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An Effort towards Assessment of e-Healthcare Service Quality

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Presentation

Assessing
e-healthcare Service Quality

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e-healthcare

- is the system creates a connection between the patient and the medical service personnel via the “information highway”.

- is an information based business, which provides basis for the treatment at high speed and accurately.

e-Healthcare Classification

- Telemedicine
- Hospital Management System
- Customer Service using the internet
- Medical Transcription
- Health awareness through portals

Objective

- To chart out the possibility of establishing criteria in assessing and ranking the quality on e-healthcare system.

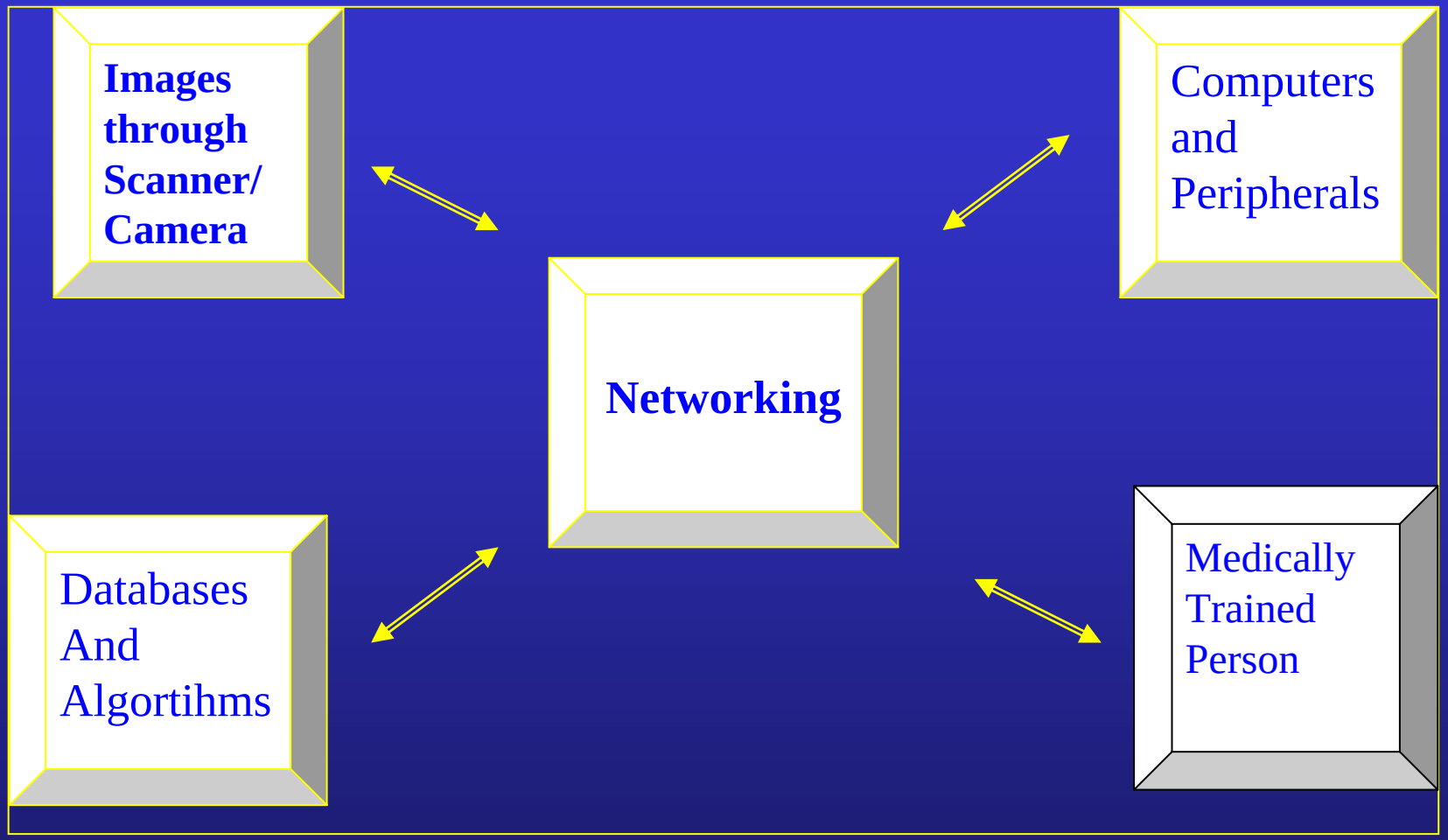
Why Assessment?

- Assurance Of Conformity With Good Professional Practice

- Identification of system satisfying the regulatory agency by all Stakeholders

Challenges of e-healthcare system

- Using the Information and Communication Technologies (ICT)
- To spare the time for this activity by the doctors initially
- Infrastructure of the Data, storage space and speed
- Integrity of the data and its security
- Society



e-healthcare(Telemedicine) Components

Issues and problems affecting the quality of e-healthcare system

- updating and maintaining the patient information are unwieldy
- lot of training is desired to improve and access to treatment and understanding
- Involves faculty and staff in evaluation and planning
- Technical problems, including bandwidth limitations, browser problems etc.,
- Inaccessible doctors

Issues and problems affecting the quality of e-healthcare system

- Lack of depth in treatment.
- Lack of intimacy associated with traditional environment.
- Limited interaction with doctor
- Delays in receiving clarification
- Application of Information Technologies without appropriate treatment.

Quality Performance Dimensions of a e-healthcare system

- Appropriateness
- Effectiveness, Efficacy
- Timeliness,Availability
- Respect and caring
- Continuity, Tangible
- Safety, Efficiency

Quality in e-healthcare system

- Quality as value for money
- Quality as meeting the expectations of the patient
- Quality as delivering the treatment and monitoring the patient.

Quality of e-environment

- Ease of navigation ie. *Free movement with in the website*
- Scope of the site coverage – *Contents*
- Details available on the topic – *Details*
- Correctness of information provided on the site – *Trust*
- Completeness represented at each site – *Knowledge*

Quality of e-environment

- Interest inspired of satisfied by the site- *Education*
- Site aesthetics – *Attraction*
- Utility of the site for any other purpose – *Value*
- Linkage of the site , directly or indirectly to other sites – *Help*

(Dobbs, 2000)

Key Service Quality indicators

- **Waiting Time** - Time spent on waiting for the treatment
- **Cost of the investigation** - Fees charged by the hospitals towards consultation and investigation
- **Access** - Location of the hospital
- **Acceptability** - Replying the reasonable expectations of those being treated.
- **Competency** - Knowledge and skills of the Doctor/Para medical staff in prevention, diagnosis and treatment.

Analytic Hierarchic Process (AHP)

- Determining the weights of the criteria
- Considering quantitative and qualitative factors

Steps:

1. Development of Goal Hierarchy
2. Pair wise comparison of goals
3. Checking consistency of the comparisons
4. Aggregation of the comparisons

Pairwise Comparison Matrix

		WT	CT	AS	AT	CP
A	= WT	1	3	4	6	5
	CT	1/3	1	3	5	7
	AS	¼	1/3	1	3	4
	AT	1/6	1/5	1/3	1	3
	CP	1/5	1/7	¼	1/3	1

1 (Equally preferred)
3 (Moderately preferred)
5 (Strongly preferred)
7 (Very strongly preferred)
9 (Extremely strongly preferred) and
2,4,6,8 are the intermediate values.

- **Subjective judgments from the different individuals**

After checking the consistency, the weightages for the different factors are as follows:

Factors		**Weight**
• *Time(WT)*	:	0.452
• *Cost(CT)*	:	0.282
• *Access(AS)*	:	0.088
• *Acceptability(AT)*	:	0.092
• *Competency(CP)*	:	0.05

Technique for Order Preference by Similarity to Ideal Solution (TOPSIS)

- Compensatory Method – Allows tradeoff between attributes

- Selected alternative should have the shortest distance with respect to the positive ideal solution and the longest distance with respect to the negative ideal solution.

- In MCDM problems Ideal solution is one maximise all the profit criteria and minimise all cost criteria.

(Eg.)

- Ranking the e-healthcare units – Objective
- e-healthcare units – A,B,C,D (Alternatives)
- Criteria –

WT: Waiting time in Minutes
CT: Cost of investigation in rupees
AS: Accessibility
AT: Acceptability
CP: Competency

Rating score of an alternative

			WT	CT	AS	AT	CP
X	=	A	15	30	60	90	70
		B	20	50	80	75	90
		C	50	25	100	50	80
		D	30	25	75	80	90

Where :

WT: Waiting time in Minutes
CT: Cost of investigation in rupees
AS : Accessibility(Location of the Hospital)
Expressed in Percentage
AT : Acceptability(Expressed in Percentage)
CP : Competency (Expressed in Percentage)

A,B,C,D : e-Healthcare Units

Thank You !