

Still to reach out masses we need to promote more and more areas so that these facilities can be served even in remotest and farthest villages of India where doctors and other facilities are not easily accessible. Even for basic needs they have to travel.

We should aggressively work on weakness of the feedbacks provided by existing users.

We can have commission-based incentives by partnering with pharmacies, clinics and even users to bring upon more and more users.

There should be government initiatives both by central and state government so that more and more people can participate in it. Arogya setu is one example of how beneficial mHealth can prove in time of crisis.

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[Source: <https://www.youtube.com/watch?v=uTBwA4nfbGQ>]
9. Figure 18-19. Source: Apputnix

ANNEXURE OF QUESTIONNAIRE

1. Email

2.Enter your name

3.Enter Your Age

4.Please select your sex

Mark only one oval.

Male

Female

Other:

5. Select your current occupation (choose one option)

Mark only one oval.

Student

Employee

Business

Pensioner

Other

6. What is the highest level of education you finished successfully? (choose one option)

Mark only one oval.

Secondary School

Graduation

Post-Graduation

Doctorate

Other

7. Do you live in _____?

Mark only one oval.

Rural Area

Urban Area

Suburban Area

Village

8. How do you prefer to consult to a doctor or order medicine?

Mark only one oval.

Through Website

Through Apps

I like to visit to doctor's clinic

9. Have you heard of the Practo?

Mark only one oval.

Yes

No

10. Have you used Practo during Covid lockdown or after it?

Mark only one oval.

Yes

No

11. For what purpose you generally use Practo?

Mark only one oval.

Online Consultation

Order Medicine

Diagnostic Test booking

Just to find out Doctor's nearby

None

12.How often do you use Practo services?

Mark only one oval.

Frequently

In months

Never

13.I have taken subscription plans from Practo for consultation?

Mark only one oval.

Yes

No

14.Online Consultation keeps me safe from the chances of getting infected fromCovid-19

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

15.Online Consultation are much cheaper than physical appointments

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

16. Online Consultation gives me benefit cost and time saving like travel and transport cost

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

17. I am happy to receive prescription from my doctor via Practo

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

18. I am happy to share my medical details online

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

19.I am happy to provide my medical information to my doctor in his/herclinic/hospital

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

20.I am concerned there may be online sources that provide false medicalinformation

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

21.I am concerned these services may leak data to insurance companies or otheragencies who can misuse the sensitive data

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

22.I would highly recommend use of Practo to my family members and colleagues

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

Fitness Tracker

23.Which fitness tracker do you use?

Mark only one oval.

Fitbit

Apple Watch

MiWatch

Garmin

Other

None

24.Tracking my daily health keeps me motivated to be fit

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

25.I bought these tracker as they are cool to have now a days

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

26.I follow the tips and suggestions provided by fitness tracker

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

27.I trust the monitored data by the tracker

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

28. These devices had proved to be lifesaver for me

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

29. I take the warnings by the tracker seriously and take immediate necessary required action

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

30. I am concerned these services may leak data to insurance companies or other agencies who can misuse the sensitive data

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

31. I would highly recommend use of fitness tracker to my family members and colleagues

Mark only one oval.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree