

# **SYNOPSIS**

**TITLE: Needs Assessment for Indoor Navigation: Quantitative Insights from Stakeholders in a Tertiary Care Facility**



**The IIHMR University, Jaipur**

for the partial fulfillment for the award of the degree of

Master of Business Administration (MBA)

in

Hospital and Health Management

by

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## **1. Introduction**

Large multispecialty hospitals are often challenging to navigate, leading to delays, confusion, and frustration among patients, attendants, and even hospital staff. These navigation challenges negatively impact patient satisfaction and staff productivity. Indoor digital wayfinding technologies, such as BootWay's Indoor Navigation-as-a-Service (iNaaS), are emerging as viable solutions.

However, the successful implementation of such technologies requires a clear understanding of user needs and expectations. A structured, data-driven assessment can offer valuable insights into these aspects and support evidence-based design and deployment strategies.

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## **2. Problem Statement**

In Indian tertiary care hospitals, digital indoor navigation remains underutilized despite advancements in healthcare technology. Patients frequently encounter difficulty locating departments or service areas, which often leads to workflow inefficiencies and reduced satisfaction. A lack of data-driven insights into stakeholder needs may hinder the adoption and effectiveness of indoor navigation systems. Therefore, a quantitative assessment is necessary to evaluate the readiness and expectations of stakeholders before introducing BootWay iNaaS.

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## **3. Objectives of the Study**

- To identify navigation-related challenges encountered by patients, attendants, and hospital staff.
  - To evaluate stakeholder perceptions regarding the usefulness of indoor navigation systems.
  - To determine the most desired features and functionalities in BootWay iNaaS from a quantitative perspective.
  - To quantify stakeholder readiness for adopting a digital navigation solution in the hospital setting.
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#### 4. Research Questions

1. What are the common navigation difficulties reported by hospital users?
  2. What is the perceived usefulness of indoor navigation technology like BootWay iNaaS?
  3. Which features are considered most essential by different user groups?
  4. What is the level of readiness and openness toward adopting a digital wayfinding system?
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#### 5. Methodology

- **Study Design:** Descriptive cross-sectional study
  - **Study Setting:** Tertiary Care Facility
  - **Sample Size:** 100 respondents including patients, attendants, and hospital staff
  - **Sampling Technique:** Stratified random sampling
  - **Data Collection Tools:** Structured questionnaire (close-ended questions, multiple choice)
  - **Data Analysis:** Descriptive statistics using MS Excel/SPSS
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#### 6. Expected Outcomes

- Quantitative identification of key navigation issues and stakeholder expectations
  - Measurable insights into the perceived value and feature preferences for BootWay iNaaS
  - Numerical assessment of adoption readiness across different stakeholder groups
  - Actionable data for optimizing BootWay iNaaS deployment and integration
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#### 7. Significance of the Study

This study aims to provide structured, evidence-based insights into the navigation needs of hospital users. The findings will support BootWay and similar solution providers in tailoring their indoor navigation systems to align with actual user requirements. Additionally, it will offer hospital administrators data to justify technology investments and improve patient flow and service delivery.

## 8. References

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## Questionnaire

Structured Questionnaire (Quantitative)

### **Section A: Demographics**

#### **1. Stakeholder category:**

1. Patient
2. Attendant
3. Hospital Staff

#### **2. Age: \_\_\_\_\_**

#### **3. Gender:**

1. Male

2. Female
3. Other

**4. Educational Qualification:**

1. Below 10th
2. 10th–12<sup>th</sup>
3. Graduate
4. Postgraduate

**5. Have you visited this hospital before?**

1. Yes
2. No

**Section B: Navigation Experience**

**6. On your most recent hospital visit, did you face difficulty finding departments/rooms?**

1. Yes
2. No

**7. How easy was it to find your way around the hospital?**

1. Very Easy
2. Easy
3. Neutra
4. Difficult
5. Very Difficult

**8. Which areas were most difficult to locate? (Select all that apply)**

1. OPD
2. Diagnostic (X-ray, MRI)
3. Pharmacy
4. Wards
5. Billing
6. Toilets
7. Others: \_\_\_\_\_

**9. Did you have to ask for directions?**

1. Yes
2. No

**10. If yes, whom did you ask?**

1. Security
2. Staff
3. Attendants
4. Random person

**Section C: Familiarity with Digital Tools**

**11. Do you use a smartphone?**

1. Yes
2. No

**12. Are you comfortable using digital maps (e.g., Google Maps)?**

1. Yes
2. No
3. Somewhat

**13. Have you ever used a QR code or hospital kiosk?**

1. Yes
2. No

**Section D: Perception of iNaaS (BootWay)**

**14. Would a mobile-based hospital navigation system be useful for you?**

1. Yes
2. No
3. Not Sure

**15. Which features would you find most helpful? (Select up to 3)**

1. Voice-guided directions
2. Multilingual support
3. Departmental search
4. Real-time location updates
5. Wheelchair-accessible route info
6. Integration with OPD/appointment system

7. Emergency exit locator

**16. How likely are you to use such a system if available?**

1. Very Likely
2. Likely
3. Neutral
4. Unlikely
5. Very Unlikely

**Section E: Barriers & Suggestions**

**17. What could prevent you from using a digital indoor navigation system?**

1. Lack of smartphone/internet
2. Language issues
3. Technical complexity
4. Trust issues with digital tools
5. No need for it

**18. Additional suggestions (optional):**