The Knowledge Management Maturity Model for Indonesian Hospital

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The hospital is a primary health care institution in a country, so the hospital must be able to offer optimum performance services for every citizen. In this study, efforts will be made to improve the performance of hospital services through an implementation method for knowledge management system that is of course adapted to current hospital conditions, so the authors propose the Knowledge Management Maturity Model to determine which strategies are appropriate for hospital use based on their maturity level. The author collects data from 33 hospitals to verify this model, where the collected quantitative data has been verified (validity and reliability test). The results of this study are a framework for identifying knowledge management maturity for hospitals and also strategic recommendations for improving the performance of hospital services.

Keywords : Knowledge Management Capability, System, Framework, Maturity Model.

I. INTRODUCTION

The concept change that improvement due to changes in the capability of social interaction, technological and knowledge leadership has created the requirement to develop new things in health systems based on knowledge that can meet the demands of the international standard of health system more effectively and also serving patients by following to the trends Hospital management information system for the future must be improved to support the management and processing of knowledge in hospitals, but it also beyond hospital limits, for example, the concept of telemedicine or electronic health. The hospitals and health industries are depending on knowledge management more than other sectors due to the extraordinary of attention to the patient safety.

Healthcare knowledge management is a systematic approach to create, model, share, implement and translate knowledge to develop the patient service quality. The efforts to develop the patient services have triggered the hospitals to

manage variative of portfolio of information systems, which it may have varying degrees of platform and interoperability.

The effective of knowledge management system develops on education and communication and thrives in hospitals that promote collaborative learning that can running in hospitals. This knowledge management system records the knowledge as history of past experience and knowledge that arises in the exchange of knowledge between knowledge workers interested in learning. KM as a paradigm that has stimulated a rethinking of information management and a change of focus by trying to create intelligent systems by creating the tools for smart people. It will make the knowledge management as an attractive strategy to many hospitals.

While knowledge management relies heavily on explicit knowledge, so the knowledge management system creates a new dimension, namely the need to transform the tacit knowledge by focusing on people and improving their skills by developing communication, knowledge transfer and collaboration. Knowledge management refers to activities for creating, managing, and sharing explicit knowledge (such as reports, policy statements, procedures, practice guidelines, books, journal articles) and tacit knowledge that encourages people to gain the knowledge they gain through their knowledge to share experience.

II. METHOD

The types and sources of data / information in this study were collected from two sources, primary data and secondary data. Secondary data were collected and retrieved by the Indonesian Ministry of Health and various related sources. The primary data come from empirical studies. Tables 1 and 2 below list the data types and sources used in this study.

TABLE- I: SECONDARY DATA TYPES AND SOURCES

Data	Data Type	Data Source
Hospital's number and class distribution data in Indonesia	Qualitative & Quantitative	Directory and Handbook of the Indonesian Ministry of Agriculture
Data concerning problems that develop as a result of the development of hospital problems (Netnography)	Qualitative	Online media
The role of Health Workers	Qualitative	Law of the Republic of Indonesia No. 6 of 1963
National Health Indicator Data (Republic of Indonesia)	Qualitative	Statistics Indonesia
Medical practice and professional liability of doctors	Qualitative	Law of the Republic of Indonesia No. 29 of 2004.

Data	Data Type	Data Source
The Role of hospital • Duties & function of hospitals • Hospital's type & classification	Qualitative	Law of the Republic of Indonesia No. 44 of 2009.

TABLE- II: PRIMARY DATA TYPES AND SOURCES

Data	Data Type	Data Source
Problems / issues that occur in the hospital. Indicators of research variables (*confirmatory*)	Qualitative	• Chair of Indonesian Hospital Association • Director / Head of hospital • Professional (KM consultant)
Data was collected on the basis of a questionnaire to explain in a descriptive way the perceptions of medical staff and paramedics about knowledge management skills in hospitals	Qualitative	Medical staff and paramedics at the hospital

Data collection techniques used in this study are shown in Table 3 below:

TABLE- III: DATA COLLECTION TECHNIQUES

No	Data Collection Methods	The Purpose	Media
1.	Interviews	Gain insight about the implementation of knowledge management in hospitals.	*Off-line with practitioners and experts in the field of knowledge management.*
		Gain insight about hospital management	• *Off-Line with the Head of Education and Training* • *Off-Line* with Dr. Sri, hopsital operational director
2.	*Focus Group Discussion* (FGD)	Get information about the condition of KM skills in hospitals in Indonesia	• *Off-line with experts in the field of hospital management.*
3.	Observation	• Get information about hospital's condition in Indonesia • Obtain secondary data supporting research.	• *On-line, online hospital data website* • *On-line, Website of the Indonesian Ministry of Health.*
4.	Questionn	Get information about	*Off-line* with Medical staff

No	Data Collection Methods	The Purpose	Media
	aire	the conditions of knowledge management capabilities	and paramedics

Based on the formulation of the problems that have been carried out, the purpose of the research and the reference to the specified methods, it is hoped that this research can describe the categorization of the knowledge of the medical activities and the management process of the knowledge. After that, a mapping of the strategy will be carried out to obtain a solution model, the process of preparation of the operation strategy and the development of an action plan.

The complete design of the solution will take the following steps:

Problem formulation and research objective

Based on problem's formulation and the research objectives, the purpose of this study is to answer the question of what should be done by Indonesian hospitals, in particular DKI Jakarta, to achieve the expected service performance through knowledge management capabilities.

2. Strategy Mapping

In this stage, significant solutions will be identified based on the results of the analysis. Based on this strategy mapping, it is then limited to the operationalization of solutions recommended by hospitals to achieve service performance.

3. Strategy's Operationalization

Based on the generated strategy mapping, the operationalization phase then prepares the steps to be taken by the hospital to achieve the service through knowledge management capabilities. The priority in preparing for the operationalization of this strategy is determined based on the significance of the solution variables.

4. Action Plan

Based on the mapping and operationalization of the strategies carried out, the hospital can take an action plan, such as: counseling, person in charge, implementation time and the necessary resources.

III. RESULTS AND DISCUSSION

Some of the results from the previous studies that have been published through journals related to this study and become references can be seen in table below.

TABLE- IV: THE PREVIOUS STUDIES

Authors	Contexts	Type	Title	The Results
(1)	Shiraz University of Medical Sciences hospitals.	cross-sectional analytical	Evaluation of the implementation of the knowledge management processes in Shiraz University of Medical Sciences teaching hospitals	This research investigated different dimensions how the management of knowledge processes in teaching hospitals of Shiraz University of Medical Sciences

(2)	-	Literature review	Knowledge Management as an important tool in Organisational Management: A Review of Literature.	This research explained about the importance of knowledge management in organization. The organization need to manage of knowledge as a critical ingredient for effective organization for achieving sustainable competitive advantage for strategic purpose.
(3)	Mobile Telecommunication Companies in Jordan	Quantitative (Verification)	The Role of Knowledge Management Infrastructure in Enhancing Innovation at Mobile Telecommunication Companies in Jordan	The research aimed to identify the role of knowledge management infrastructure in organization, and it's included the structure, culture, human resource, the physical environment and information technology aspects for creating innovation in organization, especially the mobile telecommunication company in Jordan.
(4)	Malaysian public healthcare organization	Quantitative (Verification)	Developing Process Model for Management of Knowledge-Intensive Organization – A Case Study of a Hospital	This research explained the how the knowledge management running or implementing in public healthcare organization at Malaysia.
(5)	Hospitals	Quantitative (Verification)	Perception of organisational culture and knowledge management in hospitals using different management models	This research analyse the relationship between the roles of management of knowledge and culture (organization), the context in hospitals.
(5)	healthcare institutions	Quantitative and cross-sectional	Knowledge management in Portuguese healthcare institutions	This research will describe the evaluation of the roles of collaborators in healthcare institution and the correlation to the process of management knowledge in the organization.
(6)	Al-Azhar University in Palestine	Quantitative (Descriptive)	Measuring knowledge management maturity at HEI to enhance performance-an empirical study at Al-Azhar University in Palestine	The purpose of this research explained the framework how to assess the management of knowledge maturity level at higher education institution and how to determine the knowledge management variables that can be influence to the organization performance. The case study of this paper on Al-Azhar University and this research used the model of Asian productivity.
(7)	-	Literature review	Knowledge Management in Startups: Systematic Literature Review and Future Research Agenda.	This research explained the systematic literature review for the several topics in knowledge management, and the context or object of this research in start-up companies. In this paper provided the framework with comprehensive things to identify literature gaps with the previous research. The research results identify the several factors that influencing implementation of knowledge management in start-up companies, event positively or negatively. The main things of system of knowledge management implemented in organization is to improve their performance.
(8)	Hospital	Quantitative	Knowledge Management Orientation: An Innovative Perspective to Hospital Management	This research explained about the procedure or process how the knowledge management can trigger the innovation in the context of hospital system.
The Current Research	Hospital	Quantitative	-	-

Knowledge management in health organizations, and in hospitals in particular, may have the primary responsibility of directing and allocating personnel, information, equipment and the right decisions along with the conditions and needs of the organization. This can be very useful for achieving the mission and goals of the organization. This clearly plays a big role for the future of the organization. Therefore, getting closer to the benefits of knowledge management and its establishment in correlation with the needs of the organization leads to better performance and high impact and attention for the organization.
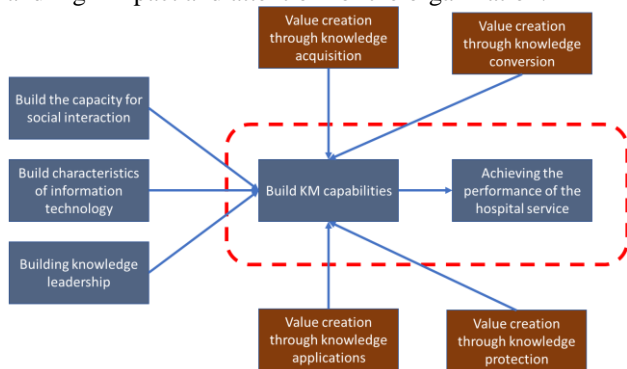

Fig. 1.Strategy Map to Achieve Hospital Service Performance

Based on figure 1 above, it can be described:

a. The achievement of the performance of the hospital service consists of promised services (reliability), punctuality in the delivery of the patient service and speed to make medical decisions (response capacity), knowledge and capacity to develop the effectiveness of the services (competence) of the patient, educated attitude to work and care for patients (courtesy), honest attitude to work and care for patients (credibility), management advice related to medical services (understanding for clients), security guarantees for services provided (security) require knowledge management capabilities.

b. As described above, the performance of hospital services will be more assured if the development of the knowledge management capabilities developed is able to deliver excellence, accompanied by value creation from acquisitions, conversions, applications and the protection of knowledge.

c. Efforts to achieve service performance through the implementation of knowledge management.

b. Based on this strategy mapping, the strategy is operationalized with the preparation of a framework that can be used as a guide for hospitals implementing knowledge management based on hospital service (see Figure 2 below).
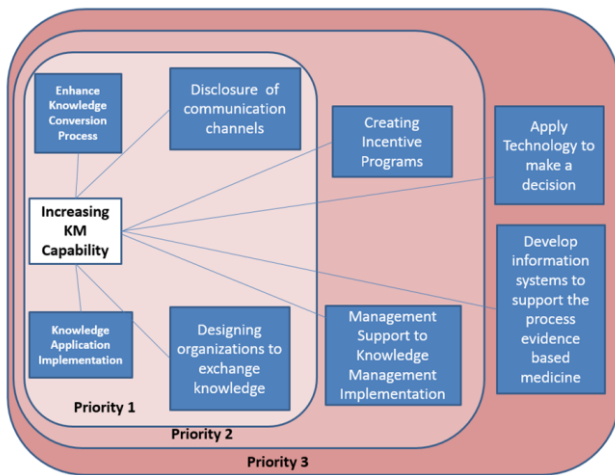
Fig. 2.KM Framework Solution Model for improving home service performance

The previous KM framework solution model is derived from the research model (figure 1). This model illustrates the efforts that hospitals must make in DKI Jakarta to improve knowledge management capabilities. To determine the top priority of DKI Jakarta hospitals in order to improve knowledge management capabilities, first consider the importance of the role of the independent variables in the research model (Figure 1), which play an important role in Knowledge management skills at the hospital will be placed at the top of the hospital's priority. This research shows that capacity for social interaction capacity has the most important role of influencing knowledge management skills in hospitals, so efforts are needed to improve the capacity for social interaction, especially the dimensions that are still considered weak compared The communication channel culture as well as the dimensions of the hospital's organizational structure should therefore have a significant impact on the improvement of knowledge management skills in hospital at DKI Jakarta. In this priority, the hospital must also focus on the most important dimensions that are considered low from the knowledge management option variable itself, in this case the dimensions that are still considered low are knowledge conversion and application of knowledge.

While the second priority is determined according to the following independent variable whose role is evaluated below the variable of social interaction capacity, that is, the variable of knowledge leadership, in this variable there are two dimensions that are still considered low, namely, the incentives of the program and the planning of human resources in hospitals related to the support of knowledge management in hospitals. Therefore, this second priority focuses on the implementation of incentive programs and also generates administrative support for the implementation of knowledge management in hospitals.

While the third priority is related to the independent variables of the characteristics of information technology in hospitals, in this variable if there are two dimensions that are still considered low and important to be applied by the hospital, that is, the technology which can support medical decision-making and the second related to the dimension of the information infrastructure related to the aspects of evidence-based medicine. These two dimensions are still considered low and are in the third priority because the new hospitals can use this technology if the hospital has more than

80% of explicit knowledge, one of the efforts made to increase this explicit knowledge is to take priority 1 and two.

In general, the solution model produced in this study illustrates three priorities, with each layer describing the priorities that hospitals can apply to build knowledge management skills in hospitals. The low distribution of this research model is also derived from the capability maturity model integration theory that describes the maturity model of software development adapted for the development of the maturity model of knowledge management in hospitals. On the first layer or priority is needed for hospitals in DKI Jakarta that are in the initial phase, where hospitals must organize the conversion process and application of knowledge and also hospitals must open lines of communication and design structures that exchange knowledge.

Where in second layer (defined), as hospitals in DKI Jakarta already have standardized infrastructure, it is necessary to put together knowledge leadership in the form of management support and program incentives that can lead to an increase in knowledge management skills in hospitals.

In the third layer (optimized), what hospitals in DKI Jakarta should do is the need to use technology to help make medical decisions based on the knowledge stored in the hospital knowledge repository. And the technology that can support the coding and text mining process based on the evidence-based medicine process that takes place in the hospital.

TABLE V: KM FRAMEWORK DESCRIPTION

Scale	1st Priority	2nd Priority	3rd Priority
Level	Initial	Defined	Optimized
General hospital condition	Silo's knowedge	Sharing knowledge and collaboration individually	Sharing knowledge and collaboration on a team basis
	Coordination and infrastructure that are not yet standardized or not	Standardized infrastructure	Consolidated infrastructure
	Independent learning process	The whole process has been documented	Strategic analysis has been carried out
	Be aware of the knowledge possessed	Knowledge is structured	Knowledge has been managed for strategic purposes

While the analysis of the condition of hospital management capabilities, based on the results of the study that has been conducted, is shown in Figure 3 below, the steps are taken to analyze the condition of knowledge management capabilities in hospitals. In the first stage, an assessment of the condition of hospital management is performed using the reference frame in the table below. After an evaluation, the next step is to calculate the average value obtained for each layer. The numbers generated from this calculation will be the basis for determining the correct strategy that the hospital will use.

TABLE VI: MAP OF KNOWLEDGE MANAGEMENT MATURITY LEVEL IN HOSPITAL (LAYER 1)

Aspect	Scoring Instrument	Observed	
		Target	Measurement
Enhance Knowledge Conversion Systems		Medical personnel, Paramedics	
	Integration of sources and types of knowledge of medical personnel and paramedics.		The integration of sources and types of knowledge
	The process of renewal of knowledge.		The existence of a knowledge renewal process
	Learning process from the past.		learning process from the past
	knowledge audit process		knowledge audit
	The process of disseminating knowledge		The occurrence of the process of disseminating knowledge
	The process of exchanging knowledge with external parties.		Exchange of knowledge with external parties running
	The process of transferring hospital knowledge into individual knowledge		The occurrence of transfer of RS knowledge into individual knowledge
Knowledge Application Implementation			
	The process of using feedback from past experiences		Use feedback from behind the experience
	The process of absorbing individual knowledge becomes hospital knowledge		The absorption of individual knowledge becomes hospital knowledge
	The process of absorbing the knowledge of hospital partners becomes hospital knowledge		The absorption of RS partner knowledge becomes the knowledge of the hospital
	The process of using knowledge for problem solving		There is a process of using knowledge for problem solving
	The process of mapping knowledge with real conditions		The process of matching knowledge with real conditions
	The process of applying knowledge storage		knowledge storage has been done regularly
	The process of using knowledge adapted to hospital strategy direction		The use of knowledge has been adjusted with the direction of the hospital strategy
	The process of connecting sources of knowledge with existing problems		There is a process that connects knowledge sources with existing problems
Disclosure of Communication Channels			
	Participation in knowledge transfer		Participation in knowledge transfer
	Support for cooperation		Support for cooperation
	Support for discussion		There is support and facilities for discussion
	Awareness of the benefits of working		Level of awareness of the benefits of collaborating
	Openness of communication channels in hospitals		There is communication channel openness
Designing Organization to Exchange Knowledge		Hospital leadership	
	Department structure		The departmental structure in the organization supports interaction and sharing experiences / ideas
	Organizational structure in doing work		There is support for the organizational structure in carrying out work collectively
	Organizational planning for knowledge exchange		Organizations are designed to facilitate the exchange of information

Table 6 describes the instrument map that will be used to measure the maturity level of knowledge management in hospitals. Table 6 shows an assessment, tool used by the evaluator in assessing the state of knowledge management capabilities in the hospital. Table 6 also lists search queries in terms of goals to be evaluated and the scope of the rating. In addition, table 6 contains evidence in the form of supporting documents that must be prepared by the hospital when conducting the assessment.

To determine the classification of each of the above instruments, three measurement scales are used, namely, 0, 5 and 10. When these three scales are adapted from the scale currently used for hospital accreditation evaluations (version 2012 of the accreditation of the hospital). The hospital will obtain a value of 10 if it is higher than 80% of the standard already met, if the standard 20% -79% of the hospital is met, then you will obtain a value of 5, while if it is <20% the standard is met, the hospital will obtain a value of 0.

The standard evaluation scheme used to determine the strategies to be implemented at the hospital is presented in Table 7.

The below table lists the priority strategic steps to be taken by the hospital based on the hospital's current knowledge management capabilities. If, based on the average calculation obtained from the examiner's evaluation results for each shift, the hospital's policy priorities must be established in accordance with the conditions of current knowledge management capabilities.
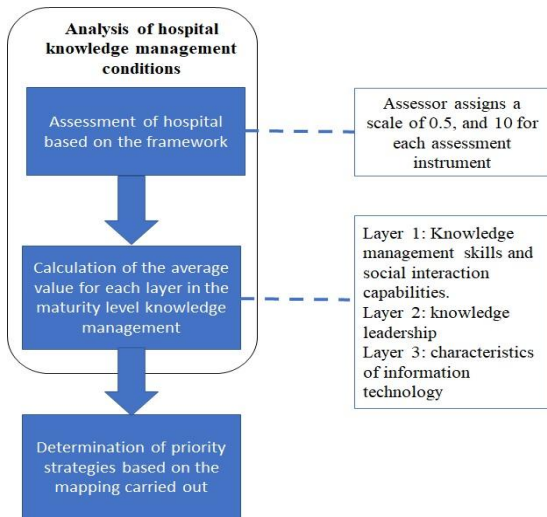
Fig. 3. Steps for Determining Hospital Strategies

TABLE VII: DETERMINATION OF STRATEGY PRIORITIES FOR HOSPITALS

Calculation Value Conditions of Knowledge Management Ability			*Maturity Level*	Description	Priority Strategy for Hospitals
Layer 1	Layer 2	Layer 3			
<5	<5	<5	Initial level 0	Hospitals at this level are hospitals with little social interaction skills. Support for knowledge management by hospital directors is still relatively low and no information technology is used to support medical activities.	S1 → S2 → S3
<5	<5	≥5	Initial level 1	Hospitals at this level have invested on the information technology side, but still have limitations in the ability to social interaction and the lack of leadership support for knowledge management	S1 → S2
<5	≥5	<5	Initial level 2	Hospitals at this level have little ability for social interaction between medical staff and paramedics. Hospitals at this level have not maximized the use of information technology, but hospital managers already have a dedicated knowledge management program.	S1 → S3
<5	≥5	≥5	Initial level 3	Hospitals at this level have invested in information technology and have also received management support for knowledge management, but the ability to interact socially and medically between medical and medical staff is still low.	S1
≥5	<5	<5	Defined Level 1	Hospitals at this level are hospitals with good social interaction skills, but hospital management support for knowledge management is still relatively low, and this hospital has not used information technology to support medical activities	S2 → S3
≥5	<5	≥5	Defined Level 2	Hospitals at this level do not yet have leadership support in terms of knowledge management, but the ability for social interaction and the use of information technology are rated as good.	S2
≥5	≥5	<5	Defined Level 3	Hospitals at this level received support from the knowledge management leadership, the ability of social interaction between medical staff and paramedics that are already running, but the investment or use of information technology was not optimal (in the context of the investment).	S3
≥5	≥5	≥5	Optimized	Hospitals at this level are already at the optimal level, suggesting that the ability to social interaction, knowledge leadership and the use of information technology to support hospital services are optimal	-

Notes:
S1: Strategy by implementing priority 1
S2: Strategy by implementing priority 2
S3: Strategy by implementing priority 3

Figure 2 above shows a model of a solution that hospitals can use in an effort to improve knowledge management skills in hospitals throughs:

3.1 1st Priority
3.1.1 Enhance Knowledge Conversion Process
Converting tacit knowledge into explicit knowledge (externalizing) and using this explicit knowledge to increase tacit knowledge (internalization) is a critical step in the knowledge spiral process. As we know, technology in the field of medicine is growing rapidly. Therefore, hospitals will be successful if they constantly create new knowledge,

disseminate it to all their organizations and quickly adopt their latest technologies and services, especially in the field of medicine. The important key here is to obtain new knowledge in the hospital is not a special activity (such as research in teaching hospitals) but a part of the daily activities of medical personnel and paramedics in the hospital. Although the process of socialization and combination in the hospital can work well if the externalization and internalization of knowledge in the hospital go well.

3.1.2 Knowledge Application Implementation

The first mentality that must be understood in the implementation of KM is the medical personnel and the paramedics who use the knowledge that the hospital possesses to achieve the expected performance in the hospital service. Of course, when applying knowledge in hospitals, the expert's support in the field also plays a role as a source of knowledge, knowledge gathering and innovation team in the hospital. The application of knowledge means that the knowledge that a hospital possesses can be used to support the resolution of the problems it faces. One of the keys to the success of knowledge management is that one of them is how to channel knowledge throughout the hospital. One way that hospitals can do to increase the application of knowledge is through the implementation of a community of practice (CoP); Of course, this community of practice must have a purpose, criteria of success, focus on knowledge and values and norms.

3.1.3 Disclosure of communication channels

It can help to visualize the capacity of social interaction in communication channels and organizational structures using SNA (Social Network Analysis) to describe social relations and the flow of information in a quantitative and statistical way. This visualization will make it easier for hospitals and hospital leaders to map the flow of information, as well as to know the information barriers that may arise, including key players who have high access, and be able to increase efficiency of the information flow. With the SNA, it will help show a pattern of relationships for the way hospital workers, especially medical staff and paramedics, interact with each other to share knowledge. Because the pattern of formal relationships in the organizational structure does not describe the actual pattern of relationships within the organization. With the use of this SCN, later the organization can easily see the key player in the hospital. For example, who is the person with the most access as a source of knowledge or with whom you share the knowledge.

3.1.4 Designing organizations to support exchange knowledge

The organizational model of knowledge management that can support the exchange of knowledge in hospitals is basically divided into two (2), the first is known as the knowledge management committee and the second is the knowledge management unit or department. The knowledge management unit or department has a formal and structured organizational structure where duties and responsibilities are clearly visible. While the knowledge management committee is only a partner until knowledge management can become a culture in the organization. The knowledge management unit or department will be more focused on the management of knowledge management activities and will not be affected by other operational activities. While in the early stages of implementing knowledge management, the hospital can start with a knowledge management committee that serves a support team function that is used to ensure that knowledge management implemented in a hospital continues to function all right. In addition, knowledge mapping is important to show the explicit knowledge that the hospital possesses. Knowledge maps in hospitals should be compiled based on the document data that is owned by the hospital and the contributions of experts or experts in the field, that is, people who have knowledge and experience. This knowledge map will be subjective because it is partly an expert vision. For this reason, in the appointment of the expert in the matter in the hospital that will participate in the compilation of the knowledge map, it is a critical factor for the hospital because it implies the level of accuracy of the knowledge map that will be produced. Through the hospital. When making a knowledge map in hospitals, of course, it will include: the main business processes in the hospital (medical process), the second includes strategic activities and the third includes important information about the organization. This knowledge map can be equipped with various support components, such as: documentation of medical and paramedical personnel, experts, best practices (evidence-based medicine), mastery of knowledge of medical and paramedical personnel (totally dominated, partially controlled), not yet mastered, and also methods to develop appropriate knowledge for medical and paramedical personnel (training, coaching, mentoring, on-the-job training, job rotation, assignment, online learning, reading books, case studies or team learning). Knowledge documentation through knowledge maps is the most important for hospitals, since knowledge will be shared more easily, it will be used as a reference to make medical decisions and will be updated by knowledge workers and experts in the field. validate that knowledge. With this knowledge mapping, you can inform the hospital where this knowledge is located, who is the source of experience, to what extent knowledge is mastered and what methods are effective from the hospital to develop the knowledge development in the hospital.

In addition to knowledge mapping, hospitals must also make the knowledge taxonomy necessary to facilitate knowledge management in the organization. With a knowledge taxonomy in hospitals, the knowledge documentation will be placed in separate spaces according to the criteria used by the hospital so that the knowledge is easily identified. The stages of this preparation can begin with: the initial data collection (organizational structure, knowledge mapping and the types of explicit knowledge documents that exist) that will be used for the categorization of knowledge; the second is to determine the classification criteria for each level in the hospital Main function, details of the function, important knowledge that is needed and knowledge documents), the third is the structuring of the knowledge that the hospital possesses (dictionary of knowledge and fourth is the creation of knowledge taxonomy maps).

3.2 2nd Priority

3.2.1 Management Support to Knowledge Management Implementation

The results of the KM methodology in hospitals must be measurable, with the ability to provide benefit measurements, whose impact can be used to cover knowledge gaps in the hospital. When implementing KM in hospitals, it is important to make a KM declaration, which is the basic principle in the implementation of KM in hospitals. The basic concept in knowledge management is that knowledge is managed in harmony with the needs of the hospital (knowledge strategy link) and that the development of knowledge must also be aligned with organizational development (gap between knowledge and strategy map).

You can start the leadership of the administration from the formulation of KM statements, which will be the basic principle in the implementation of KM in hospitals. As Health Canada has applied, it has the statement "Health Canada analyzes, creates, shares and uses health knowledge to maintain and improve the health of people in Canada: (1) through their knowledge processes and strategies that adapt to advance the department's business lines; (2) as a model of a knowledge organization; (3) as a leader, facilitator and partner, in the development of a Canadian health infrastructure, responding to national and international trends and opportunities". After that, the support of the administration can be demonstrated through the KM strategy implemented by the hospital. The basic concept in knowledge management is that knowledge is managed in harmony with the needs of the hospital and the development of knowledge is certainly in line with the development of the hospital.

The support of the administration for the implementation of knowledge management in hospitals can be strengthened through the existence of knowledge management agents who act as agents of change in the application of knowledge management. This agent will be a role model in the hospital. So that you can encourage the process of knowledge flow to all hospitals effectively, they can also help facilitate the knowledge exchange sessions that will take place in the hospital, including teaching how to use knowledge management tools and how to use them. Basically, knowledge management will succeed in the organization if it has the support of knowledge workers. Because basically this management support is an initial initiative in KM implementation.

This motivation will arise if the interested person obtains a reason. After that, a good environment will be created in the hospital when everyone can find their own reasons. Hospitals should help someone to realize that the exchange of knowledge is important to them and to the organization. The implementation of the KM must adjust to the situation and conditions of the company, the adopted culture and the financial capacity of the hospital. The application must be in accordance with the uniqueness of the hospital. For hospitals, the important thing is to awaken the motivation of the people and a strong commitment on the part of the medical staff and paramedics to develop the KM.

Learning in hospitals should be done with approaches that improve internal communication, promote multifunctional teams within the hospital and create learning communities. Learning is an important part of KM to get the knowledge or experience gained through study and experience. Therefore, hospitals should be able to support existing learning organizations within hospitals through the creation of a learning culture.

3.2.2 Creating Incentive Program

The compilation of knowledge management policies and governance in hospitals is required as a set of rules that apply to hospitals. The existence of this policy and government will clarify the role of knowledge management and the division of roles within the hospital. The management of knowledge workers in hospitals is aimed at developing medical and paramedical personnel to improve service performance and support the creation of a culture of knowledge exchange. In addition, governance is also necessary in relation to communities of practice that aim to make the performance of its members relevant, effective and

easy to obtain access to knowledge in hospitals. Considering that knowledge management policies are necessary to avoid freedom in the performance of knowledge exchange activities that are misunderstood. The incentives for knowledge workers involved are the following:

- Remuneration incentives: this incentive is expected to make the process of knowledge exchange in the company more intense because each individual / group that can share knowledge or can improve their work productivity, with this knowledge, the individual or group receives rewards in the form of money.
- Moral incentives, in the form of certain options, awards, praise, etc. that are given to individuals or groups in organizations that share knowledge or share knowledge to have a positive impact on themselves and the company.
- Coercive incentives for types of coercive power that focus more on the ability to punish others. Example: if there are members of the organization who do not want or are difficult to share their knowledge for the future progress of the organization, the company will impose penalties, such as increasing the workload and according to their experience or capacity and, therefore, indirectly Through processes of knowledge exchange through certain tasks or discussions of solving problems with other employees through Communities of Practice (CoP), for example.

Knowledge management should also develop a roadmap that works to provide a clearer and more complete picture related to the implementation of knowledge management. The road map of knowledge management is organized in the annual term. Short-term successes can be achieved by aligning knowledge management initiatives with important hospital initiatives.

3.3 3rd Priority
3.3.1 Apply Technology to Make Decision

Information technology is placed in the third priority, although it does not mean that the first priority ignores the use of information technology. Information technology is the main facilitator of knowledge management activities, especially to share knowledge among knowledge workers in hospitals. Information technology in the first priority is aimed at supporting and facilitating the process of knowledge exchange (socialization), the documentation process (outsourcing), the enrichment process (combination) and the knowledge utilization process in hospitals (internalization). The technology is aimed at supporting the conversion of knowledge that runs in hospitals. In the book Amrit Tiwana it is said that there are 4 main things in the knowledge management system, namely, the repository of knowledge as a place to store the knowledge that generally consists of operational databases, discussion forums and documents. The second is a platform to support collaboration that facilitates the distribution of work, the third is the communication network and the fourth is the organizational culture. It is very important that a hospital pay attention to the architecture of the system it builds as the basis for the next stage. In the third priority, the hospital can use its knowledge repository to become a data warehouse that will be useful to support medical decision making. Includes support to implement smart agents to update content.

Of course, in addition to the above, the hospital must also pay attention to the aspects of access and authentication of the system it builds (privileges, firewalls, backup copies and VPN) and the Meta tags.

3.3.2 Develop information systems to support the process evidence-based medicine

To increase explicit knowledge by increasing this dimension of outsourcing, you need a knowledge management system that is integrated with electronic medical records. Medical staff can increase examples of outsourcing, such as:

- In making a case study (evidence-based medicine), an approach to medical practice aims to optimize decision making by emphasizing the use of evidence from well-designed schemes and from research or experience. Although all science-based drugs have some degree of empirical support, EBM further classifies evidence with epistemological force and requires that only the strongest type (derived from meta-analysis, systematic reviews, and randomized controlled trials) produce recommendations. Whereas for the weak type (as in case-control studies) it may produce recommendations that are not too strong from a medical point of view. This approach will emphasize the use of evidence in the design of guidelines and policies that apply to groups of patients and populations ("evidence-based practice policies")

- Mapping of knowledge to identify important knowledge based on medical activities needed in hospitals to support their main business processes. The result of this knowledge mapping is a knowledge map that contains details of important knowledge (best practices). Two important things that form the basis of compiling a knowledge map are the core business process and the work activity. Knowledge maps are prepared based on the data of documents in hospitals and the contributions of experts in the field in hospitals (people with knowledge and experience).

- Documentation of the knowledge of the hypothetical analysis before making medical decisions in the process of initial diagnosis, examination and differential diagnosis. Because all this time the documented medical records are medical facts and decisions.

IV. ACTION PLAN

Based on the mapping of the strategy and the operationalization of the strategy, an action plan is prepared that can be used as a reference for the leadership of the hospital, can be seen in table 8.

This study can provide guidelines for doctors' hospitals in an effort to improve hospital services, when leadership in knowledge, capacity for social interaction, support for the characteristics of information technology and knowledge management implemented in hospitals, including patient care, which allows interactive communication between doctors and paramedics in the handling of important cases, and allows real-time self-education for doctors in medical analysis.

TABLE VII: ACTION PLAN

Suggested suggestions	Person in Charge	Timeline	Resource needed
Enhance Knowledge Conversion Process	Hospital's leader	First priority at implementation phase	• Information technology to support the knowledge conversion process • The steering team is tasked with providing the support and resources necessary to maintain knowledge management in line with the hospital's objectives
Knowledge application implementation	Hospital's leader	First priority	• Determination of subject matter expert. • Establisment of Community of Practice.
Disclosure of communication channels	Hospital's leader	First priority	• Formulation of social network analysis
Designing organization to support exchange knowledge	Hospital's leader	First priority	• Establish a knowledge management committee • Preparing the knowledge mapping and knowledge taxonomy
Management Support to Knowledge Management Implementation	Hospital's leader & Change agent	The second priority is according to the implementation stage	• knowledge gap identification • Determination of KM statement • Determination of KM strategy
Creating incentive program	Hospital's leader	The second priority is according to the implementation stage	• Policies and governance related to incentive programs
Apply Technology to Make Decision	Hospital's leader & IT department	The third priority is according to the implementation stage	• Provision of Information Technology and knowledge management applications. • Training and guidance to users.
Develop information systems to support the process evidence-based medicine	Hospital's leader & IT department	The third priority is according to the implementation stage	• Provision of Information Technology and knowledge management applications. • Training and guidance to users.

V. CONCLUSION

The hospital's services at DKI Jakarta, when viewed from the indicators of reliability, responsiveness, competence, courtesy, credibility, and understanding to customer and safety, are considered capable of achieving the expected performance of the service. While the description of the performance of hospital services has been regulated by the government through hospital accreditation and legislation, the lack of hospital participation in KARS accreditation (Hospital Accreditation Commission) shows weak government supervision. The four sets of accreditation standards that are a measure of the hospital's performance have also failed to reflect the seriousness of the government to encourage hospitals as the leading health care providers in providing world-class services. An important aspect that should really be the main concern of the government is how to improve the performance of hospital services even more, not only focusing on physical facilities but also on the service process, in this case KM's capacity is increasing the hospitals.

To refine this research, it is recommended that additional research focus on the role of knowledge management skills in competitive advantage in hospitals. In addition, additional research can also analyze the ability of medical personnel and paramedics to innovate to influence the performance of hospital services, since innovation capacity is one of the factors that is believed to influence service performance in hospitals. For further research, it can also be investigated in relation to the role of cooperation strategies to influence the performance of the service in hospitals.

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