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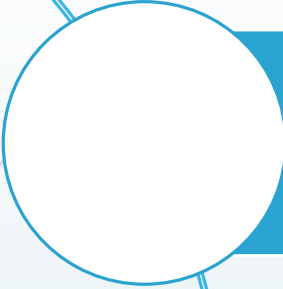
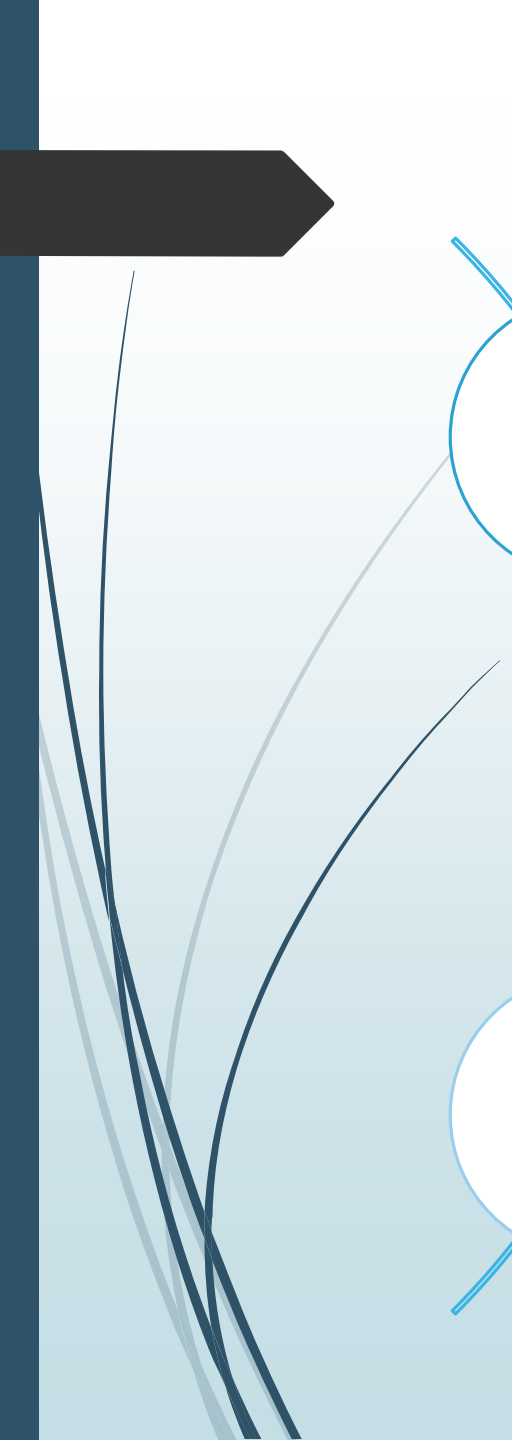
INTRODUCTION

- A hospital information system (HIS) is one of the important application of information and communication technology.
- Electronic medical record (EMR) is a part of hospital information system that contains all the patient medical history. It is basically electronic version of paper records and more beneficial than paper records.
- HIS have been first introduced in 1960s and evolved with time. It is a comprehensive and integrated information system designed to collect, retrieve, manipulate and use of information to support all administrative and clinical activities of a hospital.
- Indian healthcare industry expected to become US \$280 billion industry by 2020. Health IT market in India is expected to reach \$1.45 billion in 2018 from the present \$381.3 million. EMR has highest penetration in India. It is growing by 13.5% in the last five years and it is expected to have same rate of increase due to improving uptake and upcoming hospital projects.
- Healthcare sector; especially hospital have been lagging behind adoption of information system due to various factors such as cost, implementation issue, interoperability of various modules, security and confidentiality.

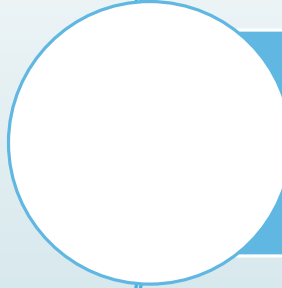
COMPONENTS OF HIS



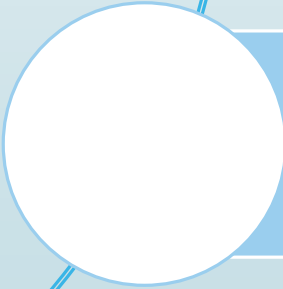
OBJECTIVES



To identify and categorize the barriers that the different healthcare providers are facing in the adoption of hospital information system and electronic medical record.



To evaluate the feedback given by the healthcare providers.



To suggest remedial actions to address those barriers.

METHODOLOGY

Study Design

- Descriptive cross- sectional study

Study Area

- Hospitals in Bangalore

Sampling Method

- Non probability convenience sampling

Sample Size

- 150

**Study
Duration**

- Three months (February 2017- April 2017)

**Source of
Data**

- Primary data through questionnaire

**Data
Collection
Tool**

- Data collection tool include semi-structured questionnaire both for clinical staff and administrative staff

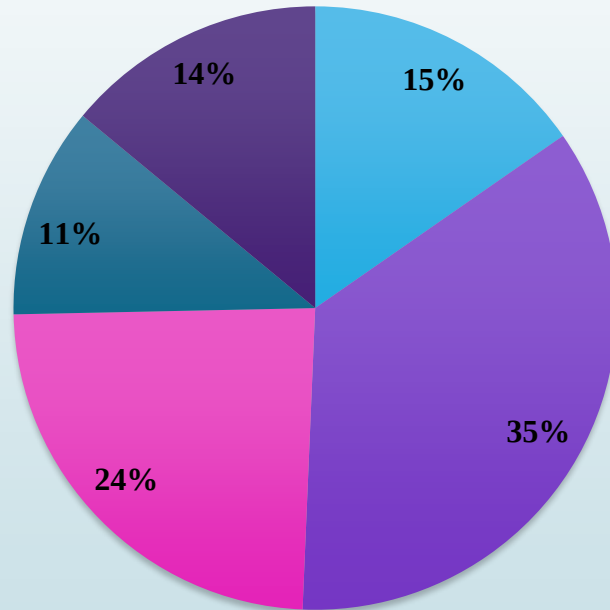
**Data
Analysis
Procedure**

- All the analysis is done with the help of MS- Excel and results are presented in the form of pie charts, bar graphs and column graphs

FINDINGS

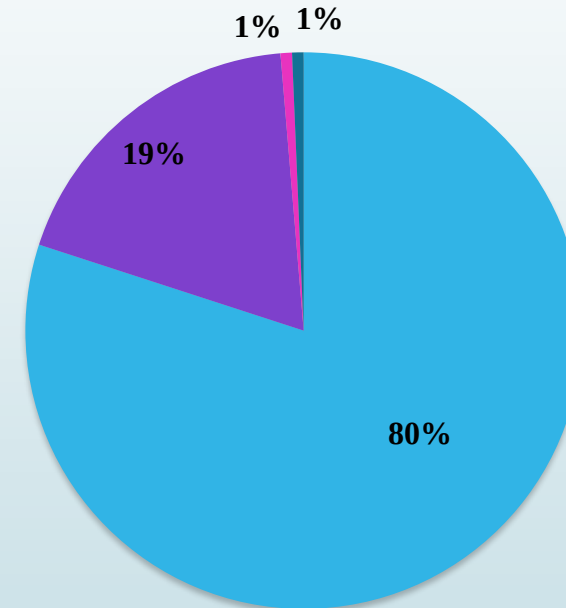
► Characteristics of sample

Designation wise distribution of respondents



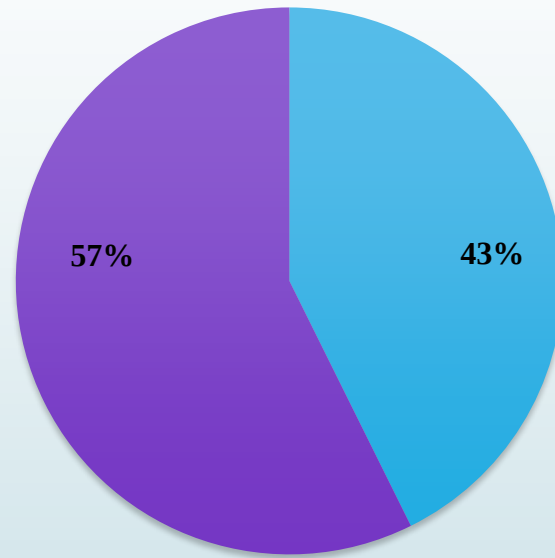
■ Doctors ■ Nurses ■ Technicians ■ IT staff ■ Other admin staff

Years of experience wise distribution



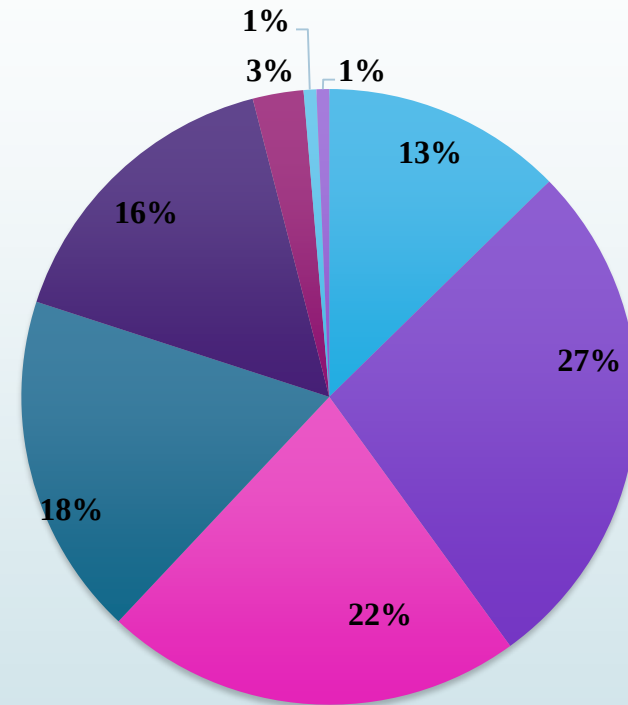
■ 0-10 ■ 11-20 ■ 21-30 ■ 31-40

Gender wise distribution



■ Male ■ Female

Age wise distribution



■ 21-25 ■ 26-30 ■ 31-35 ■ 36-40 ■ 41-45 ■ 46-50 ■ 51-55 ■ 56-60

CLINICAL STAFF

○ Responses of clinical staff on various factors

S. No.	Factors	Yes	No
1	Software meeting departmental workflow	70%	30%
2	Difficulty in information exchange between different departments	79%	21%
3	Reduction on TAT using HIS	56%	44%
4	Lack of proper training and unavailability of guidelines and manuals	73%	27%
5	Not proper maintenance and technical support for hardware and network	74%	26%
6	Software providing value add in terms of CDSS, MIS reports	60%	40%

○ **Percentage**

S. No.	Factors	0-Not a barrier	1-Minimum barrier	2-Moderate barrier	3-Major barrier
1	Software not meeting departmental work flow	19.64%	33.04%	34.82%	12.50%
2	Difficulty in information exchange b/w departments	20.54%	15.18%	29.46%	34.82%
3	No Reduction on TAT	56.25%	1.79%	13.39%	28.57%
4	Lack of proper training and unavailability of guidelines and manuals	26.79%	23.21%	24.11%	25.89%
5	Not proper maintenance and technical support for hardware and network	25.89%	18.75%	15.18%	40.18%
6	Screen interface	18.75%	34.82%	37.50%	8.93%
7	Value add in terms of CDSS, MIS reports	18.75%	34.82%	37.50%	8.93%

ADMINISTRATIVE STAFF

○ Responses of administrative staff on various parameters

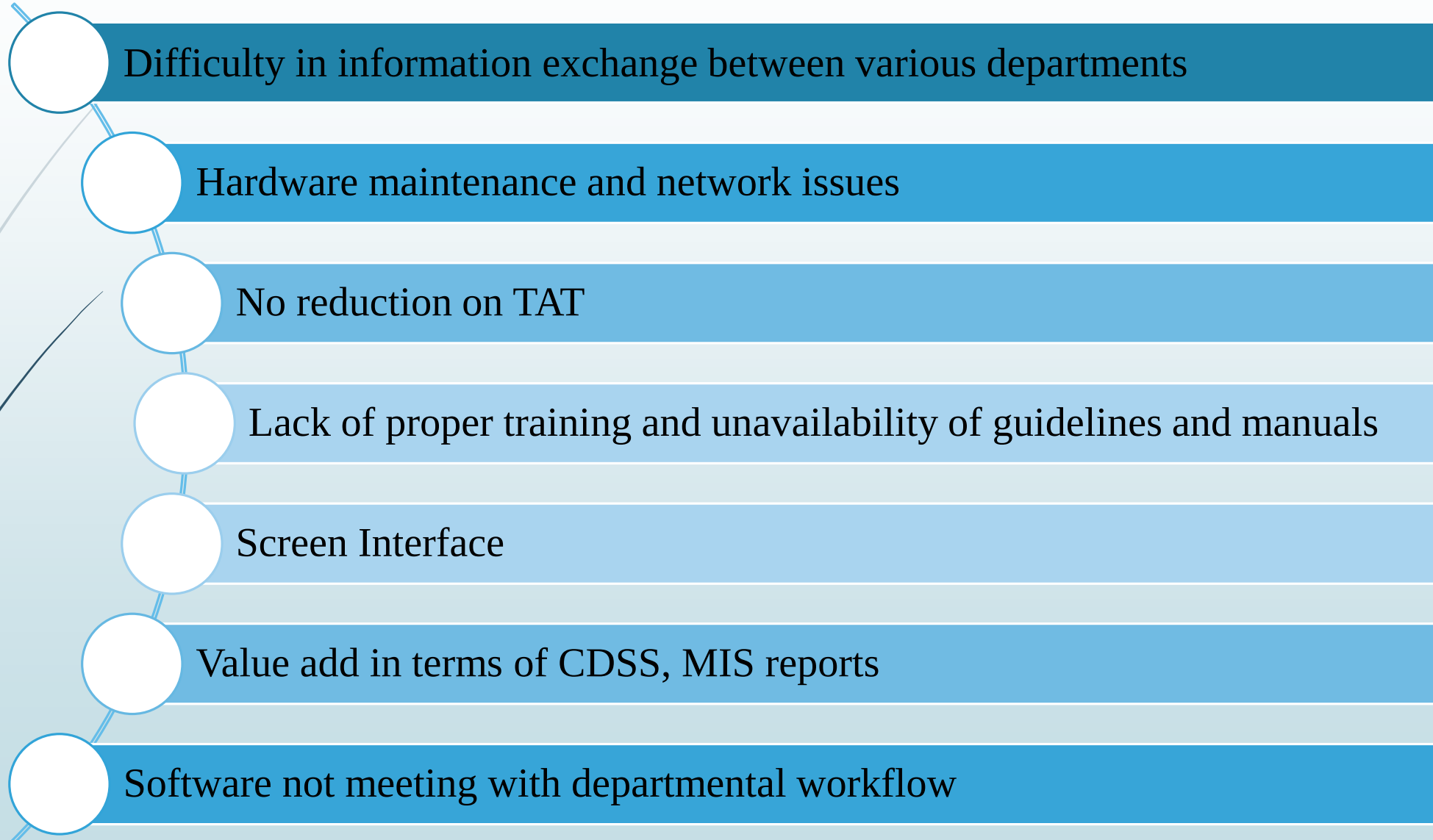
S. No	Factors	Yes	No
1	Lack of sufficient capital resources is a barrier	100%	0%
2	Receive Support and loyalty from vendors	55%	45%
3	IT support system is a barrier	55%	45%
4	Enhancement in productivity with HIS	89%	11%
5	Lack of proper training is a barrier	92%	8%
6	Data safety issues	21%	79%
7	Providing Value add in terms of CDSS, MIS reports	42%	58%

- **Percentage**

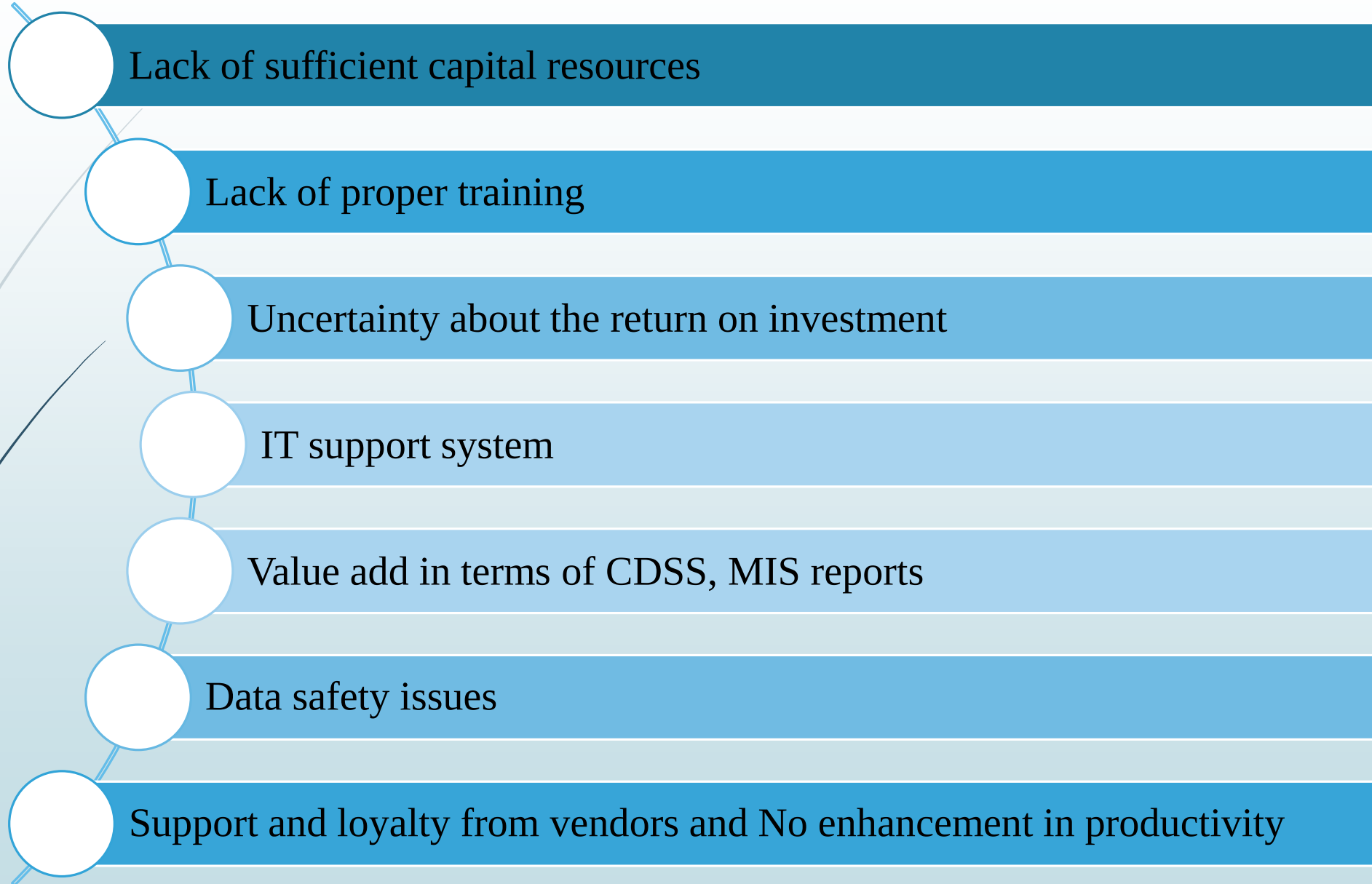
S. No.	Factors	0-Not a barrier	1-Minimum barrier	2-Moderate barrier	3-Major barrier
1	Lack of sufficient capital resources	0.00%	13.16%	39.47%	47.37%
2	Uncertainty about ROI	0.00%	10.53%	84.21%	5.26%
3	Support and loyalty from vendors	92.11%	5.26%	2.63%	0.00%
4	IT support system	44.74%	10.53%	42.11%	2.63%
5	No enhancement in productivity	89.47%	2.63%	0.00%	7.89%
6	Lack of proper training	7.89%	39.47%	13.16%	39.47%
7	Data safety issues	78.95%	0.00%	5.26%	15.79%
8	Value add in terms of CDSS, MIS reports	42.11%	47.37%	7.89%	2.63%

RESULTS

As per the analysis main barriers for clinical staff were:



Main barriers for administrative staff were:



CONCLUSION

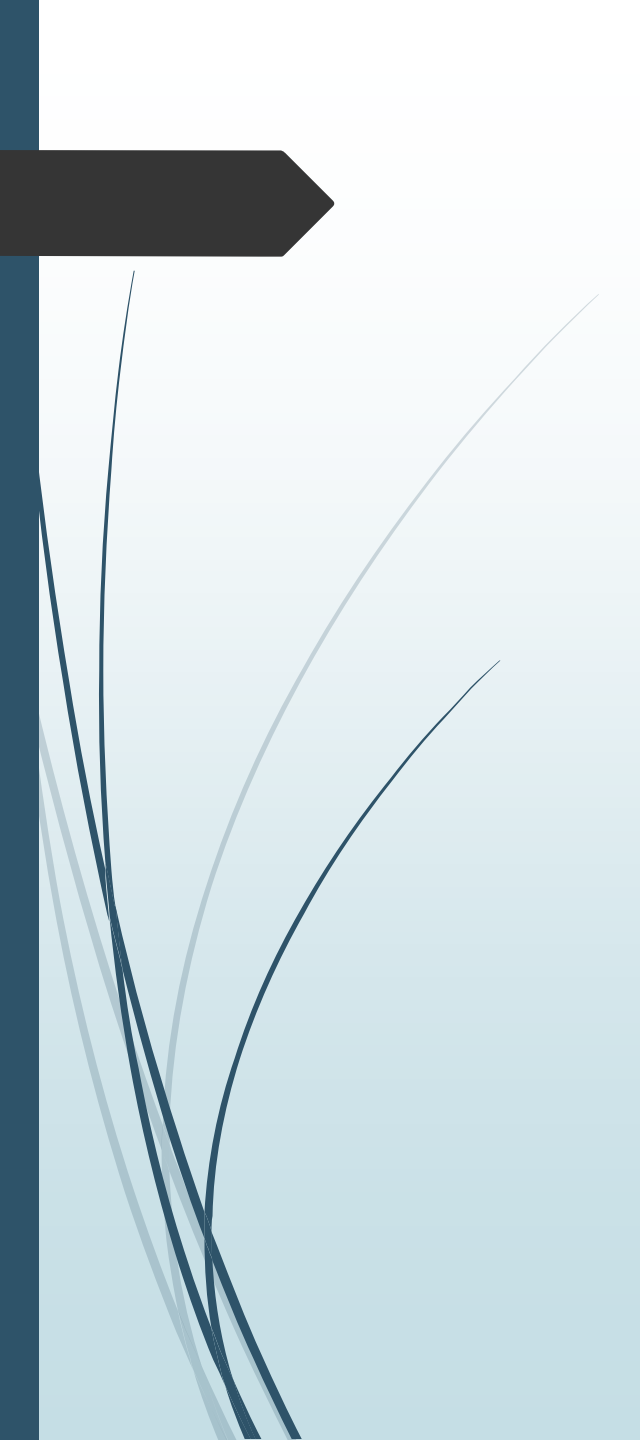
- The results of study basically emphasized the prioritized barriers in using HIS. It was aimed to shed light on barriers in the adoption of HIS and EMR to make effective efforts in the relevant area of HIS challenges.
- This will help hospital information system developers and implementers to address important challenges first, which would support successful implementation of such systems in hospitals which lead to efficiency and safety of hospitals in providing high quality services to the patients.





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THANK YOU