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## NUSANTARA: A New Model of Knowledge Management in Government Human Capital Management

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### Abstract

Knowledge management is one of organizational strategy to improve the organizational competitive value. Align with presidential regulation No. 81 Year 2010 about bureaucratic reform and PERMENPAN&RB No. 20 year 2010 about bureaucratic reform roadmap declare that one bureaucratic reform objective are human capital development. This program is important to increase the public service. Three government ministries based on the UU No. 5 Year 2014 about Government Human Capital assigned to manage them. This research aims to develop the model of knowledge management for government human capital management. Research object implicate State Ministry for State Apparatus Reform (KEMENPAN & RB), National Civil Service Agencies (BKN) and National Institute of Public Administration (LAN). While the research stages are identify the strategic issue, develop the theoretical model, evaluate the theoretical model, identify the element model and knowledge and the last develop the model. Data analysis uses multiple methods in qualitative and quantitative technique. This model was developed using hybrid and synthesis method from the theoretical model of Indonesian knowledge management, knowledge management solution and foundation and the APO framework KMP. The model of government human capital knowledge management of Republic Indonesia (NUSANTARA) consist of eight component there are vision and mission, CSF, KM Mechanisms and Technologies, KMS, KM cycle, KM process, organizational core knowledge and outcome (government public services).

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## 1. Introduction

Government human capital management (GHCM) became one of main ideas in bureaucratic reform program. According to UU No. 5 Year 2014 about government human capital, the government human capital management does not based on people competence and qualification yet. This process is done in whole management process from recruitment, selection, placement, promotion and development. Therefore, the GHCM is changed into merit system based on qualification, performance and competence under responsibility of three government ministries (KEMENPAN&RB, LAN and BKN). The main problem is the implementation of government human capital management is not professional yet. This can be proven with the LAKIP (accountability performance) and PRMB (bureaucratic reform) result in 2015 until 2016. KEMENPAN&RB and BKN have decreased accountability performance hence KEMENPAN&RB get the decreased bureaucratic reform value in 2015. Other important objectives align with bureaucratic reform is knowledge management. Knowledge management is strategic issue in organization which believe can improve the organizational performance. Therefore, in 2011 KEMENPAN&RB declare the PERMENPAN No. 14 Year 2011 of KM implementation for all the government ministries.

According to some research knowledge management (KM) can bridge the knowledge gap within people and organization<sup>1-3</sup>. KM also can enhance the organizational learning to achieve their objectives with collaboration and cooperation among employee and institution align with their job and function in managing government human capital<sup>4,5</sup>. KM implementation can enhance the government human capital management performance through the knowledge exchange and collaboration assignment<sup>2</sup>. Hence, some related study about KM model development based on KM solution and foundation is done by Jia *et al.*<sup>6</sup>, they develop the KMS framework based on knowledge and artificial intelligent. This KMS identify every KM activities into technology for government public services. Edwards *et al.*<sup>7</sup> used KM solution and KM foundation approach to analyze the technology that support KM process in their organization. Hence, in Korea KM mechanism and technologies are used to define the government public services<sup>8</sup>. In 2012, KM activities are elaborate with IT for develop the KMS<sup>9</sup>.

Otherwise, some previous research aligned with APO framework KMP are the implementation of knowledge center in international enterprise in Singapore. This KM center has an information warehouse for share and capture knowledge also experience within team and expert. While, India develop KM project that manage the knowledge related to development and improvement of their productivity in Bharat Electronics Limited. KM tools and repository in Taphanhin Crown Prince Hospital Thailand was developed for share, transform and reuse individual knowledge. Agency for Science, Technology and Research in Singapore create knowledge based for their research result and expert so they can collaborate and share the resources and manage their knowledge capital. The last research use APO framework KMP is Malaysian Agriculture Research Development, they perform the knowledge transfer, knowledge retention and development across government department and develop an expertise locator system also the KM initiative align with their business process<sup>8</sup>.

Those previous study verify that KM implementation in organization is important and it can be develop using some approaches. However, the previous KM model represents some KM implementation needs such as the KM process, KM tools and KM infrastructure in their organizational scope. While, the outcomes of the KM implementation are not clearly defined. This research aims to develop the KM model holistically that will be implemented in government human capital management in order to cover all of the organizational problems. The goal is to improve the government human capital management performance.

## 2. Knowledge Management Model

### 2.1. Knowledge management

Knowledge management (KM) is aims to identify, select, manage, share and disseminate information to improve the knowledge for problem solving, strategic planning and enhance the organizational intellectual capital value<sup>5</sup>. Whereas,<sup>10</sup> claimed that KM can increase the organizational competitive value and objectives through their process and innovation. Several activities such as acquire, represent, exchange, maintain and integrated the tacit and explicit knowledge intend to create the organizational knowledge as part of KM process<sup>11</sup>. Human resource management

and organizational process is part of KM. Organization member can create, store, distribute and interpret the knowledge as a process of KM<sup>4</sup>.

## 2.2. Knowledge Management Model

According to Ford<sup>12</sup>, model can be represent into several form, dimension and style, because model is used to help people to better understand the real world system. Generally, model consist of input, process, and output information. The main key in the development of a model is the simplification of assumptions, identifying the core and boundary conditions and the ease of model implementation. Hence, model is used to describes the unity of some elements in order to deep understanding of a concept<sup>1</sup>. Model in knowledge management is coherent from the KM process and KM initiative to achieve the organizational strategic objectives. KM model generally represent holistic approach of KM implementation. The model also has been reviewed, criticized, discussed and implemented in real world in order to measure the reliability and validity of the model.

## 2.3. KM Solution and KM Foundation

Two important elements that develop KM practice are KM solution and KM foundation. KM solution is a technique to perform the KM process implementation in organization. Whereas, KM foundation is an organizational long term support for KM implementation. KM solution consists of KM process and KM system, while KM foundation composed of KM infrastructure, KM mechanism and KM technologies<sup>5</sup> as shown in figure 1.

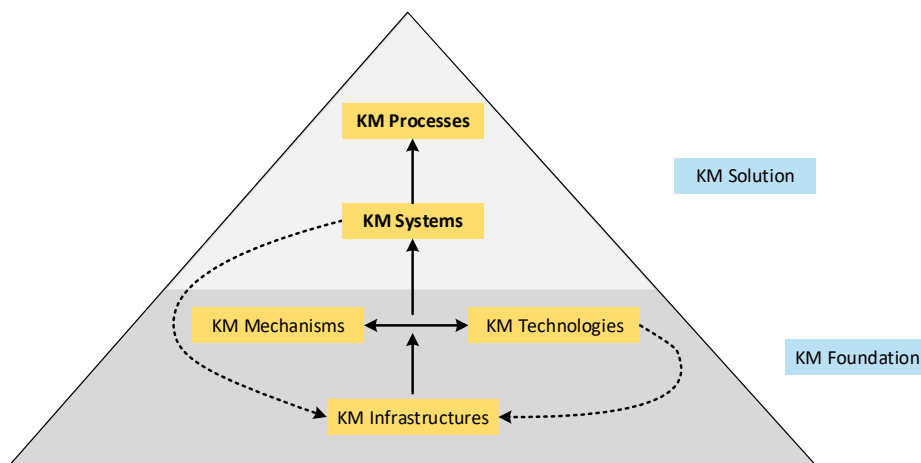


Fig. 1. KM Solution and Foundation<sup>5</sup>

## 2.4. APO Framework KMP

Apo framework KMP usually used for KM implementation in Asia, United States, Australia and Europe. This framework divided model into some element there are; organizational vision and mission, accelerator (leadership, technology, human, process), knowledge process (identify, create, store, share, apply), learning and innovation (individual and organizational capacity development process), and outcome (individual, team, organizational capability, social capacity, productivity, profitability, quality and development). The APO framework help organization to implement KM by fulfill all element based on the framework. This framework also assures that no important element will be ignored when implementation<sup>8</sup>. The APO framework KMP describes in figure 2.

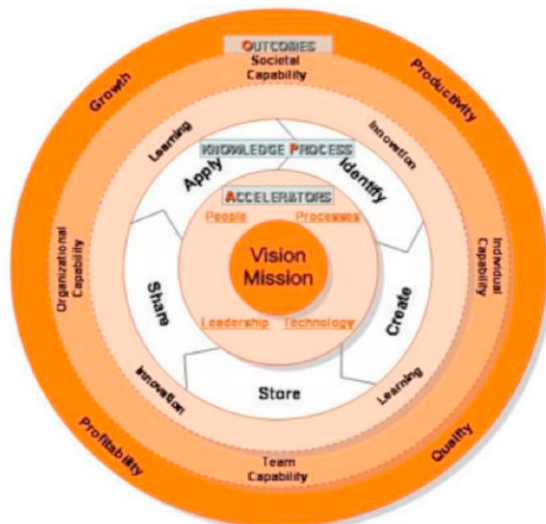


Fig. 2. APO Framework KMP <sup>8</sup>

2.5. Theoretical Model of Indonesian Government KM Model

The theoretical model of KM in Indonesian government developed based on the literature review of some KM model, some related research and best practice in other countries. This model is used to cover the implementation of knowledge management in Indonesian government. The element of KM model describes into two levels of stages there are organizational strategy and KM strategy which each of them consist of some substantial element. The organizational strategy consists of organizational vision and mission which should be align with the business strategy. While, the KM strategy represents organizational culture, critical success factor of KM, KM process and knowledge mapping. The last one is government policy or regulation that used to restrict the KM model <sup>13</sup> as shown in Fig. 3.

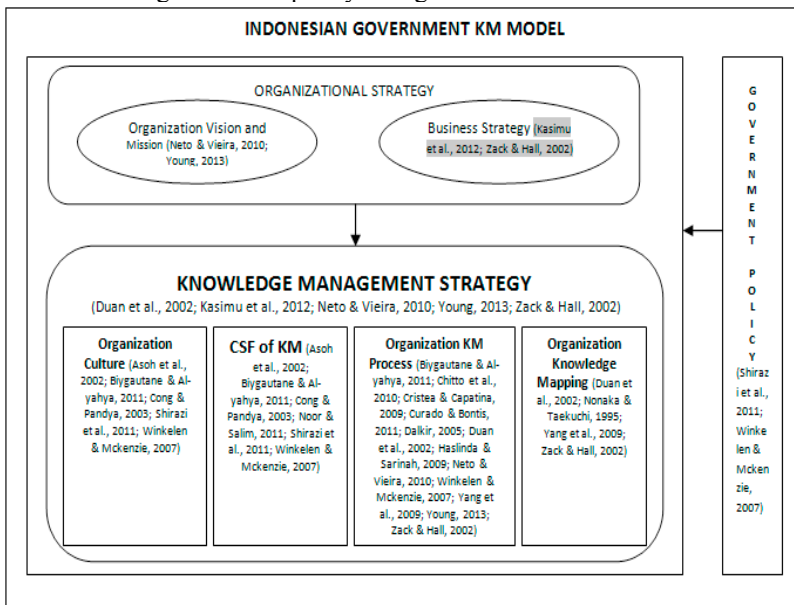


Fig. 3. Theoretical Model of Indonesian Government KM Model <sup>13</sup>

### 3. Government Human Capital Management

#### 3.1. Government human capital

Human capital (HC) is an asset for organization or well known as organizational intangible value. Intellectual capital in organization represents individual knowledge, skill, experiences, abilities and self motivation<sup>14</sup>. Meanwhile, human capital can reflect the organizational value<sup>15</sup>. Individual ideas, knowledge, innovation and how they make the decision making in working activities consider as human capital<sup>16</sup>. Furthermore, knowledge management, knowledge and experiences which embedded in organizational culture can be referred as human capital<sup>17</sup> and it can improve the organizational initiatives<sup>18</sup>. Generally, government human capital is collection of individual knowledge, skill, abilities, ideas, experiences as organizational intangible value which manage by human capital management to improve the organizational initiatives.

#### 3.2. Government human capital management

Human Capital Management (HCM) reflect talent management, learning and development in organization. This process needs abilities, commitment, changes, leadership, engagement and performances both individual and organizational<sup>19</sup>. HCM describes some activities to manage human capital in organization in order to increase the organizational competitive value through individual abilities to reach higher level of performance<sup>20</sup>. HCM process are planning, recruitment and selection, placement, development and training, retention<sup>18,21,22</sup>, employee satisfaction, engagement, reward<sup>18</sup> and collaboration activities to manage individual and organizational competency<sup>22</sup>. Hence,<sup>23</sup> declare that HCM represent some organizational activities such as employee development, motivate and management.

### 4. Methodology

The research methodology consist of several stages there identify the strategic issue based on the real problems, regulation requirement and previous study. Next stage is developed the theoretical model based on the result of literature review and related research. Then we do the evaluation of theoretical model in order to verify and validate the model. Next stage is KM modeling based on theoretical model evaluation results. Then, we identified each element of model and knowledge that would be managed by the KM model. The last is developed the model of government human capital knowledge management.

Literature study conducted to discover the conceptual theory related to the KM model of government human capital management using some analysis method from several document and paper. Then, we do the evaluation of theoretical model by identifying objective, object, strength, weakness, number of layer and expert justification of each model. Then, hybrid and synthesis methods based on the evaluation of theoretical model are used to develop the Government Human Capital Knowledge Management of Republic Indonesia or called NUSANTARA model like shown in figure 4.

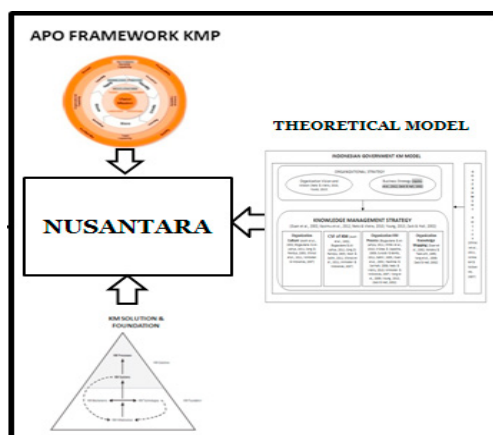


Fig. 4. Hybrid and Synthesis KM Model NUSANTARA

Figure 4 describes the hybrid and synthesis model for develop NUSANTARA model which based on three previous model there are APO framework KMP, KM solution and KM Foundation and Indonesian Government Knowledge Management Model. Data collection was done by interview and survey in three government ministries (KEMENPAN & RB, LAN and BKN). Number of survey respondent for KM element identification is 253 persons. While, number of interview respondents for KM element identification and knowledge are 68 experts. We use multiple methods for analyze the data, identify the strategic issue, do literature review, develop theoretical model and evaluation the theoretical model. We used the content analysis, causes effect analysis and expert judgment. Identify process of element KM model and knowledge we used content analysis, correspondence analysis, Pearson correlation analysis, and mixed methods. Otherwise the validation is done by expert judgment method through focus group discussion.

**5. Analysis and result**

Result from the analysis describes that main problem of Indonesian government human capital management are human capital, regulation, organization and technology. Each problem have some cause such as gap ratio of human capital, gap knowledge, organizational culture, leadership, monitoring and evaluation, commitment, loose of knowledge and expert, lack of IT infrastructure, KM process hasn't implemented well, learning and development and regulation related to the KM implementation. According to some problems above the KM model NUSANTARA aims to solve the problems. The hybrid and synthesis method to develop the NUSANTARA model elaborate the layer of each KM model into holistic KM model for government human capital management as shown in table 1 bellow.

Table 1. KM modeling based on theoretical model evaluation results

MODEL	LAYER							
	1	2	3	4	5	6	7	8
APO Framework KMP	Vision & Mission	Accelerator				Knowledge Process	Output : Learning & Innovation	Outcomes
KM Solution & Foundation		KM Infrastructure	KM Mechanism & Technologies	KMS		KM Process		
Government KM Model	Vision & Mission, Business Strategy	Organizational Culture, CSF, KM, SWOT Analysis, Government Policy				KM Process	Knowledge Mapping	
NUSANTARA	Vision & Mission	CSF	KM Mechanism & Technologies	KM System	KM Cycle	KM Process	Output : Organizational Core Knowledge	Outcome: Government Public Services

NUSANTARA model consist of eight layers based on the evaluation result, the element and sub element of research result constructed into a holistic model as shown in the figure 5 bellow:

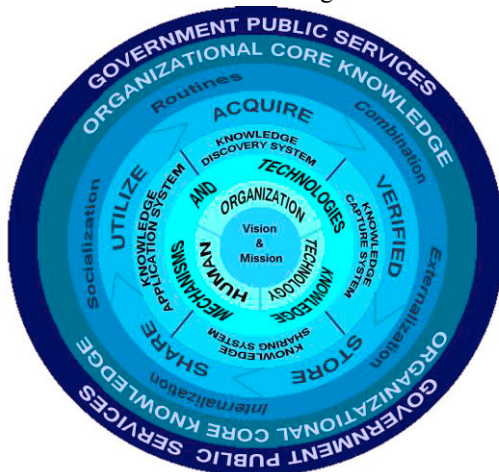


Fig. 5. NUSANTARA Model

Figure 5 describes the Government Human Capital Knowledge Management of Republic Indonesia or called (NUSANTARA) model. NUSANTARA model consist of eight layers there are:

- **Vision and mission**  
Describes the vision and mission of KM in Government Human Capital Managers Institution
- **Critical success factor**  
*Human* (motivation, human capital, commitment, innovation and creation, goodwill and integrity), *organization* (HR process, KM process, regulation, leadership, organization culture, teamwork, environment, monitoring and evaluation, stakeholder, network, opportunity, cost, change management), *technology* (IT and infrastructure)
- **Knowledge Mechanism and Technologies**  
Mechanism activity and technology features of knowledge discovery, knowledge sharing, knowledge capture, knowledge application.
- **Knowledge Management System**  
Information technology that support in **knowledge discovery system** (electronic discussion group, email, web based access to data, repository of information, chat group, video conference, lesson learn database, data mining), **knowledge capture system** (best practice database, lesson learn system, lesson learn database, best practice system, computer based communication, daily activity database, AI based knowledge acquisition, expert system, computer based simulation), **knowledge sharing system** (electronic discussion group, video conference, email, expertise locator system, repository of information, web based access to data, team collaboration tools), **knowledge application system** (work performance system, web portal, management information system, case based reasoning system, enterprise resource planning system, DSS, expert system, physical repository of information).
- **KM Cycle**  
Cycle of knowledge there are acquire, verified, store, share, utilize
- **KM Process**  
Consist of combination, externalization, internalization, socialization and routines.
- **Organizational Core Knowledge**  
Represent the knowledge map of government human capital management there are public services, regulation, human capital management, monitoring, bureaucratic reform, organization and institutional, human capital development, research and assessment, innovation, higher education management, recruitment and selection, human capital plan, human capital retention and retirement, IT, communication and leadership management.
- **Outcome**  
Government public services for government human capital management in Indonesia (planning, requirement, recruitment, selection, development, retention, retirement, work performance, allowance, rewards)

Expert judgment through focus group discussion was done to verify and validate the KM model. Six expert was verified and validated NUSANTARA which result based on the PRL (Perreault and Leigh's Ir Modified) is 0.884 proportion of inter judge agreement which mean that almost all expert are confirm the model. While, the assessment conducted to test and evaluate the model in some government ministries as a sample. Each of elements in NUSANTARA was measure using an instrument, then the result of each government ministry convert into table range of level readiness to represent the ministry readiness for KM implementation based on NUSANTARA model.

## 6. Conclusion

Research finding that Government Human Capital Knowledge Management of Republic Indonesia (NUSANTARA) model consists of eight layers there are vision and mission, CSF, knowledge mechanism and technologies, KMS, KM cycle, KM process, organizational core knowledge and government public services. The NUSANTARA model can be implemented in KEMENPAN & RB, LAN and BKN for supporting the government human capital management process and to achieve the bureaucratic reform objectives in develop the professional government human capital. Those ministries can start to implement NUSANTARA by identify the readiness of each element NUSANTARA model in their institution. The current condition describes the readiness level in each element. The unfulfilled element represents the gap which should be improved to achieve the successful KM implementation based on the NUSANTARA model.

The hybrid and synthesis method for develop the NUSANTARA model is elaborate three KM model. The multi methods for identify the element of NUSANTARA model has high reliability. Because mixed method can verified

and confirm the research result. It also can enhance the better understanding of the result research than using only one method. The main key to implement the NUSANTARA model is a regulation which declared to support the KM implementation in government human capital manager institution.

Limitation of this study is specific scope of study on government human capital management in the government institution. Future research can be expanded to create the readiness adoption level of NUSANTARA model and the measurement instrument and compose a guideline book to interpret the KM implementation step by step.

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