

ICASH-A28

**FACTORS RELATED WITH HOSPITAL INFORMATION SYSTEM
(HIMS) POOR PERFORMANCE FROM USER'S EVALUATIONS
THOROUGH MALCOLM BALDRIGE CONCEPT IN KERTHA USADA
HOSPITAL SINGARAJA-BALI**

I Wayan Parna Arianta^{1,*}

¹Public Health Faculty of University Indonesia, Depok 16424, Indonesia

*Corresponding author's email: dr.wayan@kerthausada.com

ABSTRACT

Background: Hospital is developing not only as social entity also for business. As business entity the hospital must gain the profit. To have profit the hospital must increase the productivity and keep the level of patients visit. The hospital should keep the patients and employees satisfaction, with the efficiency within. Use hospital information management system (HIMS) will be helping. HIMS must have good performance to make satisfy the users, either internal or external. Factors related are: strategic planning which is involve all of the stakeholders, practice and accompaniment while implementation, benefit for business process (quality control, integration, monitoring & evaluation, with full support from the hospital management. This study wants to see the entire factor by qualitative study associated with Malcom Baldrige Concept.

Aims: This study is aimed to find out factors related with HIMS poor performance from Malcom Baldrige concept including leadership, strategic planning, focuses on patients-customer and markets, measurement-analyze and knowledge management, work-force focus, process management, and result.

Methods: This study was done by a qualitative study to find out entire factors related with Kertha Usada HIMS poor performance thorough Malcom Baldrige Concept.

Results: The key informant reveals the factors related with Kertha Usada HIMS poor performance are: difficult to operate, inadequate training and accompaniment, couldn't integrated, didn't gave benefit on works, no incentive, and less support from the management.

Conclusion: The hospital should have good hospital governance in the used of Hospital Information Management System.

Keywords: Hospital Management Information System (HMIS), Malcolm Baldrige, hospital good governance, Kertha Usada Hospital Singaraja-Bali.

BACKGROUND

The era of globalization and free markets encourage the development of business, including those engaged in the hospital [1,2]. Today the hospital has grown not only as a social entity but also as a business entity [2]. As the business entities, hospitals are required to not lose money [1]. The hospital is known as a business with capital intensive, labor-intensive, as well as the risks, and by itself, if not managed properly then it has great potential for loss [1-7]. In order not to lose, the hospital should increase productivity and maintain the level of patient visits [2]. Everything will be achieved if it is able to realize the factors - related factors, namely: to maintain and employee satisfaction, and efficiency of service [3,6,8,10].

To realize the factors related to productivity and the level of patient visits required support facilities for hospital services. Consists the use of hospital management information system (HMIS). HMIS used should be able to satisfy users [1,4]. The user in question not only in internal (employees, medical staff, and management) but also external (patients, health authorities, local government) [1]. This is because the hospital is located in the health system along with other hospitals and government / health authority as a regulator [5,9].

HMIS user satisfaction will have a positive effect on the success of the use of HMIS. Factors associated with HMIS using satisfaction are: ease of operation, the output provides benefits in employment, capable of integrating services to improve productivity, incentives in the use, and the full support of the hospital management [3,5,11].

Kertha Usada is private hospital which is located in Singaraja-North Bali-Indonesia. It has 120 beds and 300 staff (medic, paramedic and other supporting staff). The hospital has been using the hospital management information system (HIMS) since 2012. Starts from registration unit, inpatient-outpatient unit, and accounting. By using HIMS, Kertha Usada hospital should have positive impact such as: increase efficiency and effectiveness in work process as the HIMS can produce accurate-real time and integrated data report, on line monitoring and evaluation process. It will reduce the labour needed, as the HIS can improve efficiency on human resources. HIMS must satisfy both internally and externally. In fact, after almost 4 years running, HIMS performance in Kertha Usada Hospital is still poor and inadequate. This can be seen from many problems and user complaints were found as showed from survey result on internal staff satisfaction in Kertha Usada HIS implementation. The main problem is HIMS doesn't give positive results as the hospital expected.

This study tried to look factors related with HIMS poor performance from users evaluations qualitatively adapted from Malcom Baldrige Concept [12]. This concept chosen because its capability to find problems on six criteria of management information system in Kertha Usada public hospital (leadership, strategic planning, customer focus, measurement-analyze-knowledge management, human resource focus, process management, and result) that cause worse outcome in management information system in Kertha Usada public hospital. Furthermore, it also shows many factors which lead to successful application of information system in Kertha Usada public hospital.

METHODS

This research use qualitative assessment of factors that related to worse performance of management information system in Kertha Usada public hospital, user will be evaluate according to Malcolm Baldrige concept. The key informant selected from inclusion criteria: top level management who involved in the development of the HIMS since it begins on 2012. It is include commissioner, director, internal affair supervisor, head of medical department, head of nursery department, head of operational department, head of financial department, head of accounting department, head of quality improvement unit, and head of registration unit with total 9 person informant (2 men, 8 women). Each of the informants was asked regarding Malcolm Baldrige criteria in HIMS implementation.

In this study there are two types of data; primary and secondary. Primary data collected from: in-depth individual interview, and focus group discussion. Secondary data comes from observation; see the HIMS implementation in Kertha Usada Hospital and policy documents related with HIMS, which are:

- a. Vision and mission of the Kertha Usada Hospital;
- b. Organization structure of the Kertha Usada Hospital;

- c. Standard procedure operational related to the HIMS implementation, includes: input, process, output, and outcome;
- d. Rewards and punishment to the employees regarding The HIMS implementation;

Both of data types are collected from October until November 2016. Data analyzes by using Miles and Huberman methods, includes 3 main steps; reduction, presentation, and conclusion.

Data collected were validated by using triangulation method, to ensuring the actual condition. All information from each of the informant is checked again by; compare the data result between interview and observation, compare between individual interview and focus group discussion, and compare between interview and observation result with document related.

RESULTS

Table 1. Subject Characteristic

No.	Department	Duty	Age (yrs)	Sex	Education	Length of work (years)
1	Commissioner	Commisioner	33	Female	Bachelor of Business	10
2	Management	Director	33	Male	General Practitioner	7
3	Management	Head of medical department	31	Female	General Practitioner	4
4	Management	Head of nursing department	38	Female	Bachelor of nurse	19
5	Management	Head of accounting	37	Female	Bachelor of acc	10
6	Management	Head of financial	41	Male	Bachelor of economy	30
7	Management	Head of operational department	37	Female	Bachelor of accounting	19
8	Management	Internal chief supervisor	51	Female	Ners	30
9	Quality Assurance	Head of QA	39	Female	Bachelor of Public Health	4
10	Management	Head of registration unit	33	Female	Bachelor of language	5

Characteristic of the subject there are 8 females (80%) and 2 males (20%) as the key informant. They have wor, with permanent status, in Kertha Usada Hospital as a heads in the unit. Each of the informants is minimum S1 graduate, with minimum 3 years' experience.

Table 2. Initial assessment on Kertha Usada HIMS

No.	MB category	Point	Point (max)
1.	Leadership	42	120
2.	Strategic planning	21,25	85
3.	Customer focus	4,25	85
4.	Measurement, Analysis, and Knowledge	4,5	90
5.	Workforce focus	29,75	85
6.	Operation focus	42,5	85
7	Result	202,5	450
Total		346,75	1000

According Malcolm Baldrige Assessment Criteria, Kertha Usada HIS performance is in poor performance. There are 3 from 4 policy document related HIS were found (75%). There are 2 document from 3 policy document found (66%) were incomplete (not 100% appropriate based on the document require).

Table 3. Policy Document Related Hospital Information System

No.	Document	(Yes/No)	Explanation
1.	Vision and mission of the Kertha Usada Hospital;	Yes	Incomplete (HIS not include)
2.	Organization structure of the Kertha Usada Hospital;	Yes	Incomplete (HIS not include)
3.	Standard procedure operational (SOP) related to the HIS implementation, includes: input, process, output, and outcome;	Yes	Incomplete (only input process)
4.	Rewards and punishment to the employees regarding HIS implementation;	No	Incomplete (only input process)

Leadership

There are no policy regarding HIS. Relation between hospital vision and value with HIS implementation are not known. Therefore, senior leader didn't have any focus to use HIS and never communicate with the entire workforce and key customer regarding the importance of HIS. The impacts of HIS use for hospital governance are not understood.

Strategic Planning

Since the HIS values and mission are not well known even in senior leader, the importance of HIS in hospital strategic planning are not understood. The hospital strategic planning never involve the HIS participation on it, such as: collect data from the hospital service as input or measures the actual hospital performance as benchmark.

Customer and Market Focus

HIS is implemented without obtain any single information from the user. Customer's engagements are very important in hospital development in the future. HIS never build how to engage the customer (their satisfaction or dissatisfaction) and building relationship as well as determine product offerings, market segments, and reduce the customer complaint.

Measurement, analysis, and knowledge management

HIS couldn't measure, analyze, and improve the hospital performance. It doesn't produce appropriate data to assess, analyze, and understanding actual and future hospital performance. Hardware and software HIS didn't guarantee if it reliable, secure, and user-friendly.

Workforces

HIS couldn't asses, workforce capability and capacity needs. There are no engage with the staff, inadequate incentives in the use of HIS to improve motivation. It is also lack of HIS preparation (socialization, education and training) and minimum accompaniment during implementation.

Operations

No adequate impact of HIS in hospital service. It can't determine key process and work process requirement, integration process (internal or external), monitoring and evaluation (daily-monthly-yearly report), and cost with quality control.

Business Results

There are poor results from the HIS for the hospital service process (leadership, strategic planning, and focus on customer-markets, measurement-analyze-knowledge management, work-force focus, and process management).

DISCUSSION

Evaluation from the key informant as users of Kertha Usada HIMS shows it's in poor performance. HIMS who exist for almost 4 years in Kertha Usada Hospital, early result stage is not acceptable. Immediate evaluations needed by HIS. Factors related with its poor performance can explained thorough Malcolm Baldrige. Since the leadership is not shown on HIMS, it's made negative impact to the others criteria. From the observation on the document related with HIMS, there are in adequate quantity and quality of it. Easy to understand that the combination between HIS poor level by Malcolm Baldrige Criteria, and inappropriate HIMS document than its needed make the Kertha Usada HIMS has poor and inadequate performance.

How is Kertha Usada HIMS can be improve?. The key informant reveal quality improvement in Kertha Usada Hospital Information starts from improving leadership regarding HIMS than continued in improve strategic planning, focuses on patients-customer and markets, measurement-analyze and knowledge management, work-force focus, and process management. With knowing the strength from each of the criteria, we can use for OFI (opportunity for improvement), with specific timeline (goal, action plan, time, and person in charge). At the end it will give expected result, which is good Hospital Information System. Therefore the key informant believes the hospital should change the HIMS vendor with the other ones who can meet all of the criteria in Malcolm Baldrige, complete with adequate HIMS document: policy, regulation, and standard procedure operational.

CONCLUSIONS

Baldrige assessment established guidelines or framework for improvement. It's not only for the overall organization improvement also for one of the organization program. In Kertha Usada Hospital Information Sytem by using Malcolm Baldrige Assesment Criteria show is in poor level. By using Malcolm Baldrige Self Analysis Assesment Worksheet there are many opportunities for HMIS improvement suggest from the key informant. Kertha Usada Hospital Information System should redesign by involving using seven of Malcolm Baldrige criteria. Change the HIMS vendor by choosing the ones who can meet the criteria suggest as initial step. Further study needed to see Kertha Usada Hospital Information System quality improvement after redesign.

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