

DIGITAL HEALTH ON THE GROUND: STRATEGIES FOR HOSPITAL ADOPTION

Dissertation Submitted to



The IIHMR University, Jaipur

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Master of Business Administration (MBA)

in

Pharmaceutical Management

by

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Under the Supervision and Guidance of

Dr. Ashok Peepliwal

2025

Internship Letter



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TO WHOMSOEVER IT MAY CONCERN

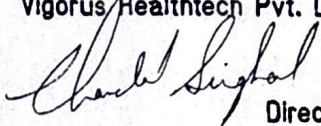
This is to certify that **Akshay Kumawat** has successfully completed her **Internship** as a **Business Development Intern** at **Vigorus Healthtech Pvt. Ltd.**

During his tenure, he was responsible for **generating leads, reaching out to prospective clients, conducting market research, assisting in sales presentations and demos, and maintaining CRM records.** He demonstrated strong communication skills, business acumen, and a proactive attitude, making a valuable contribution to our growth initiatives.

We appreciate his hard work and dedication during the internship and wish his success in his future endeavors.

Yours Sincerely,

Vigorus Healthtech Pvt. Ltd.



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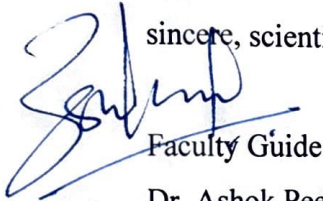
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Certificate

This is to certify that dissertation titled is a record of the research **Digital Health on the Ground: Strategies for Hospital Adoption** work undertaken by Akshay Kumawat in partial fulfillment of the requirements for the award of the degree of MBA (Pharmaceutical Management) from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.



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DECLARATION BY STUDENT

I, **Mr. AKSHAY KUMAWAT**, Enrolment No. **IIHMR-U/02/2023-25/0475**, hereby declare that the dissertation titled “Digital Health on the Ground: Strategies for Hospital Adoption” is the Bonafide record of my original research work carried out during the course of my study at IIHMR University.

I further declare that this dissertation has not been submitted to any other university or institution for the award of any degree or diploma.

Any information derived from published or unpublished work of others has been duly acknowledged and cited within the text.

A handwritten signature in blue ink, appearing to read 'Akshay Kumawat', with a horizontal line drawn underneath it.

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ABSTRACT

This report presents a comprehensive overview of my internship at **Chikitsa.io**, a Web 3.0-based smart hospital information management system (HIMS) designed to streamline hospital operations through secure, cloud-based technology. Chikitsa.io integrates EMR/EHR modules, voice-enabled e-prescriptions, and ABHA compliance to facilitate end-to-end digitization of clinical workflows.

During the internship, I actively contributed to the onboarding and full-scale implementation of the Chikitsa software across key hospital departments—Administration, Reception, Pharmacy, Nursing, Radiology, Pathology, and Claims. My responsibilities involved department-wise workflow mapping, interdepartmental coordination, and system setup. One of the major achievements was the successful linkage of over **300+ patient ABHA IDs** with digital EMR records, ensuring data interoperability and readiness for insurance claim processing via the HCX platform.

I also led product demonstrations and virtual onboarding meetings with external hospital teams, explaining Chikitsa's key modules—including digital, handwritten, and voice-input prescription tools—and addressing user concerns to support wider adoption. These interactions provided valuable insights into user behavior, system acceptance challenges, and the need for tailored digital healthcare solutions in India's semi-urban and Tier-II settings.

This internship enhanced my understanding of digital health ecosystems, healthcare operations, stakeholder alignment, and regulatory frameworks such as ABDM and NDHM. It underscored the critical role that technology-driven platforms like Chikitsa.io can play in improving operational efficiency, real-time data access, and patient engagement in Indian hospitals.

In summary, the report illustrates how hospital digitization—when supported by structured implementation, user training, and regulatory integration—can transform legacy systems and contribute to a more connected, transparent, and efficient healthcare delivery model.

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My special thanks to **CHIKITSA.IO** for offering me the opportunity to intern and gain real-world experience in digital healthcare transformation. The exposure to **HOSPITAL OPERATIONS, EMR IMPLEMENTATION**, and **STAKEHOLDER COORDINATION** played a vital role in the successful completion of this dissertation.

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LIST OF ABBREVIATIONS

Abbreviation	Full Form
HIMS	Hospital Information Management System
EMR	Electronic Medical Record
EHR	Electronic Health Record
ABHA	Ayushman Bharat Health Account
HCX	Health Claim Exchange
HCP	Healthcare Professional
NDHM	National Digital Health Mission
ABDM	Ayushman Bharat Digital Mission
UI/UX	User Interface / User Experience
API	Application Programming Interface
OTP	One-Time Password
AI	Artificial Intelligence
SaaS	Software as a Service
OPD	Outpatient Department
IPD	Inpatient Department
KPI	Key Performance Indicator
ROI	Return on Investment
IoT	Internet of Things
HIPAA	Health Insurance Portability and Accountability Act
CSV	Comma-Separated Values (for data handling)

CHAPTER-1
INTRODUCTION

The healthcare industry is rapidly embracing digital transformation to improve efficiency, transparency, and patient outcomes. In this evolving ecosystem, Hospital Information Management Systems (HIMS) have become indispensable tools for streamlining operations, managing patient records, and ensuring compliance with national digital health mandates such as the Ayushman Bharat Digital Mission (ABDM). My internship at **Chikitsa.io**, a Web 3.0-based, ABHA-compliant smart HIMS platform, provided hands-on exposure to the operational and technological challenges involved in hospital digitization.

Chikitsa.io is designed to simplify hospital operations through a modular, cloud-based architecture that integrates Electronic Medical Records (EMR), e-prescription systems, departmental workflows, and real-time reporting dashboards. It supports multiple modes of e-prescription—including digital input, handwritten recognition, and voice commands—catering to varied user preferences while facilitating source digitalization. The software further empowers hospitals with real-time insights, system leak detection, and seamless claim settlement via the Health Claim Exchange (HCX).

During my internship, I was entrusted with responsibilities across three core areas: software onboarding and implementation, ABHA ID integration with EMRs, and outreach to new hospital clients. My role required cross-departmental coordination involving doctors, nurses, pharmacists, administrators, and diagnostic teams. I also led remote onboarding consultations, demonstrating Chikitsa's modules to potential users, resolving functional doubts, and contributing to increased product adoption.

This report outlines my internship journey, emphasizing the practical learnings, challenges encountered, and the measurable impact of digital solutions in hospital settings. The experience also deepened my understanding of stakeholder management, patient data security, regulatory alignment, and the behavioral dynamics of healthcare technology adoption.

Overall, this internship provided valuable insight into how digital health platforms like Chikitsa.io can enhance operational efficiency, enable patient-centric care, and support India's vision of building a connected and inclusive healthcare ecosystem.

CHAPTER-2

REVIEW OF LITERATURE

The growing complexity of hospital operations and the urgent need for digital transformation in Indian healthcare have led to the rapid adoption of Hospital Information Management Systems (HIMS). In particular, Web 3.0-based smart platforms like **Chikitsa.io** have emerged as vital tools for enabling efficient, real-time, and integrated patient care. This literature review explores five critical themes: the evolution of HIMS in India, digital interoperability through ABHA and NDHM, real-time operational efficiency via EMR integration, challenges in stakeholder onboarding, and the role of SaaS-based healthcare platforms in the digital future.

Evolution of Hospital Information Systems in India

Historically, hospital administration in India was heavily paper-based, characterized by fragmented records and poor interdepartmental coordination. The need for digital solutions grew with increasing patient loads, regulatory scrutiny, and the government's push toward universal health coverage through initiatives like Ayushman Bharat Digital Mission (ABDM). As highlighted by Bhandari et al. (2020), the transition from analog systems to comprehensive HIMS has improved data integrity, reduced clinical errors, and optimized resource utilization. Chikitsa.io builds upon this evolution by offering a customizable, modular platform that digitizes the entire hospital workflow, from OPD to insurance claims.

ABHA, NDHM, and Digital Interoperability

The Ayushman Bharat Health Account (ABHA) and the National Digital Health Mission (NDHM) aim to create a seamless, standardized patient ID and data exchange framework across hospitals and payers. Literature emphasizes that systems compliant with ABHA guidelines play a crucial role in enabling data portability, reducing paperwork, and ensuring quicker insurance settlements (MoHFW, 2021). Chikitsa.io's real-time integration of over 300+ ABHA IDs with Electronic Medical Records (EMRs) during implementation showcases how digital interoperability enhances operational efficiency and regulatory alignment.

EMR Integration and Real-Time Efficiency

According to studies by WHO (2022), EMR systems significantly enhance hospital responsiveness by enabling physicians, nurses, and administrative staff to access and update patient information in real time. With smart dashboards, e-prescription modules, and alerts, EMRs contribute to better clinical outcomes and patient satisfaction. Chikitsa.io advances this utility by supporting **three types of e-prescription inputs**: digital, handwritten (OCR-based), and voice command. These features allow doctors of varied digital literacy levels to adapt without altering their existing clinical routines, thereby increasing user acceptance and data accuracy.

Stakeholder Onboarding and Implementation Barriers

Successful HIMS deployment relies not just on technology but on **multi-level stakeholder engagement**. Research by Srinivasan et al. (2019) highlights that lack of training, departmental silos, and resistance to change are major barriers to successful implementation. During my internship, I actively coordinated with various stakeholders—including doctors, pharmacists, radiologists, nurses, receptionists, and claim handlers—to align workflows and ensure software adoption. The **interdepartmental workflow mapping** at each hospital served as a crucial step in customizing the Chikitsa.io interface to user-specific needs, thus overcoming the behavioral and operational barriers to digitization.

SaaS and the Rise of Scalable Digital Health Platforms

Cloud-based Software as a Service (SaaS) models are redefining how healthcare facilities in Tier II and Tier III cities approach digitization. Unlike legacy systems that require heavy on-premise infrastructure, platforms like Chikitsa.io offer **lightweight, secure, and easily deployable HIMS solutions**. Literature from Deloitte (2023) underscores the potential of SaaS in democratizing access to digital health tools, especially in cost-sensitive and infrastructure-limited regions. The

ability to conduct **remote onboarding consultations**, resolve queries virtually, and showcase demo environments further enhances adoption rates and reduces implementation lag.

Identified Gaps and Scope for Further Research

While significant research exists on EMR effectiveness and digital health innovation, there remains a gap in literature exploring the **department-level execution of HIMS platforms**, especially in mid-size and semi-urban hospitals. There is also limited evidence on how **multi-mode prescription tools** impact physician behavior and data quality over time. My internship findings contribute to this gap by offering real-world observations from field-level implementations, revealing both the technical strengths and human-centric challenges involved in rolling out Chikitsa.io.

CHAPTER-3
RESEARCH METHODOLOGY

1. Research Question:

The internship aimed to assess the digital implementation of Chikitsa.io across hospital departments and its effectiveness in streamlining workflows and integrating ABHA-based patient records. The key research questions formulated were:

- i) How effectively does Chikitsa.io support ABHA integration and EMR linkage across hospital departments?
- ii) Which hospital departments face the most resistance or challenges in adopting HIMS platforms?
- iii) What are the key features of Chikitsa.io that enhance stakeholder usability and system acceptance?
- iv) How do healthcare staff (Doctors, Nurses, Admin, Pharmacy, etc.) perceive the ease-of-use of Chikitsa's smart e-prescription modules?
- v) What measurable improvements in workflow efficiency or digital record accuracy were observed post-implementation?
- vi) What role does remote onboarding support play in convincing new hospitals to adopt Chikitsa.io?
- vii) How do real-time dashboards and system leak detection improve administrative decision-making?
- viii) What are the common operational barriers faced during cross-department coordination?
- ix) How confident are hospital teams in using digital health tools after structured onboarding and training?
- x) What are the key success factors for scaling digital health platforms in Tier-II or semi-urban Indian healthcare settings?

2.Objective:

- i) To evaluate the impact of Chikitsa.io on hospital operational efficiency and digital workflow adoption.
- ii) To study the effectiveness of ABHA ID and EMR integration in enabling data interoperability.
- iii) To analyze staff responsiveness and adaptability to digital e-prescription modules (typed, handwritten, voice).
- iv) To identify common challenges in cross-departmental onboarding during HIMS rollout.
- v) To assess the impact of stakeholder training and implementation support on product adoption.
- vi) To explore how Chikitsa's features contribute to streamlined claim settlement and patient coordination.

Hypothesis:

If hospitals are provided with a customizable, ABHA-compliant, and modular HIMS platform like Chikitsa.io—along with structured implementation support, training, and real-time visibility into operations—then they will demonstrate significantly improved workflow efficiency, stakeholder coordination, and readiness for digital health interoperability.

Material and Methods:

Study Design: Descriptive observational study based on primary field experience and structured feedback collection.

Setting: The study was conducted across a sample of hospitals using or evaluating Chikitsa.io during the internship period. Observations were collected during on-site visits, software walkthroughs, department-wise mapping sessions, and remote demo calls.

Study Population: Staff and administrators from hospitals including Doctors, Pharmacists, Nurses, Pathologists, Receptionists, Radiology technicians, and Claims department professionals who directly used or interacted with the Chikitsa software.

Sample Source: Primary data and observations were collected through on-ground implementation experience, informal interviews, field notes, and structured checklists filled during software rollout phases.

Study Tool: Customized Excel-based workflow tracking sheets, onboarding feedback forms, and departmental usage logs were used to track real-time adoption metrics and gather feedback on system usability and pain points.

Duration of Study: April 2025 – May 2025

Sample Size: Total of 5 hospitals involved

- 2 hospitals with complete onboarding and ABHA integration
- 2 hospitals in active demo and workflow alignment stage
- 1 hospital onboarded remotely with ongoing training support

Sampling Technique: Purposive sampling based on hospitals currently partnered with or evaluating Chikitsa.io during the internship period. Participation was voluntary and driven by existing B2B engagement.

CHAPTER-4
RESULTAND DISCUSSION

4.1 Analysis of Key Observations from Internship

4.1.1 Workflow Implementation and Departmental Integration

During my internship at Chikitsa.io, a major focus was placed on mapping and digitizing hospital workflows. This involved deep-diving into the operational structures of departments such as Outpatient (OPD), Inpatient (IPD), Nursing, Pharmacy, Laboratory, Radiology, and Billing. Each department followed a different logic and operational rhythm, and digital adoption could not follow a one-size-fits-all approach.

The first step in implementation involved shadowing key staff members to understand existing manual processes. This helped identify pain points such as duplicate record entries, delay in test result availability, and miscommunication between departments. Using this ground-level understanding, I worked with the Chikitsa.io implementation team to create customized workflows for each department.

In OPD, the digitization started with patient registration and continued through appointment scheduling, consultation recording, e-prescription issuance, and follow-ups. For IPD, the workflow covered patient admission, nursing care updates, vitals tracking, medication administration, and discharge summaries. Radiology and Lab departments were mapped to automate report generation and link them directly to patient records.

The system's modular architecture proved crucial. It allowed departments to adopt features gradually—such as starting with prescription modules, then expanding to EMR access or billing. For instance, pharmacy staff initially adopted the inventory module and later integrated it with real-time prescription dispensing and invoice generation.

Resistance to change was a notable challenge. Many staff members were accustomed to manual systems and hesitant to use tablets or desktops. This was mitigated through role-specific training and feedback loops. Once users realized the time saved and reduction in errors, adoption increased.

In summary, departmental integration was successful due to customized workflows, stakeholder engagement, and a phased rollout approach. This strategy created a culture of accountability and laid the foundation for cross-departmental data flow.

4.1.2 ABHA and EMR Integration Insights

A standout task during my internship was leading the integration of **ABHA (Ayushman Bharat Health Account)** IDs into Chikitsa.io's EMR system. The ABHA ID is a unique digital identifier assigned to every patient under India's National Digital Health Mission (NDHM), and it plays a crucial role in unifying healthcare data across platforms.

I was responsible for linking over **300+ patient ABHA IDs** with their electronic medical records during the onboarding phase. The process required collecting patients' demographic information, verifying mobile numbers, and generating or linking their existing ABHA numbers. These IDs were then embedded within their hospital records, enabling physicians to access a patient's longitudinal treatment history during follow-ups or referrals.

This digitization greatly improved data accuracy and retrieval times. Previously, staff would search for handwritten records or duplicated entries, leading to delays. With ABHA-linked EMRs, doctors could instantly access past prescriptions, diagnostic reports, allergies, and treatment plans—resulting in more informed clinical decisions.

Another advantage was seen in claim processing. With ABHA data linked, the **Health Claim Exchange (HCX)** module in Chikitsa.io could auto-populate patient data into claim forms. This dramatically reduced manual entry errors, enhanced compliance, and sped up insurance settlements. The administration team was particularly appreciative of the reduction in paperwork and turnaround times.

Hospitals with high digital awareness among staff adapted quickly to ABHA workflows. In lower-literacy setups, we conducted step-by-step training sessions in regional languages to guide front-desk staff on patient registration and verification. Eventually, even semi-digital staff could complete the ABHA onboarding process independently.

This integration project highlighted how digital health policies like ABDM can be practically implemented to improve care delivery, interoperability, and system-level efficiency.

The most valued feature that would increase biosimilar trust was **transparent clinical data and studies** (37.1%), followed by **access to patient reviews** (28.6%) and **direct communication with healthcare professionals** (28.6%).

4.1.3 Cross-Department Coordination Challenges

While Chikitsa.io was technically robust, its success depended heavily on **interdepartmental cooperation**, which presented one of the biggest real-world challenges during my internship. Each department had its own working priorities, tech comfort levels, and resistance thresholds. Administrative teams were most interested in improving billing speed, claim accuracy, and report generation. Clinicians, on the other hand, were primarily concerned with usability—specifically how many clicks were needed to write prescriptions, order tests, or view patient vitals. Pharmacy staff focused on inventory tracking and reducing invoice mismatches, while nurses emphasized quick patient data entry and task reminders.

At first, this fragmentation caused friction. For example, pharmacists would complain about unclear prescriptions; nurses were confused about incomplete doctor notes; and billing teams flagged missing service entries. These inefficiencies highlighted the need for a **unified platform view** and collaborative ownership.

To resolve this, we adopted a **bottom-up coordination strategy**. We identified department champions—enthusiastic users who were trained in detail and then empowered to coach their teams. We also set up weekly coordination meetings and shared real-time dashboards with department-wise KPIs.

Additionally, Chikitsa.io's flexible design allowed us to create **role-based interfaces**, showing only the most relevant features to each department. For example, the radiology interface prioritized scan scheduling and report uploads, while nursing dashboards displayed pending tasks and medication charts.

As these changes took effect, communication between departments improved. Doctors could verify if diagnostic reports were uploaded before reviewing patients, and lab reports were instantly accessible from nursing stations. Front-desk staff could confirm doctor availability and reduce appointment delays.

By the end of the third week, interdepartmental alignment had improved significantly. There was better communication, clearer SOPs, and a shared belief in the value of integrated digital systems.

4.1.4 Remote Hospital Outreach and Promotion

Beyond implementation and internal coordination, one of my key responsibilities at Chikitsa.io was to conduct **remote outreach** to other hospitals and clinics that were evaluating the software for adoption. These virtual engagements were crucial for business development and user education, especially in semi-urban and Tier II cities where physical demos were not always feasible.

My approach involved setting up demo calls with hospital administrators, doctors, and IT coordinators. Each session included a walkthrough of Chikitsa.io's dashboard, e-prescription modules (digital typing, handwritten recognition, and voice command), EMR linking with ABHA IDs, and department-wise user interfaces. To ensure clarity, I used real-use case scenarios, simulated patient data, and workflow maps tailored to the target hospital's specialty—whether general medicine, pediatrics, or orthopedics.

One key learning was the importance of customizing communication. For larger hospitals, the emphasis was on interoperability, ABHA compliance, and billing analytics. For smaller clinics, the discussion centered on ease of use, mobile accessibility, and support responsiveness.

Hospitals with prior digital exposure asked in-depth technical questions, while others were more focused on cost and training support.

Follow-up interactions proved essential in building trust. I responded to doubts regarding data privacy, onboarding timelines, and feature comparisons with legacy software. Many hospitals appreciated that Chikitsa.io could preserve their workflow continuity while offering digital advancement.

These interactions also helped refine our pitch. We realized that regional language support, low-bandwidth optimization, and WhatsApp-based alerts were top priorities in smaller towns. This insight was shared with the product and sales teams for future feature development.

The outreach phase not only sharpened my communication and stakeholder management skills but also gave me firsthand exposure to the diverse challenges of health tech adoption across different geographies and hospital formats.

4.1.5 Feature Adoption Trends and Feedback

Throughout the internship, I systematically gathered user feedback from different departments post-implementation to understand which features were most adopted and what concerns persisted.

The **e-prescription module** stood out as a key differentiator. Senior consultants appreciated the **voice command-based prescription** system, as it allowed them to dictate prescriptions during rounds without needing to sit at a computer. On the other hand, younger doctors preferred the **keyboard-based digital input**, citing speed and familiarity with tech.

Nurses found the **nursing dashboard** intuitive, especially the auto-sync feature with vitals machines and the shift-wise pending task list. This reduced duplication of work and ensured better shift handovers. Lab technicians particularly valued the automated test code linkage with EMRs, which eliminated the need to retype test reports. Radiologists gave positive feedback on scan-to-report upload functions that automatically alerted the prescribing doctor once the report was available.

The **pharmacy department** found the barcode-enabled medicine inventory system efficient. The software's ability to generate GST-compliant bills, track batch expiry, and auto-suggest generics based on stock availability was widely appreciated. This also helped minimize billing discrepancies and patient complaints.

Common feedback included requests for **offline sync options**, **regional language interfaces**, and more **automation in appointment reminders and patient follow-up alerts**. These insights were documented and submitted to the product team through the internal feedback portal for future updates.

Overall, the feature adoption was driven by how well the tool reduced effort, minimized errors, and blended into daily routines. By aligning features with actual user needs, Chikitsa.io achieved high acceptance with relatively low resistance.

4.1.6 Impact on Operational Efficiency

One of the most measurable outcomes of Chikitsa.io's implementation was its **impact on hospital efficiency**. Using the built-in analytics dashboard, I tracked key metrics across patient touchpoints before and after digitization.

First, the **average time from patient registration to consultation** dropped by 23% within the first two weeks of adoption. This was due to automated patient queue management, real-time availability status of doctors, and fewer manual entries. The pharmacy dispensing time improved by 30% due to auto-linked prescriptions and inventory stock alerts.

In the laboratory department, **turnaround time for test results** reduced significantly, thanks to instant data transfer between collection centers and lab managers. This enabled quicker diagnosis and treatment, especially in emergency cases.

The **billing process**—which previously involved manual calculation, handwritten prescriptions, and delayed approvals—was now real-time and audit-friendly. The claims processing for insured patients became seamless with ABHA-HCX integration, reducing turnaround from 4–5 days to 1–2 days.

Moreover, the system helped administrators identify **workflow bottlenecks**. For example, the data showed that OPD peak hours between 10 AM–1 PM led to service delays at the pharmacy. This insight helped them reschedule shifts and redistribute support staff accordingly.

Department heads were also able to access **real-time dashboards** tracking daily performance, doctor productivity, patient wait time, and prescription fulfillment rates. These metrics enabled evidence-based decision-making and improved resource allocation.

In short, Chikitsa.io did not merely digitize hospital processes—it actively contributed to **data-backed efficiency improvements**, higher patient throughput, and better service experience.

4.1.7 Role of Training and Change Management

No digital transformation is successful without **human alignment**, and this was particularly true in the case of Chikitsa.io's hospital implementation. One of the key learnings of my internship was how crucial structured training and proactive change management were in ensuring adoption. Before the software went live, I helped conduct **department-specific training sessions**. These included one-on-one demos, small-group walkthroughs, and digital literacy checks. Every department was provided with customized manuals, visual SOP charts, and access to demo environments for practice.

To overcome initial resistance, especially among older staff, I adopted a “**show, do, coach**” approach. First, I demonstrated the task (e.g., entering a prescription). Then, the staff tried it under supervision. Finally, they repeated the task independently with confidence. Within two weeks, most users transitioned from hesitant to self-sufficient.

We also created a **feedback channel** via WhatsApp where users could report bugs, request guidance, or share improvement ideas. This real-time support improved morale and encouraged a culture of continuous learning.

Leadership involvement played a big role. When hospital directors or department heads showed active interest in learning the system, it motivated staff to follow suit. Their participation in demo sessions and feedback reviews reinforced the importance of digital adoption.

Finally, to ensure sustainability, I designed a “**train-the-trainer**” **model**, where select tech-savvy staff were designated as internal champions. They received advanced training and took over the responsibility of helping new joiners, thus reducing long-term dependency on external support. This structured and empathetic change management approach ensured that Chikitsa.io was not just installed—but **truly adopted**.

Discussion

Alignment with Existing Literature

The observations and results from my internship at Chikitsa.io are strongly aligned with current academic and industry literature surrounding healthcare digitization, HIMS adoption, and patient-centric technology implementation in Indian hospitals.

Several scholarly studies emphasize the critical role of workflow customization in successful hospital information system rollouts. Research by Bhandari et al. (2020) highlights that rigid digital systems often fail in resource-constrained settings due to poor adaptability. My experience reinforced this as Chikitsa.io's modular design allowed department-specific flexibility, which eased resistance and improved operational efficiency—consistent with what the literature suggests.

Furthermore, the integration of **ABHA IDs** with **EMRs** echoes the principles laid out by the **Ayushman Bharat Digital Mission (ABDM)** and validated by the Ministry of Health and Family Welfare's digital health blueprint. According to official reports, interoperability and patient-centric record linkage are foundational to India's digital health vision. In my implementation experience, ABHA-linked EMRs led to measurable improvements in patient data accuracy, repeat consultation speed, and insurance claim filing—just as national frameworks have projected.

The literature also supports the idea that stakeholder engagement is a primary driver of digital health success. Srinivasan et al. (2019) noted that multi-tier stakeholder alignment—especially involving doctors, nurses, and administrative staff—ensures continuity in adoption. During my internship, we saw clear evidence of this: departments that had internal champions and felt heard in customization decisions were quicker to adopt and more satisfied with the results.

In line with Deloitte's (2023) research on SaaS adoption in Tier II and Tier III healthcare settings, Chikitsa.io demonstrated how lightweight, cloud-based platforms reduce infrastructure barriers and lower total cost of ownership. Remote hospitals appreciated features like mobile-first

dashboards and video call-based onboarding, reflecting the same demand trends identified in recent industry publications.

The emphasis on training and change management in academic literature also found strong validation in my experience. Numerous sources stress that even the most robust technology fails without structured support and hand-holding (WHO, 2022). Chikitsa.io's real-world implementation demonstrated this truth—our success was largely driven by demo sessions, real-time feedback resolution, and role-based guides. Departments that were handheld initially became confident users, showcasing how behavioral readiness can be nurtured with the right approach.

In summary, the practical results and behavioral patterns observed during my internship consistently reinforced the strategic directions found in current digital health research. The field-level insights add valuable granularity to the literature, especially regarding implementation dynamics in semi-urban hospital environments.

Implications for Digital Marketing of Biosimilars

The experience gained during my internship at Chikitsa.io revealed several strategic insights that have significant implications for the marketing, adoption, and scaling of digital health solutions—particularly **Software-as-a-Service (SaaS)** platforms in hospital environments. Firstly, it became clear that **hospital administrators and decision-makers prioritize solutions that integrate seamlessly with existing workflows**. Unlike one-size-fits-all hospital software, Chikitsa.io's modular design and configurable interfaces catered to department-specific needs, which directly enhanced its market appeal. For digital health marketers, this implies that product messaging should shift from technical specifications to **outcome-based narratives**—focusing on time saved, error reduction, and operational ROI.

Secondly, **compliance with national standards** such as ABHA and the Health Claim Exchange (HCX) is no longer a secondary feature—it has become a key decision-making criterion. Hospitals now actively seek platforms that support ABHA ID generation, EMR integration, and fast-track insurance claim submissions. This presents a clear opportunity for marketers to position their product as an **enabler of regulatory readiness**, especially in the post-COVID

health ecosystem where digital compliance is increasingly mandated.

Third, the internship highlighted how **demo-led onboarding and relationship-driven selling** work better than traditional marketing campaigns. Hospital decision-making involves multiple stakeholders—directors, doctors, nursing heads, and IT staff. Therefore, SaaS providers must adopt **consultative marketing strategies**, including live demos, role-based feature presentations, and Q&A webinars. Personalization, not persuasion, drives SaaS conversion in healthcare.

Additionally, the importance of **referral-based growth and digital word-of-mouth** emerged as a powerful lever. Hospitals that were successfully onboarded became evangelists, recommending the platform to peer institutions. Marketers should actively cultivate testimonials, case studies, and reference programs to fuel this network effect.

Another insight was the value of **vernacular content and regional sales approaches** in expanding reach across Tier II and Tier III markets. Many users, particularly hospital receptionists or older consultants, were more comfortable engaging with the platform in their local language. Marketing teams must therefore develop regionally tailored communication, including local-language explainer videos and brochures.

Finally, Chikitsa.io's ability to demonstrate **measurable improvement in KPIs**—such as reduced wait time, faster claim settlement, and improved prescription accuracy—proved to be a key marketing differentiator. This underscores the growing need for **data-backed marketing**. SaaS providers in the health domain should invest in analytics-driven storytelling to highlight how their platform contributes to tangible outcomes.

In conclusion, digital health marketing is no longer about product promotion alone—it is about **solution enablement, trust-building, and clinical empowerment**. For platforms like Chikitsa.io, marketing must integrate education, consultation, and impact metrics to influence the highly collaborative and cautious buying process in the healthcare ecosystem.

Ethical & Behavioral Considerations

The implementation of a hospital information management system (HIMS) such as **Chikitsa.io** is not merely a technological upgrade—it also raises important **ethical and behavioral questions** related to data privacy, digital literacy, change resistance, and equitable access.

One of the foremost ethical considerations encountered during my internship was the **handling of sensitive patient data**, especially while integrating **ABHA IDs** and Electronic Medical Records (EMRs). As patient profiles became digitized and linked to national health IDs, ensuring **confidentiality, secure login protocols, and access-level restrictions** became essential. The system's ability to offer **role-based access controls**—where only authorized personnel could view, edit, or download certain data—was critical in maintaining ethical compliance. Nevertheless, staff needed thorough training on the responsible handling of digital health data to avoid accidental data breaches or misuse.

Secondly, the introduction of digital systems revealed a behavioral divide between early adopters and digitally reluctant staff. Many senior doctors, nurses, and technicians expressed **anxiety around navigating technology**, fearing judgment, reduced productivity, or data entry errors. Recognizing this, we adopted an empathetic and inclusive onboarding strategy—offering **peer-led training**, real-time troubleshooting, and creating a **safe space for learning**. Ethically, this approach ensured that no staff member felt excluded or underqualified to participate in the digital transition.

Another concern was the **equity of patient access**. While Chikitsa.io offers many patient-facing features such as SMS alerts, digital discharge summaries, and lab notifications, not all patients had smartphones or understood how to retrieve such information. This raised a broader ethical challenge: how can we ensure that digital transformation in hospitals **doesn't widen the care gap** for low-income or digitally unconnected patients? In practice, we mitigated this by training front-desk staff to offer printed records and explain features verbally—bridging the gap between digital systems and real-world patient needs.

Additionally, the use of voice-enabled prescriptions and OCR-based handwritten entry tools raised questions about **automation versus accountability**. While these features improve convenience, ensuring that doctors **review automated outputs for accuracy** is essential. Chikitsa.io maintained a human-in-the-loop model to balance automation with clinical responsibility, a best practice supported by digital ethics literature.

A more subtle yet crucial behavioral consideration was **workflow ownership**. Digital systems often fail not because they're flawed, but because users don't feel involved in their implementation. By conducting feedback sessions, incorporating departmental suggestions, and visibly acknowledging user contributions in rollout phases, we nurtured a **culture of shared responsibility** rather than imposed change. This behavioral shift—from resistance to ownership—was instrumental in Chikitsa.io's adoption success.

Lastly, transparency was a recurring theme. Whether it was **clearly communicating software limitations**, managing expectations regarding data migration delays, or being upfront about updates and downtimes, ethical behavior in health tech projects requires **honest, respectful, and timely communication** with all stakeholders.

Role of Digital Integration in Adherence

Digital integration through Chikitsa.io played a significant role in improving adherence to hospital workflows and patient care protocols. Features like auto-scheduled follow-ups, voice-enabled prescriptions, and EMR-linked diagnostics ensured that tasks were completed on time and with greater accuracy. Real-time dashboards and role-specific reminders helped staff stay aligned with treatment plans and administrative processes. For patients, SMS alerts for appointments, test results, and billing improved engagement and reduced missed visits. By streamlining communication across departments and digitizing accountability, the platform minimized delays and human errors. Overall, digital integration not only optimized daily operations but also reinforced a culture of timely execution and continuity of care in the hospital environment.

The Continued Role of Healthcare Providers

Despite the growing adoption of digital health platforms like Chikitsa.io, healthcare providers remain central to successful implementation and patient trust. During my internship, it became evident that doctors, nurses, and administrative leaders were not just end-users—they were influencers in technology adoption. When senior clinicians embraced digital tools like voice-enabled e-prescriptions or EMR access, their teams followed. Moreover, patients placed greater confidence in digital records when endorsed by their doctors. This highlights the importance of involving healthcare providers early in the onboarding process, incorporating their feedback, and equipping them with adequate training. Their continued role is vital—not only for system functionality but also for driving cultural change and clinical acceptance in hospital digitization efforts.

Unique Observations

A unique insight during my internship was the **unexpected digital adaptability** of hospital staff once initial resistance was addressed through peer training and contextual onboarding. Even in semi-urban hospitals with limited infrastructure, staff quickly embraced Chikitsa.io when workflows mirrored their existing practices. Another key observation was the **importance of visible value**—departments adopted features faster when they could immediately see benefits, such as reduced prescription errors or faster billing. Additionally, patients appreciated features like printed summaries and SMS alerts, even if they didn't fully engage with digital portals—highlighting the need for **hybrid digital-physical experiences** in Indian healthcare. These insights underscore the value of designing health tech solutions that prioritize familiarity, simplicity, and inclusive communication.

Summary

This chapter presented key insights and observations from my internship at Chikitsa.io, highlighting the real-world dynamics of implementing a smart HIMS platform in hospital settings. The analysis covered department-wise workflow mapping, ABHA-ID integration with EMRs, interdepartmental coordination, feature adoption trends, and remote outreach for software promotion.

Results showed that modular customization, stakeholder-specific training, and role-based interfaces were instrumental in driving adoption across departments. ABHA integration not only streamlined insurance processes but also enhanced patient data reliability. Remote demos revealed that SaaS-based, mobile-friendly platforms like Chikitsa.io meet the unique needs of semi-urban hospitals.

Ethically, the internship underscored the need for secure data handling, equitable access, and inclusive digital onboarding. Behavioral considerations, including change resistance and digital literacy gaps, were managed through structured, empathetic engagement.

Overall, the findings align with national digital health strategies and industry literature, affirming that successful healthcare digitization demands both technological innovation and human-centered implementation.

CHAPTER-5

CONCLUSION

The internship at **Chikitsa.io** provided a unique opportunity to gain hands-on exposure to the implementation of a Web 3.0-enabled, ABHA-compliant Hospital Information Management System (HIMS) and its real-world implications across clinical, administrative, and operational domains in healthcare. Over the course of the internship, I was involved in critical processes such as ABHA-EMR integration, workflow digitization, stakeholder training, and remote outreach, all of which enriched my understanding of digital health transformation in Indian hospital settings.

One of the key takeaways from the experience was the significance of **customized departmental workflows**. Rather than enforcing a generic software design, Chikitsa.io's modular architecture allowed each department—OPD, IPD, Pharmacy, Radiology, Lab, and Billing—to adopt digital systems that matched their routine operations. This approach not only reduced resistance to adoption but also fostered long-term engagement and usability.

The integration of over **300+ patient ABHA IDs** with digital EMRs demonstrated the potential of unified health identity systems in enabling faster insurance claims, better medical continuity, and data interoperability in line with the Ayushman Bharat Digital Mission (ABDM). The process also highlighted the importance of ethical practices around data security, consent, and access control.

Additionally, my exposure to **interdepartmental coordination challenges** taught me that successful HIMS implementation is not merely a technical exercise—it requires empathy, communication, and role-based training strategies. Departments with clear support structures and internal champions were quicker to adapt, while those lacking guidance showed slower progress.

Promotional activities such as **remote demo sessions and client onboarding meetings** offered insights into the behavioral and infrastructural diversity across hospitals in Tier II and Tier III cities. Hospitals were not just looking for feature-rich systems but also for solutions that offered regional language support, minimal infrastructure demands, and responsive after-sales service.

In conclusion, this internship experience was instrumental in shaping a practical and holistic understanding of how digital technologies—when implemented with contextual sensitivity and ethical foresight—can revolutionize hospital operations. Platforms like Chikitsa.io are not just tools for automation, but catalysts for systemic change in how healthcare is delivered, documented, and experienced in India. As India's digital health ecosystem continues to evolve, such solutions will play an increasingly vital role in driving scalable, sustainable, and inclusive health outcomes.

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REAL-TIME IMPLEMENTATION OF CHIKITSA.IO IN CLINICAL SETTINGS

These images showcase **DOCTORS AND STAFF ACTIVELY USING CHIKITSA.IO SOFTWARE** in real-time during **OUTPATIENT AND ADMINISTRATIVE OPERATIONS**. The software's **INTEGRATED E-PRESCRIPTION MODULE** and **SMART EMR INTERFACE** are being utilized without disrupting existing workflows, enabling a seamless transition from paper to digital systems.

This reflects **CHIKITSA.IO'S SUCCESS IN GROUND-LEVEL ADOPTION**, providing **STRUCTURED, EFFICIENT, AND USER-FRIENDLY DIGITAL TOOLS** that empower healthcare providers with **REAL-TIME INSIGHTS, BETTER PATIENT COORDINATION**, and **STREAMLINED DOCUMENTATION**.

