A STUDY ON A PATIENT-ORIENTED APPROACH TO BUILD PATIENT SATISFACTION IN A TERTIARY CARE HOSPITAL

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ORGANIZATION PROFILE

- Sakra World Hospital is a multi-Super specialty hospital, in Bangalore. Sakra combines synergies of these large entities to provide the cutting-edge medical technologies and herald a change in the current healthcare systems and processes.
- Sakra is dedicated to ensuring good health of the community. This flagship 350-bedded multi-super specialty hospital situated in Bangalore was launched in February, 2014
- It is a joint venture between Toyota Tsusho, and Secom Hospitals Japan.
- The name Sakra is derived from two words that have significant reflection of our vision and mission

Sacrum
Last Bone of the vertebral column

.

It supports and plays an important part in maintaining the structure and well being of the human body.

Sakura
Cherry blossom, National Flower of Japan

It has a beautiful and symbolic representation of beauty, combined with proactive energy, hope and good health. It is also the national flower of Japan.

VISION

- We commit to medical care that maximizes the quality of Human life.

MISSION

- Providing high quality medical care through cutting edge technology and highly skilled manpower. Caring beyond the treatment include complete after-care. Being responsible for the patients well-being and continuous enhancement of his quality of life

SAKRA CENTERS OF EXCELLENCE

- Cardiac sciences
- Neurosciences
- Women and child health
- Renal sciences
- Orthopedics
- Digestive and HPB sciences

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BACKGROUND

INTRODUCTION

- Patient oriented service is the core value of Healthcare business.
- Today Hospitals should not only provide medical care but also need to pay attention towards the issue of increasing patient satisfaction.

RATIONALE

- This study measure service quality from the patients' point of view and identify service performance that patients find unsatisfactory.
- In addition, categorizing these service attributes enables us to gain insight into the relationship between service performance and patient satisfaction.

- Quality function deployment can translate patient requirements (the gaps identified) into corresponding solutions, translate patients' demands into design targets to satisfy them, basis for improvement planning and prioritization of action plans as per the patients' voice.

- Therefore, the technique of integrating SERVQUAL, Kano and Quality function deployment enables us to gain broader insights into patient satisfaction and service quality improvement.

RESEARCH QUESTION

- What are the service attributes and their gaps in a Tertiary Care Hospital?
- What are the categories of hospital service attributes?
- How hospitals can prioritize patients' requirements and action plans to close the service gaps?

OBJECTIVES

- To Identify the service attributes and their gaps in a Tertiary Care Hospital
- To Categorize the service attributes of the hospital
- To prioritize patients' requirement and action plans to close the service gaps.

CONCEPTUAL FRAMEWORK

TERMINOLOGY

- Expectations has been defined as a person's belief regarding anticipated performance
- Perceptions has been defined as a person's formed opinion of the experienced service .
- Patient satisfaction: Patient satisfaction is the degree of congruency between a patient's expectations of ideal care and his/her perception of the real care received.
- Service quality: Based on Gap 5, it is as defined as the differences between patients' expectations for the service performance before the service encounter and patients' perceptions of the service they actually received. it is judged by the customers, not organizations.

SERVQUAL MODEL

It is the instrument used for measuring service quality under the Gap model.

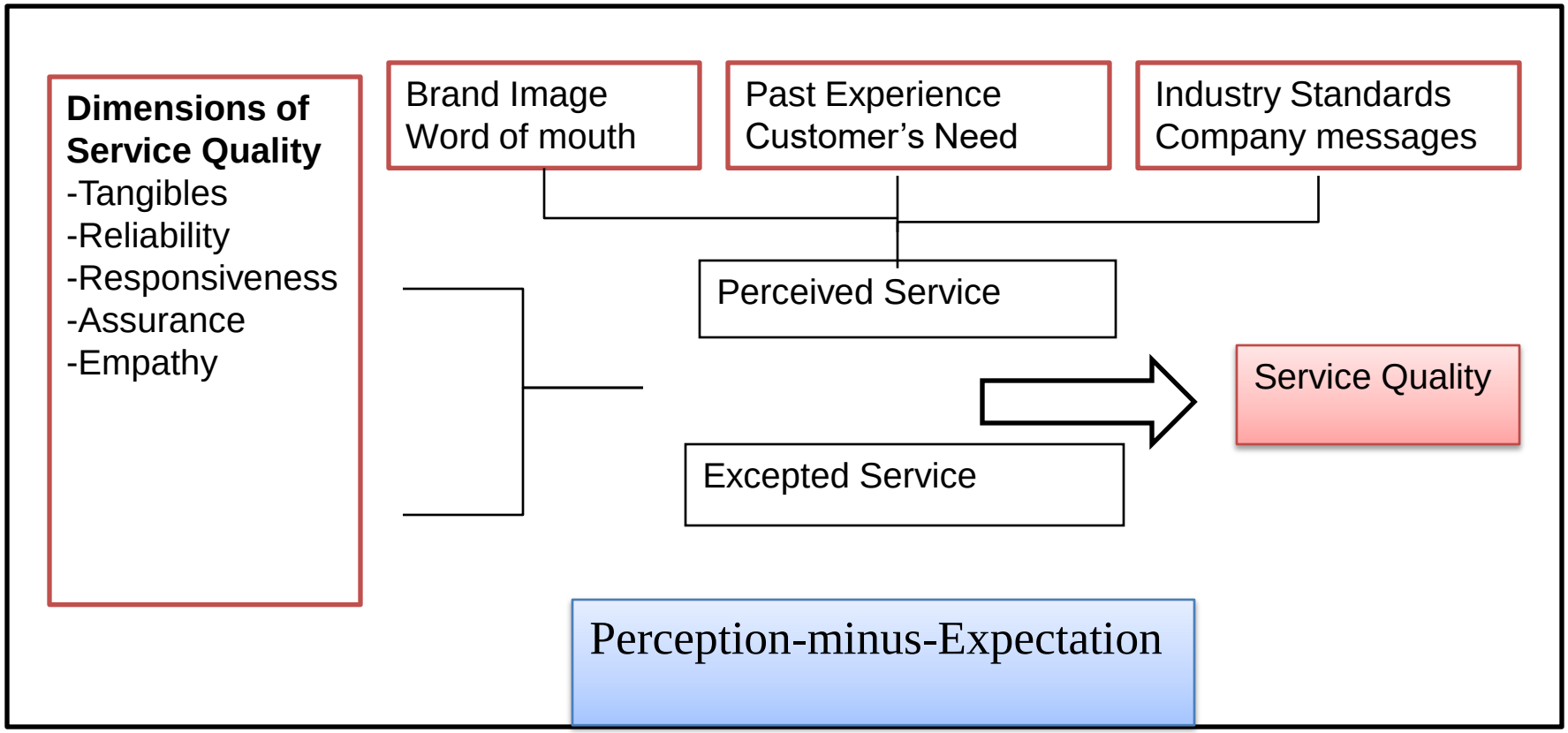
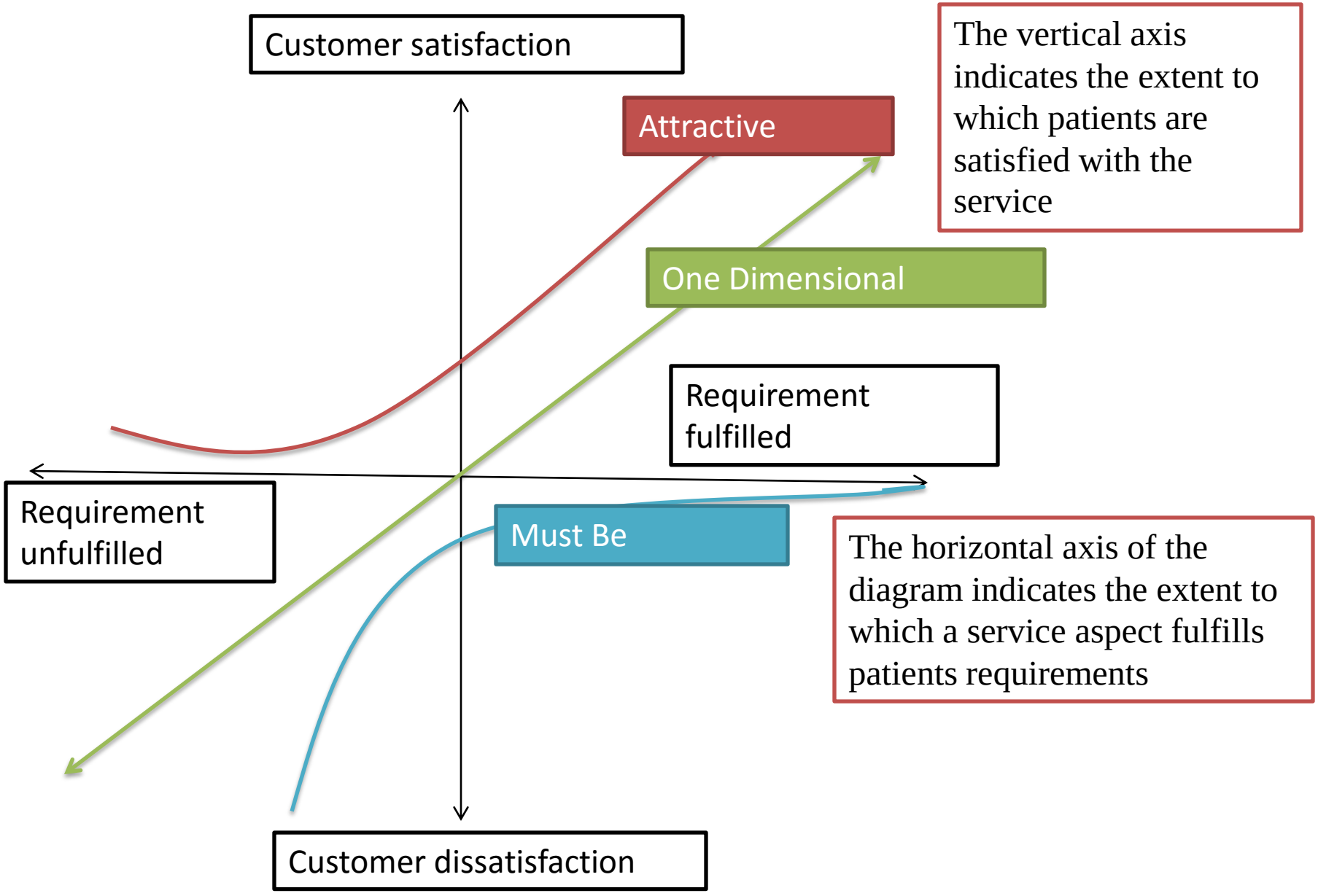


FIGURE 1 –SHOWS SERVQUAL MODEL

Source: Parasuraman *et al.*, (1985,1988)

FIGURE 2 SHOWS CATEGORIES OF KANO MODEL



CATEGORIES of SERVICE ATTRIBUTES

1. Must-be Quality (M)- service attributes must be provided to customers. Their presence does not have a significant positive impact on customer satisfaction, but their absence causes dissatisfaction
2. One-dimensional Quality (O)- These services' quality is linearly related to customer satisfaction: the higher the quality level, the higher the degree of satisfaction and vice versa.
3. Attractive Quality (A)- In this category, the presence of the service attributes excites the customers and results in satisfaction, but their absence does not cause customer dissatisfaction because customers do not usually have experience with them
4. Indifferent Quality (I)- In this category, the service attributes' state of fulfillment does not influence customers' degree of satisfaction. In other words, customers are indifferent towards them.
5. Reverse Quality (R)- In this category, the absence of these service attributes results in customer satisfaction and vice versa, just contrary to one-dimensional quality attributes.
6. Questionable (Q)-It signify that question was phrased incorrectly or that patient surveyed misunderstood the question

Table 1 shows: Data of Functional and Dysfunctional Questionnaire were analyzed through **Kano Evaluation table**

		Response to dysfunctional question				
		1. Like	2. Must be	3. Neutral	4. Live with	5. Dislike
Response to functional question	1. Like	Q	A	A	A	O
	2. Must be	R	I	I	I	M
	3. Neutral	R	I	I	I	M
	4. Live with	R	I	I	I	M
	5. Dislike	R	R	R	R	Q

A = Attractive attribute
O = One dimensional attribute
M = Must be attribute
I = Indifferent attribute

Source: Tan and Pawitra (2001)

QUALITY FUNCTION DEPLOYMENT MODEL

- Quality Function Deployment is a system with the aim of translating and planning the Voice of the Patient into the quality characteristics of products, processes and services in order to reach Patient Satisfaction.

THE HOUSE OF QUALITY

- The House of Quality (HOQ) is the most important and frequently used matrix; the name comes from its house shape. The components of HOQ are described as follows

- The exterior wall of the house is the WHATs: a list of customer requirements

- The ceiling of the house is the HOWs: a list of design/ technical requirements

- The interior or living room of the house contains the relationship between the customer and technical attributes, called as the **Relationship Matri**x.

- The degrees of relationships are usually presented as follows:

  strong relationship = 9

  medium relationship = 3

  weak relationship = 1

- The Roof of the house holds the interrelationship among technical attributes also known as **Correlation Matrix** .It represented the Trade-offs between similar and/or conflicting technical attributes

- Symbols are used to describe the strength of the interrelationships

  A dark circle ● = strong positive relationship

  An empty circle ○ = positive relationship

  A single X = negative relationship

  A double XX = strong negative relationship

FIGURE 3 SHOWS: HOUSE OF QUALITY

very strong relationship
strong relationship
X Negative relationship
XX Very strong negative relationship

Eliminate

ROOF OF THE HOUSE

9-Strong relationship
3-Medium relationship
1- Weak relationship

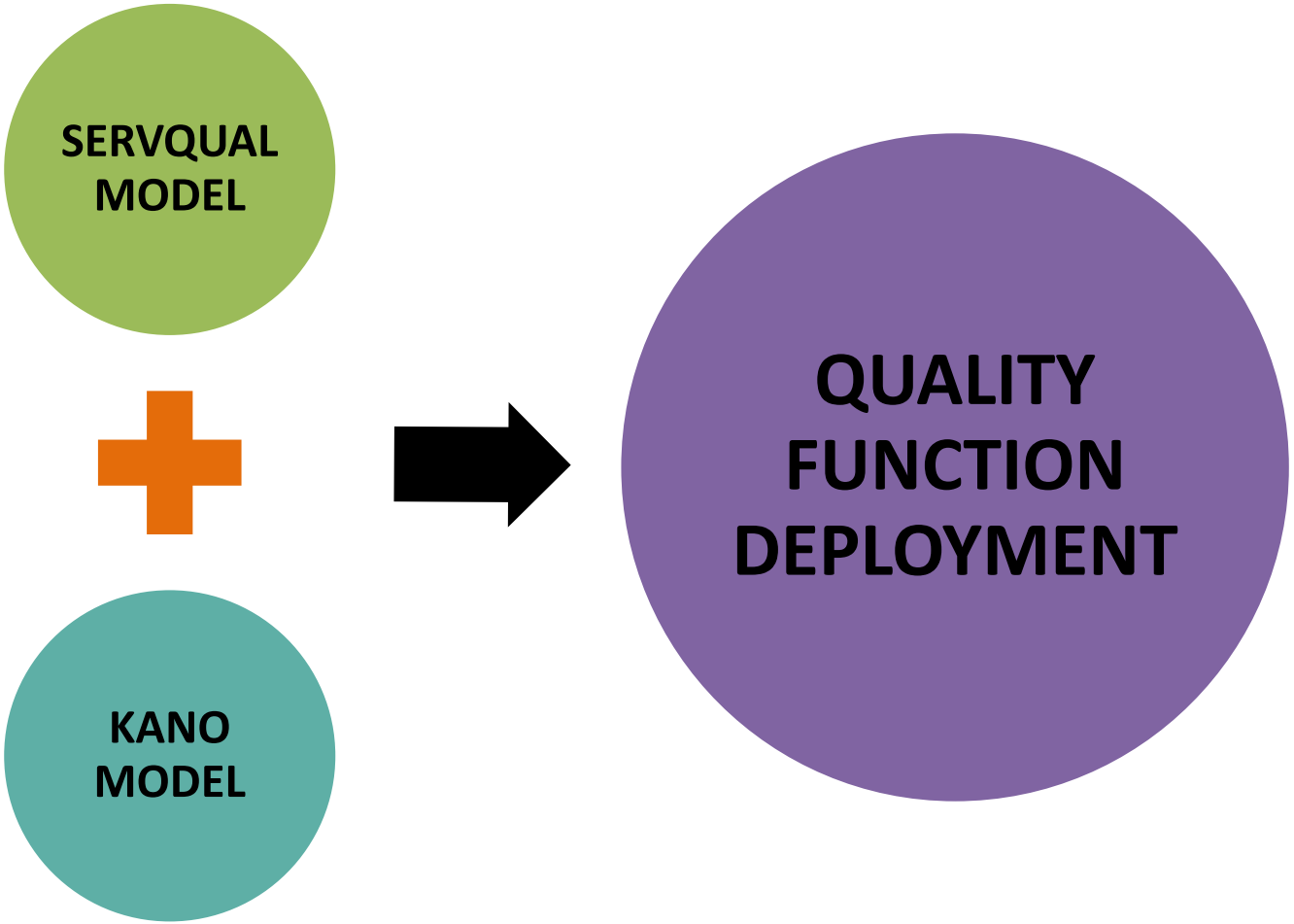
		X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
A1	adjusted										
A2	importance										
A3	score										
A4											
A5											
A6											
A7											
A8											
A9											
A10											

CEILING OF THE HOUSE

WALL OF THE HOUSE

INTERIOR OF THE HOUSE

INTEGRATION OF SERVQUAL, THE KANO MODEL AND QFD FOR QUALITY IMPROVEMENT AND BUILDING PATIENT SATISFACTION



- There is an underlying assumption in SERVQUAL for prioritizing service attributes: the larger the negative gap score, the higher the priority of the improvement ratio .
- Introducing Kano's service attribute categories into SERVQUAL and integrating them together can overcome this linearity limitation

- Kano proposed a non-liner and asymmetric relationship between service quality and patient satisfaction.

- The weights for each service attribute assigned by the Kano model can then be added to the gap score obtained from SERVQUAL evaluation.

- Finally, the most significant item can be identified and prioritized for improvement.

- The Kano model does not evaluate service performance. By integrating it into SERVQUAL, a complete picture of service attributes' performance and their relationship to customer satisfaction can be obtained.

- The three benefits for this Servqual , Kano and QFD integrated approach are as follows :

1. It provides a basis for improvement planning.
2. There is a prioritization of action plans as per the customers' voice.
3. There is enhanced documentation, communication and teamwork.

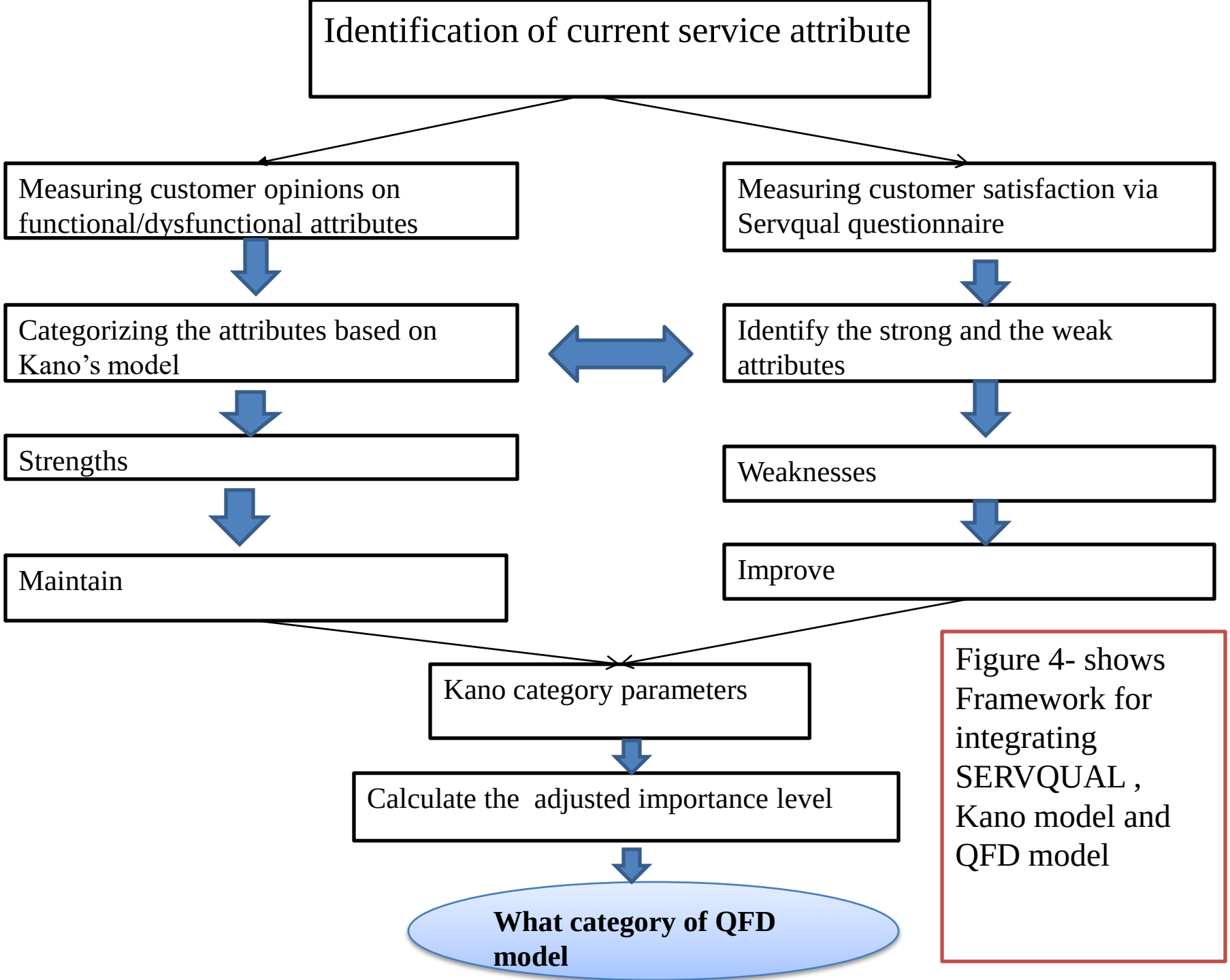


Figure 4- shows Framework for integrating SERVQUAL , Kano model and QFD model

METHODOLOGY

Study Design- Descriptive Analytical And A Cross Sectional Survey

Study Area- Sakra World Multi Specialty Hospital, Bangalore

Target Population- Inpatients

Sample Size - A Total Of 420 Patients Were Sampled For The Study.
(6 Wards X 2 Patients X 35working Days=420)
(Excluding Suite Rooms)

Study Population- Feb To April 2016

Sampling Technique- Simple Random Sampling Technique

Tools And Techniques- Quantitative Data Collection Technique

Table 2 shows Applied Tools and Techniques

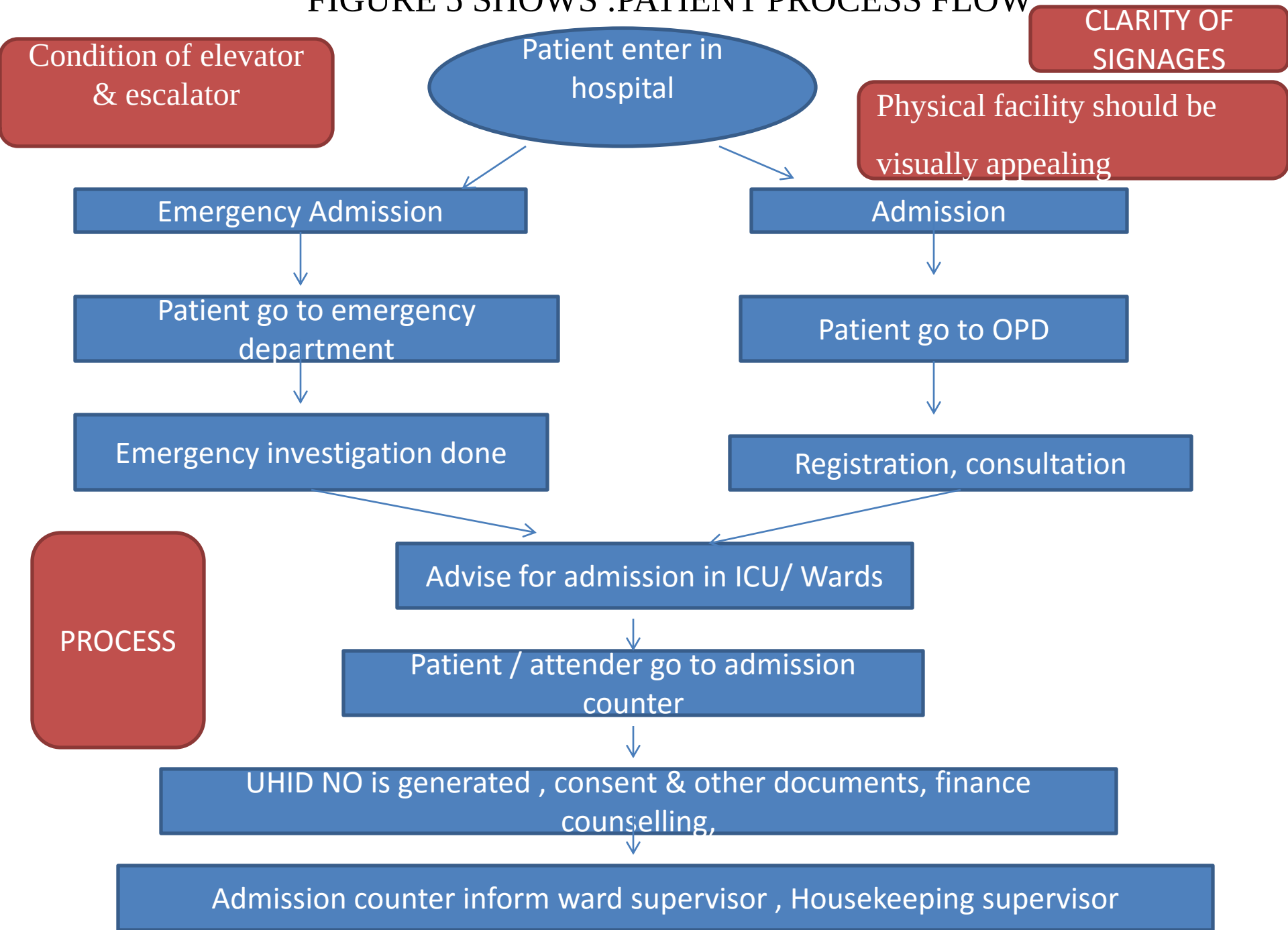
	TOOLS	TECHNIQUES
SERVQUAL Model	Close ended structured questionnaire guidelines	Structured Questionnaire
Kano model	Close ended structured questionnaire guidelines	Structured Questionnaire (Functional & Dysfunctional)
QFD Model	Indepth Interviews guidelines	Indepth Interviews

DATA ANALYSIS
AND
DISCUSSIONS

Objective1:To identify the service attributes and their gaps in a Tertiary Care Hospital

- We obtain this objective through **SERVQUAL Model**
- We have used the 5 dimensions (Tangibles, Reliability, Responsiveness, Assurance and Empathy) which are subdivided into 24 statements
- Both expectations and perceptions are measured using a 6-point Likert scale to rate their level of satisfaction (1- extremely poor and 6- extremely good)

FIGURE 5 SHOWS :PATIENT PROCESS FLOW



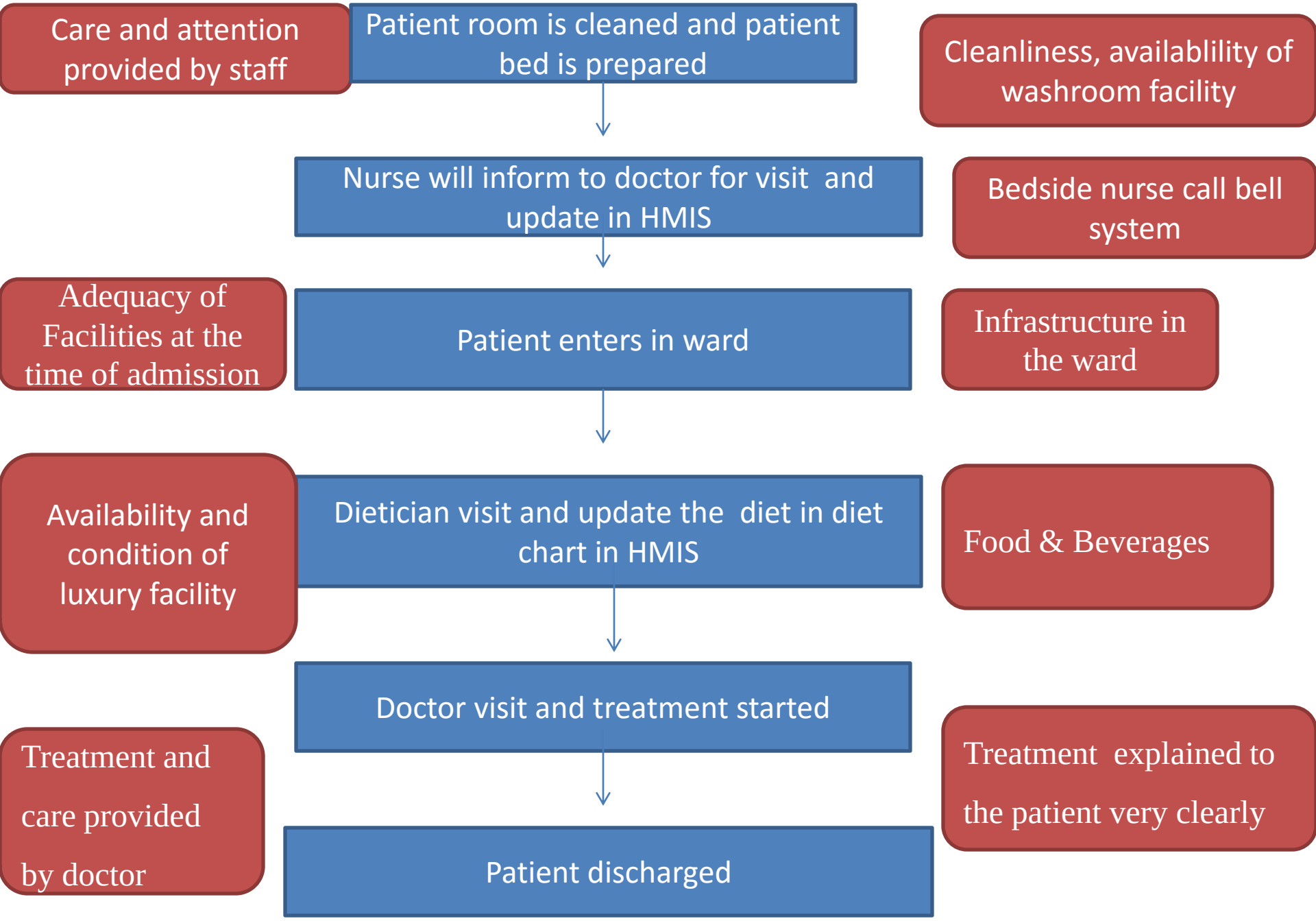

Care and attention provided by staff
Patient room is cleaned and patient bed is prepared
Cleanliness, availablility of washroom facility
Nurse will inform to doctor for visit and update in HMIS
Bedside nurse call bell system
Adequacy of Facilities at the time of admission
Patient enters in ward
Infrastructure in the ward
Availability and condition of luxury facility
Dietician visit and update the diet in diet chart in HMIS
Food & Beverages
Doctor visit and treatment started
Treatment and care provided by doctor
Treatment explained to the patient very clearly
Patient discharged

Table 3 shows 24 service attributes

SERVICE ATTRIBUTES
Clarity of Signages (Easy To Spot)
Physical facility should be visually appealing
Condition of elevator & escalator
Infrastructure in the ward(cot size , room small , location of room, location of plug point)
Adequacy of Facilities at the time of admission (e.g. hand rub , welcome kit, attender pass , visitor pass , toilet roll, wardrobe key, admission booklet ,tissue paper, Newspaper etc)
Food & beverages(quality, missing of items, planned food not served, missing of meals, temperature of food served)
Treatment and care provided by doctor
Treatment explained to the patient very clearly
Individual care and attention given by the staff members during service encounter.
Performance of bedside nurse call system in ward
Delay in services (Admission, treatment, doctor visit, Scheduled Surgery, Laboratory, radiology, Diagnostic, housekeeping services. Food &beverage service, pharmacy, Discharge, Regular Follow ups)
Cleanliness in the hospital (washroom , floor , public area, tray clearance, dustbin disposal)
Availability & condition of facility inside the washroom such as (mug, bucket ,flush)
Performance of pest control in hospital
Patient dress / bed sheet /blanket/ pillow is (are) given to the patients
Appropriate size of patient dress given
Changing of patient dress / bed sheet regularly
Availability and condition of luxury facilities (e.g.-door, TV , AC ,Phone , fan regulator, Call Bell, TV remote, Ac remote, Charging point,) in ward etc
Provision of privacy protection in ward (curtains, blinds, knocking of door before entering)
Ambience in Room/ corridor (e.g. noisy/ quit)
Performance of lighting system in ward
Performance of ventilation system in ward(eg- odor)
Tidiness in staff appearance
Staff to be polite and courteous during service encounter

Table 4 shows Mean value of expectation score of service attributes

SERVICE ATTRIBUTES	EXPECTATION SCORE
Clarity of Signages (Easy To Spot)	5
Physical facility should be visually appealing	5
Condition of elevator & escalator	5
Infrastructure in the ward	5
Adequacy of Facilities at the time of admission	4
Food & beverages	**6**
Treatment and care provided by doctor	**6**
Treatment explained to the patient very clearly	**6**
Individual care and attention given by the staff members during service encounter.	**6**
Performance of bedside nurse call system in ward	**6**
Delay in services	**6**
Cleanliness in the hospital	**6**
Availability & condition of facility inside the washroom	4
Performance of pest control in hospital	5
Patient dress / bed sheet /blanket/ pillow is (are) given to the patients	4
Appropriate size of patient dress given	4
Changing of patient dress / bed sheet regularly	4
Availability and condition of luxury facilities	4
Provision of privacy protection in ward	4
Ambience in Room/ corridor	5
Performance of lighting system in ward	4
Performance of ventilation system in ward	4
Tidiness in staff appearance	4
Staff to be polite and courteous during service encounter	5

Table 5 shows Mean value of Perception score of service attributes

SERVICE ATTRIBUTES	PERCEPTION SCORE
Clarity of Signages (Easy To Spot)	4
Physical facility should be visually appealing	**5**
Condition of elevator & escalator	**6**
Infrastructure in the ward	**5**
Adequacy of Facilities at the time of admission	3
Food & beverages	3
Treatment and care provided by doctor	4
Treatment explained to the patient very clearly	3
Individual care and attention given by the staff members during service encounter.	4
Performance of bedside nurse calls system in ward.	**2**
Delay in services	**1**
Cleanliness in the hospital	3
Availability & condition of facility inside the washroom	3
Performance of pest control in hospital	3
Patient dress / bed sheet /blanket/ pillow is (are) given to the patients	3
Appropriate size of patient dress given	3
Changing of patient dress / bed sheet regularly	3
Availability and condition of f luxury facilities in ward	**1**
Provision of privacy protection in ward	3
Ambience in Room/ corridor	3
Performance of lighting system in ward	4
Performance of ventilation system in ward(e.g.- odor)	4
Tidiness in staff appearance	4
Staff to be polite and courteous during service encounter	3

Table 6 shows Gap Scores for the Service Attributes

SERVICE ATTRIBUTES	GAP SCORE (P-E)
Condition of elevator & escalator	0.68
Physical facility should be visually appealing	0.27
Tidiness in staff appearance	.22
Performance of lighting system in ward	0.05
Infrastructure in the ward(cot size , room small , location of room, location of plug point)	-0.22
Performance of ventilation system in ward(e.g.- odor)	-0.3
Clarity of signages (easy to spot)	-0.89
Appropriate size of patient dress given	-1.11
Changing of patient dress / bed sheet regularly	-1.33
Provision of privacy protection in ward (curtains, blinds, knocking of door before entering)	-1.36
Adequacy of facilities at the time of admission (e.g. hand rub , welcome kit, attender pass , visitor pass , toilet roll, wardrobe key, admission booklet ,tissue paper, newspaper etc at the time of admission	-1.51
Treatment and care provided by doctor	-1.52
Availability & condition of facility inside the washroom such as (mug, bucket ,flush)	-1.56
Patient dress / bed sheet /blanket/ pillow is (are) given to the patients	-1.77
Ambience in room/ corridor (e.g. noisy/ quit)	-1.78
Staff to be polite and courteous during service encounter	-2.1

Positive Gap Scores for the Service Attributes (Perception-Expectation)

Negative Gap Scores for the Service Attributes (Perception-Expectation

Infrastructure in the ward(cot size , room small , location of room, location of plug point)	-2.2
Individual care and attention given by the staff members during service encounter.	-2.3
Performance of pest control in hospital	-2.4
Availability and condition of facilities (example -door, TV , ac ,phone , fan regulator, call bell, TV remote, ac remote, charging point,) in ward etc	-2.6
Treatment explained to the patient very clearly	-2.9
Cleanliness in the hospital (washroom , floor , public area, tray clearance, dustbin disposal)	-3.7
Performance of bedside nurse call system in ward	-3.88
Delay in services (admission, treatment, doctor visit, scheduled surgery, laboratory, radiology, diagnostic, housekeeping services. Food &beverage service, pharmacy, discharge, regular follow ups)	-3.9
Food & beverages(quality, missing of items, planned food not served, missing of meals, temperature of food served)	-4.00

Negative Gap Scores for the Service Attributes (Perception-Expectation

Figure 6 shows :Individual care and attention are not taken care by the following staff

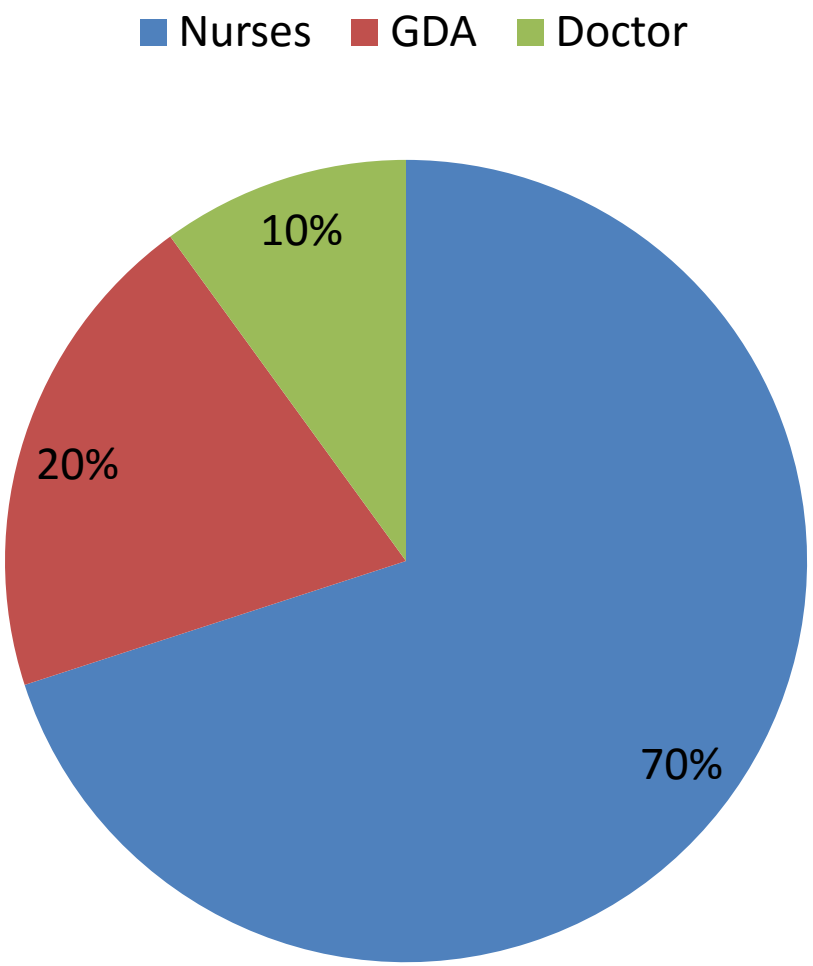


Figure 7 shows :Staff are not polite & courteous

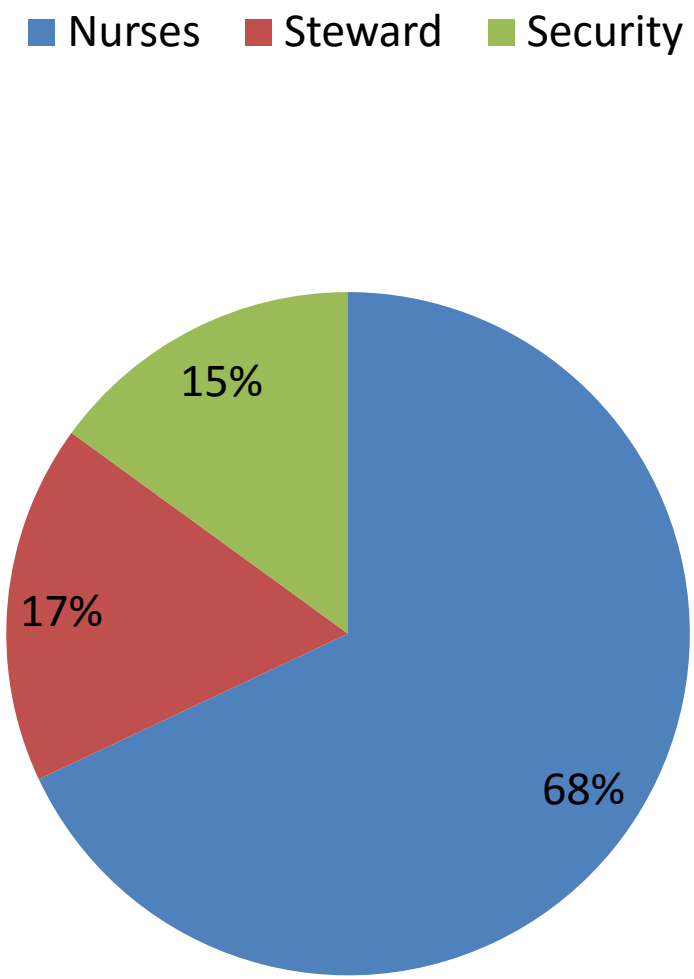


Figure 8 shows :Delay in services

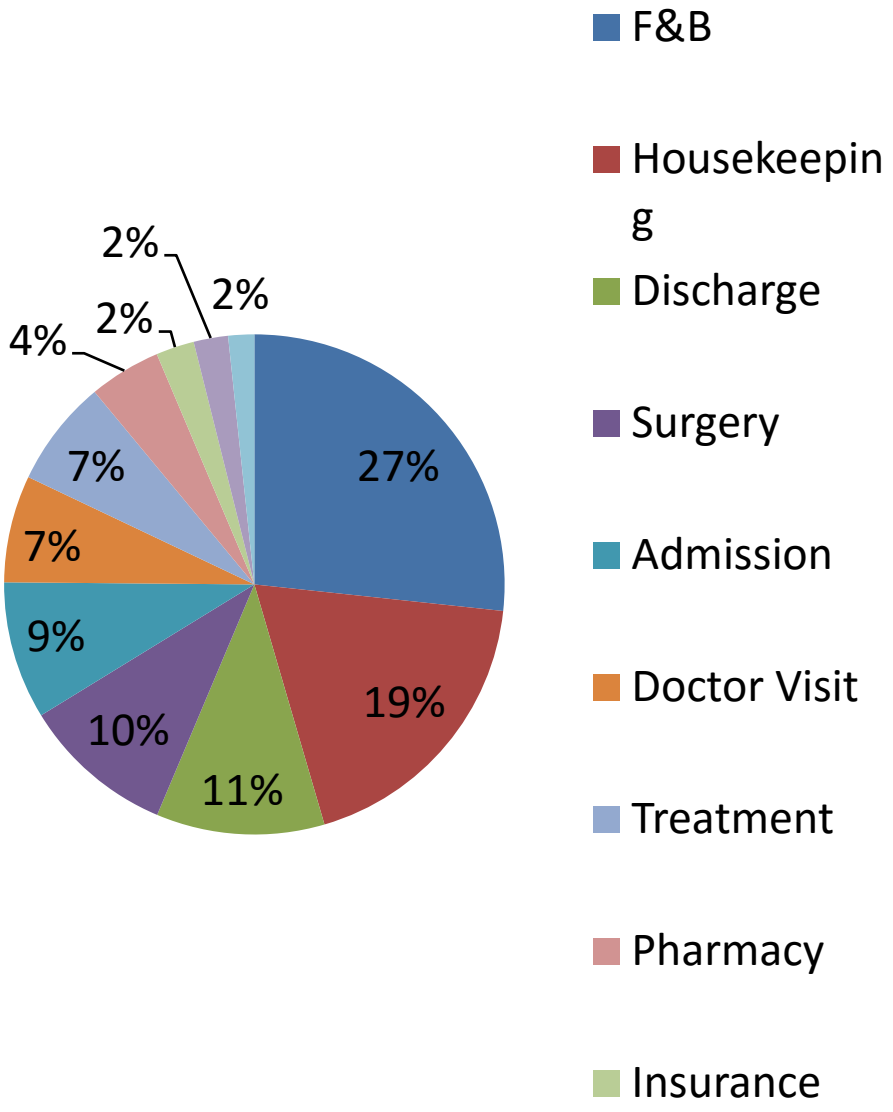


Figure 9 shows :Availability and condition of the Luxury facilities

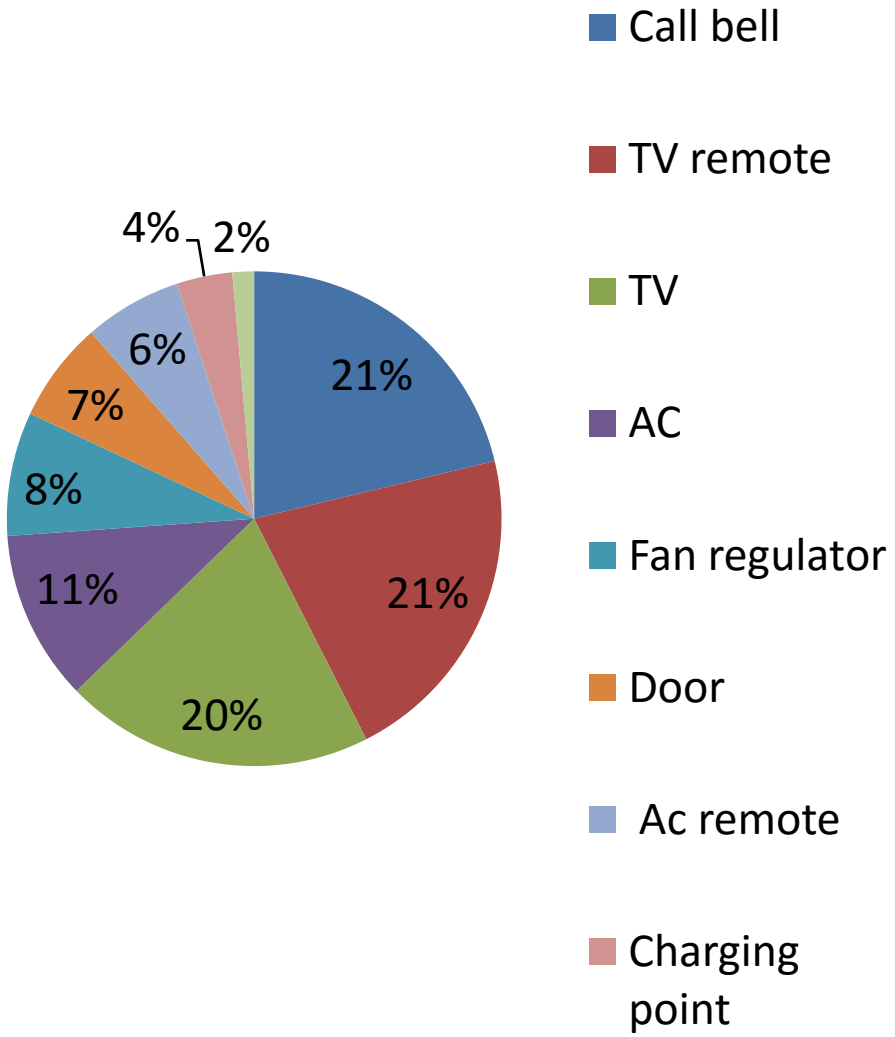


Figure 10 shows: Lack of Cleanliness

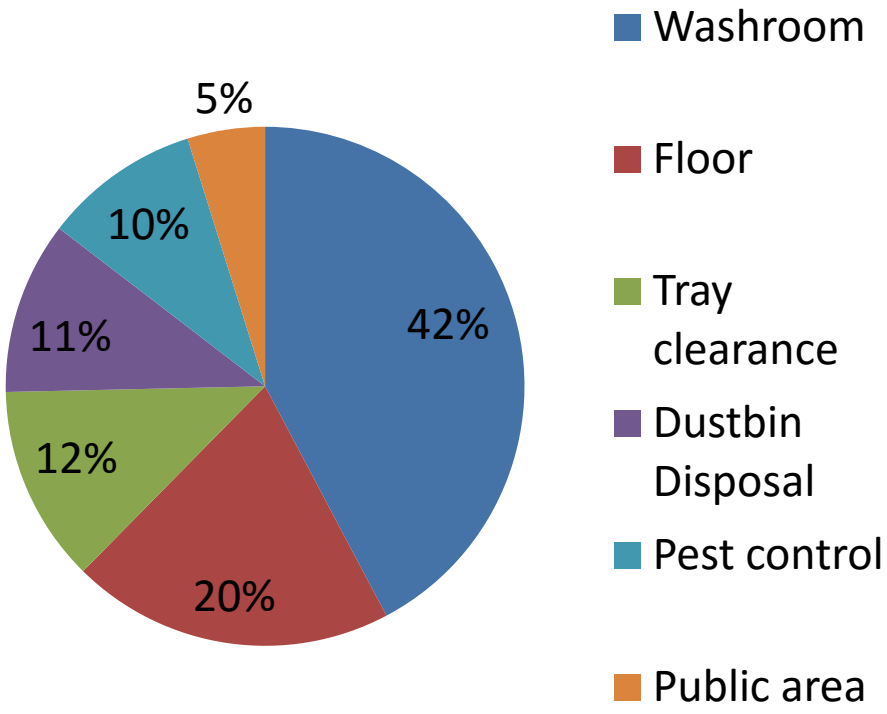
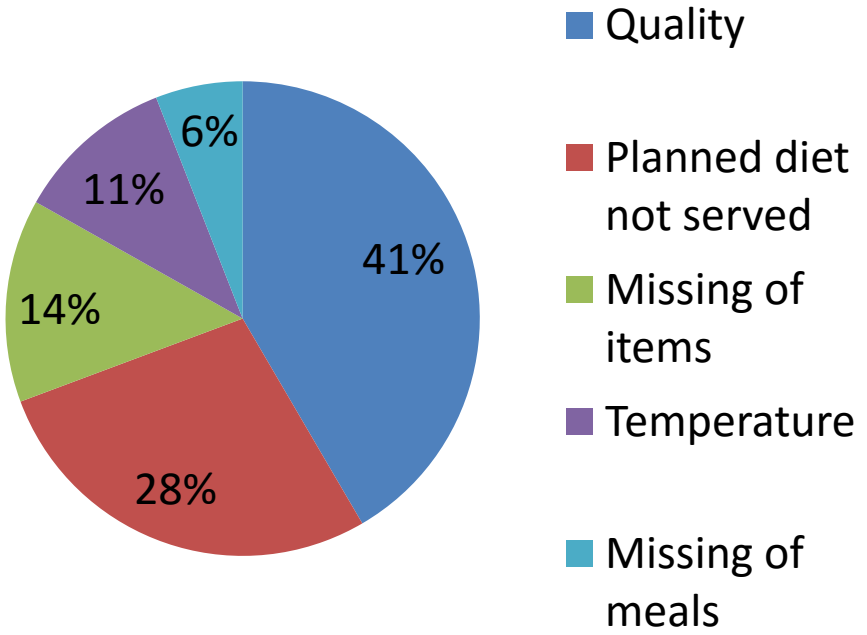


Figure 11 shows: Defects in the Food& Beverage Services



Objective 2:to categorize the service attributes of the hospital

We obtain this objective through KANO MODEL

Attractive Kano category
Physical facility should be visually appealing
Infrastructure in the ward(cot size , room small , location of room, location of plug point)
Performance of lighting system in ward
Tidiness in staff appearance

One dimensional Kano category
Condition of elevator & escalator
Treatment explained to the patient very clearly
Performance of pest control in hospital Patient dress / bed sheet /blanket/ pillow is (are) given to the patients
Changing of patient dress / bed sheet regularly.
Availability and condition of luxury facilities (e.g.-door, TV , AC ,Phone , fan regulator, Call bell , TV remote, Ac remote, Charging point,) in ward etc
Provision of privacy protection in ward (curtains, blinds, knocking of door before entering)
Ambience in Room/ corridor (e.g. noisy/ quit)
Staff to be polite and courteous during service encounter

Must be Kano category	Indifferent Kano category
Food & beverages	Clarity of signages (easy to spot)
Treatment and care provided by doctor	Adequacy of facilities at the time of admission
Individual care and attention given by the staff members during service encounter.	Availability & condition of facility inside the washroom
Performance of bedside nurse call system in ward	Appropriate size of patient dress given
Delay in services	Performance of ventilation system in ward(e.g.- odor)
Cleanliness in the hospital	

SERVICE ATTRIBUTES	GAP SCORE
Food & beverages	-4.00
Delay in services	-3.8
Performance of bedside nurse call system in ward	-3.88
Cleanliness in the hospital	-3.7

Table7 shows : Above service attributes belongs to Must be Kano category which has the highest negative gap score

OBJECTIVE 3:TO PRIORITIZE PATIENTS' REQUIREMENT AND ACTION PLANS TO CLOSE THE SERVICE GAPS

We obtain this objective through **Quality Function Deployment Model**

Table 8 shows – Kano category and its gap score of the following service attributes

SERVICE ATTRIBUTES	KANO CATEGORY	GAP SCORE
Clarity of Signages (Easy To Spot)	I	-0.89
Physical facility should be visually appealing	A	0.27
Condition of elevator & escalator	O	0.68
Infrastructure in the ward	A	-0.22
Adequacy of Facilities at the time of admission	I	-1.51
Food & beverages(quality, missing of items, planned food not served, missing of meals, temperature of food served)	M	-4.00
Treatment and care provided by doctor	M	-1.52
Treatment explained to the patient very clearly	O	-2.9
Individual care and attention given by the staff members during service encounter.	M	-2.3
Performance of bedside nurse call system in ward	M	-3.88

Delay in services (Admission, treatment, doctor visit, Scheduled Surgery, Laboratory, radiology, Diagnostic, housekeeping services. Food &beverage service, pharmacy, Discharge, Regular Follow ups)	M	-3.9
Cleanliness in the hospital (washroom , floor , public area, tray clearance, dustbin disposal)	M	-3.7
Availability & condition of facility inside the washroom such as (mug, bucket ,flush)	I	-1.56
Performance of pest control in hospital	O	-2.4
Patient dress / bed sheet /blanket/ pillow is (are) given to the patients	O	-1.77
Appropriate size of patient dress given	I	-1.11
Changing of patient dress / bed sheet regularly	O	-1.33
Availability and condition of facilities (e.g.-door, TV , AC ,Phone , fan regulator, Call bell, TV remote, Ac remote, Charging point,) in ward etc	O	-2.6
Provision of privacy protection in ward (curtains, blinds, knocking of door before entering)	O	-1.35
Ambience in Room/ corridor (e.g. noisy/ quit)	O	-1.78
Performance of lighting system in ward	A	0.05
Performance of ventilation system in ward(e.g.- odor)	I	-0.3
Tidiness in staff appearance	A	0.22
Staff to be polite and courteous during service encounter	O	-2.1

Though few have negative gap score but are not included in What category of QFD Model as they belong to indifferent Kano category

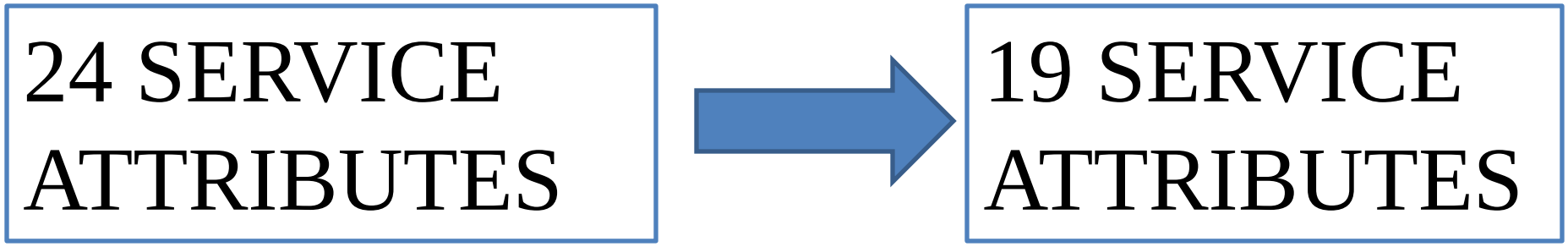

24 SERVICE ATTRIBUTES
19 SERVICE ATTRIBUTES

Table 9 shows- Importance level of service attributes

Total expectation score	Importance level	Score
2001-2400	Extremely important	6
1601-2000	Very important	5
1201-1600	Important	4
801-1200	Quite important	3
401-800	Less important	2
1-400	Not important	1

ADJUSTED IMPORTANCE SCORE OF WHAT CATEGORY OF QFD MODEL

Service attributes	Absolute Gap score (a)	Importance score (b)	Customer satisfaction score c=a X b	Kano score (d)	Adjusted importance score of what (e)=c X d

Kano score
4-Attractive Kano category
2-One Dimensional Kano category
1-Must Be Kano category

Table 9 shows: Adjusted Importance score of what category of QFD Model

Service attributes	Absolute Gap score (a)	Importance score (b)	Customer satisfaction score c=a*b	Kano score (d)	Adjusted importance score of what (e)=c*d
Physical facility should be visually appealing	0.27	4	1.08	4	4.32
Condition of elevator & escalator	0.68	5	3.4	2	6.8
Infrastructure in the ward	0.22	5	1.1	4	4.4
Food & beverages	4.00	6	24	1	24
Treatment and care provided by doctor	1.52	6	9.12	1	9.12
Treatment explained to the patient very clearly	2.9	6	17.4	2	34.8

Individual care and attention given by the staff members during service encounter.	2.3	6	13.8	1	13.8
Performance of bedside nurse call system in ward	3.88	6	23.28	1	23.28
Delay in services	3.9	6	23.4	1	23.4
Cleanliness in the hospital	3.7	6	22.2	1	22.2
Performance of pest control in hospital	2.4	6	14.4	2	28.8
Patient dress / bed sheet /blanket/ pillow is (are) given to the patients	1.77	5	8.85	2	17.7
Changing of patient dress / bed sheet regularly	1.33	5	6.65	2	13.3
Availability and condition of facilities in ward etc	2.6	5	13	2	26
Provision of privacy protection in ward	1.35	5	6.8	2	13.6
Ambience in Room/ corridor	1.78	5	8.9	2	17.8
Performance of lighting system in ward	0.05	4	0.2	4	0.8
Tidiness in staff appearance	0.22	4	0.88	4	3.52
Staff to be polite and courteous during service encounter	2.1	5	10.5	2	21

HOUSE OF QUALITY

Table 10 shows-Importance score and the relative ranking of the service attributes

WALL OF THE HOUSE / WHAT CATEGORY OF HOUSE OF QUALITY

ATTRIBUTES	ADJUSTED IMPORTANCE SCORE OF WHAT	RANKING
Treatment explained to the patient very clearly	34.8	1
Performance of pest control in hospital	28.8	2
Availability and condition of the luxury facilities in ward	26	3
Food & beverages	24	4

Delay in services (admission, treatment, doctor visit, scheduled surgery, laboratory, radiology, diagnostic, housekeeping services. Food &beverage service, pharmacy, discharge, regular follow ups)	23.4	5
Performance of bedside nurse call system in ward	23.28	6
Cleanliness in the hospital (washroom , floor , public area, tray clearance, dustbin disposal)	22.2	7
Staff to be polite and courteous during service encounter	21	8
Ambience in room/ corridor (e.g. noisy/ quit)	17.8	9
patient dress / bed sheet /blanket/ pillow is (are) given to the patients	17.7	10

Individual care and attention given by the staff members during service encounter.	13.8	11
Provision of privacy protection in ward (curtains, blinds, knocking of door before entering)	13.6	12
Changing of patient dress / bed sheet regularly	13.3	13
Treatment and care provided by doctor	9.12	14
Condition of elevator & escalator	6.8	15
Infrastructure in the ward(cot size , room small , location of room, location of plug point)	4.4	16
Physical facility should be visually appealing	4.32	17
Tidiness in staff appearance	3.52	18
Performance of lighting system in ward	0.8	19

Factors
Vigorous monitoring
Training
Standardization
Coordination interdepartmental /intradepartmental
Effective communication
Sense of urgency
Technology
Staff available
Skilled manpower
Investment
Experienced staff
Transparency

TABLE 11 SHOWS: CEILING OF THE HOUSE /HOW CATEGORY OF HOUSE OF QUALITY

TABLE 12 SHOWS: INTERIOR OF THE HOUSE /RELATIONSHIP MATRIX CATEGORY OF HOUSE OF QUALITY

		X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
A1	adjusted										
A2	importance										
A3	score										
A4											
A5											
A6											
A7											
A8											
A9											
A10											

9-Strong relationship
3-Medium relationship
1- Weak relationship

Table 13 shows – Importance score and their relative ranking of Action plans

Factors	Importance score	Rank
Vigorous monitoring	1463.6	1
Training	845	2
Standardization	821.4	3
Coordination interdepartmental /intradepartmental	686.64	4
Effective communication	550.6	5
Sense of urgency	279.7	6
Technology	272.76	7
Staff available	271.98	8
Skilled manpower	208.8	9
Investment	167.04	10
Experienced staff	140.88	11
Transparency	82.2	12

CORRELATION MATRIX (ROOF OF HOUSE OF QUALITY)

Vigorous monitoring

Standardization

Technology

Figure 12 shows :Vigorous monitoring shared a very strong bond with Standardization, Technology

Coordination interdepartmental /intradepartmental

Training

Effective communication.

Figure 13 shows : Coordination Between interdepartmental /intradepartmental shared a very strong bond with Training and Effective communication.

Training

Investments

Skilled Manpower

Figure 14 shows : Training shared a very strong bond with Investments and Skilled Manpower.

Figure 15 shows : Standardization shared a very strong bond with training.

Figure 16 shows : Technology shared a very strong bond with investments.

CONCLUSIONS

- Quality Function Deployment, Kano model and Servqual model provides a practical approach for hospitals to become more quality oriented.

- The results from the first SERVQUAL survey indicate that 20 out of 24 service attributes have negative gap scores. Thus, it is fair to say that service gaps exist in services.

- Through the Kano questionnaire survey, the 24 service attributes were grouped under the four Kano categories: Attractive, One-dimensional, Must-be, and Indifferent. Only 5 attribute fell into the Indifferent category, indicating that the other 19 attributes' performances influence patient satisfaction levels. Thus, the second research objective is achieved

- In addition, the customer satisfaction coefficients were calculated to provide deeper insight into the attributes' influences on patient satisfaction.

- To enable the hospital to relocate resources effectively and efficiently for corrective actions, 12 factors were selected

- An importance performance grid was developed to prioritize the service attributes and action plans .

- The power of the proposed model came from the detailed discussion with patients about their requirements and considerations of how the hospital can meet the patients' requirements most effectively.

- Therefore, the managers should be able to think from patient's point of view i.e. To listen to the voice of customer (VOC) in order to remain competitive in business , maintain long-term relationships with their customers and hence to grow.

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THANK YOU