

What are the key success factors driving EMR adoption in Thailand?

Kanida Charoensri
Dhurakij Pundit University, International College (DPUIC)
14 October 2009
During
13.10-13.45 PM

1

Research Objective

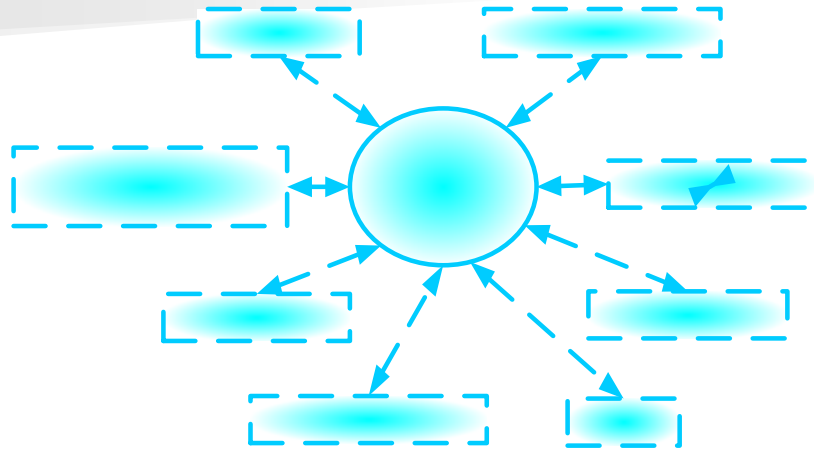


- This research has the following objectives:
 - To review the **health care context** in a modern environment
 - To empirically **compare** the Technical Acceptance Model (TAM)
 - To empirically **validate** the TAM model and Physicians' workload
 - To **formulate** TAM and Physicians' workload

Kanida Narattharaksa Charoensri

2

EMR Components (IOM, 2003)



Kanida Narattharaksa Charoensri

Patient Support

Empirical Background



- In 1960, 30 million inpatients left behind 500 million paper records which is inadequate need of modern medicine.
- 98,000 people died in 1960 because of errors and mistakes that could easily have been prevented in the US.
- Those lost are between 17-29 Billions US\$.

Kanida Narattharaksa Charoensri

4

n

By
S

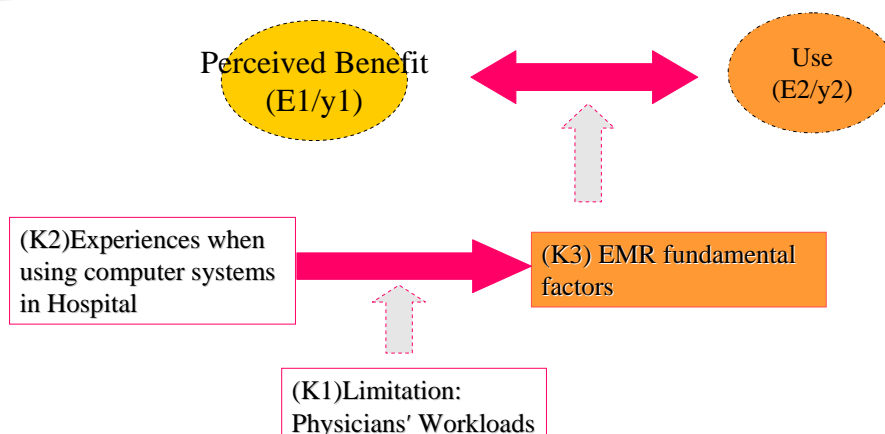
Support

Administrative Pr

Barriers

- Barriers emerge in many domain dimensions. Some barriers included :
 - physicians' workload, losing self control,
 - high Health care costs,
 - lack of standardization of clinical terminology
 - patients' concerns about privacy,
 - disconnect between EMR sponsors, physicians and patients.

Conceptual Model: Factors influencing physicians' perceived benefit and use



Thesis Questions

H_0 = 12 Factors on budget, scope, EMR functions regarding administration, decision support, project communication, involvement, data communication and network, EMR fit to users, training in basic computer skills, train EMR, vendor, and IT experiences **have no correlation with regards to success of EMR.**

H_1 = 12 Factors on budget, scope, EMR function regarding administration, decision support, project communication, involvement, data communication and network, EMR fit to users, training in basic computer skills, train EMR, vendor, and IT experiences **have correlation with regards to success of EMR.**

Statistical design

- Instrument development and statistics as follows:
 - Pilot study
 - Questionnaire survey
 - Description of the statistic such as
 - **descriptive statistics**, mean, median, mode, standard deviation, standard error,
 - **CROSSTABS** to measurement reliability across groups, variance,
 - Reliability was tested by Bivariate correlation on **Pearson's Correlation Coefficients**[\[i\]](#) - Two tailed test of Significance,
 - Research uses **confirmatory factor analysis** (CFA)[\[ii\]](#).
 - **Kaiser-Meyer-Olkin (KMO)** was used to confirm the data using Factor Analysis Technique.
 - Rotation doesn't fix with 90 degrees, using **Oblimin**[\[iii\]](#).

Design population using Stratified Random Sampling



Primary

Beds: 90-120
For 79 Units

Secondary

Beds: 121-500
For 65 Units

Tertiary

Beds: >500
For 25 Units

28 September 2006

Distribution: 2,535

15 Persons in 169 Units
- Community 1,185
- General 975
- Regional 375

Workload/ Spend on Consultation



Workload : measures by first minute patient walks in and last minute patient walks out.

Results:

- 25.9% Spend time < 5 Minutes
- 34.2% Spend time 5-10 Minutes

Part 3. 12 Factors lead to EMR success

- | | |
|---|---|
| 1-Allocated budget | 7-Efficiently Network system and electronic communication |
| 2-Clear goal and scope | |
| 3-The functionality of for general administrative processes | 8-Set the order item to suit with each department users |
| 4-The functionality of the Decision support systems | 9-Training to increase computer skills |
| 5-The efficiency of the project communication | 10-EMR Training |
| 6-Involvement of the medical resources | 11-EMR Vendor |
| | 12-Internal IT professional staffs |

Factor Analysis -1

Pattern Matrix ^a

	Component	
	1	2
F1. Budget allocate	.824	.076
F2. Clear goal and scope	.902	.116
F3. EMR Function on Admins.	.663	-.087
F4. EMR Function on DSS	.805	.005
F5. Effective Project Communication	.698	-.167
F6. Clinical Staffs Involvement	.628	-.222
F7. Better Electric Communicaiton & Connectivity	.326	-.515
F9. Computer Training	-.069	-.941
F10. EMR Training	-.022	-.925
F11. EMR Vendor	-.009	-.790
F12. IT Staffs knowledge	.115	-.756

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 6 iterations.

KMO and Bartlett's Test

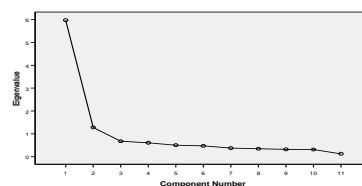
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.910
Bartlett's Test of Sphericity	Approx. Chi-Square	6405.140
	df	55
	Sig.	.000

Component Correlation Matrix

Component	1	2
1	1.000	-.592
2	-.592	1.000

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Scree Plot



Results

- 2 Factors were derived by Confirmatory factor analysis as follows:
 - **Governance** which consists of budget allocated, clear goal and scope, EMR functionalities on hospital administrative and decision support, and involvement of practitioners.
 - **Supporting activities** are related to EMR vendor and hospital information system staff being provided training both for basic use of computers and of the EMR system.

Q & A

Home