DISSERTATION

ON

A STUDY ON IMPLEMENTATION CHALLENGES IN THE AYUSHMAN BHARAT DIGITAL MISSION (ABDM): A MULTISTAKEHOLDER ANALYSIS

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INTRODUCTION

The Indian healthcare landscape is undergoing a digital transformation driven by initiatives like the Ayushman Bharat Digital Mission (ABDM). However, adoption of ABDM remains low, especially in the private sector. Currently, only 30% of the Health Facility Registry (HFR) and 17% of the Health Professional Registry (HPR) are from the private sector, despite their 70% market share.

- Launched by Prime Minister Narendra Modi on September 27, 2021.
- **Key components of the ABDM include:**
    - The creation of unique health IDs for individuals (ABHA ID)
    - A robust digital health records system
    - The establishment of registries for healthcare professionals and facilities.

- ABDM aims to improve access to healthcare services, enhance the efficiency of healthcare delivery, and ensure the continuity of care through the use of advanced digital technologies.

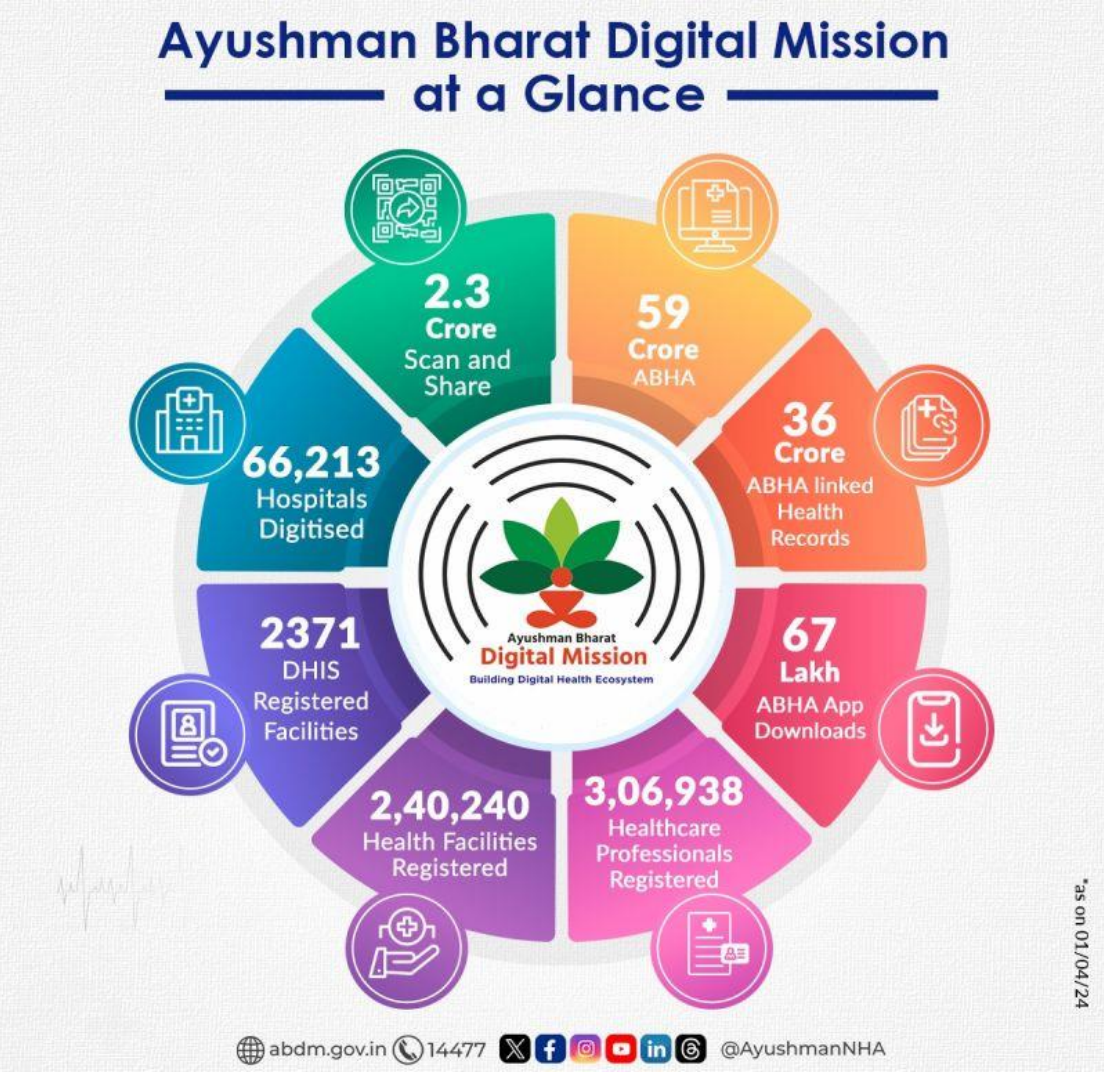
Key Components of ABDM:

Unique Identification of the individual across healthcare providers

A comprehensive registry of all healthcare professionals involved in the delivery of allopathic and traditional systems of medicine.

Comprehensive registry of all health facilities across different systems of medicine

Electronic Record of an individual's health-related data that conforms to interoperability standards, which can be accessed by multiple sources, while being owned and managed by the individual



Despite the ambitious goals of the Ayushman Bharat Digital Mission (ABDM), the adoption rate of Ayushman Bharat Health Account (ABHA) IDs remains relatively low. As of now, only 64.798 million ABHA IDs have been created, representing a modest penetration rate in a country with a population of approximately 1.44 billion. This indicates that less than 5% of the population has registered for an ABHA ID, highlighting significant challenges in widespread adoption. The low penetration rate underscores potential issues such as lack of awareness, concerns about data privacy, and the perceived complexity of the registration process. Addressing these barriers is crucial for achieving the ABDM's vision of a unified digital health ecosystem that can enhance healthcare delivery and accessibility across India.

Major Stakeholders in ABDM Implementation

- Several stakeholders are involved in the implementation of

ABDM and each one of them is very important:

- **Healthcare Providers:** Clinics, hospitals, and private practitioners that offer medical care.
- **IT Companies:** Providers and developers of solutions and infrastructure for digital health.
- **Government Agencies:** in charge of supervision, regulation, and policy development.

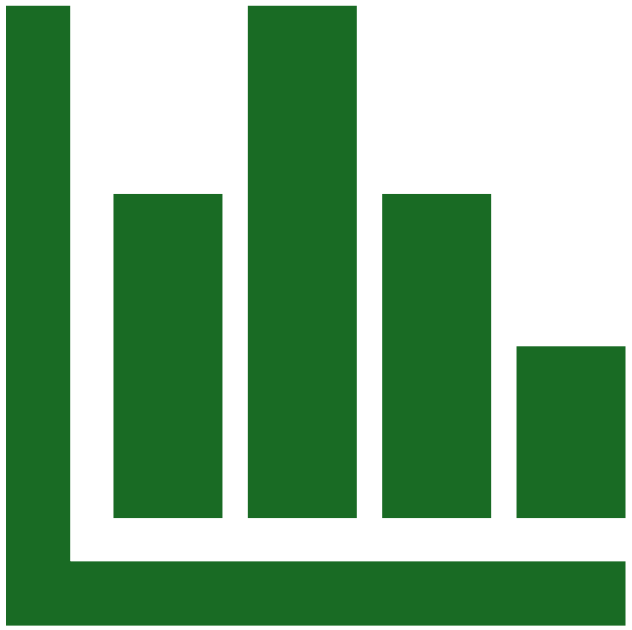
Review of literature

TITLE	AUTHOR	STUDY LOCATION	YEAR OF STUDY	SALIENT FEATURES
A strategic roadmap to the successful implementation of digital health records in India	Aggarwal, Lipsa Roy, Mrinmoy	New Delhi	2024	This study outlines the strategies for implementing digital health records in India, emphasizing data security, policy frameworks, social and legal challenges, and stakeholder collaboration for a patient-centric digital healthcare transformation.
The Ayushman Bharat Digital Mission (ABDM): making of India's Digital Health Story	Sharma, R. S. Rohatgi, Aishwarya Jain, Sandeep Singh, Dilip	New Delhi	2023	It explores ABDM in India, focusing on digitizing healthcare services, highlighting digital public goods, personal health records, practical use cases, and the global impact of platforms like CoWIN.
Ayush grid: Digital health platform	Thrigulla Saketh Ram	HyderabadTelangana India	2023	ABDM faces challenges like low awareness, tech gaps, and integration issues, aiming for universal healthcare through digital platforms but hindered by limited resources and diverse stakeholder interests.

Ayushman Bharat: Service Adoption Challenges in Universal Healthcare System	Pandey, Neeraj Jha, Sumi Rai, Vaibhav	Mumbai, Maharashtra, India.	2021	The research paper explores the service adoption challenges of the Ayushman Bharat scheme, a universal healthcare program in India, from patient and physician perspectives. It emphasizes performance expectancy, ease of service access, positive social influence, and facilitating conditions. The study aims to inform policymakers, healthcare administrators, and service managers about managing these challenges to improve adoption rates in a developing country context
A perspective on digital health platform design and its implementation at national level	Mantri, Manisha Sunder, Gaur Kadam, Sanjay Abhyankar,Aditya		2024	The paper emphasizes accessible, affordable health services through national digital health platforms, using standards and governance principles. It stresses data quality assurance, certification schemes, and incentive mechanisms for adoption, funded by India's Ministry of Health and Family Welfare.

PROBLEM STATEMENT

The Ayushman Bharat Digital Mission (ABDM) aims to digitize India's healthcare system, offering comprehensive health coverage. However, its implementation faces significant challenges, including technological barriers like inadequate digital infrastructure and interoperability issues, data privacy concerns, infrastructural deficiencies, and stakeholder engagement problems. These complexities necessitate a thorough analysis of implementation challenges from a multi-stakeholder perspective to develop effective strategies for overcoming them and achieving ABDM's objectives.



METHODOLOGY

Research Questions:

- What are the major operational challenges faced in implementing the Ayushman Bharat Digital Mission (ABDM)?
- How can these challenges be effectively addressed?

Objectives:

- To identify the key operational challenges in the implementation of ABDM.
- To gather the perspectives of various stakeholders on these challenges.
- To propose solutions/recommendations to address the identified challenges.

METHODOLOGY:

Research design:
Descriptive research.

Research Method:
This study adopts a qualitative research approach

Sources of Data:

- **Primary Data:** Collected through in-depth interviews with stakeholders (government, private companies, healthcare professionals, and the public).
- **Secondary Data:** Existing literature, reports, government documents, and industry publications related to ABDM implementation.

Sample Size:

- Healthcare Professionals: **20**
- Information Technology(IT) Companies: **10**
- Government Professionals: **10**

Study location: NEW DELHI

Data Collection Methods:

- **Interviews:** Conducted in-depth, interviews with stakeholders using pre-designed interview guides.

RESULTS

PERSPECTIVE OF HEALTHCARE PROFESSIONALS ON IMPLEMENTING CHALLENGES

- **Perception of Being Monitored:** This is because they perceive they are under surveillance hence the issues of privacy and security.
- **Perceived Link to Income Tax:** Since the registration no. of the doctors is attached to all patient consultations, there is a misunderstanding that ABDM is connected with income tax and because of that doctors hesitate.
- **Lack of Advocacy and Unified Opinion:** Different unions of doctors have different attitudes and no single association to guide them for ABDM.
- **Complexity of HPR and HFR:** The HPR and HFR are considered to be complex and rather overlapped.
- **Delays in HFR Verification:** Because state authorities often take a long time to verify healthcare facilities during the creation of HFR, the latter discourages participation

- **Adoption Issues:** Cooperating with new approaches instead of using a basic pen-paper is difficult.
- **Lack of Practical Application:** No hand - holding and lack of appreciation of its need.
- **Waiting for Government Mandate:** A lot of doctors still expect the government to command them to register with HPR or HFR.
- **No Patient Demand:** patients do not have any strong desire for digital prescriptions or ABHA.

Discussing the Health Provider Registry (HPR) and Health Facility Registry (HFR), a healthcare professional remarked,

"The HPR and HFR are overly complicated. It feels like a parallel registry to the existing state council lists, and the delay from the state in verifying healthcare facilities discourages us from participating."

-Doctor, PHC, MURMURA

A doctor expressed concern about the ABDM, saying-

"We feel like we are constantly being monitored through ABDM, and there's a fear that our data might be linked with income tax assessments."

-Doctor, PHC, Bhangel Salarpur

Highlighting the transition from traditional to digital systems, a doctor noted,

"Moving from pen-and-paper to digital systems is a big shift for many of us. There is no real use case for us, and without a government mandate, we don't see the need to register with HPR or HFR."

-Doctor, PHC, BISRAKH

PERSPECTIVE OF Information Technology(IT) Companies

ABDM-Enabled Companies

1. **Unstable Technology:** The technology is highly unstable, with frequent server failures.
2. **Long User Journeys:** The integration process makes the user journey unnecessarily long.
3. **Lack of Traction:** There is little interest from hospitals and doctors.
4. **Complex Integration Process:** High dependency on an unstable UAT environment complicates integration.
5. **Lack of Innovation:** There has been no significant innovation in the last three years.
6. **New API Issues:** New API versions are introduced without proper testing, causing system failures.
7. **Poor Technical Support:** Technical and operational support from NHA is inadequate, with high turnaround times.
8. **High Integration Costs:** Functional testing and security audits are expensive.
9. **Discrepancy in Fund Disbursement:** Frequent server failures cause issues with automated fund disbursement from DHIS.
10. **Long Integration Process:** The integration process is lengthy and poorly managed.

Other Tech Companies (ABDM Sandbox)

1. **Undefined Integration Process:** The integration process is long and lacks a clear definition.
2. **Poor Documentation:** Technical documentation is inadequate and filled with jargon.
3. **Frequent System Downtime:** The system frequently goes down, causing disruptions.
4. **High Costs:** The costs associated with integration are high.

"The technology is highly unstable with frequent server failures. This makes the user journey long and frustrating."

-Developer

"The cost of integration is prohibitively high, especially for smaller companies. This makes it challenging for us to fully participate in the ABDM ecosystem."

-Vigorus Healthtech Private Limited

GOVERNMENT

National Health Authority (NHA)

- **New API Introduction:** A stable V3 API has been introduced(Application programming interface)
- **DHIS Extension:** DHIS has been extended for one year.
- **National Health Claim Platform:** A new platform has been launched in collaboration with IRDAI and GIC.
- **Mandatory ABHA for Insurance:** ABHA is mandated for all insurance companies.
- **Digital Health Adoption Projects:** 100 microsite projects are leading the way.
- **PMU Setup:** Project Management Units (PMUs) are established at the state level.
- **Workshops with Doctor Unions:** Workshops are being organized with various doctor unions.

State Government

- **PMU Setup:** PMUs have been set up.
- **Microsite Projects:** Functional microsite projects are operational.
- **HFR Verification Process:** The time for HFR verification has been reduced.

A professional from the NHA highlighted the efforts to stabilize the technical infrastructure, stating,

"We have introduced a stable and new V3 API to address the technical issues faced by HMIS and other tech companies. This should provide a more reliable integration process."

-NHA, Government Official

Discussing the continuity of digital health initiatives, the same professional noted,

"The DHIS has been extended for another year to ensure continuity and support for digital health initiatives."

-NHA, Government Official

Highlighting the reach of the digital health projects, they said,

"Microsite projects are functional in various states, and we are working to extend these projects to cover more areas and facilities."

-BBMP, Bengaluru

DISCUSSIONS & RECOMMENDATIONS

PUBLIC AWARENESS AND TRUST: THE IMPLEMENTATION OF THE AYUSHMAN BHARAT DIGITAL MISSION (ABDM) FACES SIGNIFICANT CHALLENGES DUE TO PUBLIC IGNORANCE AND LACK OF UNDERSTANDING, EXACERBATED BY TECHNOLOGY INSTABILITY AND DISINFORMATION. TO COMBAT THESE ISSUES, ROBUST INFORMATION, EDUCATION, AND COMMUNICATION (IEC) STRATEGIES ARE ESSENTIAL TO RAISE AWARENESS ABOUT THE USAGE AND BENEFITS OF AYUSHMAN AND ABHA CARDS, THEREBY FOSTERING TRUST IN THE SYSTEM.

HEALTHCARE PROFESSIONAL ENGAGEMENT: HEALTHCARE PROFESSIONALS AND DOCTORS EXHIBIT RELUCTANCE TO PARTICIPATE IN ABDM DUE TO LACK OF TRUST, SECURITY CONCERNS, AND MISUNDERSTANDINGS ABOUT THE PROGRAM'S IMPACT ON INCOME TAX. THE COMPLEXITY OF THE HEALTH PROFESSIONAL REGISTRY (HPR) AND HEALTH FACILITY REGISTRY (HFR) FURTHER HINDERS ENGAGEMENT. ENHANCING COMMUNICATION, DEMONSTRATING THE PRACTICAL BENEFITS, AND SIMPLIFYING THE IMPLEMENTATION PROCESSES CAN ENCOURAGE GREATER INVOLVEMENT FROM MEDICAL PRACTITIONERS.

TECHNICAL INTEGRATION AND SUPPORT FOR IT COMPANIES: TECH COMPANIES INVOLVED IN ABDM, BOTH ENABLED AND SANDBOX PARTICIPANTS, ENCOUNTER CHALLENGES RELATED TO TECHNOLOGY USE AND INTEGRATION MANAGEMENT. THESE ARE COMPOUNDED BY INSUFFICIENT SUPPORT AND HIGH COSTS. SOLUTIONS INCLUDE IMPROVING TECHNOLOGY STABILITY, ENHANCING SUPPORT SERVICES, SIMPLIFYING THE INTEGRATION PROCESS, AND PROVIDING CLEARER POLICIES AND BETTER DOCUMENTATION.

NHA INITIATIVES AND COLLABORATION: THE NATIONAL HEALTH AUTHORITY (NHA) HAS UNDERTAKEN SEVERAL INITIATIVES CRUCIAL FOR ABDM'S SUCCESS, SUCH AS INTRODUCING NEW APIS, EXTENDING THE DIGITAL HEALTH INFORMATION SYSTEM (DHIS), AND MANDATING THE USE OF ABHA FOR INSURANCE COMPANIES. ESTABLISHING PROJECT MANAGEMENT UNITS (PMUS) AND ORGANIZING WORKSHOPS INDICATE A PROACTIVE APPROACH TO OVERCOMING CHALLENGES AND PROMOTING ADOPTION AMONG HEALTHCARE PROFESSIONALS.

STATE GOVERNMENT SUPPORT AND STREAMLINING: STATE GOVERNMENTS PLAY A SUPPORTIVE ROLE IN ABDM BY ESTABLISHING PMUS AND LAUNCHING MICROSITE PROJECTS. EFFORTS TO REDUCE HEALTH FACILITY REGISTRY VERIFICATION TIMES ARE STREAMLINING PROCESSES AND ENCOURAGING PARTICIPATION FROM HEALTHCARE PROFESSIONALS. THESE INITIATIVES REFLECT THE STATE GOVERNMENTS' COMMITMENT TO ENHANCING HEALTHCARE INFRASTRUCTURE AND OPERATIONS, THEREBY SUPPORTING THE BROADER GOALS OF ABDM.

Recommendations:

Healthcare Professionals:

- **Communication and Training:** Provide clear communication and training on data security and trust. Clarify policies and procedures regarding patient records privacy.
- **Simplify HPR/HFR Processes:** Streamline and optimize HPR and HFR verification processes to ease registration.
- **Promote Advocacy:** Encourage unified support from doctor unions and healthcare associations for ABDM.

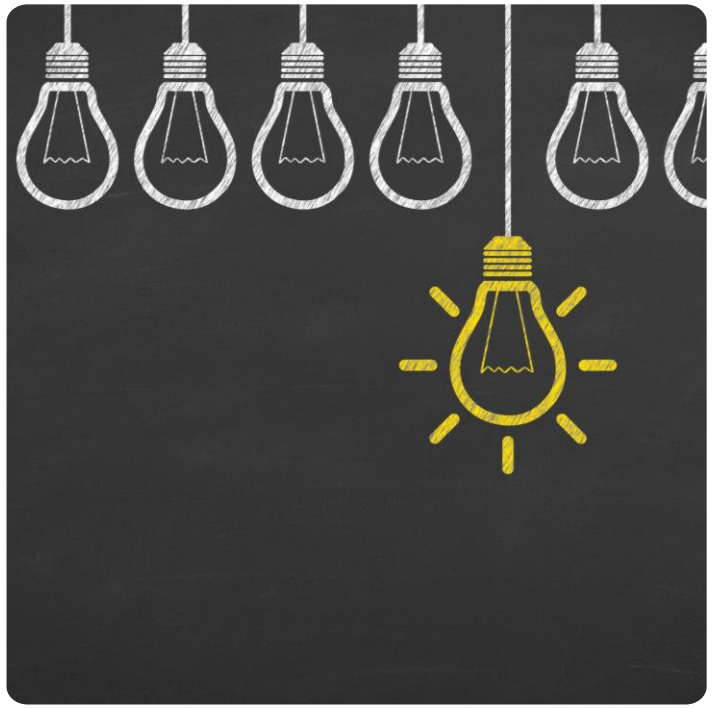
Recommendations:

IT Companies:

- **Enhance Technology Stability:** Reduce server failures and downtime, providing adequate funding for better reliability.
- **Simplify Integration:** Establish clear documentation and guidelines to simplify the integration process and API structures.
- **Address Fund Disbursement Discrepancies:** Ensure smooth financial flow and stability for participating companies by resolving disbursement issues.

Government:

- **API Stabilization and Support:** Continue standardizing new APIs and expanding DHIS support programs to improve data management and communication.
- **Mandate ABHA for Insurance:** Enforce ABHA use in insurance with incentives and legal measures to encourage digital health adoption.
- **Collaborate with State Governments:** Work with states to speed up HFR verifications and optimize microsite use, addressing local challenges for timely digital health implementation.



CONCLUSION

Summary of Key Points

- Healthcare professionals are concerned about data protection, privacy, and complex HPR and HFR procedures.
- IT companies face system instability, integration issues, and insufficient technical support.
- The government working on new initiatives to make digital health adoption better

Significance of the Research

- Provides a comprehensive analysis of challenges faced by different stakeholder groups.
- Offers actionable recommendations for improving ABDM adoption and effectiveness.
- Guides policymakers and practitioners in addressing key implementation barriers.

Future Research Directions

- Assess the impact of IEC strategies on public awareness and ABHA usage.
- Conduct longitudinal studies on the effects of improved data protection on healthcare professionals' trust.
- Explore technological advancements to improve the integration and stability of ABDM systems

Thank You