



PLANNING FOR HOSPITAL

Perspective from Situational analysis of rehabilitation of a 200 bed to 500 bed tertiary care hospital.

DISSERTATION BY,

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INTRODUCTION- The need

- The destructive effects of inadequate planning on the design and construction of healthcare facilities in both developed and emerging markets repeatedly in an environment where failure to prepare is planning to fail.
- It happen more often when a skilled healthcare design team does not spearhead the project, or when the structure isn't designed to meet the specific needs of a healthcare facility or market.
- Hospital Technology Planning team's overall purpose is to aid in the formation of worldwide hospital design standards that promote patient safety, infection control, and optimised workflows.

RATIONALE- The study idea

- Without a solid base of information, data, and evidence on the existing situation of the health system, coherent and needs-oriented health sector planning is impossible.
- Therefore, the motive behind carrying out a situational analysis study for a healthcare institution are:
 - To examine the current state of the health sector.
 - To provide an evidence-based foundation for responding to the public's healthcare needs and expectations.
 - To provide an evidence-based foundation for establishing future health-care strategic directions.

Situational analysis" aids in the development of a foundation of knowledge about the environment in which a strategy is implemented. It establishes a shared point of reference for the planning process and prioritises tasks.

METHODOLOGY

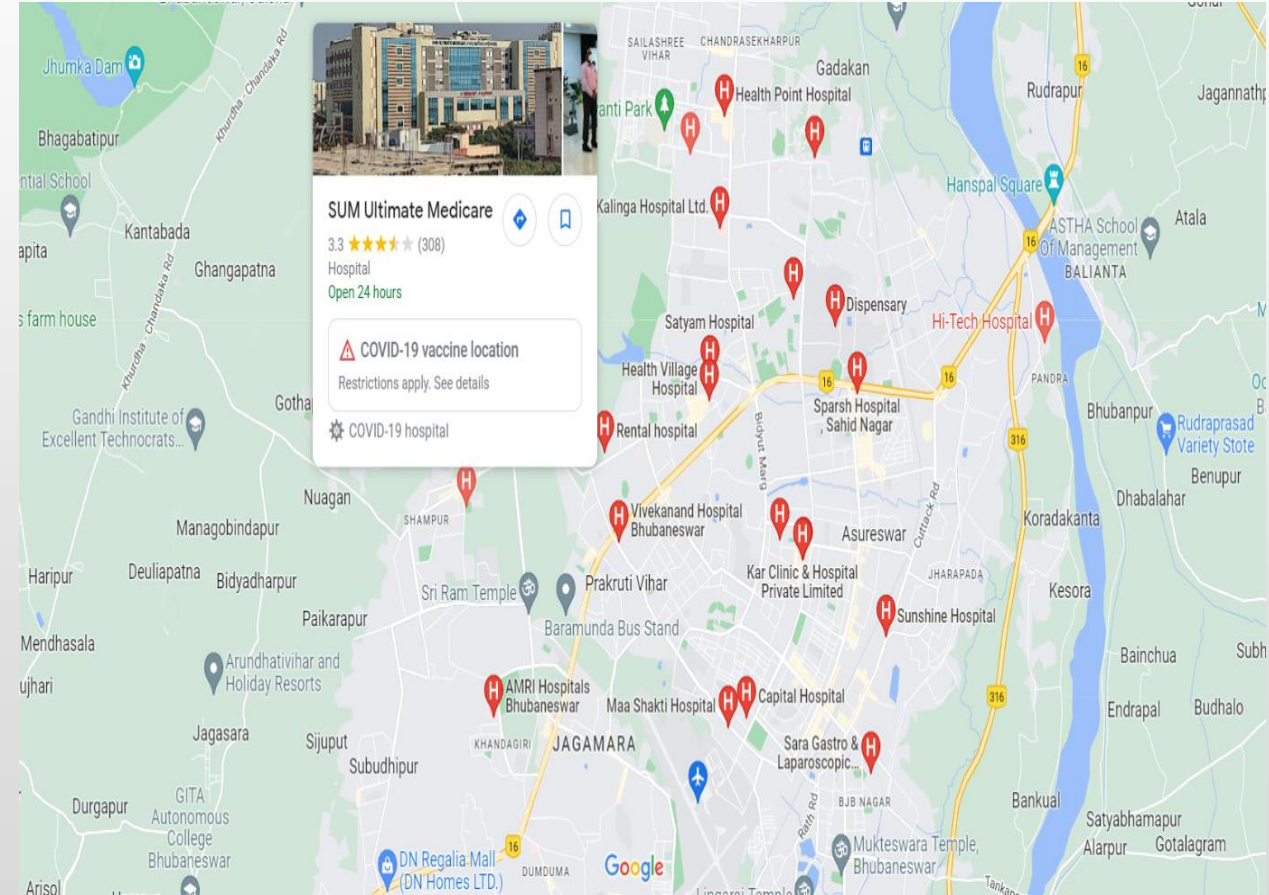
- The Study design involved a (1) literature review (desk research) and (2) Primary data collection from the different stakeholders (Cross Sectional).
- The literature review was done by using a systematic approach to locating, assembling, and evaluating a body of literature on a specific topic based on a set of criteria.
- For Primary Data collection
 - The research was carried out from the premises of Octavo Solutions Private Limited corporate office in Delhi.
 - Data collection will be done remotely from the target population in the catchment area by the liaisons on field.

METHODOLOGY

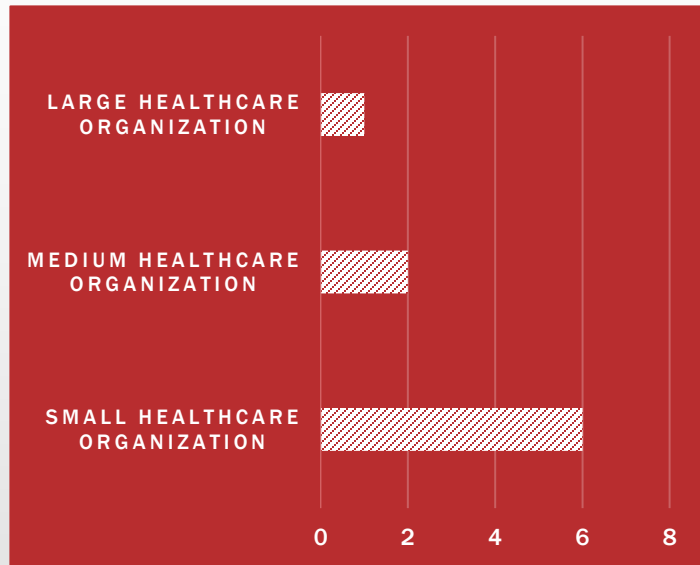
- Study Population
 - Inclusion Criterion- General population seeking medical facilities in the region of Eastern Bhubaneswar urban region as well as the general practitioners and healthcare providers in the same region
 - Study tools- Questionnaire
 - For the patients
 - The doctor's form
 - The questionnaire made for hospital
- Sampling Technique- Stratified sampling

RESULTS

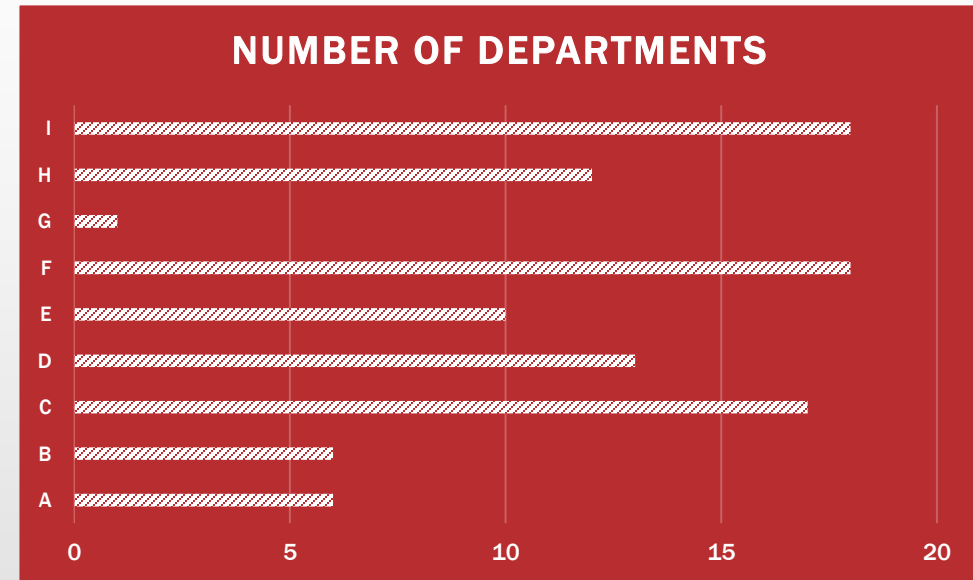
- The Catchment area of the proposed establishment to be expanded is the Bhubaneswar City (EAST).
- The Area houses 20 different healthcare institutions.
- Out of 20, 4 such setup are Public Sector units including UPHC, MCH Centre, Dispensaries and AIIMS Bhubaneswar.
- The sample size for Survey from Hospitals will contain 9 number of hospitals in this research.



RESULTS- Hospitals in the Catchment Area



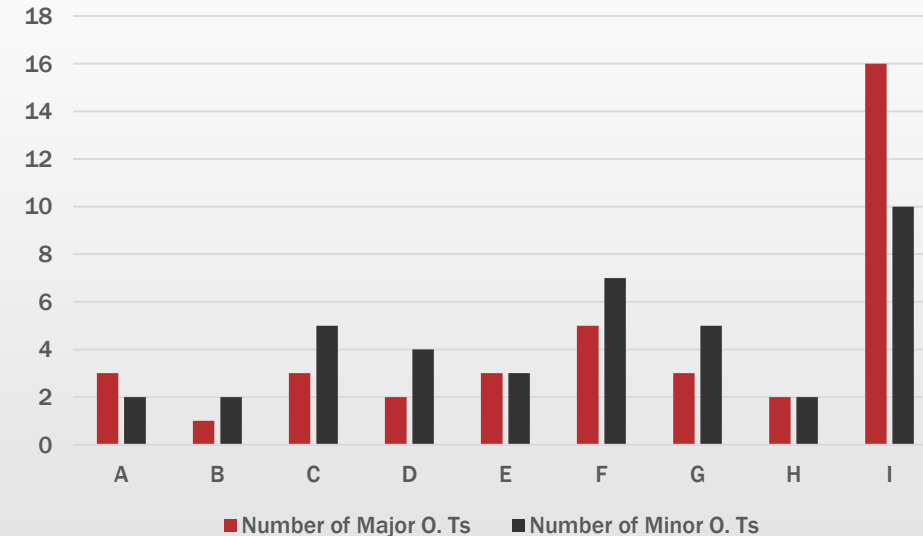
- Out of the 9 hospitals surveyed most of these were found to be Small healthcare organizations which have less than 200 beds.
- It can be concluded that healthcare business is mostly for the investment in the smaller scale and only the government sector can currently sustain a setup dealing with 1000's bed strength.



- Hospitals such as the government (Capital hospital) or larger medical institutions (Kalinga) were the only ones able to maintain departments and specialities more than 15
- Most of the healthcare institutions practiced either single speciality or else general services excluding the specialities such as oncology or neurology.

RESULTS- Hospitals in the Catchment Area

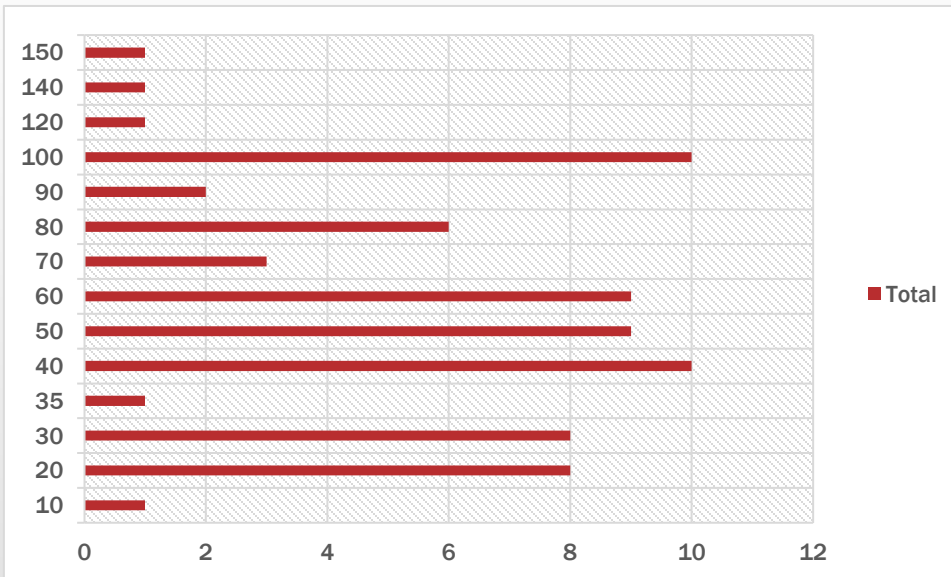
ID	NAME	IN-HOUSE	OUTSOURCED	TOTAL SERVICES
2	A	6	3	9
3	B	3	4	7
4	C	9	2	11
5	D	4	4	8
6	E	6	4	10
7	F	9	2	11
8	G	4	5	9
9	H	3	3	6
10	I	10	1	11



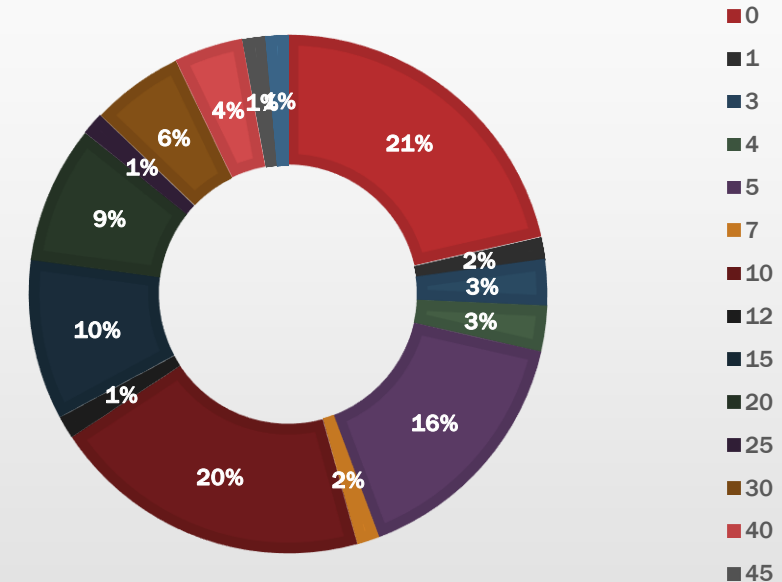
- Majority of the hospitals with respect to the patient load have acquired and operationalised C.S.S.D, laundry, kitchen department etc. in house whereas department such as security, housekeeping, bioengineering, and such were outsourced irrespective to the type of institution.

- Number of O.Ts major and minor are directly proportional to the patient footfall, the number of services offered, and the number of specialisations practiced.

RESULTS- Doctors at the surveyed hospitals



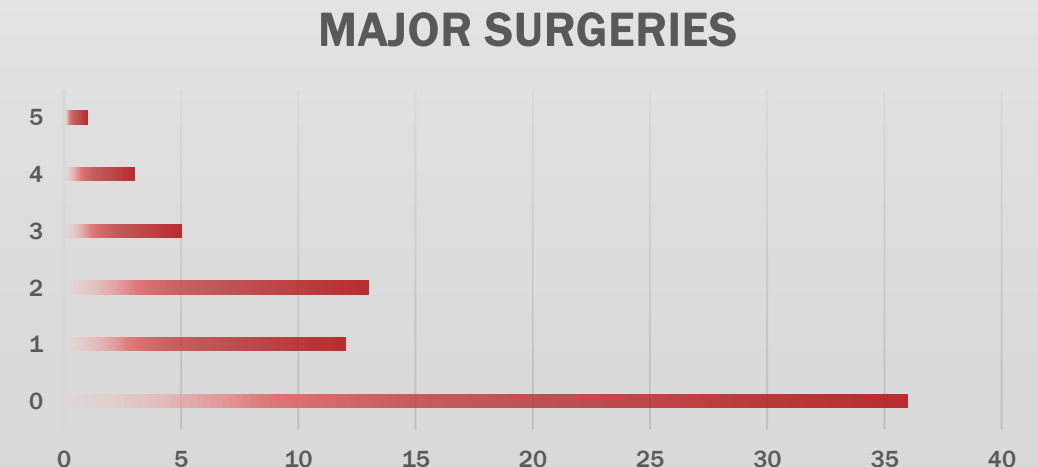
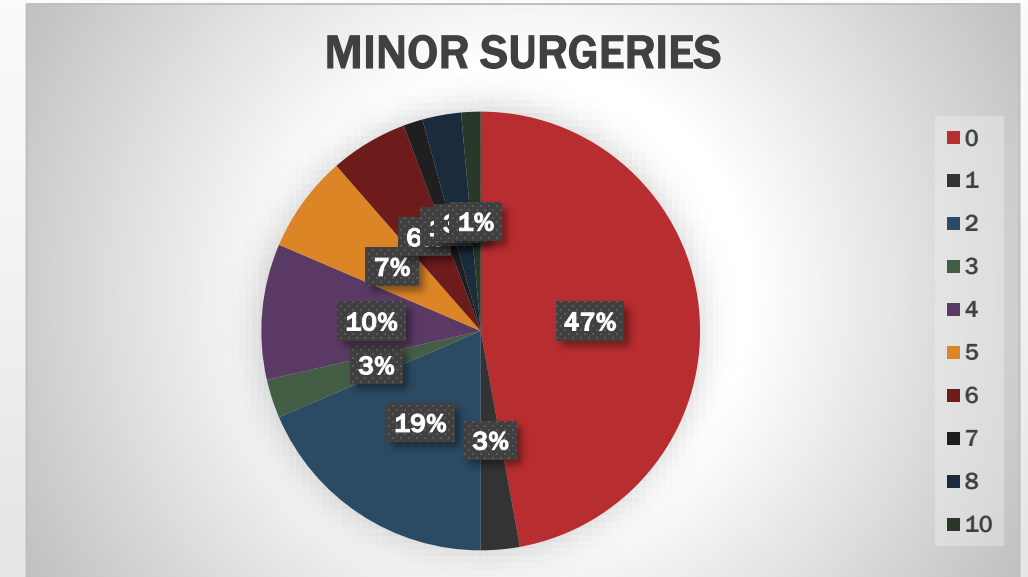
- Out of the surveyed doctors only 3 doctors were attending to more than 100 patients whereas 10 doctors attended approximately 100 patients per day in O.P.D.
- The doctors attending 100 and above number of patients were the ones from the surgery and medicine department from the Government of Odisha hospital in the city.



- Part there were 15 doctors who were not attending to I.P.D admitted patients.
- The majority of doctors from the small healthcare organizations were attending less than 10 patients in the I.P.D, this is due to the fact of having less permitted beds in the hospitals.

RESULTS- Doctors at the surveyed hospitals

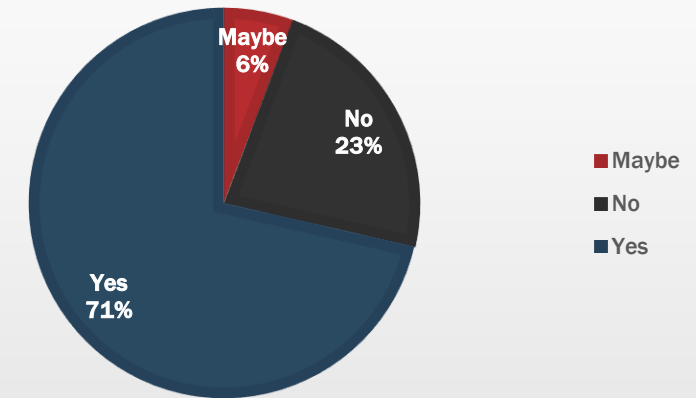
- 50 per cent of then doctors were not performing any major/ minor surgeries due to lack of qualification for the same.
- The major surgeries performed by the rest 50 per cent doctors was in direct proportion to the size of organisation.
- The same can be observed in terms of minor surgeries.



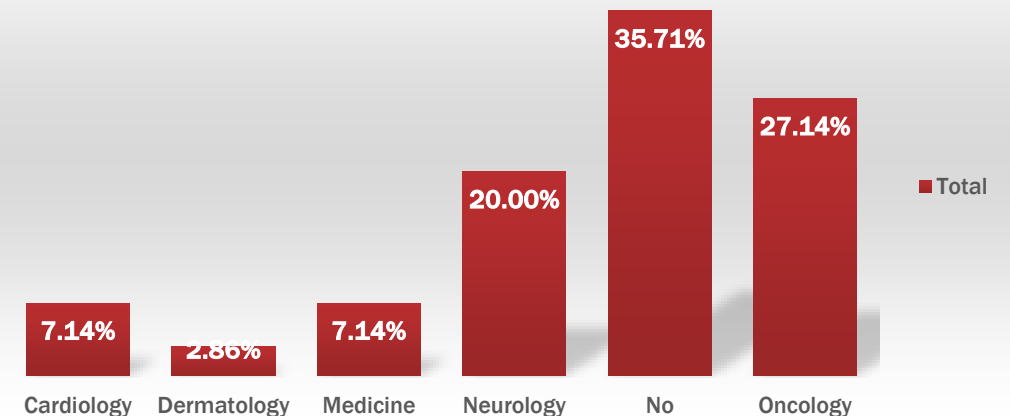
RESULTS- Doctors at the surveyed hospitals

- About 71 percent of the surveyed doctors referred patients wherever necessary. 23 percent of the doctors didn't practiced referral due to the fact most of their patients were referred to them due to their specializations.
- The maximum referrals made by the surveyed doctors were for the specializations of oncology, followed by neurology and cardiology. Medicine and dermatology had lesser number of referrals made.

IF THEY PRACTICED REFERRAL

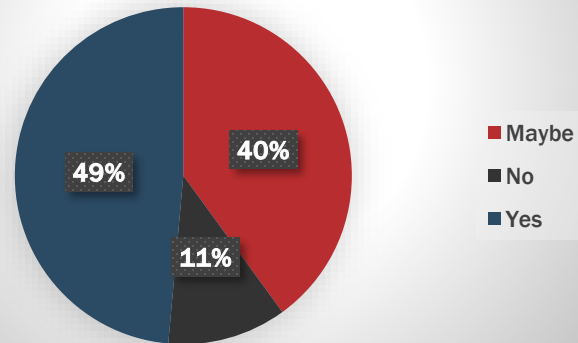


REFERRED FOR SPECIALITIES

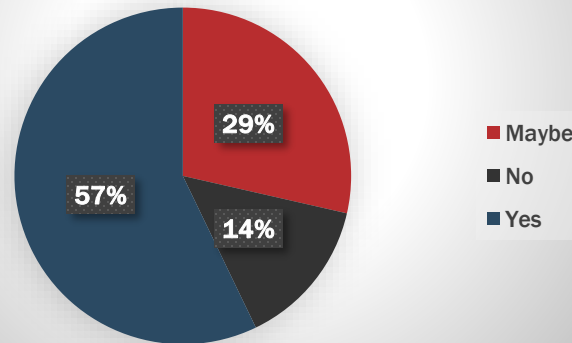


RESULTS- Doctors at the surveyed hospitals

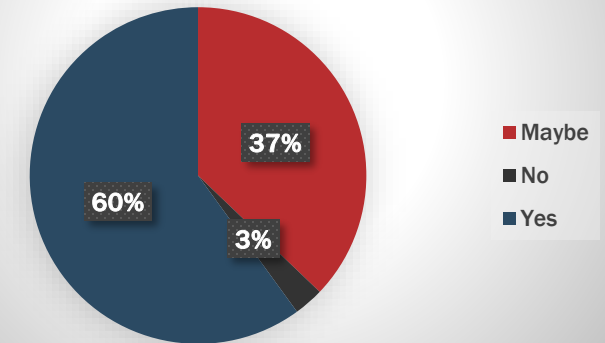
Support of administrative staff as realized by the surveyed doctors



Support of nursing staff as realized by the surveyed doctors



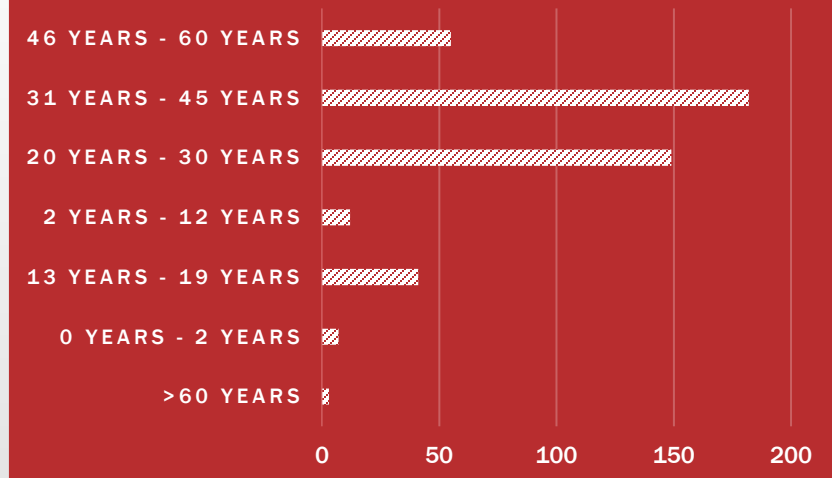
Support of diagnostic services as realized by the surveyed doctors



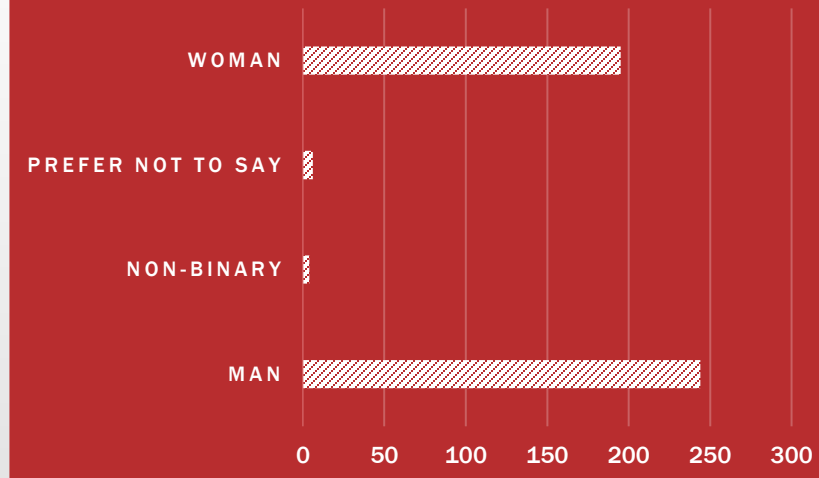
- about half of the surveyed doctors found that the support from the admin staff in the organisation was satisfactory, whereas only 11 percent found the support not ample enough.
- 60 percent of the doctors are receiving sufficient support from the nursing staff, but still 14 percent of the doctors were suggesting inadequacy in the support from the nursing staff in the care of patients
- 40 percent of the doctors had their doubts over the diagnostic services which in term of patient care can be an item of concern. Though 60 percent of the doctors showed confidence in the results from the diagnostic services

RESULTS- Patient's survey from target hospital

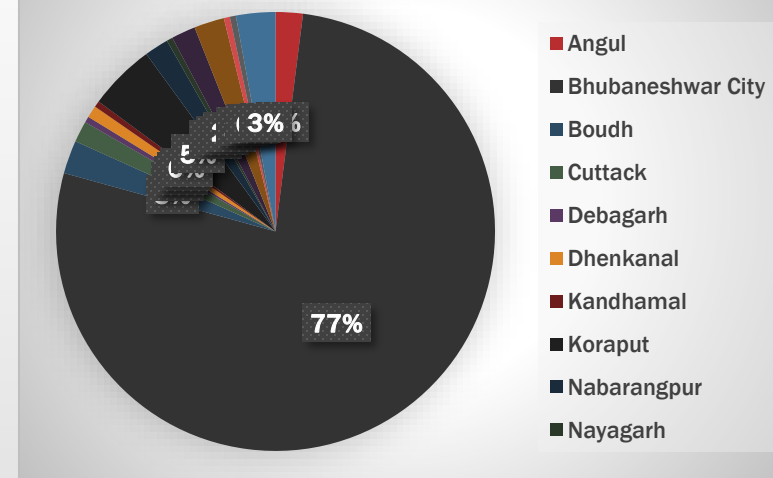
COUNT OF ID BY AGE GROUP



COUNT OF ID BY GENDER



Count of City



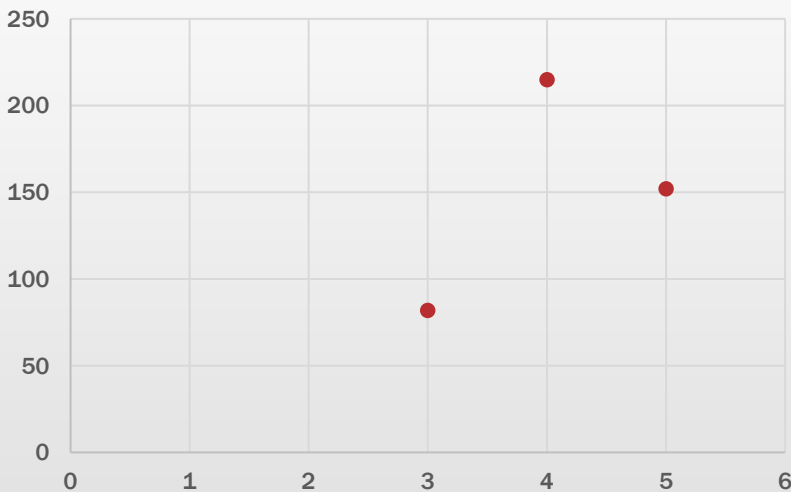
- The majority of the patients surveyed arriving at the hospital were from the age group of 31 years – 45 years of age
- Followed by 20 years – 30 years of age.

- Out of 449 surveys
 - Males- 244
 - Females- 195
 - Non-Binary- 4
 - Preferred not to say- 6

- The patient's surveyed arriving at the hospital were mainly originating from the Bhubaneswar city, then followed by 5 percent from Koraput, 3 percent from Sundargarh and 2.5 percent from Boudh.

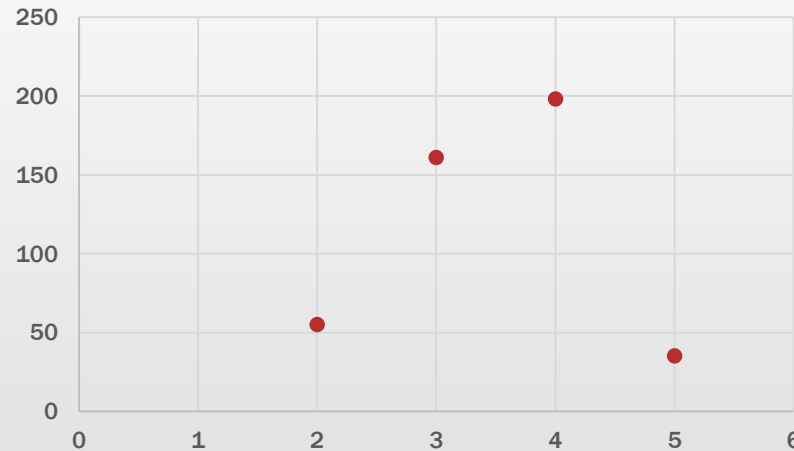
RESULTS- Patient's survey from target hospital

Rating of Consultation services



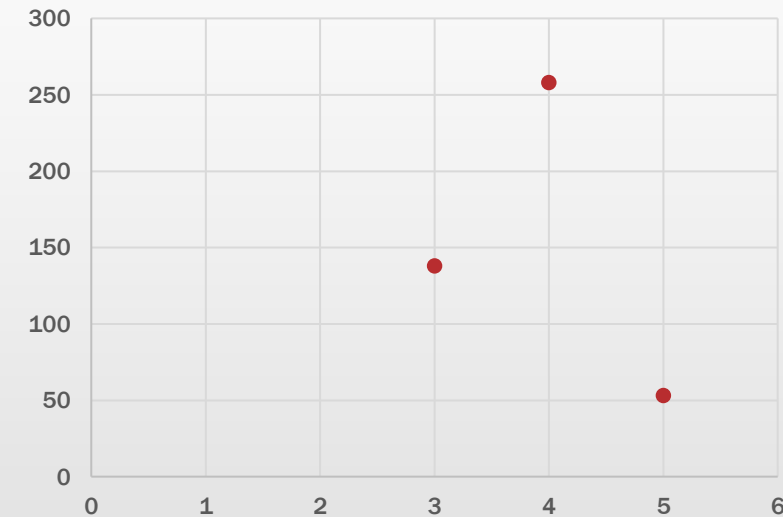
- Average rating as per Likert scale for quality of consultation service was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

Rating of Consultancy Fees/IPD charges/Surgery charges/Diagnostics charges:



- Average rating as per Likert scale for fee structure of consultation and other services was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

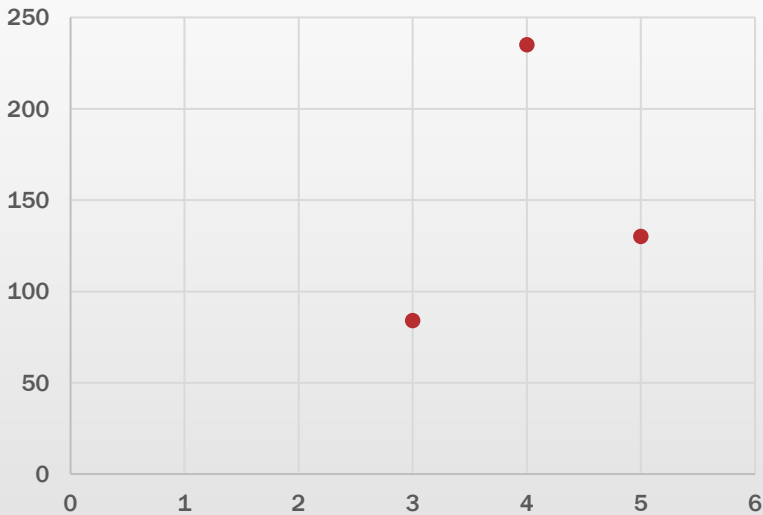
Rating of Food and beverages services



- Average rating as per Likert scale for quality of food and beverages services was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

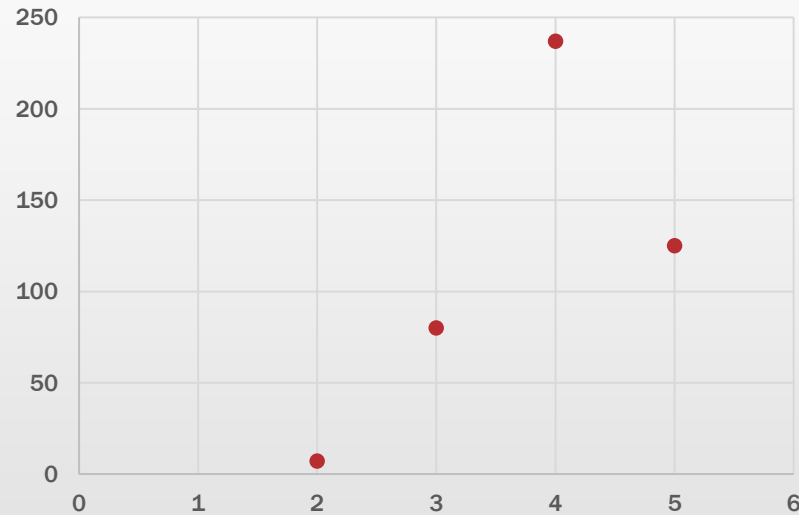
RESULTS- Patient's survey from target hospital

Rating of Drinking water facilities



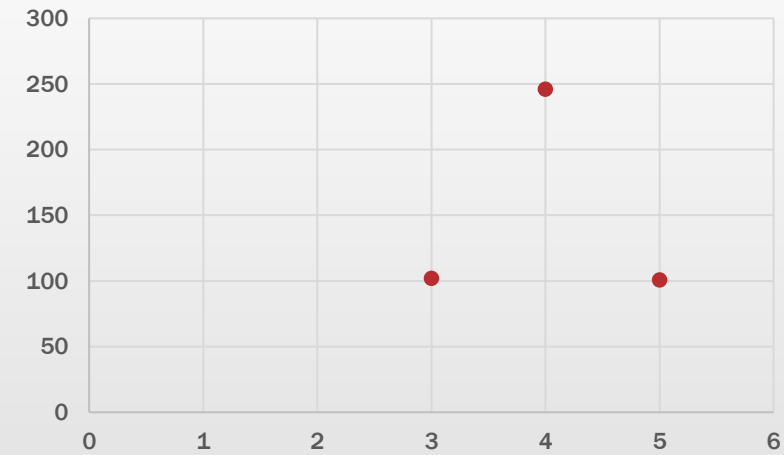
- Average rating as per Likert scale for quality of drinking water services was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

Rating of Cleanliness of the Hospital



- Average rating as per Likert scale for the observed cleanliness was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

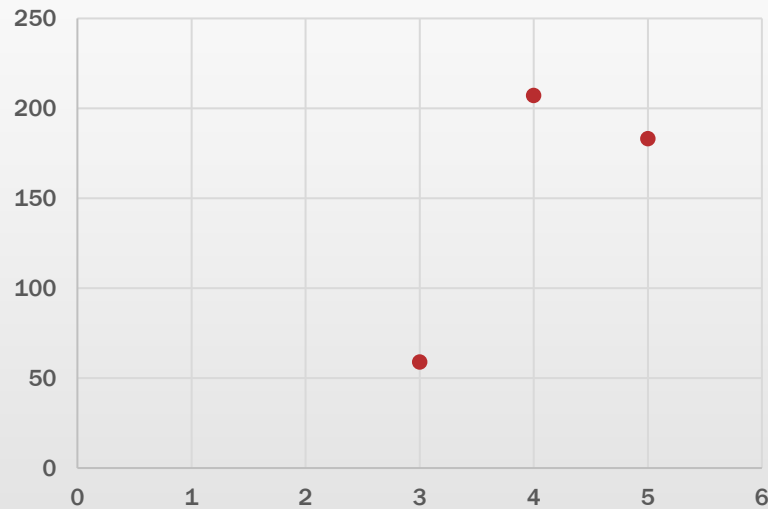
Rating of Toilet and Restroom Facilities



- Average rating as per Likert scale for cleanliness and quality of toilets and restroom facilities was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

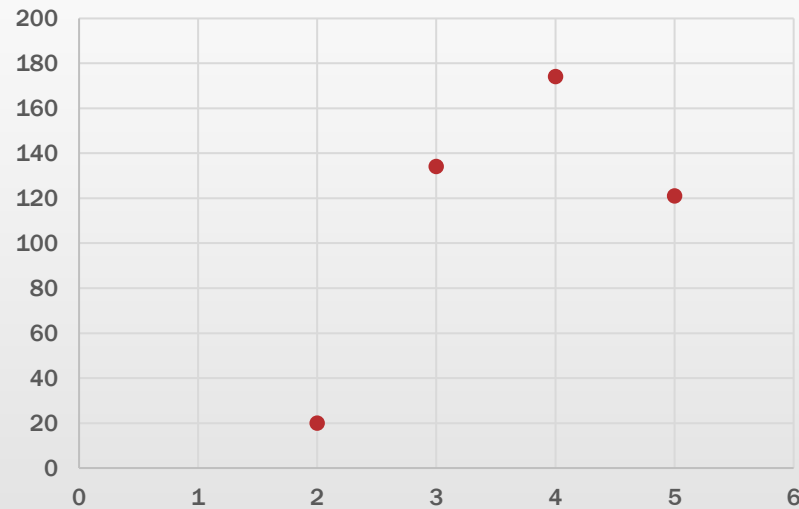
RESULTS- Patient's survey from target hospital

Rating of Treating doctor



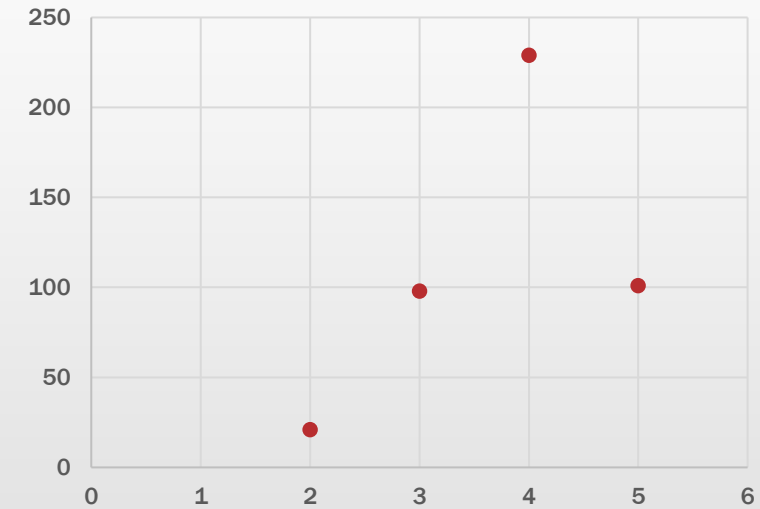
- Average rating as per Likert scale for quality of behaviour of treating doctor was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

Rating of Nursing staff



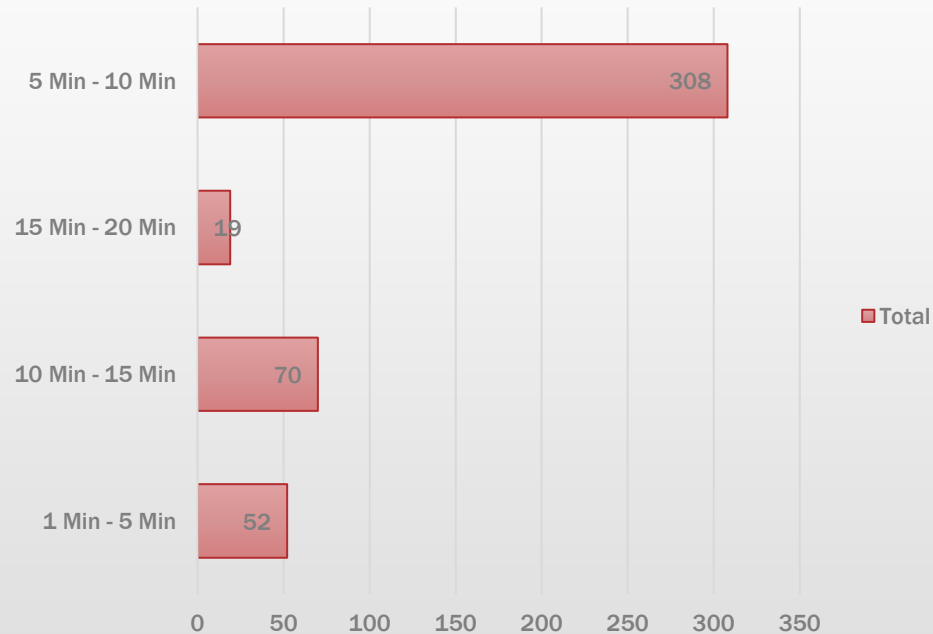
- The average rating as per Likert scale for quality of behaviour nursing staff was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

Rating of Administrative staff

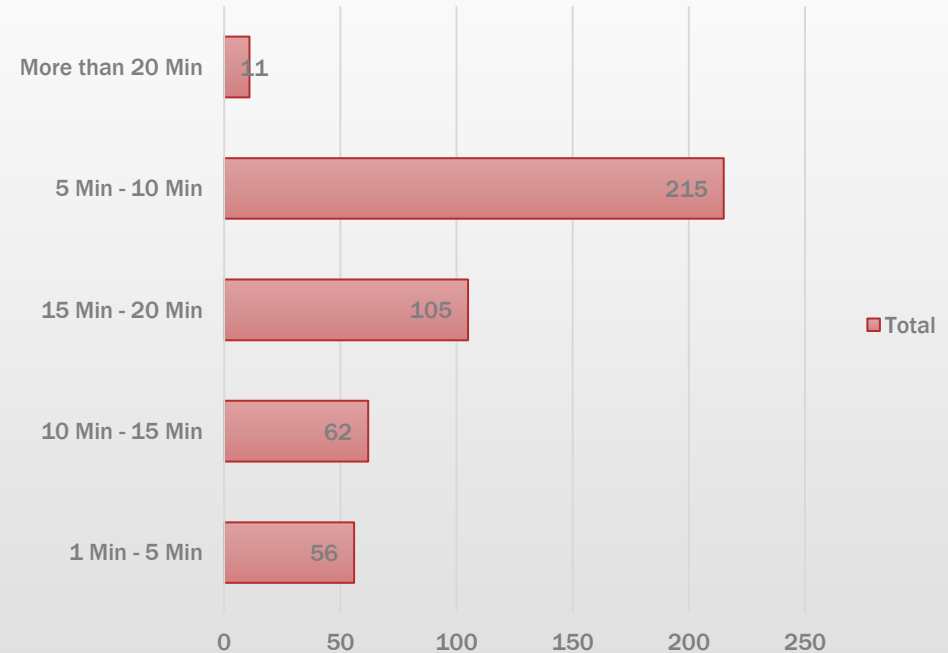


- The average rating as per Likert scale for quality of behaviour of administrative staff was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

RESULTS- Patient's survey from target hospital



- Time taken for registration at the hospital as per patient's survey.



- Time taken for consultation after the registration at the hospital as per patients.

LITERATURE REVIEW

S. no.	Title (Year)	Author(s)	Observation
1.	Hospital Project Front-end planning: Current practice and discovered challenges (2020)	Anne Strand Alfredsen Larsen, Anniken Th Karlsen, Bjørn Andersen	Development of healthcare services is a societal responsibility often appearing as major public projects. These types of projects often have a long lifetime expectancy and represent large investments and changes to established welfare systems with a considerable societal impact. This makes strategic project success depending on front-end planning performance crucial
2.	Hospital Feasibility Study	Acme Hospital Projects	A Hospital Feasibility Study is the best way to find out the sources of patient to the Hospital. The Feasibility Study comprises both a Market and Financial Analysis of the Project and is an essential aspect to be considered either while establishing a new hospital or a new facility in an existing hospital or expanding the existing hospital.
3.	Understanding the hospital Planning, Design, and Construction Process	John E. Millsap	Most hospital construction projects are the result of either changes in numbers of patients served, new treatments, or technologies, or strategic initiatives that further the hospital's mission. All hospitals should have a strategic plan that has been developed with the participation of hospital's administration, professional staff, patients, physicians, and the board of directors. The plan should address the patient care and community service goals for a period of at least five years.
4.	Planning Hospitals with limited evidence: a research and policy problem	Nigel Edwards, Anthony Harrison	"Analysis of trust business cases for rebuilding and other developments and strategies proposed by health authorities shows wide variations in the assumptions made about almost every aspect of future hospital provision. . Despite the apparently increasing difficulty of meeting growing demand for hospital care many hospital plans envisage substantial reductions in the number of beds, and hospitals with large private finance initiative schemes expect reductions of 20-30%.
5.	Hospital Whole Building Design Guide (2017)	Robert F. Carr	Building attributed of a hospital regardless of their location, size, or budget, all hospitals should have certain common attributes- efficiency and cost effectiveness, flexibility and expandability, therapeutic environment, cleanliness and sanitation, accessibility, controlled circulation, aesthetics, security and safety and sustainability

LITERATURE REVIEW

S. no.	Title (Year)	Author(s)	Observation
6.	Hospital Location Selection: A Systematic Literature Review on Methodologies and Applications (2021)	Muhammet Gul, Ali Faut Guneri	Researchers mostly prefer cost, demand, environment, population, government, competition on the market, and distance to essential locations as main selection criteria. Given the Covid-19 pandemic results, where the health sector is currently in a great struggle; the new hospital's location decisions, field hospital, or pandemic hospital investments should be made quickly and reliably.
7.	Methodology for Situational Analysis Report within the project Inter Ventures (2020)	Dr. Annika Jaansoo	To conduct the Situation Analysis Report, exploiting four different methods is needed: Desk research, Online survey with SMEs, Interviews with Stakeholders, and SWOT Analysis. The collected data should be organized and summarized in a way that makes the system easy to use.
8.	Building for Change: Comparative Case Study of Hospital Architecture (2021)	Nirit Putievsky Pilosof	Hospital design for a specific medical function is often based on the current known needs of the hospital specified in the projects' brief. The difference in the architectural design strategies to design for unknown future medical functions versus design for specific functions—had a major impact on the planning of the buildings, their design process, phases of construction, funding models, and change over time.

CONCLUSION

- Due to the high level of uncertainty and the limited availability of information, the study makes clear that the level of detail in early project appraisals is not that beneficial.
- The risk of "analysis-paralysis," or adding too much detail early in the project process, is also one scenario. It can be difficult to make decisions when there are many of unknowns.
- Corporates rarely take on hospital projects, thus it is unrealistic to anticipate that they will always have the appropriate expertise and experience.
- The purpose of this study was not to generalise, but rather to gain a deeper comprehension of how situational analysis for hospital projects is carried out in comparison to theoretical recommendations and to highlight any potential difficulties that may be present in these procedures.
- Managerial implications could include actively encouraging cross-project learning and skill development on the project front end.

RECOMMENDATIONS

- a. The hospital under consideration can be taken up for rehabilitation and expansion in terms of beds.
- b. The current services in the hospital are having good patient feedback thus the organization may not require pushing in major
- c. The only consideration which pertains to the big picture will come up as the increasing operational cost.
- d. The specialities for which the other hospitals are referring patients should be the ones to be prime focus of the marketing U.S.P while targeting the population in focus.
- e. A proper financial projection with respect to market trends as well as depreciation using the simple linear method or else is required for gaining interest of investors in the project as well as the stakeholders.