

A Study On The Challenges Faced In The Implementation Of Hospital Management Information Systems

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INTRODUCTION

Hospital Management Information System (HMIS) is a comprehensive, intertwined information system. It is designed to manage the executive, clinical and support aspects of hospitals. This provides many benefits to patient care and hospital operations. Thanks to advances in technology and affordable results.

m16 LABS had been working on the implementation of MetahOS - their HMIS product. During the implementation phase, it was observed that there were varied kinds of challenges faced by the Development engineers, Product Managers, Hospital staff, Clinicians and all the stakeholders.

This study is an attempt to classify the challenges and understand the perception of the above-mentioned participants who play a key role in the HMIS implementation using an online survey. The respondents of the survey majorly include:

- Engineers
- Product Managers
- Healthcare Personnel
- Hospital Administrative Staff

Methodology

Study Design: Cross-sectional Descriptive Study

Sampling Method: Convenience sampling

Sample Size: 105

Study duration: 2 months

Data Collection: Primary, Secondary data

Materials and Tools: Scientific Papers, Publications, Internet Resources, Questionnaire (Online Survey)

Inclusion Criteria: Engineers Product Managers Healthcare Personnel Hospital Administrative Staff

Implementation Timeline

[illegible]



Methodology

Research Question

What are the challenges faced by the Health IT companies during the implementation of a Hospital Management Information System in Hospitals?

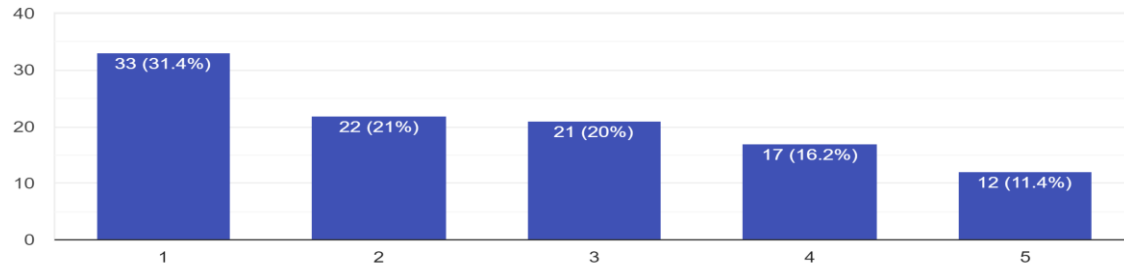
Research Objectives

1. To understand the Implementation Timeline of the ongoing HMIS implementations by M16 Labs.
2. To classify the types of challenges faced during the process.
3. To suggest improvements and techniques overcome the challenges.

Human Challenges

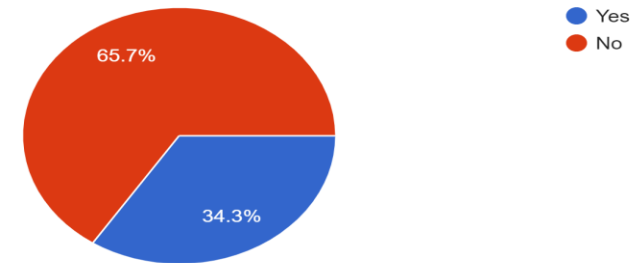
Lack of Awareness

Rate yourselves on the basis of how well do you understand HMIS and it's benefits?
105 responses



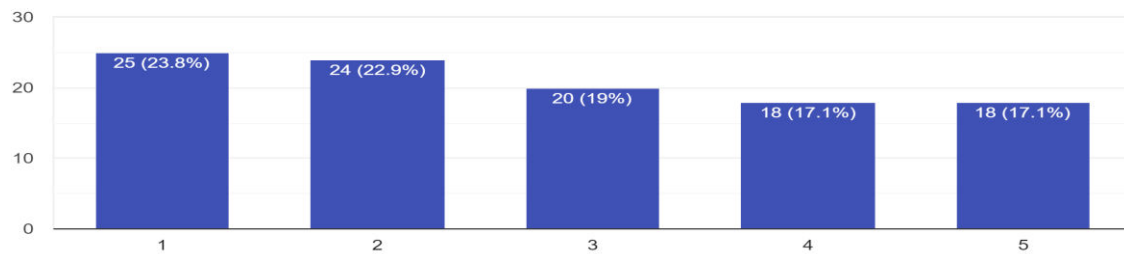
Lack of Trained Professionals

Are hospital staff provided with sufficient training to work on HMIS?
105 responses



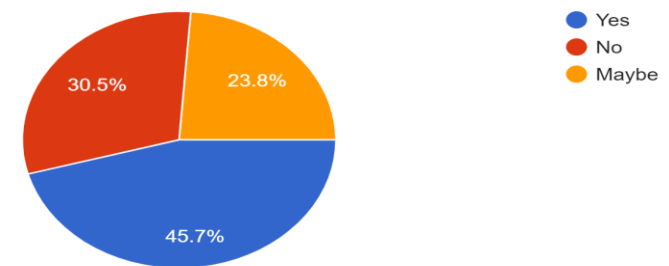
Resistance to change

How willing would you be to accept a new Hospital management information software in you hospital?
105 responses



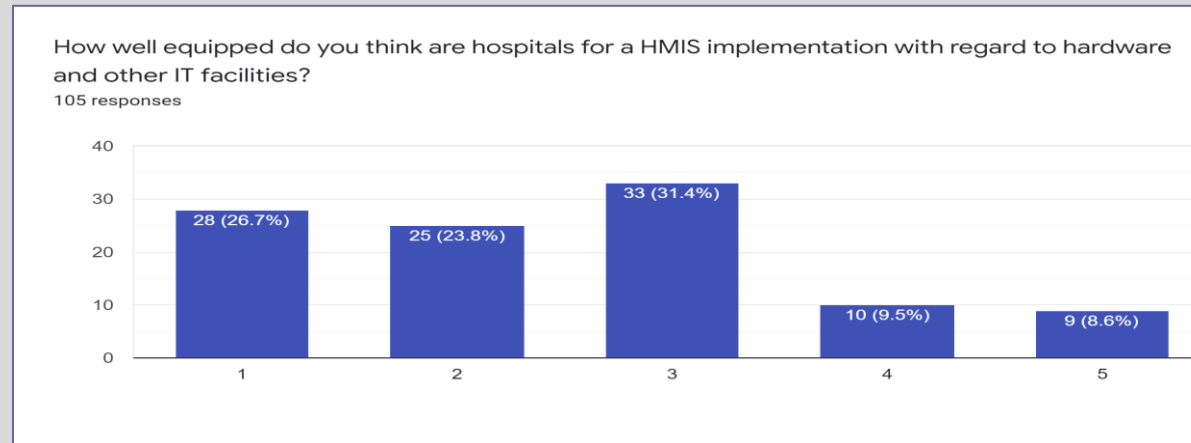
User Engagement

Would you readily participate in the development phase of the system?
105 responses



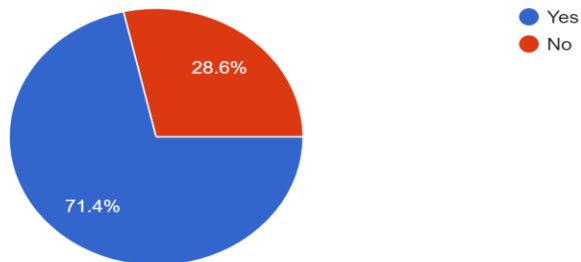
Technical Challenges

Inadequate information and Communication Technology facilities



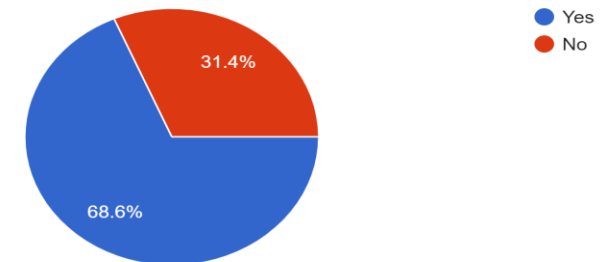
System interoperability

Is interoperability a major concern during implementation?
105 responses



Incompatibility Issues

Is technical compatibility a major concern during implementation?
105 responses

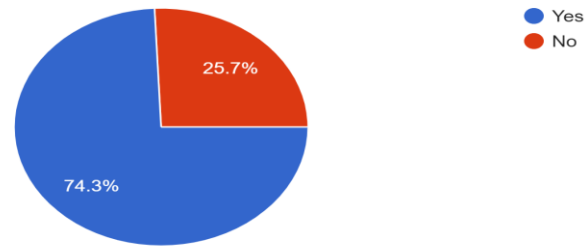


Application-level Challenges

Enabling Accessibility

HMIS platforms should be made accesible from various digital devices like PCs, tablets, smartphones,etc.

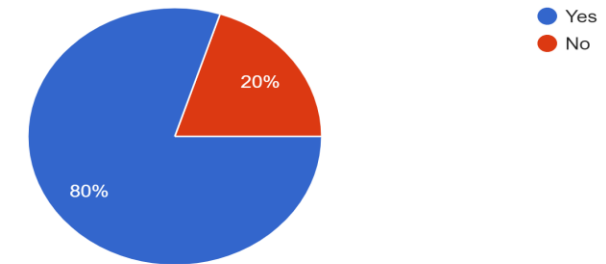
105 responses



Department Specific Templates

Different department in hospitals require specific platform design in HMIS.

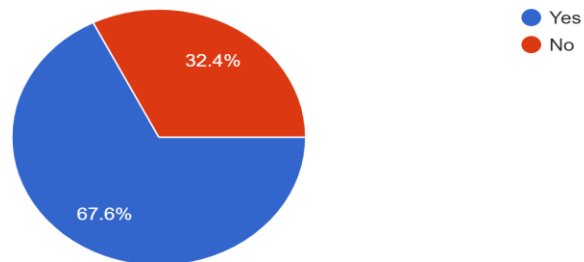
105 responses



Unauthorized Access

Do you think that Hospital information being freely accessible to all staff members is a threat?

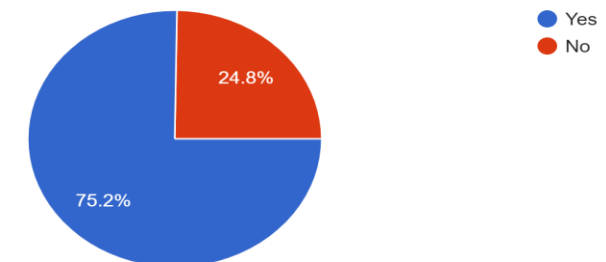
105 responses



Integration with Medical equipment, different Applications

Do you think all the medical equipments in the hospital must be integrated?

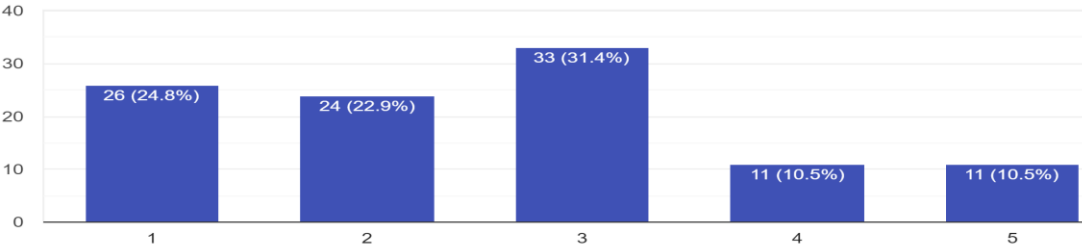
105 responses



Administrative Challenges

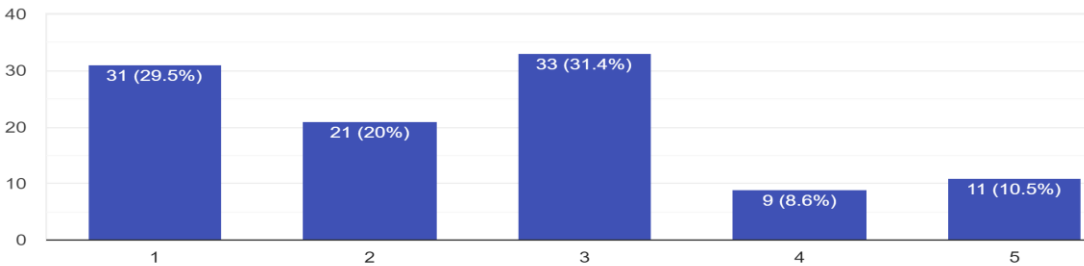
Site Readiness

How well prepared is an hospital site with respect to procurement for a planned HMIS implemetation?
105 responses



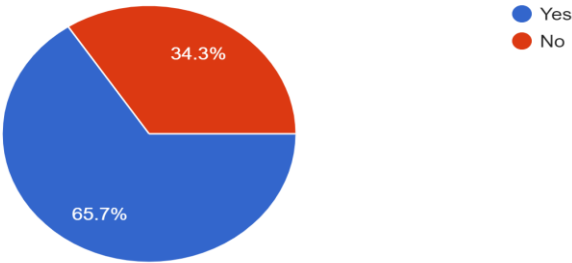
Infrastructure Readiness for Electronic Delivery

How well prepared is an hospital with respect to infrastructure for a planned HMIS implemetation?
105 responses



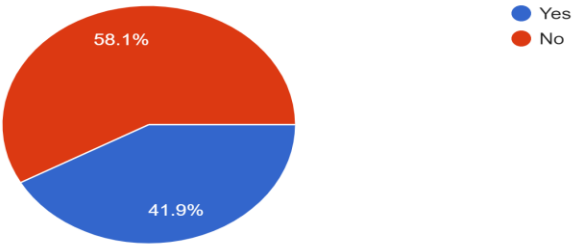
Lack of Ownership

Do you consider HMIS as an integral part of the hospital and it's administration?
105 responses



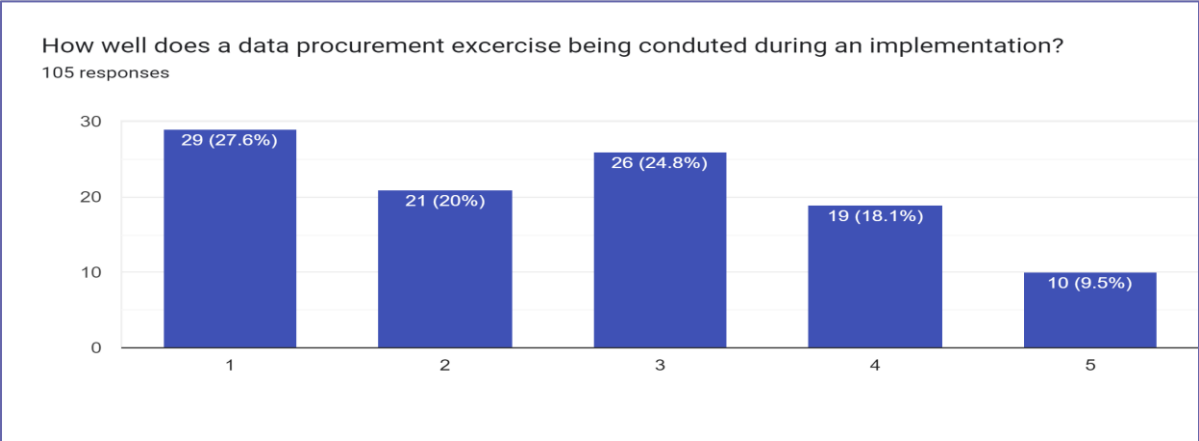
Threat to User-Importance

HMIS may lessen the importance of human resource in the hospitals and may also lead to strenuous workload/
105 responses

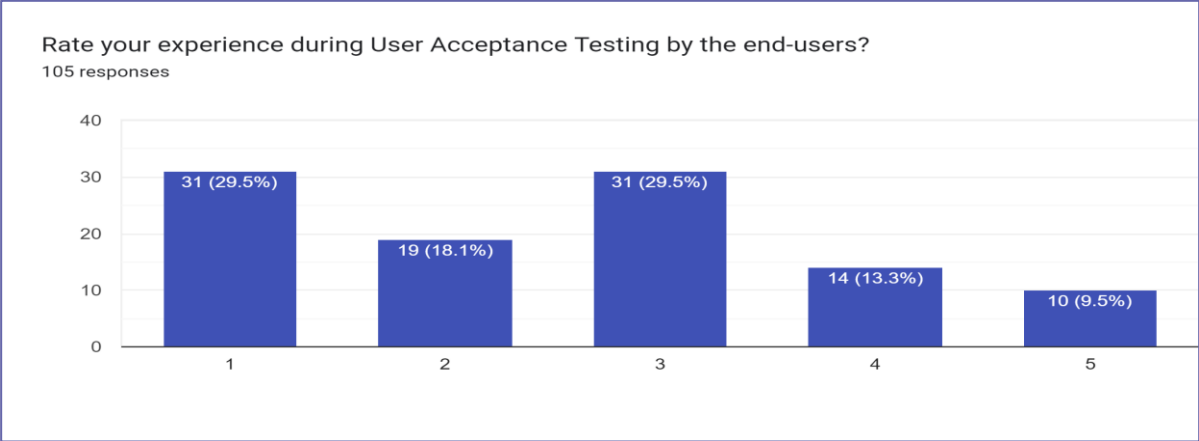


Administrative Challenges

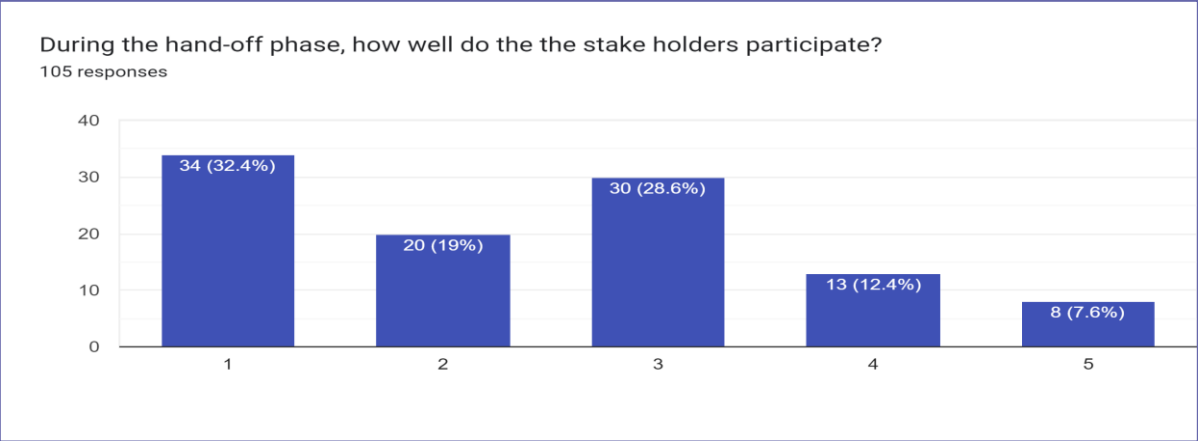
Mater Data Collection



User Acceptance for Re-engineering



Transfer of Stakeholders

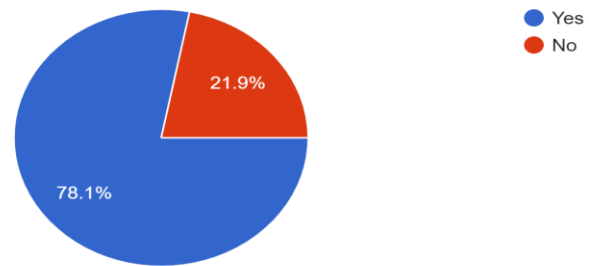


Administrative Challenges

Recruitment of Data Entry Operators/IT educated Workers

Recruitment of data Entry Operators / IT educated workers necessary?

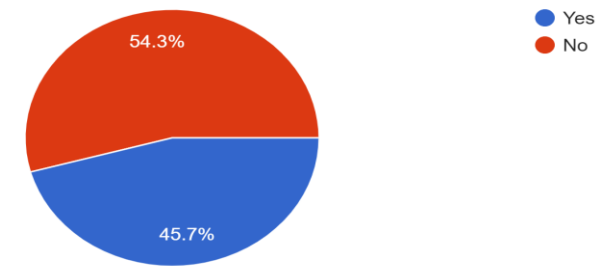
105 responses



Lack of availability for Training

Are hospital staff readily available for HMIS training sessions?

105 responses



RECOMMENDATIONS



HUMAN CHALLENGES

- A targeted multi-phase approach must be used to spread awareness and the benefits of using the HMIS. All medical education programmes should recognise the significance of HMIS, as well as their applications and benefits.
- Every health information management system should include HMS short courses for medical education programmes and attention professionals. The health ministry and its formal channels should initiate these programmes for all healthcare specialists at all healthcare organisations and hospitals.
- Include specialised programmes in Health data Management, Health Informatics, Health data Technology, and so on in postgraduate and undergraduate courses.

TECHNICAL CHALLENGES

- Determine whether or not HMIS industrial stakeholders are providing correct user manuals, documentation, troubleshooting, and pointers of mistreatment HMS to hospitals.
- Ensuring that computers and networks are in good working order is also necessary for the package to perform well and have fewer maintenance issues. Technical support and hardware maintenance are also important.
- Upgrading to more recent communication networks and computers for improved performance. To overcome data entry difficulties, newer innovations in hardware and software are required.
- When it comes to software innovations, the system should be designed to support structured data entry rather than unstructured data entry. Hand-held devices, bit screens, and other hardware innovations are implemented.

APPLICATION- LEVEL CHALLENGES

- Supply, installation, and commissioning of various hardware and network elements, as well as required accessories, at a health facility.
- Before mass-installation, the device should be examined (operating system compatibility, software system, etc.).
- Thorough research on the hospital and its departments is strongly advised in order to align the system workflow with the requirements.
- The provider should monitor all installation and ancillary issues raised by the end-user for all hardware and software included in the purchase order. This includes installation and support for security functions, user configuration, network configuration, and so on.
- The provider must disable all unnecessary services, protocols, and ports. Disable or remove unnecessary software/services (including program, machine utilities and network services).

ADMINISTRATIVE CHALLENGES

- Communication is crucial in the implementation process. Keeping all hospital departments informed about the implementation process from the start can help to reduce a lot of chaos.
- Overcoming negative perceptions of HMIS among all staffs may be overlooked in the event of HMIS training programmes and in-house hospital orientation programmes.
- Data collection must be comprehensive and systematic, with legal and ethical considerations taken into account.
- Valuable contributions from hospital staff during product design can not only assist engineers in building an excellent platform for the hospital but also save a significant amount of time.
- Employment of data entry operators (DEOs) to assist hospital employees with data entry.

CONCLUSION

Hospital Management Information Systems being a revolutionary application helps the hospitals work smoothly and efficiently. Technology keeps evolving day-by-day and it is important that the healthcare system also keeps itself updated so as to provide seamless care.

At the end of this study we can conclude that the healthcare systems, specifically hospitals lacks positive approach towards such technology.

Collaborative efforts from the stakeholders can help in smooth HMIS implementations and efficient healthcare services consequently.



THANK YOU