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Hospital Description

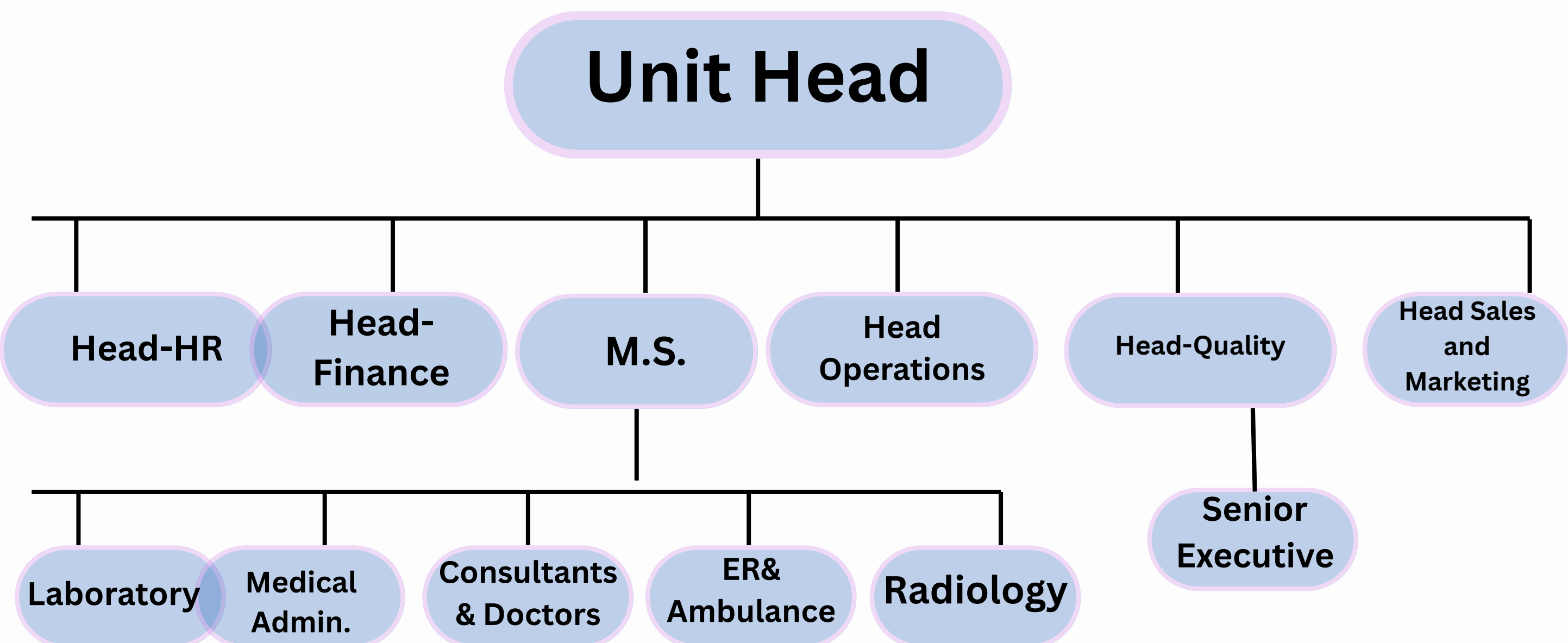
- Rukmani Birla Hospital (RBH) is a multi-specialty hospital in Jaipur with world-class infrastructure which offers comprehensive in-patient and out-patient services. Since its founding RBH has been providing its patients with the full medical care, encompassing outpatient services, Neurosciences, Gastro Science, Renal Science, Cardiology, Orthopedics & Joint Replacement
- NABH Accredited , 230 Bedded Hospital
- 75 Total I.C.U Beds
- 6 State of art Modular OTs

Vision and Mission

Vision:
To provide best of Patient Service & Clinical Excellence.

Mission:
To create Clinical Centres of Excellence on a strong backbone of research, academics and evidence-based medicine for best clinical and patient outcome.

Organisation Structure



TOWS ANALYSIS

- SO Strategies:**
- Use skilled staff + infra.to adopt teleradiology
 - Implement digital scheduling to meet patient expectations
- ST Strategies:**
- Create SOPs to manage high radiology volumes
 - Monitor system capacity to avoid overload
- WO Strategies:**
- Automate manual steps to align with NABH norms
 - Use dashboards to bridge interdepartment gaps
- WT Strategies:**
- Develop backup for HIS/PACS downtime
 - Arrange reporting support during peak load/failures



SWOT Analysis

Strengths

- Well-equipped MRI and CT facilities
- Skilled and trained radiology staff
- Clear TAT benchmark (4 hours)
- Dedicated diagnostic zones reduce overlap

Weakness

- Manual scheduling in some cases
- Limited radiologist availability after 5:30 PM
- No real-time tracking system
- Patient arrival not actively monitored

Opportunities

- Rising adoption of digital health tools (e.g., dashboards, HIS)
- Accreditation standards (e.g., NABH) emphasize TAT monitoring
- Expansion of teleradiology for remote reporting

Threats

- Delayed support from equipment vendors
- Competition from hospitals with quicker diagnostics

Theoretical vs Practical Learning

- Theoretical learning gives us structured management concepts, workflow models, and quality tools through lectures and case studies.
- while practical learning showd me real-world experience where workflows are often irregular and influenced by human behavior, emergencies, and system limitations.
- Theory teaches the ideal process but actual hospital operations reveal unexpected challenges, emphasizing that successful management requires both technical knowledge and practical, people-centered skills

Study Objectives

- To analyze the turnaround time (TAT) in Radiology services.
- To break down the TAT into key stages (billing to report).
- To identify major delay points and root causes.
- To propose actionable improvements for efficiency.

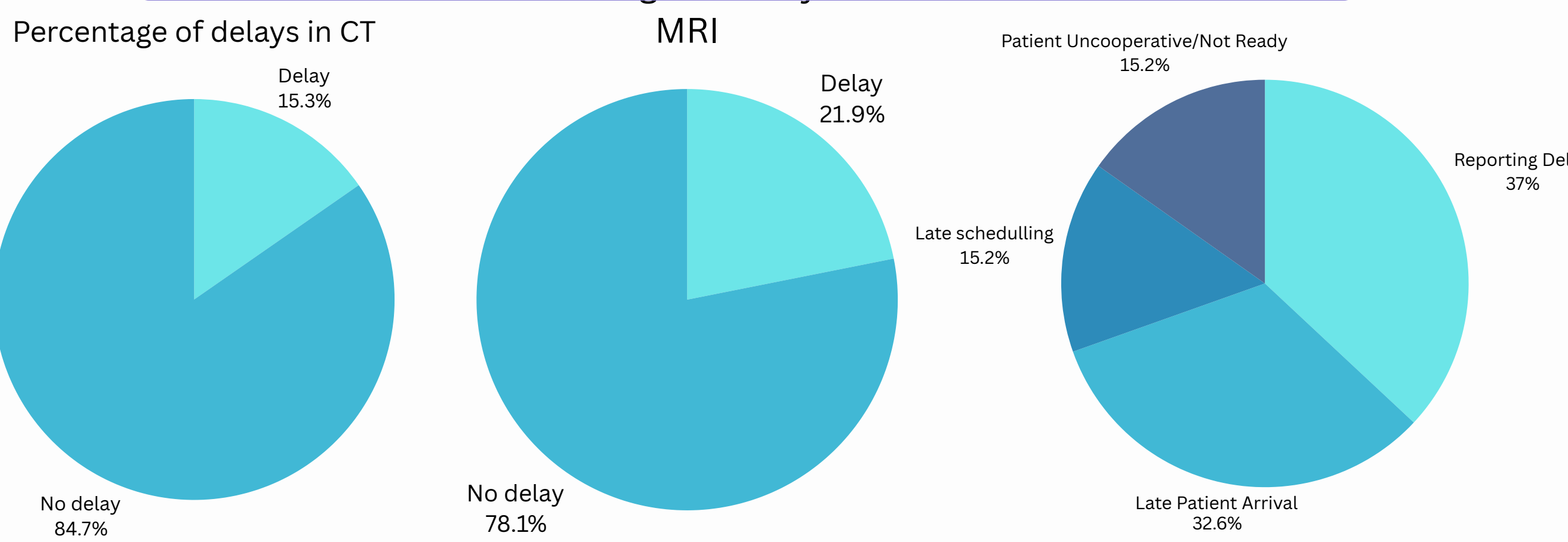
Challenges Faced

- Late appointment scheduling (IPD & OPD)
- Delayed patient shifting/arrival
- Equipment breakdowns causing major delays
- Reporting delays (emergency/complex cases, high workload, HIS errors)
- Non-cooperative or unready patients

Methodology

Study Design: Descriptive observational time-motion study.
Cases Analyzed: MRI: 160 cases ,CT: 163 cases
Data Source: Extracted primary data Manually and billing/request time and report ready time from Hospital Information System (HIS) for all CT and MRI scans during the study period.
Key Stages Tracked:
T1: Billing/Request Time, T2: Scheduling, T3: Patient Arrival,T4: Scan Start T5: Scan End , T6: Report Ready

Key Findings



Imaging Modality	Total Cases	TAT Met	TAT Not Met	TAT Not Met %
MRI	160	125	35	21.9%
CT	163	138	25	15.3%

Major Delay Reasons :

- Late scheduling
- Late patient arrival
- Reporting delay
- Patient not ready/uncooperative

Key Learnings

- Gained exposure to workflow mapping from billing to report generation across OPD and IPD patients.
- Applied classroom knowledge (hospital operations, process improvement, and Excel/Python tools) in real clinical scenarios.
- Identified root causes of TAT delays, such as scheduling inefficiencies, manual processes, and limited reporting hours
- Enhanced coordination and communication skills while interacting with radiology staff, technicians, and hospital admin teams.

Suggestions

- Mandate use of HIS/digital scheduling for all CT/MRI appointments.
- Send automated SMS/call reminders to patients before their scan.
- Assign a coordinator to check patient readiness and manage patient flow.
- Reserve buffer/emergency slots in each CT/MRI schedule.
- Set clear reporting time standards (SLAs) and provide teleradiology backup during busy periods.