

SYNOPSIS FOR DISSERTATION



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INTRODUCTION

Indoor navigation systems use real-time tracking and hospital mapping to streamline operations, reduce patient wait times, and enhance emergency response^[1]. In India, fragmented IT infrastructure and varying financial capacities create disparities in digital adoption^[2]. This study contextualizes INS adoption within India's healthcare landscape, emphasizing the need for a standardized metric (PPI) to evaluate hospitals' readiness.

Review of Literature

- **Digital Health Adoption:** Post-pandemic, healthcare digitization accelerated, with telehealth and IoT devices improving accessibility^[2]. However, legacy systems and interoperability challenges persist^{[2][3]}.
- **Hospital IT Investments:** Not-for-profit hospitals historically prioritize IT adoption despite financial constraints, while for-profit institutions align investments with profitability^[3].
- **PPI-Type Indices:** Global indices like the World Bank's PPP calculation^[4] and conceptual frameworks for hospital-philanthropic investments^[5] inform methodologies for weighting structural and financial variables.

Research Gap: No existing tool evaluates Indian hospitals' readiness for INS adoption, particularly linking accreditation, government empanelment, and Capex.

Theoretical/Conceptual Framework

The PPI integrates:

1. **Structural Factors:** Bed strength, NABH/NABL accreditation.
2. **Financial Metrics:** Annual revenue, Capex trends, CGHS/PMJAY empanelment.
3. **Operational Readiness:** Ownership type, geographic location, Digital & Tech investments.

Using a **weighted scoring method**, each factor is assigned a value based on its influence on investment capacity, inspired by Gini-Éltető-Köves-Szulc (GEKS) method aggregation in PPP calculations^[4].

Research Questions

1. How do accreditation status and government empanelment correlate with INS adoption potential?
2. What is the state-wise variation in PPI scores across Indian hospitals?

Research Objectives

1. Develop a PPI scoring model for INS adoption readiness.
2. Analyze how bed strength, revenue, and accreditation status influence PPI.
3. Segment hospitals into adoption tiers (high, medium, low) for targeted B2B marketing.

Methodology

Research Design: Exploratory-descriptive study combining quantitative analysis of secondary data.

Data Collection:

- **Sample:** 103 Indian hospitals (private, public, trust-owned).
- **Variables:** Ownership, bed capacity, accreditation, revenue (2019–2024), Capex, and empanelment status.

Data Analysis:

- **PPI Construction:** Variables weighted using logistic regression coefficients^[3], normalized to a 0–100 scale.
- **Correlation Analysis:** Investigate the relationship between revenue and Capex to validate financial readiness.
- **Categorization:** Based on PPI scores, hospitals are grouped into High, Medium, and Low readiness segments.

- **Geographical Mapping:** State-wise visualization of PPI scores to identify high-potential regions for INS implementation.

Plan of Analysis:

- Cluster hospitals by PPI scores to identify high-potential targets for INS vendors.
- Correlation analysis between accreditation and PPI.

Tentative Chapter Plan

1. **Introduction:** INS relevance, research objectives.
2. **Literature Review:** Digital health adoption, investment frameworks.
3. **Methodology:** Data sources, PPI formula, analytical tools.
4. **Findings:** PPI distribution, state-wise trends, adoption barriers.
5. **Recommendations:** Policy interventions, vendor strategies.

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