The emerging marketing strategy of digital health technology: A case study of a health tech company

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ABSTRACT:

Telemedicine and digital marketing are two emerging technologies in the health tech sector. The study employs Porter's Five Forces and PESTLE analyses to evaluate the health technology digital platform business model, with a focus on services such as telemedicine and medical tourism. The analysis enables health tech firms to develop strategies that are not only responsive to the current market conditions but also proactive in shaping their competitive landscape in the medical environment. These analyses facilitate the identification of opportunities and threats, enabling strategic decision-making and business model innovation within this dynamic health tech industry. The convergence of technology and management framework holds the potential to redefine medical paradigms and offers unprecedented opportunities for innovation and improved patient outcomes. The data-driven decision-making (DDDM) method is employed to formulate a marketing strategy, specifically focusing on segmentation, targeting, and positioning (STP) for patient engagement. The political, economic, sociological, technological, legal, and environmental factors contribute to the attractiveness of patients, medical providers, and insurance companies on web-based digital platforms and handset-based applications. The improved service quality achieved through the deployment of information technology, such as artificial intelligence (AI), encrypted data files, and technological advancements in medical sensor equipment, is expected to drive growth in the digital medical sector.

KEYWORDS:

Health Tech Business Model, PESTLE analysis of health tech, Porter's Five Forces in health tech, health tech marketing strategy, health tech digital platform.

INTRODUCTION:

Remote monitoring devices have become a standard for diagnosis. Health tech companies utilise marketing to pitch a bundle of cost-effective treatment packages to patients, medical providers, and insurance companies, thereby enhancing their engagement. The unique selling proposition (USP) involves creating a cost-effective treatment package, ensuring data security and encryption, and complying with regulations such as the Health Insurance Portability and Accountability Act (HIPAA) through digital platforms like mobile applications and web technology. Digital technology is rapidly transforming the medical sector, impacting medical delivery and patients' outcomes (Alawiye, 2024). Telemedicine platforms, mobile health applications, and electronic health records are enhancing medical access, improving the quality of care, and increasing patient engagement (Alawiye, 2024; Senbekov et al., 2020). Patients are seeking a medical tourism destination that offers cost-effective, high-quality medical treatment globally. The post-COVID-19 pandemic has given a boost to the health tech business. The health tech companies receive money from patients as per the treatment package quotation. Telemedicine and other associated service charges are deducted as commission, and the remaining amount is credited to the medical professional's bank account. The digital platform allows for remote medical and wellness consultations, improving access to medical care, especially for patients in remote areas or with mobility issues. Marketing helps health tech companies to reach diverse demographic patients effectively and build brand equity and trust through a telemedicine digital channel. Telemedicine digital platforms expand medical reach, particularly in underserved areas, offering consultations, diagnoses, and treatment remotely. The challenges remain in fully realising the benefits of digital medical services, including regulatory hurdles and the slow adoption of digital solutions in some areas (Herrmann et al., 2018; Hole et al., 2021). Timely interventions and personalised care plans, facilitated by telemedicine marketing, can lead to better patient outcomes by reducing overall costs in medical services for the patients. Marketing strategies, like institutional advertisement and social media engagement, help health tech companies connect with patients, medical providers, and insurance companies. The online content, such as informative blog posts and videos, educates patients about telemedicine and builds trust in virtual consultations. Marketing facilitates patient engagement through digital portals, appointment scheduling, and personalised communication. Marketing increases health tech companies' visibility for patients, medical providers, and insurance companies.

LITERATURE REVIEW:

Telemedicine is the application of information technology in the health tech ecosystem. The promotion of medical services like telemedicine, medical tourism, pharmacy, and health insurance through digital channels like mobile devices and web technology is known as marketing in the medical domain. Marketing increases health tech companies' profitability by increasing patients' engagement without geographical limitations. Gautham et al. (2014) developed a clinical guidance system with the use of mobile technology to enhance the quality of digital medical services. Medical digital services face barriers like data privacy and regulatory compliance. These barriers necessitate careful strategic planning and innovative business models to ensure the sustainable growth and success of digital medical services. The adoption of robust cybersecurity and legislation support streamlines the operations of digital medical services. The digital platform, like mobile applications and web technology, is used to connect with patients and share videos and images. The patient's demographic data is integrated with the medical digital service provider's electronic health records and scheduling systems. The integration of digital technologies, like telemedicine and electronic health records, has demonstrated the potential to revolutionise medical delivery by enhancing efficiency, reducing costs, and increasing patient satisfaction (Limna, 2023). These technologies improve medical accessibility and provide open information on treatments and biomedical research (Alawiye, 2024; Senbekov et al., 2020). Digital transformation in medical harnesses digital technology to benefit society and address medical challenges through innovative solutions (Stoumpos et al., 2023). The critical success factors were data warehousing and data mining, decision support systems, data access control, biomedical engineering technology, telecommunication infrastructure, government policies, consumer (patient) behaviour, digital medical service provider behaviour, and patient demographics. Hazarika et al. (2010) identified that the availability of super-speciality medical centres, use of cutting-edge diagnostic technology, English-speaking medical staff, well-trained medical professionals, a good mix of allopathic and alternative medical systems, and top-notch services at competitive prices gave promotion to medical tourism in India. Mullins & Komisar (2009) identified the business model as the pattern of economic activity, i.e., cash flowing into and out of the business for various purposes. The business model is the economic underpinning of the business in all of its facets.

METHODOLOGY AND DISCUSSION:

This article employs Business Model, Porter's Five Forces, and PESTLE analyses to evaluate the health tech digital platform business model, focusing on services like telemedicine and medical tourism. These analyses facilitate the identification of opportunities and threats, enabling strategic decision-making and business model innovation within this dynamic health tech sector. The study examines telemedicine platforms and medical tourism in the context of the health tech sector to determine their viability and potential for transforming medical delivery. The unique selling proposition (USP) for the health tech firm lies in a digital platform that onboards verified medical professionals from reputed hospitals and clinics certified by international accreditations like JCI (Joint Commission International). The marketing for value-added services like health insurance and accommodation booking in the vicinity of a hospital at a cheap rate promotes patients' engagement with the digital platform, which provides commercial attractiveness in the form of a subscription package and service commission. The data-driven decision-making (DDDM) method is employed to formulate a marketing strategy, i.e., segmentation, targeting, and positioning (STP) for patient engagement. The patient's demographic data analytics helps to determine the perfect service package for registered patients. The technical team of the firm has optimised and streamlined digital platform operations through market research, operating expenses reduction, and content analysis on the feedback data provided by the patients. The artificial intelligence (AI)-enabled software fetches data from patients' demographic profiles and matches it with the most suitable medical professional profile to streamline digital service operations and reduce lead time. Good customer relationship management with patients and medical professionals creates brand equity. This brand equity helps patients pay extra premium service charges. The customer relationship management team provides value-added services like leisure sightseeing at tourist attractions for patients. Trust building is one of the critical success factors to attract and retain patients on a digital platform. Patient loyalty is more important, as it helps in patient retention on the digital platform. The satisfied patient provides positive feedback and recommends another patient to get on board with the digital platform. The creation of an online community forum for treatment-availing patients helps to share feedback and recommendations for better innovation of existing services. The creation of an online forum for medical specialists provides medical professionals with a platform to share the latest trends in medical procedures and upgrade their skill set. This value-added service provides service differentiation from the firm's competitors. The large pool of trained medical specialists from

internationally accredited hospitals provides an advantage in establishing a push strategy to sell more value-added medical treatment to patients.

The health tech business process is narrated with help of the business model's nine blocks.

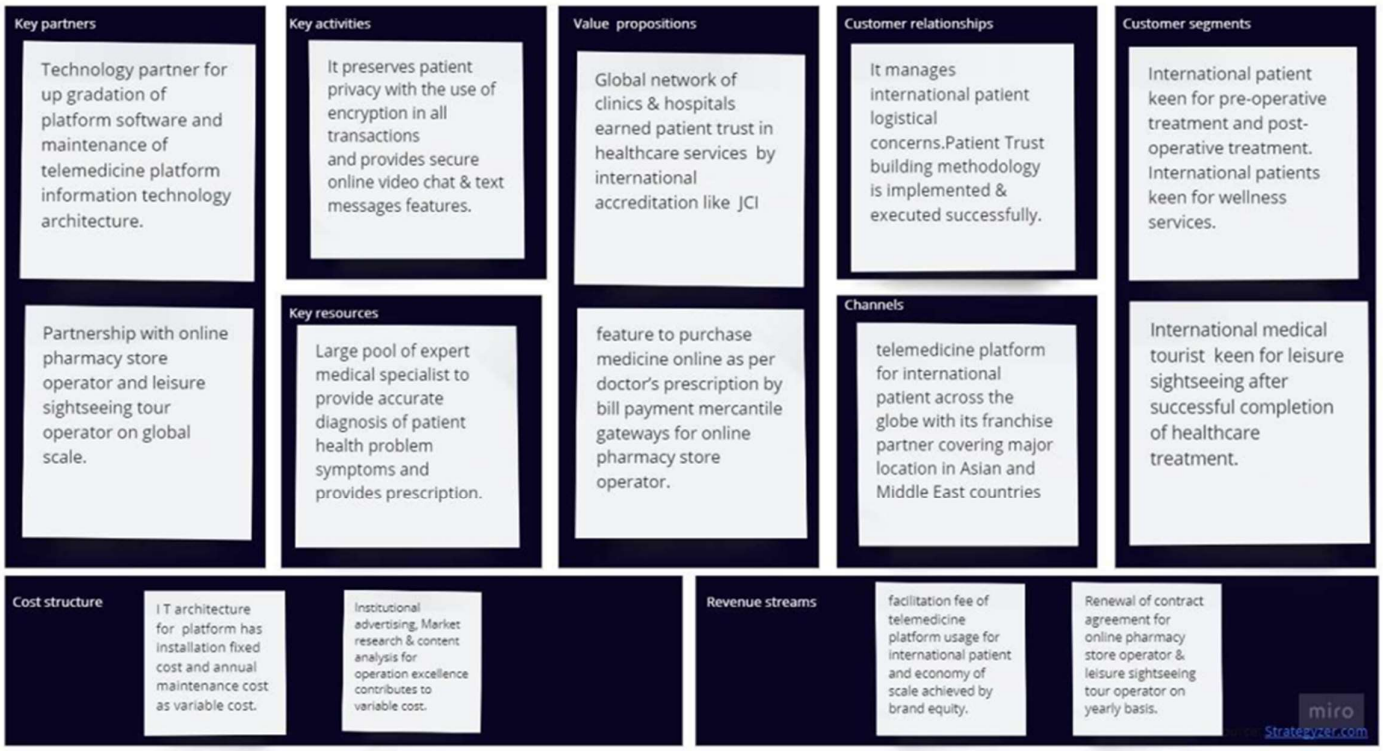

Figure 1: The business model of a health tech firm.

1. Customer segmentation:

Customer segmentation is done for patients keen on pre-operative treatment, post-operative treatment, wellness treatment, i.e., diet & fitness plan, and medical tourists keen on leisure sightseeing after successful completion of treatment. The patients gain full visibility of the treatment plan and total cost before their medical trip. The patients receive quotations based on a proposed treatment plan that best matches their budgets. Customer segmentation is also done for medical professionals and health insurance companies interested in promoting their services by marketing, as the firm has established a sales and business development team.

2. Value Propositions:

The firm has a global network of hospitals and clinics that have earned the trust of patients with excellence in medical services. The excellence in medical services is certified by international accreditations like JCI (Joint Commission International). The medical procedure facilities in which the firm has achieved excellence are cardiology, orthopaedics, neurology, oncology, infertility treatment/IVF, and dentistry. The firm has a large pool of expert medical specialists to provide accurate diagnoses of patient health problems and symptoms, and provide prescriptions. The platform has a feature to purchase medicine as per medical experts' prescriptions online by bill payment through merchant gateways. The firm's online pharmacy store vendor management system provides medicine delivery to patients' homes.

3. Channels:

The firm provides a digital platform for international patients across the globe, with its franchise partner covering major locations in Asian and Middle Eastern countries. A digital platform aids patients by allowing them to upload digital medical records for instant diagnosis from a large pool of medical specialists. The capital investment in information technology architecture facilitates a cloud-based platform as a service (PaaS).

4. Customer Relationships:

The firm ensures that the international patient medical trip is smooth and fuss-free through its customer relationship management. The customer relationship team manages international patient logistical concerns such as flights, language translation services, medical visa assistance, accommodation, and transportation services. Trust building is one of the critical success factors to attract and retain international patients on a digital platform. Patient loyalty is more important, as it helps in patient retention on a digital platform. The cross-cultural issues of patients are solved by the Customer Relationships team. The customer relationship team manages leisure sightseeing as tourist attractions for patients after the completion of medical treatment.

5. Revenue Streams:

Revenue is generated as a facilitation fee for the telemedicine platform usage for patients. The renewal of contract agreements between medical providers, insurance companies, and leisure sightseeing tour companies every year provides a source of revenue. The firm has the advantage of clubbing the services provided by different medical providers into a bundle of standard packages so that patients who need a bunch of these services can find the firm's digital platform as a one-stop solution for all their needs. The firm adopts a pricing strategy based on demand for medical services, i.e., skimming and penetrative pricing strategies.

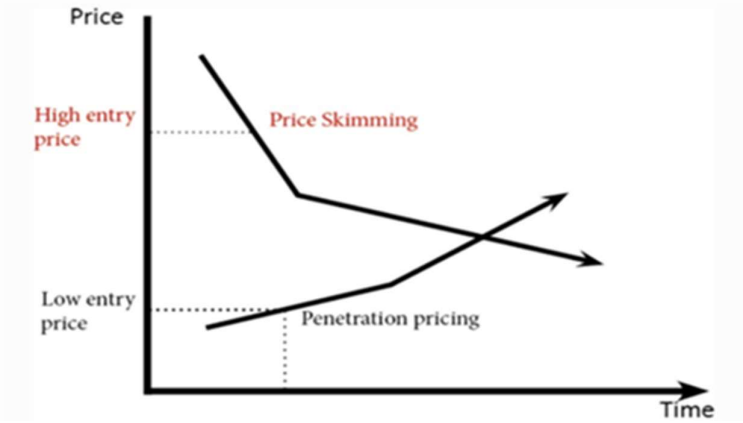

Figure 2: Pricing strategy based on medical services demand.

Skimming pricing strategy: Through this pricing strategy, the price of the new or upgraded services is initially set very high at the time of launch. This ensures a high profit margin for the firm. The firm sets the price of medical services into a ratio of service bundles for patients, but when new competitors enter the market or patient surpluses decrease, the firm gradually adjusts the price to a comparable or benchmark market rate for patients.

Penetrative pricing strategy: The focus of this pricing strategy is to obtain the largest market share. The initial price of services at the time of launch is set very low so that it could penetrate the market and attract patients of diverse demographics to the firm's digital platform. The purpose of this pricing strategy is to see the value of the services compared to those of its competitors. Since the firm is a profit-generating business entity having crossed the break-even point, this pricing strategy is adopted. This strategy is not recommended for a new health tech company in a start-up environment because it requires deep pockets and involves high risk.

6. Key Resources:

The firm's digital platform is managed by highly skilled professionals with diverse skill sets in engineering, analytics, finance, quality control, and legal procedure. The customer relationship team provides efficient cooperation and coordination among patients, medical providers, and insurance companies.

7. Key Activities:

The firm provides online medical consultancy through a telemedicine platform for both mobile handset-based applications and a computer-based web portal for the convenience of the end user. Institutional advertising done through digital platforms fosters a firm's positive perceptions and favourable customer opinion. The firm preserves data privacy with the use of encryption in all transactions.

8. Key Partnerships:

The firm has a global network of hospitals and clinics with the most respected international accreditations and certifications in medical services. The firm has a large pool of franchise partners covering all major locations in Asian countries, Middle Eastern countries, and European countries. The firm has a partnership with technology solution provider companies for the upgrade and maintenance of the telemedicine platform's information technology architecture. The firm has partnerships with pharmacy companies and leisure sightseeing tour companies on a global scale.

9. Cost Structure:

Information technology architecture for a telemedicine platform has an installation cost as a fixed cost and an annual maintenance cost as a variable cost. The digital platform incurs operational expenses to streamline its functionality. The infrastructure, like sales & business development offices and treatment centres, contributes to fixed costs. Electricity consumption bill payment contributes to the variable cost. Institutional advertising, market research, and content analysis for business development contribute to variable costs. The bill payment to cloud computing companies for Platform as a Service (PaaS) contributes to variable costs.

The political, economic, sociological, technological, legal, and environmental factors, i.e., PESTEL analysis, contribute to the attractiveness of patients, medical providers, and insurance companies on a health tech telemedicine web-based portal and handset-based application. The government incentive program for the promotion of telemedicine in rural and remote areas. The regulatory compliance on data security. The investment in digital medical technologies has a positive impact on the health tech sector. The marketing for the health tech telemedicine platform promotes positive perceptions and awareness among customers. The service attributes, like web 2.0 standards, SEO friendliness, and mobile-based applications, attract customers. The better service quality achieved through the deployment of information technology, i.e., artificial intelligence (AI), encrypted data files, and technological advancement in medical sensor equipment, predicts growth in the health tech sector. The integration of search engine analytics tools like Google Analytics with a telemedicine portal provides useful data like traffic, site performance, and customer behaviour. The data protection compliance with laws like HIPAA (US) and GDPR (Europe) avoids legal repercussions. The patient's digital documents reduce dependency on paper, providing a positive impact on the environment.

The Porter's Five Forces strategy application in the health tech sector. The application of Porter's Five Forces provides a framework for analysis of competitive factors impacting the dynamics of the market in digital medical services. By scrutinising each force, a health tech company acquire knowledge for strategic manoeuvres to secure a competitive edge.

1. Threat of New Entrants:

The health tech industry is characterised by a high barrier to entry due to stringent regulatory requirements, significant capital investment, and the need for specialised knowledge. The firm's introduction of an artificial intelligence-driven diagnostic tool reduces the time and cost associated with medical assessments. The technological innovation in the health tech sector disrupts traditional models.

2. Bargaining Power of Suppliers:

In the health tech domain, suppliers include developers of proprietary technologies, pharmaceuticals, and medical devices. A health tech firm's digital platform service, telemedicine, relies on a limited number of high-tech equipment providers, which increases supplier power. To mitigate this issue, firms should explore partnerships or develop in-house solutions to reduce dependency.

3. Bargaining Power of Buyers:

Patients, medical providers, and insurance companies are buyers. A health tech firm's digital platform, with a unique patient monitoring system, capitalises on the demand for remote medical solutions and enhances the firm's bargaining power. On the other hand, if the services provided by a health tech firm are easily substitutable, the buyer's power increases. The health tech firm must ensure service differentiation and upgradation in the value chain.

4. Threat of Substitutes:

A better cost-benefit analysis of alternative services in the medical domain can jeopardise the health tech firm's market share. For example, a health tech firm's digital platform provides virtual therapy sessions and faces competition not only from other health tech firm digital platforms but also from traditional in-person counselling services. Differentiation of service through superior quality or additional features is crucial to counter this threat.

5. Rivalry Among Existing Competitors:

The intense competition among business entities exists in the health tech domain for market dominance. The strategic partnerships or health tech niche service segments-based business model is done to circumvent direct competition.

The analysis enables health tech firms to develop strategies that are not only responsive to the current market conditions but also proactive in shaping their competitive landscape in the medical environment. The analysis helps to evaluate the impact of Porter's five forces on health tech digital medical services. The study of the competitive landscape and macro-environmental factors provides a comprehensive understanding of the strategic challenges and opportunities in the digital medical sector. These management frameworks provide a comprehensive understanding of health tech market dynamics and strategic considerations necessary for success in the digital medical sector.

CONCLUSION:

The health tech digital platform, telemedicine, and marketing are transforming the medical sector by improving access, convenience, and patient engagement, ultimately leading to better health outcomes and a more efficient medical system. The convergence of technology and management framework holds the potential to redefine medical paradigms and offers unprecedented opportunities for innovation and improved patient outcomes. The digital transformation in medicine is increasingly relevant for both academics and practitioners, with operational efficiencies being a notable outcome of technology implementation (Kraus et al., 2020).

REFERENCES:

Kumar Arun and Sartaj Ahmad. "A Review Study on the Utilisation of Telemedicine and e-Health Services in Public Health." Asian Pacific Journal of Health Sciences, 2(1), pp. 60-68, 2015.

Baden-Fuller, CH. & Morgan, M. S. (2010) Business Models as Models. Long Range Planning, 43(2), 156-171. http://dx.doi.org/10.1016/j.lrp.2010.02.005

Teece, J. D. (2010). Business Models, Business Strategy, and Innovation. Long Range Planning, 43(2), 172-194. http://dx.doi.org/10.1016/j.lrp.2009.07.003

COMPETING INTEREST:

I declare that I do not have any competing interest as an author**.**