



Intangible Assets of Irrigation System in East Java, Indonesia

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Abstract

Irrigation system management in Indonesia has prioritized infrastructure aspects (tangible assets), while intangible aspects such as human resources, institutional and management receive less attention. This situation causes intangible assets in the irrigation system in Indonesia is still weak so that the performance of the system is not as expected. The study was conducted in May - July in 2018 in the Water Resources Division of the Public Works and Spatial Planning Office of Jombang Regency, the Water Resources Division of the Public Works and Spatial Planning Office of Lumajang Regency, and the Public Works Water Resources Office of Malang Regency, East Java, Indonesia. Data collection was using a questionnaire. Data analysis was using quantitative descriptive. The results showed that (i) intangible assets consisting of moral intelligence, emotional intelligence, creative attitudes and institutional culture were in good categories, (ii) knowledge management as controlling the intangible assets were also in good category.

Keywords: Intangible Assets; Evaluation; Irrigation System

Introduction

The agricultural sector has a very strategic role in national development in Indonesia. The agriculture, forestry and fisheries sector in 2015 contributed IDR 1,174.5 trillion to GDP. The situation is in third place after the manufacturing and trade industry sector [1]. Irrigation is a key component in the agricultural sector. Irrigation is able to increase agricultural yields from 100 to 200% [2]. Irrigation land plays a significant role in the procurement of food production until now 85% of national rice production is produced in paddy fields with an area of 4.65 million ha [3]. Irrigation is a very important aspect of agricultural development in Indonesia.

Irrigation is a socio-cultural system of society so that it is dynamic depending on the environmental conditions [4]. In the current information age these environmental conditions are undergoing rapid changes due to the rapid development of information technology, globalization and democratization [5]. Social and political reform in 1998 has led to a paradigm shift in the irrigation sector [6]. The reform demanded that irrigation management be carried out in a transparent, accountable and fair manner. To realize this intangible asset is a very important factor. Intangible assets affect organizational management processes [7,8], and affect corporate performance [9-12].

Irrigation system management in Indonesia has prioritized infrastructure aspects (tangible assets), while intangible aspects such as human, institutional and management receive less attention. This situation causes intangible assets in the irrigation system in Indonesia is still weak so that the performance of the system is not as expected. Irrigation water management by irrigation officers is not good so irrigation water services have not been optimal. The concept of centralistic operation and maintenance of irrigation in Indonesia causes the sense of belonging to farmers to the irrigation network to decline. This causes a loss of irrigation culture in the farming community so that the irrigation system is less efficient and the network damage is higher [13]. Farmer participation in tertiary level irrigation system management has experienced annual shrinkage of 0.045 in the Molecular Irrigation System, 0.033 in the Sapon Irrigation System, and 0.041 in the Mejing Irrigation System for the period 1998-2008 [14]. Such conditions will reduce the performance of the irrigation system. Knowledge management can control intangible assets in tertiary level irrigation system management [15]. The knowledge management model can also control intangible assets in secondary level irrigation system management [16].

Method

The study was conducted in May - July in 2018 in the Department of Water Resources of the Public Works and Spatial Planning Office of Jombang Regency, the Water Resources Division of the Public Works and Spatial Planning Office of Lumajang Regency, and the Public Works Water Resources Office of Malang Regency, East Java, Indonesia. The variables studied are intangible assets consisting of moral intelligence, emotional intelligence, creative attitudes, institutional culture and knowledge management. Respondents were employees of the Water Resources Division of the Public Works and Spatial Planning Office of Jombang Regency, the Water Resources Division of the Public Works and Spatial Planning Office of Lumajang Regency, and the Public Works Water Resources Office of Malang Regency, East Java, Indonesia. Data collection using a questionnaire. Data analysis uses quantitative descriptive.

Results and Discussion

Intangible assets of irrigation system in east java

Intangible assets of the irrigation system in East Java represented by employees of the Water Resources Division of the Public Works and Spatial Planning Office of Jombang Regency, the Water Resources Division of the Public Works and Spatial Planning Office of Lumajang Regency, and the Public Works Water Resources Office of Malang Regency, East Java, Indonesia consisting of moral intelligence, emotional intelligence, creative attitudes and institutional culture are presented in table 1, 2 and 3.

Table 1 shows that most employees (80.8%) have good moral intelligence. Employees have a good willingness to integrate universal values in their behavior, are responsible for their actions and understand their consequences, try not to harm others, and be compassionate.

Category	Moral intelligence		Emotional intelligence		Creative attitude		Institutional culture	
	Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)
Very Poor	0	0,0	0	0,0	0	0,0	0	0,0
Poor	0	0,0	1	3,8	2	7,7	0	0,0
Moderate	2	7,7	7	26,9	8	30,8	3	11,5
Good	21	80,8	16	61,5	14	53,8	18	69,2
Very Good	3	11,5	2	7,7	2	7,7	5	19,2
Amount	26	100,0	26	100,0	26	100,0	26	100,0

Table 1: Intangible Assets of Irrigation System in Jombang Regency.

Most employees (61.5%) have emotional intelligence in the good category. Most employees have a good ability to understand their emotions accurately and accurately in a variety of situations consistently, managing emotions well, striving to achieve goals with enough enthusiasm, strong passion and self-confidence and positive thinking about something, understand the emotions of others from their actions that appear and interact positively with others.

Most employees (53.8%) have a creative attitude in the good category. Most employees have good ability in using ideas to solve a problem, in finding various ideas for solving problems outside of the usual categories, in providing unique or extraordinary responses, and in expressing detailed ideas to make them happen reality.

Most employees (69.2%) have good institutional culture. The behavior of employees of the irrigation system of Molek secondary level is in line with the objectives of the institution, decisions are taken by consensus, thinking in order to achieve common goals, feeling of having an institution, having a family relationship, the welfare of farmers being a priority farmers have the spirit of learning continuously towards progress, giving awards to employees who excel and make decisions based on empirical data.

Table 2 shows that most employees (78.6%) have good moral intelligence. Employees have a good willingness to integrate universal values in their behavior, are responsible for their actions and understand their consequences, try not to harm others, and be compassionate.

Category	Moral intelligence		Emotional intelligence		Creative attitude		Institutional culture	
	Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)
Very Poor	0	0,0	0	0,0	0	0,0	0	0,0
Poor	0	0,0	3	21,4	0	0,0	0	0,0
Moderate	0	0,0	0	0,0	5	35,7	8	57,1
Good	11	78,6	9	64,3	5	35,7	5	35,7
Very Good	3	21,4	2	14,3	2	14,3	1	7,1
Amount	14	100,0	14	100,0	14	100,0	14	100,0

Table 2: Intangible Assets of Irrigation System in Lumajang Regency.

Most employees (64.3%) have emotional intelligence in the good category. Most employees have a good ability to understand their emotions accurately and accurately in a variety of situations consistently, managing emotions well, striving to achieve goals with enough enthusiasm, strong passion and self-confidence and positive thinking about something, understand the emotions of others from their actions that appear and interact positively with others.

Most employees (35.7%) have a creative attitude in the good category. Most employees have good ability in using ideas to solve a problem, in finding various ideas for solving problems outside of the usual categories, in providing unique or extraordinary responses, and in expressing detailed ideas to make them happen reality.

Most employees (57.1%) have good institutional culture. The behavior of employees of the irrigation system of Molek secondary level is in line with the objectives of the institution, decisions are taken by consensus, thinking in order to achieve common goals, feeling of having an institution, having a family relationship, the welfare of farmers being a priority farmers have the spirit of learning continuously towards progress, giving awards to employees who excel and make decisions based on empirical data.

Table 3 shows that most employees (82.8%) have good moral intelligence. Employees have a good willingness to integrate universal values in their behavior, are responsible for their actions and understand their consequences, try not to harm others, and be compassionate.

Most employees (65.5%) have emotional intelligence in the good category. Most employees have a good ability to understand their emotions accurately and accurately in a variety of situations consistently, managing emotions well, striving to achieve goals with enough enthusiasm, strong passion and self-confidence and positive thinking about something, understand the emotions of others from their actions that appear and interact positively with others.

Most employees (65.5%) have a creative attitude in the good category. Most employees have good ability in using ideas to solve a problem, in finding various ideas for solving problems outside of the usual categories, in providing unique or extraordinary responses, and in expressing detailed ideas to make them happen reality.

Most employees (72.4%) have good institutional culture. The behavior of employees of the irrigation system of Molek secondary level is in line with the objectives of the institution, decisions are taken by consensus, thinking in order to achieve common goals, feeling of having an institution, having a family relationship, the welfare of farmers being a priority farmers have the spirit of learning continuously towards progress, giving awards to employees who excel and make decisions based on empirical data.

Knowledge management in east java

Knowledge Management in east Java irrigation system presented in table 4.

Category	Moral intelligence		Emotional intelligence		Creative attitude		Institutional culture	
	Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)
Very Poor	0	0,0	0	0,0	0	0,0	0	0,0
Poor	0	0,0	1	3,84	0	0,0	1	3,4
Moderate	1	3,4	6	20,7	3	10,3	6	20,7
Good	24	82,8	19	65,5	19	65,5	21	72,4
Very Good	4	13,8	4	7,7	7	6,8	1	3,4
Amount	29	100,0	29	100,0	29	100,0	29	100,0

Table 3: Intangible Assets of Irrigation System in Malang Regency.

Category	Jombang Regency		Lumajang Regency		Malang Regency		Average	
	Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)
Very Poor	0	0,0	0	0,0	0	0,0	0,0	0,0
Poor	0	0,0	0	0,0	0	0,0	0,0	0,0
Moderate	4	15,4	0	0,0	0	0,0	1,3	5,1
Good	18	69,2	11	78,6	19	65,5	16,0	71,1
Very Good	4	15,4	3	21,4	10	34,5	5,7	23,8
Amount	26	100,0	14	100,0	29	100,0	23	100,0

Table 4: Knowledge Management in east Java irrigation system.

Table 4 shows that most irrigation system managers in East Java (71.1%) have good knowledge management. This implies that they have an adult person, share vision, system thinking, mental models and very poor team learning. Most employees have a good level of organizational principles. They have the formulation of clear objectives, division of labor and delegation of power, range of power, levels of supervision, unity of orders and responsibility and good coordination. Most employees have a good level of organizational policy and strategy. They have unified and integrated formulations and plans that link organizational excellence with environmental challenges, which are designed to ensure that the main objectives of the organization can be achieved through the proper implementation of the organization. Most employees have a good level of information and communication technology. They have good understanding and use of information and communication technology.

Conclusion

The results showed that (i) intangible assets of Irrigation System in East Java, Indonesia consisting of moral intelligence, emotional intelligence, creative attitudes and institutional culture were in good categories, and (ii) knowledge management was also in good category.

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