

Turning Smartphones in to a Diagnostic Device and More

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Abstract

Getting the right health checkup and at the right time is the need of the hour and that being done with a tap on the screen is a blessing. The global telehealth market size was valued at USD 61.40 billion in 2019 and is projected to reach USD 559.52 billion by 2027, exhibiting a CAGR of 25.2% during the forecasted period. Eyeing this enormous potential, Ashutosh Lawania, co-founder of Myntra and Prasad Kompalli, a former business head at Myntra, founded Mfine, a health tech AI start-up that has shortened the gap between the doctors and the patients located miles apart. This study observes the radical strategies implemented by “Mfine” to maximize its reach and set up virtual hospitals during the time of the pandemic. This study also emphasizes the reasons behind the 10 times growth in their user base in the year 2020.

Keywords: Telehealth, health-tech AI start-up, virtual hospitals

INTRODUCTION

The global telehealth market size was valued at USD 61.40 billion in 2019 and is projected to reach USD 559.52 billion by 2027, exhibiting a CAGR of 25.2% during the forecasted period [1]. The effect of a global pandemic and the fear of virus transmission has acted as a catalyst to this growth of telehealth care services. In India, it makes greater sense to have developed this infrastructure as it would need lesser time to reach every nook and corner. Realizing this, MoHFW and NITI Aayog have prepared Telemedicine Practice Guidelines, enabling Registered Medical Practitioners (RMP) to provide healthcare using telemedicine [2]. The growing smartphone users, availability of good internet connection at an affordable price, rising digital payments and government initiatives like Ayushman Bharat would enable the telehealth firms to tap to this enormous Indian market.

Aspiring to be one of the largest networks of virtual hospitals in the world catering to services across primary care, secondary care and chronic care management, Ashutosh Lawania and Prasad Kompalli, two successful tech entrepreneurs, founded “Mfine”. Mfine is a health tech AI start-up, founded in the year 2017, presently serving with 200+ employees based in Bengaluru and Hyderabad. Today, Mfine is a network of 3500+ doctors and 550+ hospitals, it also has 2 million+ downloads by both the App Store and Play store. It has earned 50000+ 5-Star ratings and has an average rating of 4.4 stars on the google play store [3]. Mfine is presently catering to 26 health care specializations.

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Received Date: October 17, 2021

Accepted Date: October 22, 2021

Published Date: November 25, 2021

Citation: Saurabh Anil Pote. Turning Smartphones in to a Diagnostic Device and More. NOLEGEIN Journal of Advertising & Brand Management. 2021; 4(2): 1–6p.

COMPANY PROFILE

Mfine is an on-demand, digital primary healthcare platform which offers professional diagnostics and health check-up services that can be availed from the comfort of home, office, or any other place. Since its inception, Mfine has focused on providing quality digital healthcare services with the help of Artificial intelligence. The company believes in making good health more reachable, dependable and accommodating (Table 1) [4].

Table 1. Company Profile.

Key People	● Prasad Kompalli, CEO and Co-founder			
	● Ashutosh Lawania, Co-founder			
	● Arjun Choudhary, CBO and Founding Member			
	● Ajit Narayanan, CTO and Founding Member			
Operate from	Bangalore And Hyderabad			
Employees	200+(As in 2019)			
Investments	Sep 1, 2017	Venture Round	\$ 1.5 M	Stellaris Venture Partners
	May 17, 2018	Series A	\$ 4.2 M	Prime Venture Partners
	Apr 22, 2019	Series B	\$17.2 M	SBI Ven Capital
	Jul 2, 2019	Debt Finance	\$4.5 M	Alteria Capital
	Aug 31, 2020	Series B	\$5.41 M	Caretech Pte Inc
	Jan 18, 2021	Venture Round	\$ 16 M	Heritas Capital
	Total Funding Amount		\$48.8 M	

Mfine services include:

- Medical Consultation,
- Consultation with Specialists,
- Health Check-up Packages,
- Book full-body Scans,
- Door Step Lab Tests,
- Lifestyle Assessments,
- Condition-based Tests,
- Coronavirus Assessments,
- Home Care Subscriptions, and
- Online Pharmacy.

KEY PILLARS OF MFINE

Prasad Kompalli: CEO and Co-founder

Completed his education at the European School of Management and Technology (Berlin), IMD Switzerland and INSEAD France. He has worked as CBO at Myntra and also was a Senior VP at SAP labs. Prasad also owns 7 patents in data and mobile technology [5].

Ashutosh Lawania: Co-founder

He completed his education at IIT Kanpur. He has co-founded Myntra which was a leading apparel and fashion e-commerce brand. Myntra was later taken over by Flipkart. Ashutosh is known for his Serial Entrepreneurial ventures as he has been an angel investor to many Tech start-up firms [5].

Arjun Choudhary: CBO and Founding Member

Arjun is an IIT Roorkee graduate and has over 10 years of experience in the field of sales revenue and growth. He has also worked as Senior Director, Growth and Sales for Myntra. Here he has delivered 50X growth at Myntra. He also has experience in working with Amazon [5].

Ajit Narayanan: CTO and Founding Member

Ajit is an Electronics engineer by education, with 20 years of expertise in creating products and building organizations across e-commerce, consumer internet, mobile, healthcare, analytics, and integration platforms. His current research includes virtual assistants, explainable artificial intelligence and knowledge representation, and is responsible for driving the product and technology for Mfine [5].

WHAT DOES MFINE MEAN TO THE DOCTORS?

- Access to a large pool of patients.
- No investment in infrastructure to upscale the reach.
- The assistance of AI to enhance the productivity of doctors.

WHAT DOES MFINE MEAN TO THE PATIENTS?

- Access to the best hospitals and medicines.
- Personal medical history reports available in one place.
- Tools to stay healthy.
- Health tracking and home-based solutions.
- Self-check assistant using the Mfine App.
- Doctors.
- Saving travel costs and hassles.
- Doorstep access diagnostics and medicines.

COMPETITORS

With the attractive growth evident in the telehealth industry and the demographic dividend of India, numerous domestic and international players are entering into this market. This has in turn given rise to increase in competition. A few players present and prominent in the market are listed in Tables 2 and 3.

Table 2. Competitors around the globe.

Competitor (India)	Total Users	Services
Practo	47.48 M	• Medical delivery
		• Wellness and fitness centres
		• Diagnostic centres
1 mg	26.18 M	• E-pharmacy
		• Online consultation
		• Lab tests
Lybrate	25.18 M	• Health communication delivery platform
		• Health wiki
Medlife	2.54 M	• Online consultation
		• E-health records and E prescription
		• Health products
		• E-pharmacy
Portea Medica	7.3 M	• Healing at home
		• Medical equipment
		• Counselling
		• Lab tests

Table 3. Prominent competitors in India.

Competitors around the Globe		
MD Live	Dialogue	PlushCare
Lemonaid	TalkSpace	Maple
AmWell	First opinion	Pager
Babylon Health	Simple Contacts	Doctor on Demand
Health Tap		

BUSINESS INNOVATIONS DURING COVID-19 PANDEMIC

The pandemic hit India in early 2020, strict lockdowns were imposed. Staying isolated, working from home and living with restricted movements was a new normal. The fear of exposure to the virus was at its peak. The healthcare system was overburdened with Covid patients and the non-covid patients were unable to get the proper health treatment. Acknowledging this problem Mfine saw an opportunity to serve this need.

In the year 2020, in India, there were approximately 440 million smartphone users and it is estimated to be 760 million, by the end of 2021. Smartphones today are capable of handling AI and Machine Learning operations. With the founders having the expertise in this domain, they were able to design a business model catering to telehealth using AI and Machine Learning [6].

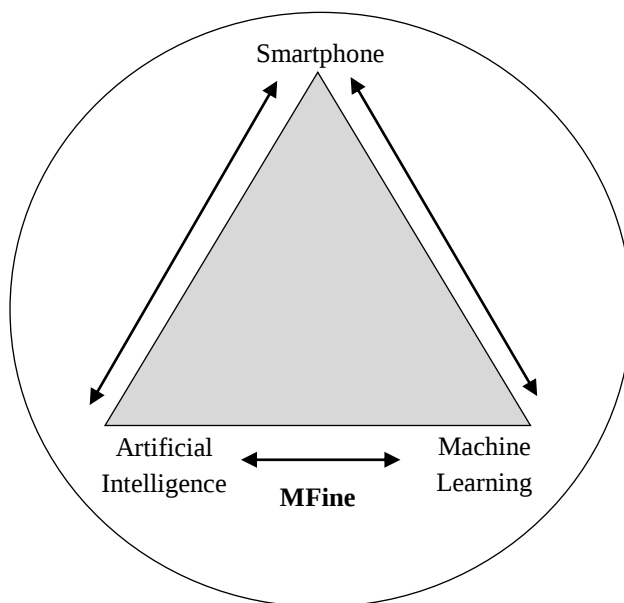


Figure 1. AI model.

Innovations

Using an AI Model as an Assistant to the Doctors

- *E.g.: Cough:* The patient needs to record the cough in audio format and send it to the doctor and the machine will analyze the cough and suggest the possible type of cough to the doctors.
- *Skin Infection:* The patient can take a picture of the skin infection and send it to the doctor and the machine will analyze the image and suggest the possible type of skin infection to the doctors (Figure 1).

MFine Pulse (Beta)

- A tool to monitor blood oxygen levels using the smartphone camera and flash.
- The SpO₂ measuring tool uses a photoplethysmogram (PPG), to collect information in the form of reflected light is collected from a user's fingertip or wrist [7].
- This technology cannot replace the actual pulsometer but can act as a tool to alert at the time of emergencies.
- This tool has achieved an 80% degree of accuracy [7].

Self-Checks Module

- Just by answering few questions on the app, one can assess the detailed report of the risk level for the symptoms of PCOD, Thyroid, Heart Health, Diabetes, COVID-19, Breast Cancer and Urinary Tract Infection (UTI).

- Self-checks assesses the health risks based on the responses given by the user on symptoms, lifestyle choices, medical history and family history.
- Post assessment, the patient can book an appointment if required.

COVID-19 Care

- Mfine provides a solution for COVID-19 panic by providing home-based tests and diagnosis, providing the latest and relevant information relating to COVID-19, mental health and physical health tips through videos.
- COVID-19 Home Care Plan provides home care for Covid patients, unlimited consultations with physicians and pulmonologists.

Schedule a pick-up of samples to be tested in a few of the top diagnostics centres. With the initial data collection done through AI algorithms, the diagnostics data will already be available to the doctors. This can save the case taking time for the doctors and improve productivity.

SWOT ANALYSIS

Strengths

- Focused leadership and Clear vision.
- Competent Leadership.
- Large network of Doctors, Specialists, Hospitals, Labs etc.
- AI-based approach and efficient use of machine learning.
- One stops source for all health needs.
- Investor's supports and interests.
- 4.4 Star rating on Play store.

Weaknesses

- Lack of marketing activities.
- Dependence on 3rd party for service fulfilment.
- Services may not be feasible at the time of emergencies.
- Treatment over video calls may not be as effective as it happens in physical visits.
- Dependence on smartphones of varied qualities.

Opportunities

- The emergence of 5G may do wonders for this industry.
- Increase in the number of smartphone users.
- Government recognizing the telehealth industry.
- Government initiatives in healthcare and life insurance.
- To upsurge their reach to tier II and tier III cities.
- To enter in product market by introducing devices that are medically capable to increase the efficiency and accuracy of the readings.
- Raising awareness and adaptability of virtual hospital and healthcare services.
- Entering into Global Markets.

Threats

- Raising competition from already established hospital chains.
- Preference of physical consultation over virtual.
- Use of 3rd party devices.
- Product companies developing health specific products may have an edge over service-oriented products.
- Global players with deeper pockets entering Indian markets eyeing the great demographic potential.

- Established business groups like Tata Group, Apollo Hospitals, Fortis hospitals etc. entering into this space.
- Raising concerns about National Health Stack.

RESULTS OF THIS INNOVATION

With timely innovation and response to the opportunity, Mfine was able to:

- Gain 10 times more doctor consultations.
- The projected growth of 3 years, in terms of economic size, behavioral changes on both the patient's side and on the doctor's, was achieved in just 9 months during the pandemic. The growth was not just limited to Covid related consultations but it was spread across the specialties.
- More than 200000 uses of COVID-19 self-assessments within 2–3 months of the launch.
- With these innovations, Mfine was able to attract \$ 16 million of investment from Heritas Capital.

CONCLUSION

Virtual hospitals and telehealthcare services are currently at the stage of inception; there is a long way forward for this industry. The corporate understanding of the potential of this industry, a massive capital infusing is being witnessed. The blend of medical science, AI and machine learning would take this industry to great highs. Mfine has recognized this at the very early stage and is committed to its vision of establishing virtual hospitals catering to services across primary care, secondary care and chronic care management; they will have to overcome numerous challenges like changing the attitude of the potential users, establishing the right technology with right kind of devices, the upcoming competition from domestic and global players, working on the accuracy of their systems etc.

This is just the beginning of the new era in the health care sector and there is a long way ahead.

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