

Healthcare in India: Reinventing Business Models for an Inclusive Ecosystem

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Abstract: *The strengthening of the economy and technological advancements have brought forth radical changes in the healthcare industry in India but the services remain expensive and inaccessible to the majority of the population. The healthcare ecosystem has to operate amidst the multitude of extremities – gender, income, education and awareness, geographies, amongst others. In view of these factors and intervening variables, the healthcare industry has to evolve towards a holistically reinvented and inclusive ecosystem, the fundamental step being the adaptation of the business models along the dimensions of resources and capabilities, processes, value proposition and balancing returns for growth. In view of the evolving competitive landscape of the industry, innovative models need to be thoroughly examined and implemented after due diligence and customised value chain analysis. The purpose of the study is three-fold, commencing from the exploration of the existing business models adopted in the industry, followed by studying the effectiveness thereof and finally, conceiving a new business model for the healthcare industry.*

The study has immediate implications for the policy makers and regulators, academicians and industry professionals who may use it in order to enhance the effectiveness of their decision making and in turn contribute significantly to the field of healthcare industry in India. Further research in the domain of an inclusive healthcare ecosystem for the country may be facilitated by an international benchmarking exercise.

Keywords: *Healthcare Industry, Value Chain Analysis, Business Model Canvas, Inclusive Healthcare Ecosystem, Simplified Business Model.*

I. INTRODUCTION

A strengthened economy and technological advancements have radically changed the healthcare industry in India but its relative inaccessibility to the masses still remains a persistent problem. The government spending stands at 1.3 percent of the GDP for public healthcare, as compared to the global average of 6 percent, as recorded in the National Health Profile 2018, an annual report released by the Central Bureau of Health Intelligence.

Despite a rapid permeation of the vehicles of information dissemination amongst the masses, and the enhanced access to welfare and support systems, the healthcare industry is beset with a variety of problems induced by a rise in acute and chronic ailments, demographic changes, regional specificities and segment-pervading disparities. The adherence to and in turn avoidance of a specific treatment and remedial intervention emanating from socio-cultural beliefs is also limiting the reach and efficacy of quality healthcare with respect to a larger inclusive canvas. Furthermore, the complexity is compounded since the ecosystem is mandated to operate amidst the multitude of extremities – gender, income, education and awareness, geographies, amongst others – covering the full spectrum from pre-natal to geriatric care, while accosting the ethical issues like using subsidised facilities for medical tourists and compromising patient empowerment, often underestimated and mostly under-reported.

The healthcare industry has to evolve towards a holistically reinvented and inclusive ecosystem, the fundamental step being the adaptation of the business models along the dimensions of resources and capabilities, processes, value proposition and balancing returns for a sustainable growth. In view of the evolving competitive landscape of the industry, innovative models need to be thoroughly examined and implemented after due diligence and customised value chain analysis.

II. OBJECTIVES

The present study attempts to propose a system pervading across the apparently disparate concepts of stockholders- versus stakeholders-oriented governance systems conceived by converging on the merits of both so as to act as the vehicle of change for devising an inclusive healthcare ecosystem for the masses in India. The purpose of the study is three-fold, commencing from the exploration of the existing business models adopted in the industry, followed by proposing a framework to analyse the effectiveness thereof and finally, conceiving a new business model for the healthcare industry.

III. REVIEW OF LITERATURE

Magretta [1] emphasises the importance of business models and mentioned two reasons as to why business models do not work, cited as failing the narrative test and number test. Once these reasons are taken care of, another important aspect is highlighted by Johnson, Schooles, and Whittington [2] suggesting that a business model is a logical flow of activities in an organization. In this context, the in-depth exploration into the concept of business models conducted by Casadesus-Masanell and Ricart [3] gains relevance since their study focuses on explaining how business model, strategy and tactic vary from each other.

To concretise the development, Ritter and Lettl [4] offered a foundation for consolidating business model research by studying the connection between business model research and promising theories in strategic management. This study also suggests that business model research can be more effectively understood as a theoretical mechanism for combining different literature streams. It is pertinent here to cite Lambert [5] who suggests a schema for business model research. The schema for business model research demonstrates the potential to progress the research in a structured manner from conceptual to theoretical,

emphasizing the importance of considering empirical research to evaluate the current conceptualization of business models.

To consolidate the erstwhile work, Burkhart et. al. [6] provide a comprehensive and up-to-date literature analysis focused on business model research. The analysis on business models used in the study was conducted using 17 evaluation criteria. This study is further expanded by Massa, Tucci, and Afuah [7] who provide a critical review of the current vast business model literature, identifying the research between the apparent lack of interpretation of business models and the relationship between business models and strategy. Further, Fritscher and Pigneur [8] suggest a set of guidelines to help design more coherent business models. The study carried out an experiment to measure user perception of basic business model design task using CAD and its paper based counterpart.

In the context of India, Kavitha [9] explored the various aspects of healthcare industry with a focus on quality of healthcare. The study dealt with the healthcare position in India and the steps taken by the government to improve the healthcare. Faisal and Zillur [10] conducted a study on healthcare and hospitality industries with a focus on customer service, attempting to provide a holistic picture of the current state of the industries that can help service managers and practitioners to further explore opportunities in the industries. In continuation, Wani, Taneja, and Adlakha [11] explored the current status of the Indian healthcare industry with a focus on the challenges faced and the comparison of few selected Indian states based on health indicators. The study suggests that healthcare sector being a major contributor to GDP needs to be paid more attention. Khan, and Banerji [12] explored the developments in the health care industry and highlighted the growing demand for health care in India. The study concluded that Corporate Social Responsibility (CSR) practices of healthcare firms and large hospitals has made the health care services more affordable. Padma, Rajendran, and Sai [13] conducted a study to determine the dimensions

of service quality in Indian Hospitals from the perspective of attendants of the patients. The study suggests two instruments one for the patients and the other for the attendants in the context of measuring service quality.

In the global context, Helliwell [14] attempted to develop an innovative methodology to apply lean value chain improvement techniques to a complete supply chain for a food product from farm to consumer. The study demonstrated that value chain analysis (VCA) highlights significant opportunities to improve supply chain performance, profitability and relationships.

IV. ANALYSIS OF THE VALUE CHAIN

A conceptual framework approach has been adopted. The various elements of the business model and their association with the functional areas of healthcare business has been studied. It thus becomes pertinent to examine the VCA of a Healthcare Service Providing System that competes and delivers through a cost advantage. As illustrated in the Table 1, the primary and secondary activities may be examined so as to delineate the cost drivers and the opportunities to optimise or reduce the costs across various sub-activities, thus generating a competitive advantage.

Insert Table 1 around here

The Business Model Canvas approach helps decode the format adopted by the healthcare service providers as presented in Table 2. It helps analyse the applications by considering the core elements of a business and how these applications provide value to the stakeholders in the process.

Insert Table 2 around here

V. POLICY IMPLICATIONS: SIMPLIFICATION OF INCLUSION

Given the complexity of the scenario, a forced choice to simplify the Inclusive Healthcare Ecosystem becomes a daunting task. Hence an aggregated approach is adopted to propose a simplified business model as depicted in Figure 1. The detailed choices are clubbed together into larger entities while some finer details are distanced out for the reasons of simplicity of presentation.

Insert Figure 1 around here

VI. RECOMMENDATIONS

The pressure to generate a surplus might move the focus away from the basic concept of inclusion and gyrate towards a larger profit motive in any business model. Hence the need to reengineer, re-invent, and re-invest is promoted to facilitate a sustainable model of inclusive healthcare in India. If the low cost alternatives, public or private sector driven, are unable to drive the growth and sustenance of the ecosystem, some micro- and macro-level success stories would have to be identified and referred to as benchmarks. Further research would be well directed to explore such innovative strategies and interventions across the world and evaluate the applicability thereof to the existing ecosystem in India.

VII. REFERENCES

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Table 1: Value Chain Analysis: A Healthcare Service Providing System
Adapted from *Contemporary Strategy Analysis*, R M. Grant, PP 241.

Step 1: Primary Activities					
Service Planning & Design	Procuring Medical/Surgical Equipment & Consumables	Service Delivery: <ul style="list-style-type: none"> Internal Medicine Surgical Intervention Associated activities 	<ul style="list-style-type: none"> Follow-up Care & Advice Activities R&D based on Patient-Treatment Data 	Information Dissemination	<ul style="list-style-type: none"> Ecosystem Development e-Healthcare Support Services
Step 2: Cost Implications and Significance: Base of *R					
INR 'R' Moderately Important	INR 4.'R' Very Important	INR 5.'R' Utmost Important	INR 2.'R' Important	INR 'R' Moderately Important	INR 5.'R' Utmost Important
Step 3: Cost Drivers					
<ul style="list-style-type: none"> Number & frequency of occurrence of new diseases / new virulent strains Range of Services 	<ul style="list-style-type: none"> Volume of supplies Country of Origin (COO) of supplies; if not locally available Categories with respect to the frequency and perishability of the supplies Storage requirement 	<ul style="list-style-type: none"> Specialised HR; with respect to hard & soft infrastructural requirements Capacity Utilisation and Management thereof Inability to harness Economy of Scale and/or Scope with respect to the demand Service Failures and ensuing liabilities thereby 	<ul style="list-style-type: none"> Frequency of repeat visits for a complete / satisfactory treatment / management Scale, Depth, Efficiency and Effectiveness of R&D 	<ul style="list-style-type: none"> Patients' Expectations and Perceptions; resultant satisfaction thereof Conversion Rate of communication programme based on success rate/stories /experiences 	<ul style="list-style-type: none"> Alliances & accreditations; both national & global Third Party Ratings and Certifications for the supply chain partners Proximity to ancillary services Association with medical college(s); preferably in-campus IT-enabled & integrated infrastructure
Step 4: Seamless Integration of Activities					
<ul style="list-style-type: none"> Creating a highly trained and motivated team of healthcare professionals across various functional units so as to facilitate efficient service and pre-emptive service recovery Developing an efficient network of hospitals, clinics and primary health centres reducing the overall cost of per capita intervention Creating a sustainable system for blood and organ donation and transplant across the country 					
Step 5: Optimising the Cost Centres and Heads					
<ul style="list-style-type: none"> Standardisation of processes, procedures, and facilities across the system so that both the cost and service failures be reduced 					

- Judicious decision regarding ‘make or buy’ including a deliberate decision mechanism of retaining the ‘core’ and outsourcing the ‘support’ activities.

*R to be computed (in Indian Rupees) for individual systems assessing the significance thereof; the multiplication factors being denoted by the numeric precedents.

Value Chain Analysis: A Healthcare Service Providing System (Contd.)			
Step 1: Support Activities			
Infrastructure: <ul style="list-style-type: none"> Hard Soft 	Human Resources Management	Technology	Procurement
Step 2: Cost Implications & Significance: Base of *R			
INR 5.‘R’ Utmost Important	INR 4.‘R’ Utmost Important	INR 3.‘R’ Very Important	INR 3.‘R’ Very Important
Step 3: Cost Drivers			
<ul style="list-style-type: none"> Location and scale of facilities Utilisation and management of facilities and systems 	<ul style="list-style-type: none"> Recruitment & selection Training & development Retention & Reward System 	<ul style="list-style-type: none"> Sourcing Procedures Technology identification, evaluation and adoption 	<ul style="list-style-type: none"> Length, width and depth of supplier network Strength of supplier relationship

*R to be computed (in Indian Rupees) for individual systems assessing the significance thereof; the multiplication factors being denoted by the numeric precedents.

Table 2: Business Model Canvas: Healthcare Service Provider(s)

<p>Key Partners:</p> <ul style="list-style-type: none"> ▪ Medical (& Allied disciplines) Colleges & Universities ▪ Contract Research Organisations ▪ R & D Laboratories ▪ Manufacturing & Distribution Partners: Medical/Surgical Equipment, Consumables & Devices 	<p>Key Activities:</p> <ul style="list-style-type: none"> ▪ Patient Advisory Services ▪ Diagnostic Services ▪ Point-of-Care Testing (PoCT) ▪ Surgical Intervention & Rehabilitation ▪ Education, Training & Development ▪ Chronic Ailment (Lifestyle and Lifecycle) Management ▪ Project Management & Consulting Services (Prospecting & Negotiating, Installation & Integration, e.g., Build-Operate-Transfer) ▪ Data & Systems Integration <p>Key Resources:</p> <ul style="list-style-type: none"> ▪ Human Resources ▪ Innovative and Frugal Technology ▪ Brand 	<p>Value Proposition:</p> <ul style="list-style-type: none"> ▪ Customised & Flexible Solutions ▪ Holistic Care ▪ Healthcare as an empathetic intervention driven by Social and Financial Inclusion Initiatives in partnership with diverse stakeholders 	<p>Relationships:</p> <ul style="list-style-type: none"> ▪ Patient Relationship Management ▪ Long-Term Associations ▪ Institutional Communication & Promotions Team <p>Channels:</p> <ul style="list-style-type: none"> ▪ Existing Patient-base ▪ Public-Private Partnership (PPP) and allied network 	<p>Customer Segments:</p> <ul style="list-style-type: none"> ▪ B2C: <ul style="list-style-type: none"> ➤ In-Patient ➤ Out Patient ➤ Regular/Long-term Consultation ➤ Telemedicine/Remote Medical & Health Care Assistance ➤ On-demand Home Visits: Pharmacy, Sample Collection, Diagnostics, Consulting ▪ B2B: <ul style="list-style-type: none"> ➤ Group Insurance Schemes for Corporate Houses ➤ On-demand Site Visits (Camps): Sample Collection, Diagnostics, and Consulting
<p>Cost Structure:</p> <ul style="list-style-type: none"> ▪ Design & delivery of Customised Healthcare Solutions: Logistics & Distribution Cost, e.g., specialised transportation and storage costs like ‘Green Corridor’, ‘Air Ambulance’, and ‘Cryogenic Storage’. ▪ R & D Costs; mainly HR & Support systems 		<p>Revenue Streams:</p> <ul style="list-style-type: none"> ▪ Predicted revenue from OPD/In-Patient Department ▪ Fixed monthly/annual revenues from B2B Channel Partners ▪ Additional revenue from consulting projects ▪ Funds from NGOs and other sources 		

<ul style="list-style-type: none"> ▪ General & Administrative Costs (Laundry, Housekeeping, Food, Facilities Maintenance, which may be outsourced otherwise) ▪ Initial Capital Outlay, Technology Acquisition & Implementation Cost ▪ Equipment Cost, especially with respect to imported / high-tech equipment 	<ul style="list-style-type: none"> ▪ Pharmacy and Diagnostics ▪ Education, Training and Development activities
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Figure 1: Inclusive Healthcare Ecosystem: Simplified Business Model

