

DEEP DIVE INTO THE HEALTH-TECH INDUSTRY IN INDIA

Industry Analysis





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OVERVIEW

The health-tech industry in India is gearing up for exciting times ahead. According to research published by RBSA Advisors, by 2033, India's health-tech market will hit \$50 billion. The report also states that the industry is growing at a 39 percent compounded annual growth rate (CAGR) over FY2020-FY2023. Currently, the health-tech sector is valued at \$2 billion and consists of almost six segments under it such as fitness, IT, e-pharmacy, wellness, healthcare and telemedicine.

The industry is being driven by a number of factors, including:

1. A Growing Population:

India has a population of over 1.4 billion people, and this population is growing rapidly. This growth is putting a strain on the country's healthcare system, and health-tech is seen as a way to improve access to healthcare and make it more affordable.

2. A Young Workforce:

India has a young workforce, with over 65% of the population under the age of 35. This young workforce is more likely to adopt new technologies, and this is helping to drive the growth of the health-tech industry.

3. A Government Focus on Healthcare:

The Indian government is committed to improving healthcare, and this is helping to

create a favorable environment for the health-tech industry. The government has provided funding for health-tech startups, and it has also relaxed regulations for the industry. The government proposed providing up to Rs 2,000 crore as venture capital to create an ecosystem for health-tech start-ups to help them access capital and develop innovative products and services.

HEALTHTECH 3.0-4.0

Focus and Scope



Adoption of Electronic Health Records (EHRs), telemedicine and mobile health applications

3.0

Expansion to include AI, big data analytics, Internet of Medical Things (IoMT), blockchain, VR/AR, precision medicine, robotics and cloud computing.

4.0

Integration of AI/ML



Limited emphasis on integration of AI/ML

3.0

Significant integration to analyze data, make predictions and optimize health operations.

4.0

IoT and Sensors



Limited Integration of IoT and sensors

3.0

Extensive use of IoMT, real time data collection and remote patient monitoring.

4.0

Blockchain Technology



Blockchain technology is not extensively explored

3.0

Recognized as a valuation tool for secure data storage and sharing, enhancing privacy and streamlining processes.

4.0

Virtual and Augmented Reality



Virtual and augmented reality is not a prominent focus

3.0

Integration for medical training, surgical planning, pain management and patient education.

4.0

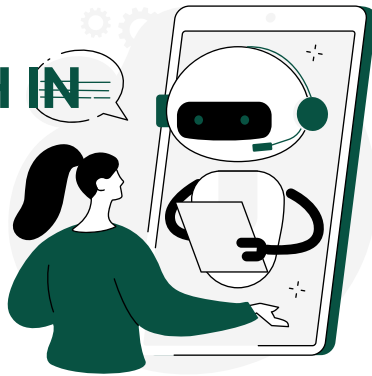
Key clients doing great in the 4.0 future technology in health-tech.

Nirvesh
A med-tech startup with a focus on non-invasive diagnostics and therapeutics for patients suffering from traumatic brain injuries (TBI) in a post operative setting.

Restory
A health-tech startup that enables geriatric individuals to take back control of their health and physical wellbeing.

Bewell
A health-tech startup that has developed a contactless physiological assessment, named WellFie, where the user gets information about their health vitals through a selfie.

GROWTH IN VIRTUAL CARE



Electronic Medical Records have been a huge help in India as telehealth continues to expand quickly. EMRs have been helpful since they can be accessed whenever needed, which is important because the majority of patients seek a second opinion from a different specialist. It overcomes the challenge of limited access to specialists by enabling easy and secure access to patient records, facilitating remote consultations and second opinions

Telehealth is a revolutionary method of communication and access to care for people and medical professionals. Beyond episodic treatment, telehealth will continue to expand into the management of chronic illnesses and speciality care, including mental health services. Patients now have easier access to care that is more convenient.

Additionally, with electronic medical records, all patient histories, test results, diagnoses, and pertinent data may be centrally stored in an online location. The data allows for more precise and targeted treatment, as well as the capacity to spot personal health patterns.

Barriers & Challenges

1. Lack of Awareness :

Many healthcare establishments lack sufficient awareness of EMR in India. EMR can be a useful technology for medical institutions because it can improve the efficiency of healthcare services by providing a reliable record of a patient's medical history. However, many health providers in India are unaware of the extent of EMR, the free EMR software available, and the existing top EMR Software, which needs to change.

2. Resistance to Change :

A change in the system is also met with resistance, particularly in light of the technological expertise needed to manage EMR software. India's healthcare system has always relied heavily on written paperwork, paper records, and physical records. The technological criteria will need to be adjusted in order for doctors, other healthcare professionals, and medical personnel to switch to EMR. Due to its more complex user interface, EMR software frequently includes artificial intelligence (AI) characteristics that may make some people reluctant to use it.

3. Administrative Charges :

The transition to EMR software in India demands more time and resources because the majority of healthcare facilities deal with administrative difficulties. It is

challenging since hospitals and medical facilities must manage a high number of patients and are overburdened.

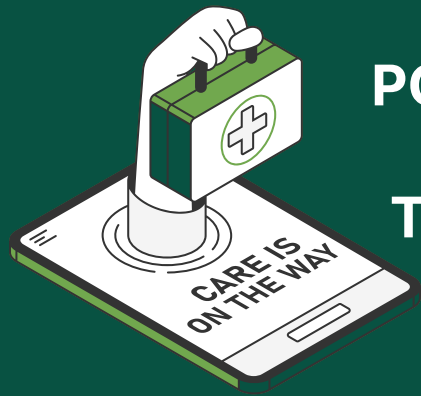
4. Data Privacy Concerns :

With the increased use of technology and data storage systems, there is an increased risk of data breaches. Personal health information, including medical records and sensitive patient data, may be vulnerable to unauthorized access, hacking, or cyber-attacks. These breaches can result in the exposure of private health information, leading to potential harm, identity theft, or fraud.

Companies in this space

HealthPlix Technologies Pvt. Ltd. : They pioneered the digitization of healthcare through its future-ready AI-powered EMR platform for doctors in India. It is an easy-to-use EMR platform, designed with a Doctor-first approach. They also have a mobile EMR app called the HealthPlix SPOT. It enables doctors to consult on the go.

Docpulse : A cloud-based software platform for medical practitioners, labs, hospitals, and pharmacies. This telemedicine platform helps healthcare providers be more productive, and deliver patient-friendly healthcare. With this clinic management tool, Doctors can easily coordinate with other departments and share medical health records. The software helps write prescriptions faster and keeps bills and other calculations maintained digitally.



POINT OF CARE TESTING

Portable testing devices have the potential to bring about a revolution in the healthcare industry in India. With the ability to test for multiple parameters in just a few minutes, these devices can significantly improve access to healthcare, particularly in rural areas. They can also help reduce the cost of healthcare as they are cheaper than traditional laboratory tests.

Moreover, portable testing devices offer more accurate results, enhancing the quality of healthcare by providing more precise diagnoses and treatment plans. In addition to these advantages, these devices offer quicker results, greater convenience, and increased privacy for patients. It holds an immense promise in transforming healthcare in India by enhancing accessibility, affordability, and quality of care.

Barriers & Challenges

1. Infrastructure Limitations :

The successful implementation of portable testing devices requires a robust infrastructure, including reliable power

supply, internet connectivity, and appropriate storage facilities for samples and equipment. Many remote areas in India may lack these essential infrastructure components, making it difficult to deploy and utilize the devices effectively.

2. Regulatory Hurdles :

The introduction of new healthcare technologies often involves navigating complex regulatory processes. Portable testing devices may require approvals from regulatory authorities to ensure their safety, accuracy, and reliability. Streamlining and expediting the regulatory processes can help overcome this barrier.

3. Training and Capacity Building :

To utilize portable testing devices effectively, healthcare professionals and technicians need proper training to operate and interpret the results accurately. This requires investment in training programs and capacity building initiatives to ensure that healthcare providers are proficient in using the devices and can provide appropriate care based on the results obtained.

Companies in this space

HealthCube : HealthCube ensures that accurate diagnosis is within easy and convenient reach of billions of people in both developed and developing economies. HealthCube designs and manufactures point-of-care diagnostic devices to enhance the quality of primary care in diverse

settings. HealthCube's multiparametric technology can test for over 30 parameters including blood glucose, hemoglobin, blood pressure, detect infectious diseases markers, and even perform ECGs. Their easy-to-use and portable devices are medical grade, clinically validated, and digitally enabled, with results available instantly.

HemoCue : HemoCue develops, produces, and markets medical diagnostic products for Point of Care testing. The fundamental concept behind the HemoCue products is to perform important common blood and urine tests that offer lab quality results at the Point of Care without sacrificing the accuracy and precision offered by a central clinical lab. HemoCue was acquired by Radiometer.

IOMT - INTERNET OF MEDICAL THINGS



The Internet of Medical Things (IoMT) holds tremendous potential to revolutionize the healthcare experience. By leveraging connected devices, sensors, and software applications, IoMT empowers individuals to actively participate in their own healthcare journey.

Imagine wearing a fitness tracker that not only monitors your daily activity levels but also tracks your heart rate, sleep patterns, and other vital signs. This data is seamlessly transmitted to your healthcare provider, allowing them to have a comprehensive view of your health in real-time. With this information, the doctor can provide personalized recommendations, monitor your progress, and even detect early signs of potential health issues.

For patients with chronic conditions or those in need of continuous monitoring, remote patient monitoring devices become invaluable. These devices enable individuals to receive medical care from the comfort of their own homes while staying connected to their healthcare providers. For instance, a diabetic patient can use a connected glucose monitor that sends their blood sugar levels directly to their doctor, enabling timely adjustments to their treatment plan. This not only improves convenience but also reduces the need for frequent hospital visits.

Barriers & Challenges

1. Security and Privacy Concerns :

The increased connectivity and data exchange in IoMT raise concerns about the security and privacy of sensitive health information. Protecting data from unauthorized access, ensuring secure communication channels, and implementing robust cybersecurity measures are crucial to maintain patient confidentiality and trust.

2. Interoperability & Standardization :

The IoMT ecosystem involves a wide range of devices, sensors, and software applications from different manufacturers, often operating on different platforms or protocols. Ensuring interoperability and standardization among these components is necessary to enable seamless data exchange, integration with existing healthcare systems, and collaboration between different healthcare providers.

3. Data Management & Analysis :

The vast amount of data generated by IoMT devices poses challenges in terms of data storage, management, and analysis. Developing effective data management strategies, including data storage, retrieval, and analysis techniques, as well as leveraging artificial intelligence and machine learning algorithms for meaningful insights, is essential to derive actionable information from the collected data.

Companies in this space

Babylon Health - Babylon Health is a digital-first health service provider that combines an artificial intelligence powered platform with virtual clinical operations for patients. Patients are connected with health care professionals through their web and mobile application.

Clover Health - Clover Health is a healthcare technology company with a deeply rooted mission of helping its members live their healthiest lives. Clover

uses its proprietary technology platform, the Clover Assistant, to collect, structure, and analyze health and behavioral data to improve medical outcomes and lower costs for patients.

Sensely - Sensely uses Nurse avatars to manage patient health and their body vitals from a distance. Besides, it also offers consultations and preventive suggestions to warn off deteriorated health scenarios among patients. The AI-powered app, Sensely, also educates potential patients about illnesses and poor health conditions

FUTURE OF HEALTH-TECH : 4.0 - 5.0



Technologies

AI, big data and IoT
4.0

Quantum computing, augmented reality, virtual reality.
5.0



Goals

Improve efficiency, effectiveness, and personalization of healthcare
4.0

Provide even more personalized and effective care.
5.0



Challenges

Lack of data privacy and standardization concerns.
4.0

Lack of understanding of quantum computing and high cost of technology.
5.0



Potential Benefits (Patients)

Enables remote access, personalized care, and patient empowerment for active health management.

4.0

Offers personalized medicine, immersive rehabilitation, secure data sharing, and proactive health monitoring, enhancing treatment outcomes and patient engagement.

5.0



Potential Benefits (Practitioners)

Improves practitioner efficiency through automation and data-driven insights, while enabling remote patient monitoring and enhanced communication for collaborative care.

4.0

Personalized treatment plans based on genetic profiles and immersive training through simulations, and efficient data management which improves access to patient records.

5.0



Data Security and Privacy

Addressing challenges related to data privacy and security.

4.0

Continued focus on data security, privacy and compliance with evolving regulations.

5.0

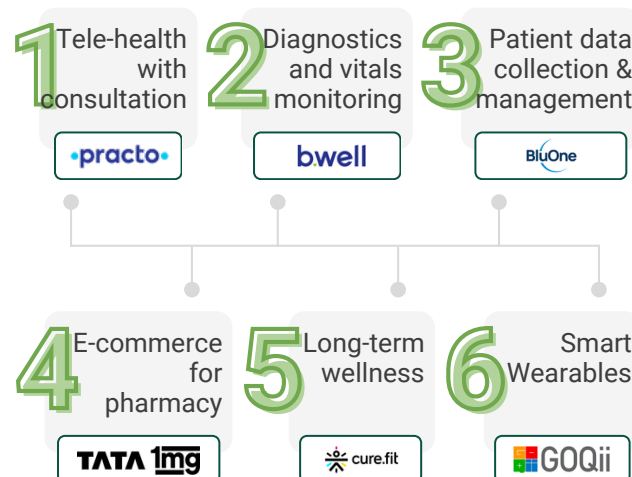
SUCCESSFUL BUSINESS MODELS



The health-tech industry in India is experiencing rapid growth and holds immense potential for the future. With a

projected market value of \$50 billion by 2033, the sector is driven by factors such as a growing population, a young workforce, and government focus on healthcare. The industry has evolved from Health-tech 3.0, focusing on EHRs and telemedicine, to Health-tech 5.0, incorporating advanced technologies like AI, IoT, and quantum computing for personalized and effective care. However, there are challenges to overcome, including lack of awareness, resistance to change, data privacy concerns, infrastructure limitations, and regulatory hurdles. Companies like HealthPlix, Docpulse, HealthCube, and Babylon Health are at the forefront of innovation in this space. Overall, the future of health-tech in India looks promising, with virtual care, point-of-care testing, and the Internet of Medical Things poised to transform healthcare delivery and improve patient outcomes.

Listed here are some examples of successful business models in the Indian health-tech industry -



1. **Practo** provides a platform that is safe and secured for patients to communicate with doctors online.

2. WellFie, a contactless physiological examination created by **Bwell**, allows users to take a selfie and receive vital health information.

3. **BluOne India** is committed to providing innovative and practical business solutions and services that support businesses in overcoming their issues.

4. **Tata 1Mg** is India's leading online pharmacy & healthcare E-commerce platform

5. The health and fitness startup **CureFit** provides both online and offline experiences for fitness, nutrition, and mental wellness.

6. Since its debut in 2014, **Goqii** has led the way in wearables innovation in India by providing a wide selection of fitness tracking and health monitoring gadgets.

LEGAL CONSTRAINTS AND LIMITATIONS

1. Privacy and Security :

RPM involves the collection, transmission, and storage of sensitive patient data, such as medical records and real-time health information. Healthcare providers and technology vendors must comply with

relevant privacy and security regulations, such as the Health Insurance Portability and Accountability Act (HIPAA) in the United States. This includes implementing appropriate safeguards to protect patient data from unauthorized access, breaches, and ensuring secure data transmission.

2. Licensure and Credentialing :

Depending on the jurisdiction, healthcare professionals who provide remote patient monitoring services may need to comply with specific licensure requirements. Regulations may vary between states or countries, and it is important to understand the legal obligations related to practicing healthcare remotely.

3. Regulatory Landscape :

The providers must be aware of the regulatory landscape for RPM. The Food and Drug Administration (FDA) regulates medical devices, including RPM devices. The Centers for Medicare and Medicaid Services (CMS) also has regulations that apply to RPM programs. Providers must ensure that their RPM programs comply with all applicable laws and regulations.

4. Tele-medicine Regulation :

RPM often falls under the broader umbrella of telemedicine or tele-health. Providers should familiarize themselves with applicable telemedicine regulations, including requirements for establishing a valid patient-provider relationship, prescribing medication remotely, and other

telemedicine-specific rules.

5. Reimbursement and Insurance :

The reimbursement landscape for remote patient monitoring services is constantly evolving. Healthcare providers should stay informed about reimbursement policies and requirements set forth by government payers, private insurance companies, and other relevant entities to ensure appropriate billing and reimbursement for RPM services.

6. Liability and Malpractice :

Healthcare providers using RPM must be aware of the potential liability issues that may arise. They should maintain appropriate professional liability insurance coverage and adhere to standard practices to minimize the risk of errors or omissions in patient monitoring and decision-making.

7. Intellectual Property :

XR applications often involve the creation of proprietary content, including software, simulations, and virtual environments. Organizations developing and using XR technologies for clinical training and treatment should have appropriate intellectual property protection in place, such as copyrights, trademarks, or patents, to safeguard their innovations.

a. Patents

Patents offer protection for brand-new ideas as well as modifications to already-existing ones. Start-ups

in the health technology industry should think about patenting their original technological innovations, software algorithms, medical devices, or diagnostic tools.

b. Trademarks

Trademarks protect the names, logos, and slogans that make up your brand identification. By registering a trademark, you can stop others from using it in the same business, which can help you establish your brand's credibility.

c. Copyrights

Original creative works like softwares, websites, user interfaces, or educational materials are protected by copyrights. Copyright registration gives the exclusive right to reproduce and distribute the protected works as well as serves as legal proof of ownership.

8. Licensing and Permissions :

The use of XR technologies may require obtaining licenses or permissions for specific software, tools, or copyrighted materials used in the development or distribution of XR content. For example, if using XR simulations or models based on medical imaging data, obtaining appropriate licenses or permissions from the data owners or copyright holders is essential.

9. Health and Safety Regulations :

XR technologies should prioritize your well-being. They should adhere to health and safety regulations, considering ergonomic factors, preventing motion sickness, providing content warnings, and following industry standards for XR hardware and software. This ensures that your experience with XR is safe and comfortable.

REGULATORY BODIES

INDIA

Central Drugs Standard Control Organization (CDSCO):

CDSCO is the primary regulatory authority for pharmaceuticals, including medical devices, in India. It regulates the import, manufacture, sale, and distribution of drugs and medical devices.

Indian Council of Medical Research (ICMR):

ICMR is a premier biomedical research organization in India. It provides guidance and sets ethical standards for clinical trials and research involving human participants.

National Health Authority (NHA):

NHA is responsible for the implementation and regulation of Ayushman Bharat, the government's flagship health insurance scheme. Health-tech startups involved in telemedicine or health insurance services may need to comply with NHA guidelines.

Telemedicine Society of India (TSI):

TSI is a professional society that provides guidelines and standards for telemedicine practices in India. Health-tech startups offering telemedicine services should follow TSI guidelines for teleconsultations.

Health Ministry's E-Governance Division:

The E-Governance Division of the Ministry of Health and Family Welfare oversees the implementation of digital health initiatives in India. Health-tech startups working on digital health solutions should be aware of their guidelines and initiatives.

Medical Council of India (MCI):

MCI is responsible for regulating medical education and maintaining the medical register in India. Health-tech startups involved in medical education or training may need to comply with MCI guidelines.

Ministry of Electronics and Information Technology (MeitY):

MeitY oversees the regulation of electronic and IT-related services in India. Health-tech startups dealing with data privacy and security should be aware of MeitY guidelines and regulations.

REGULATORY BODIES

GLOBAL

Food and Drug Administration (FDA) - United States :

The FDA regulates medical devices, including software applications and mobile health (mHealth) technologies that meet the definition of a medical device. Health-tech startups developing medical devices may need to comply with FDA regulations and obtain necessary clearances or approvals.

European Medicines Agency (EMA) - European Union :

The EMA is responsible for regulating medicines, including digital health products that fall under the medical device or pharmaceutical categories. Health-tech startups operating in the EU may need to comply with EMA regulations and seek approvals when applicable.

Health and Human Services (HHS) - United States :

The HHS oversees various

regulatory bodies related to healthcare, including the Office for Civil Rights (OCR) for privacy and security regulations (HIPAA), the Centers for Medicare and Medicaid Services (CMS), and the Office of the National Coordinator for Health Information Technology (ONC).

Medicines and Healthcare products Regulatory Agency (MHRA) - United Kingdom:

The MHRA is responsible for regulating medicines, medical devices, and blood components in the UK. Health-tech startups operating in the UK may need to comply with MHRA regulations for medical devices or digital health products.

Health Canada - Canada :

Health Canada is responsible for regulating health products, including medical devices and digital health technologies. Health-tech startups in Canada may need to comply with Health Canada regulations and obtain necessary approvals.

Therapeutic Goods Administration (TGA) - Australia :

The TGA regulates therapeutic goods, including medical devices, medicines, and digital health products. Health-tech startups in Australia may need to comply with

TGA regulations and seek necessary approvals.

National Medical Products Administration (NMPA) - China

The NMPA regulates medical devices, including software and digital health products, in China. Health-tech startups operating in China may need to comply with NMPA regulations and obtain necessary approvals.

CONCLUSION

The factors driving the growth in the health-tech industry are population, young workforce and the government's focus on healthcare. Health-tech 3.0 focuses on the adoption of Electronic Health Records (EHRs), telemedicine, and mobile health applications, while Health-tech 4.0 expands to include advanced technologies like AI, big data analytics, IoMT, blockchain, VR/AR, precision medicine, and robotics to optimize health operations and enhance patient care.

Health-tech 4.0 focuses on AI, big data, IoT, and augmented reality to improve healthcare efficiency and personalization, while Health-tech 5.0 adds quantum computing, virtual reality, and personalized medicine for even more effective care. Challenges include standardization, data privacy, and understanding emerging technologies, with benefits including remote access, personalized care, and improved practitioner efficiency. Data security and privacy remain crucial considerations.

The future of health-tech is driven by advancements in electronic medical records, tele-health, portable testing devices, and the Internet of Medical Things (IoMT). These technologies enable remote access to healthcare, personalized care, and improved efficiency for both patients and practitioners. However, challenges such as lack of awareness, resistance to change, infrastructure limitations, and data privacy concerns need to be addressed.

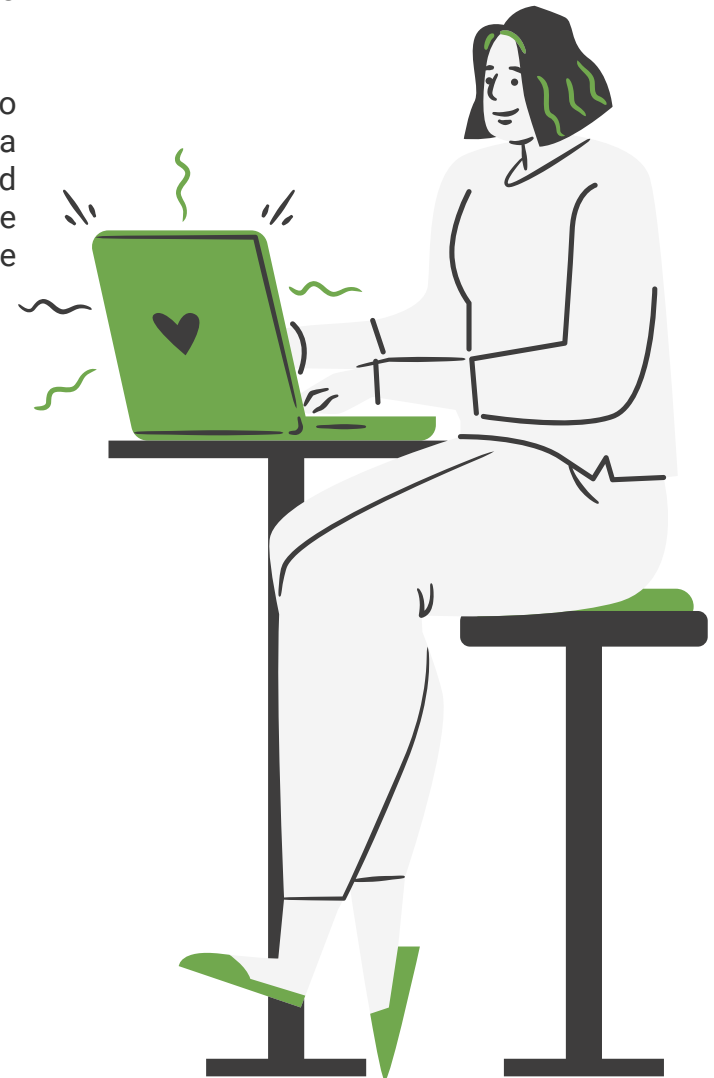
ABOUT SRF CAPITAL STUDIO



Srf Capital Studio is a pioneering management consulting company delivering premium quality services in the spheres of strategic financial planning, Performance management, Virtual CFO, and deal advisory services.

In a highly competitive business landscape, employing predefined sets of framework and models can limit your growth. Every business has unique challenges and opportunities to acquire a solid place in their specific market place. Being the most trusted partner, we understand that extra attention over finances can expand your capabilities and create a significant impact on successfully executing a business model.

Our services aim to help startups, SME's, MSME, and growing organizations to optimize their cash flows, accelerate growth, and maximize profitability. We are a team of subject matter experts to evaluate your business from multiple aspects and help you make informed decisions. Our seasoned professionals can unlock the hidden value creation and let your experience exponential growth with effective strategies and planning.



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