Information technology Governance standards on mobile applications for fishing zone based onCobIT 5 Framework in Majene

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Abstract: Most of the activities of Majene regency society dominant as a fisherman, by and large, they work based on the hereditary experiences of their ancestors. This is proven by fishery industry statistic that highest from other industry with 18,30 % in the distribution of the gross regional domestic product. In each specific case, utilization of technology becomes a necessity that plays a key role. Adoption of technology for fishermen groups in use of GPSequipment has frequently committed by the government also non-profit organization go through training and mentoring. Nowadays there are some modern mobile applications has been developed by government agency assist the group of fishermen handy on managing their fishing activity. Such us ZPPI data row from Lapan Satelite, nelpinwas also known as smart fisheries, infrastructure development for space oceanography (indeso). However, all of them carry out of the risk and problems on the user side. One of them related toaccuracy and reliability. In this research, we elaborate technical factor, governance, through Cobit framework and analyze the best practice standardfor implementing the technology. All in all, the result presented of the governance standard on control and implementing technology under customer dimension in information technology governance on the standard process to ensure benefit delivery for implementing mobile application fishery in DKP Majene regency.

Keyword: IT, Governance, CobIT 5, fishery, framework.

1. Introduction

Indonesia is the largest archipelagic country in the world and has coastal communities that run daily activities as fishermen in the traditional way. There have been many studies and concepts was offering for the community to improve methods in fishing activities so as to improve the standard of living of the people[1]. The activities of these fishermen are generally classified into small-scale fisheries groups[2][3][4], the use of technology is inevitable by the spread of various tools and information systems targeting this group [3][5][6]. Similarly, the fishermen community in West Sulawesi, especially in this research in the region of Majene Regency, based on data from the Ministry of Marine and Fisheries (DKP) Majene District there are some technical equipment and information systems that have been used or mentoringfor the community or group of fishermen by the government. Utilization of this technology includes fish tracking equipment, GPS equipment, potential fishing zone information (ZPPI), nelpin applications. The diversity of this technology has two sides, on the one hand, the benefits but also bring new problems on the other side. This is the responsibility from DKP Majene districts to think about the strategy and regulation of utilizing and managing the utilization of Information Technology optimally, measurable and effective. This is where IT governance is needed that can be a reference for the government in formulating

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policies, procedures, and controls to manage information risk from the use of information technology itself [7]. In this study focusing on the utilization of information systems in helping improve the productivity of fishing communities is the ZPPI Lapan information system and smart fisherman application (nelpin) developed by balitbang KKPP. Further aligning the objectives of DKP as well as objectives related to information technology. So it can be formulated activities as a reference for IT governance that can be applied in DKP Kabupaten Majene [8].

2. Methods

The first stage of this activity is to know the stakeholder needs of the district government, in this case, DKP Majene in accordance with its mission vision, so it can be known the added value that will be generated in DKP policy related to Information Technology.

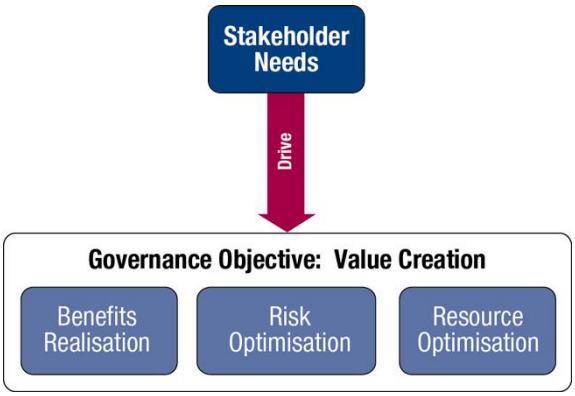

Fig. 1. The Governance Objective; Value Creation[8]

Furthermore, alignment of institutional objectives with the objectives relating to Information Technology produces activities that correspond to the best practices in IT Governance[7][8][9]. This best practice is the basis for developing IT Governance standards related to the utilization of online-based information system application so that all evaluation, control,and development can be done continuously to protect fisherman society in their daily activities. The testing accuracy of fisherman supporting information system is done in some water points in Majene, as data to confirm the accuracy of much-needed information, on ZPPI and Nelpin applications.

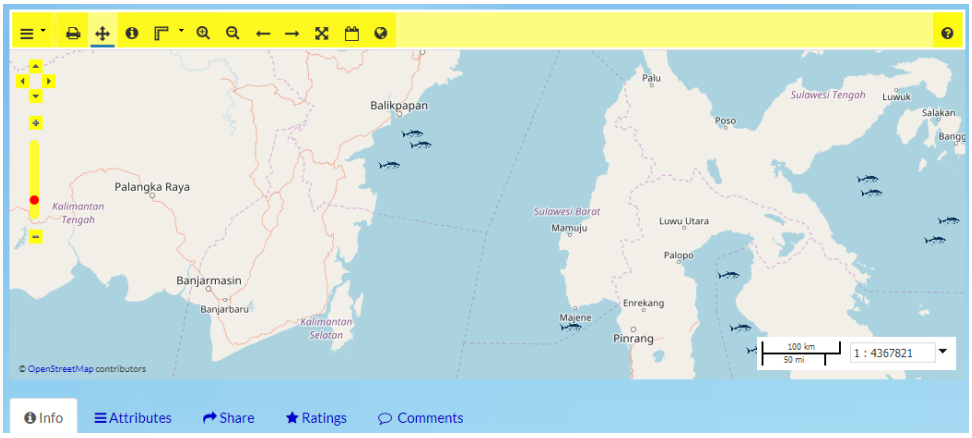

Fig. 2. ZPPI interface view



Fig 3. Nelpin interface view

All previous processes form the basis for formulating appropriate IT Governance Standards, as well as measures for evaluation of their implementation.

3. Results and Discussion

3.1. Stakeholder needs

The needs of DKP Majene stakeholders relate to the utilization of technologies such as the expected benefits from the use of technology, this can be seen in the following table.

Table 1. Stakeholder Need DKP Majene -Related Technology

	Fisherman	Industry
Benefit Realisation	High	High
Risk Optimisation	Neutral	High
Resources Optimisation	Low	High

3.2. Alignment Process

According to the vision of mission DKP, found targets to be achieved are:

Vision:Majene Regency as Aquaculture Production Center.

One of the corresponding missions is "Increasing Aquaculture Production".

From the Cobit 5 matrix, we can align to Enterprise Goals (EG), Optimization of business process functionality. And in accordance with IT Related Goals (ITG), Knowledge, expertise,and initiatives for business innovation[8][9]. One of the corresponding missions is "Increasing Aquaculture Production".

From the Cobit 5 matrix, we can align to Enterprise Goals (EG), Optimization of business process functionality. And in accordance with IT Related Goals (ITG), Knowledge, expertise,and initiatives for business innovation [8] [9]. The EG and ITG alignment bring us to the Process Reference Model In the Evaluate, Direct, and Monitor (EDM) process which is the Cobit 5 focus on the Governance side. The process that best suits the conditions and data profile DKP Majene is in the process of EDM 02 Ensure benefits delivery.

3.3. Metrics Assessment

Measurements of IT governance evaluation onEG-11[8][10][11]which can be formulated under DKP conditions include::

- Frequencyofbusinessprocesscapabilitymaturityassessments
- Trendofassessmentresults
- Satisfactionlevelsofboardandexecutiveswithbusinessprocesscapabilities

In IT-related activities (ITG-17) the evaluation matrix refers to:

- Level of business executive awareness and understanding of IT innovation possibilities
- Levelofstakeholdersatisfactionwithlevelsof IT innovationexpertiseandideas.
- A numberofapprovedinitiativesresultingfrominnovative IT idea.

When these metrics are applied to the technology used by the community we can see the following results.

Table 2. Result of application observers

EG	ZPPI	Nelpin
Frequency of business process capability maturity assessment	High	Neutral
Trend of Assesment result	Neutral	High
Satisfaction levels of board and executive with business process capabilities	Low	High
ITG		
Levelofbusinessexecutiveawarenessandunderstandingof IT innovationpossibilities	Low	Neutral
Levelofstakeholdersatisfactionwithlevelsof IT innovationexpertiseandideas	High	Neutral
A numberofapprovedinitiativesresultingfrominnovative IT idea	Neutral	High

3.4. IT governance process practice accordant with DKP Majene

The best practices that can be applied in accordance with the conditions of DKP Majene relating to information technology on EDM-02 [8]comprise:

Table3. Governance Practice EDM-02 for DKP Majene

EDM02.01 Evaluate value optimization	**Activities**
Process Goals - The enterprise is securing optimal value from its portfolio of approvedIT-enabled initiatives, services,and assets.	- Understand stakeholder requirements. - Understand the key elements of governance - Understand and regularly discuss the opportunities - Understand what constitutes value for the enterprise - Evaluate how effectively the enterprise and IT strategies - Understand and consider how effective current roles - Consider how well the management of IT-enabled investments - Evaluatetheportfolioofinvestments
EDM02.01 Evaluate value optimization	
Process Goals - Optimal value is derived from IT investment through effective valuemanagement practices in the enterprise.	- Define and communicate portfolio and investment. - Define requirements for stage-gates - Define and communicate enterprise
EDM02.03 Monitor value optimization.	
Process Goals - Individual IT-enabled investments contribute optimal value	- Define A Balanced Set Of Performance - Obtain Regular And Relevant Portfolio - Collect relevant, timely, complete, credible and accurate data

4. Conclusions

From the data and the result of the alignment of vision and mission DKP Majene knew that the best practices of IT governance in accordance with activities to manage, resulting in policies related to the use of technology in the routine fishing communities can be run in a measurable and developed as needed. So the constraints and problems that arise in the future already have standard procedures and become the reference for all parties.

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