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Knowledge Management in Rural Community to Reach Sustainable Village Development

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Abstract: Rural communities have better natural resources than urban areas, but there is development gap so the villages still underneath cities. Optimizing natural resources to improve the rural communities standard living requires the role key of human resources who are competent and have strong moral values to uphold the principles of sustainable development. The customs and culture of the community have local wisdom values which are an intellectual asset for the village community to be used as a fulcrum in developing a village with a distinctive character as well as a mission to maintain its sustainability. The problem that occurs is that there is no qualified space in managing tacit into explicit knowledge assets so that they can be utilized appropriately by village stakeholders. This paper conducts a literature review to examine and understand how knowledge management applied in village communities to reach sustainable village development

Keywords: Community empowerment, tacit knowledge, rural society, knowledge management, community learning centre.

1. Introduction

The industrial revolution 4.0 is technology-driven, conceptualizing rapid technological changes in industry and society aimed at pushing production efficiency and quality to a higher level by big data utilizing, artificial intelligence, and digitization (Sihan, et al. 2022). The problem that arises in the application of industry 4.0 is its focus on industry efficiency and flexibility thus tends to ignore the sustainability and the welfare of human resources. This practice triggered the society 5.0 concept as a solution for society's current challenges. The rapid development of information and communication technology has had impacts on society and industry in the form of digital transformation so that it influences the creation of new values as well as public policies. Society 5.0 was sparked by the Japanese government which aims to create a human-centred society related to economic development, achieving community resolution, and the ability of people to enjoy quality life actively and comfortably. The key to its implementation is to integrate the virtual world and the real world (physical space) to produce quality data to generate new values and solutions to challenges (Fukuyama, 2018). Society 5.0 is expected to contribute to efforts to achieve sustainable development throughout the world.

The village is a part of the government of Republic of Indonesia. Based on Permendagri no.137 of 2017 concerning Government Administration Area Codes and Data, there are 416 Regencies, 98 Cities, 7,094 Districts, 8,490 sub-districts, and 74,957 villages in Indonesia. This data shows that the enormous number of villages is a potential that can be developed in the

nation's progress framework. However, the increasing population growth causes migration to urban areas, causing development in villages to be hampered. Migration of rural communities to urban areas is heavily influenced by the attractiveness of cities with various facilities and centres of trade, industry and services that create many job opportunities compared to villages. Another factor that could be the cause of urbanization is poverty in the village. The data shows that the percentage of poor people in rural areas is still quite high.

Badan Pusat Statistika (2018) shows that the percentage of poor people in urban areas is 6.89%, while the percentage of poor people in rural areas is 13,10% of Indonesia's population. Various sustainable development programs based on SDGs have also proven benefits for villages. Villages even contribute 74% to achieving the national SDGs. Village development aims not only to increase the income of its people, but also to improve the quality of education, health, environment, village community resources, or various points in the National SDGs. Quoted from pspk.ugm.ac.id, Susilo Ari Wibowo (Village Community Empowerment Service, Dalduk & KB Kulonprogo Regency) in the monthly Rural Corner seminar at the Centre for Rural and Area Studies at Gadjah Mada University said that the challenges faced in implementing rural area development are the commitment of villages as members of rural areas, consistency and convergence of stakeholders in mentoring, ability to accelerate and improve service quality as well as participatory empowerment, and competition in the business world.

The development of globalization has brought changes in social values of society. The impact of these social changes has implications for changes in behaviours, social relationships, institutions, and social structures, especially in urban communities. Urban attractiveness causes rural people to migrate to cities to improve their economic welfare. Implementation of Law Number 6 of 2014 concerning Villages is expected to increase the role of the village as a driving force for the village economy to increase the acceleration of development. The key to accelerating rural development rests on the capacity of the village head and his village apparatus and support for community participation in rural development. Village fund budget support from the government requires cross-sectoral collaboration and the utilization of rural potential based on existing local wisdom is urgently needed to support rural development to reduce village-to-city migration by rural communities (Diah, 2020).

Local wisdom is a cultural wealth that grows and develops in society and is a positive human behaviour in dealing with nature and surrounding environment originating from religious values, customs, or culture local community, which is built naturally in a community to adapt with the surrounding environment. Local wisdom is part of the culture of a society that cannot be separated from the language of the people themselves. Local wisdom is usually passed down from generation to the next generation through word of mouth. Local wisdom as a knowledge found by certain local people through a collection of experiences in trying and being integrated with an understanding of the culture and natural conditions of a place (Padmanugraha, 2010).

The absorption of local wisdom in village development programs is difficult enough to achieve top-down policy from the top level of government without considering the real situation in the village. In some cases, it is still common for programs to be made and conducted instead of fulfilling the principles of sustainable village development, in fact, with or without purpose, in practice causing damage to natural resources and contaminating the customs and ancestral wisdom of an area. A case in Jugo Village, Mojo District, Kediri in 2022, a good program from the Regent to expand the coffee farm with the aim of improving the rural economy, in practice, resulted in forest destruction (deforestation) which is not needed because the coffee tree itself needs shade so that when planting it does not need to kill the ecosystem that has existed before. In other case, a natural disaster that occurred in Lumajang area, East Java in 2021, where a residential area with houses was completely covered with sand from the eruption of Mount Semeru. If we look a little deeper, this area is a danger zone where if the eruption of Mount Semeru occurred hundreds of years ago, an overflow of lava would flow through the area.

Economic practices in the region are indeed incredibly attractive, especially the business potential of Lumajang's sand mining as a building material that has substantial value and fertile land attracts people to manage the land optimally for economic issues.

Based on these two cases, we can take the lesson that local wisdom has been practiced by elder in previous generations, they already have knowledge from their life experiences. However, the failure to pass on this knowledge to the next generation results in the disconnection of these skills to be utilized as the main consideration in making local wisdom decisions. This is where we see the failure in managing existing knowledge makes people vulnerable in dealing with the dynamics that occur and must repeat the same challenges in the past because they failed to take the lesson learned. This paper aims to examine the application of knowledge management in implementing sustainable village development by literature review. We read, analyses and integrate literatures as a reference in seeing the potential for utilizing knowledge management to create, store, manage and reuse knowledge from ancestral experiences with local wisdom in the form of tacit knowledge into cultural wealth in the form of explicit knowledge as a fulcrum to conducting sustainable village development without leaving the local identity.

2. Result and Discussion

Knowledge management

Knowledge is a primary/core competency which competitive advantage and plays a key role in creating organizational (Liu, *et al.*, 2018). Knowledge is an intangible asset of organization; thus, KM for optimizing the tacit, implicit, and explicit knowledge towards creating innovative ideas that are realized in the form of innovative products and services (O'Dell, 1996). Assuming that the object of knowledge is an external reality that can be studied empirically to acquire it in a structured and robust manner, it is intuitively clear that we need to understand the context of knowledge and how the process of its creation is. Data can be understood as simple facts which are compiled into information when it has been given insight so that it has meaning. Information becomes knowledge through cognitive efforts, values and beliefs are an integral part of knowledge and determine what seen, absorbed, and concluded by people who knew from their observations (Davenport & Prusak, 1998). Earl (1994) described knowledge hierarchy in detail which differs in social acceptance. He said that knowledge should be objective and interpersonal.

There are four levels of knowledge to understand the organization of information, it starts with representing organizational events, collecting, and then processing them to produce data which is manipulated, presented, and interpreted to information creation. Information is assessed, validated, and codified to lead as knowledge. In general, we see knowledge as the result created from processing data and information because most of the work is done in a traditional epistemological view that underlies empirical assumptions (Tuomi, 1999). In the 19th century, the DIKW concept (data- information-knowledge-wisdom) developed which described human perception as a transforming data process into wisdom through the information and knowledge stages (Nurulin, et al, 2019). In this model, it can be said that wisdom has the potential to support optimizing decision making based on the ability to understand with a broader perspective. Based on the explication of knowledge, KM focuses on knowledge which divided into two typologies, tacit and explicit knowledge.

Tacit knowledge consists of two elements, first the cognitive elements that refer to individual mentality including mentality, values, paradigms, human beliefs, and viewpoints. Second, technical elements including concrete knowledge and skills in certain contexts (Nonaka & Konno, 1998). Tacit knowledge could be understood as knowledge that is personal in nature, has a specific context so that not easy to formalize or to communicate. In its development, Nonaka said that although it is difficult, tacit knowledge can be articulated and converted through the process of socialization, using metaphors and analogues to express it. In general, a person

has more tacit knowledge than explicit knowledge. In contrast to tacit, explicit knowledge is codified so articulated easily in the form of knowledge to be transferred to others in writing or spoken (Bergeron, 2008).

Knowledge management is a systematic and planned activity that offers management of knowledge in terms of acquisition, use, storage, retrieval as well as development aimed at generating innovative ideas to innovation creating (Budiharjo, 2017). The application of knowledge management in the context of sustainable development is becoming increasingly necessary even though a lot of academic exploration and research still needs to be conducted. Knowledge management innovated within the organization, in the context of sustainability putting social issues and responsibilities on a par with economic interests. Therefore, organizations need to manage knowledge-producing resources properly by treating KM as a new paradigm in sustainable economic, environmental, and social development (Chang, *et al.* 2018).

The process of producing genuine innovation comes from the results of careful management of knowledge to produce something original. Appropriate innovation by heeding environmental factors in the learning process, stakeholders, companies, or organizations will be able to grow and survive (sustain). For centuries, scientists, philosophers and scholars have been concerned with the creation, acquisition and communication of knowledge and the increased reuse of that knowledge. Based on the premise that humans are not able to utilize the full potential of their brains, organizations are unable to fully utilize the knowledge they possess. Therefore, the application of KM conducted as an effort to create potential and useful knowledge to be managed so that it can be used at the right time and place to have a positive influence on organizational performance (Kaswan, 2019).

The process of knowledge creation includes five processes, namely sharing tacit knowledge, creating concepts, justifying concepts, making models (archetypes) and disseminating knowledge to other divisions (Nonaka & Takeuchi, 1995). The SECI model illustrated in figure 1, introduced by Nonaka and Takeuchi as a knowledge conversion model based on epistemological dimensions (how we know about reality) and ontological (the nature of reality).

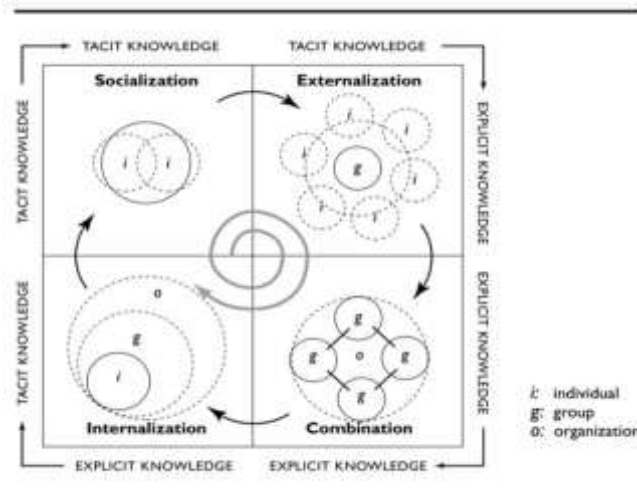


Figure 1. Spiral Evolution of Knowledge Conversion and Self-transcending Process (Nonaka & Konno, 1999)

Socialization involves the stage of sharing tacit knowledge between individuals, exchanging knowledge through joint activities in the same environment for a long time. In the practice of socializing village communities, external parties can get involved by doing apprenticeships for years to understand ways of thinking as well as empathizing with village situations and conditions. Self-transcending is fundamental in the stage of sharing tacit knowledge. Externalization requires the expression of tacit knowledge to be translated in a form that is easily

understood by others. The externalization process requires two key factors, namely the articulation of tacit knowledge into explicit knowledge (metaphor, analogy, narration, visual/dialogue) and the translation of tacit knowledge in a form that is easy to understand (reasoning).

The combination process converts explicit knowledge into more complex parts. The most critical issues in this stage are communication, diffusion, and systemization of new knowledge. The combination phase includes three processes, namely capturing and integrating explicit knowledge, disseminating, or transferring knowledge through presentations or meetings, and editing or further processing so that this knowledge can be utilized in practical concrete steps. Internalization encourages individuals to find themselves in the larger entity in identifying knowledge that is relevant to themselves in their role in the organization. In practice, internalization includes two dimensions, namely action or practice (training, capacity building, etc.) and the process of realizing knowledge through simulations or experiments to trigger the learning by doing process (Nonaka & Konno, 1999).

Tacit and implicit knowledge as a local wisdom for sustainability

Etymologically, wisdom can be understood as a person's ability to use his intelligence and mind to respond to events, objects, and situations. Local shows the space, place, or dimension where the event occurs. Thus, local wisdom is a positive human behaviour when interacting with nature and its environment based on customary values, culture, beliefs/religion, ancestral advice that is built naturally in the community to blend with the local environment (Vitasurya, 2015). The Thailand Research Fund categorizes public knowledge into three classes. First, knowledge to become a community in a historical form that includes important stories, values, culture, traditions, and beliefs is important as a force to face the onslaught of changing values. Second, knowledge for survival including making a living, training, developing potential and health. The last, knowledge which build harmony from specific enjoyment of life through close relationships such as family, community of practices (Thailand Fund, 2009). Knowledge in these communities tends to be in the form of tacit knowledge based on life experiences, knowledge that emerges together and in the form of analogous knowledge (practice).

Local wisdom is both abstract and concrete which comes from the deep mean of life experience. Referring to the knowledge hierarchy discussed earlier, wisdom is obtained through long stages starting from data, developing into information, knowledge, then creating wisdom. Local wisdom is not an instant thing, it goes through a lengthy process that lasts a long time from the interaction of human knowledge with the environment to give a value system creation that crystallizes in the form of beliefs, customs, and local culture. Community knowledge assets are transmitted through tradition by being inherited. Referring to the three categories of knowledge version of The Thailand Research Fund, it shows that local wisdom is reflected in the daily life of village communities. However, it is difficult to define the knowledge except observing it as an impact on an object. That is tacit and implicit knowledge in society that is rooted in customs and culture, then naturally transforms into local wisdom as a cultural heritage across generations.

“Knowledge is information that changes something or somebody- either by becoming grounds for actions, or by making an individual (or an institution) capable of different or more effective action.” Peter F. Drucker

Align to the principle of sustainability, increasing the economic welfare of the community is one of the indicators that need to achieve. Community empowerment to managing their own villages begins with the motivation to develop villages by maintaining natural resources, culture, and local wisdom (Vitasurya, 2015). Organizations must have the courage to adapt as a respond to dynamics so that they can be relevant to the current era. The ability to utilize intellectual and innovative solutions creation has a leading role in the global economy (Tuomi, 1999). Intellectual assets take forms while the ability to exploit is limited ability of humans to do. This is a challenge

for management to optimize the potential of organizational knowledge for organizational value creation by managing human intelligence, transforming it into innovative, aggressive, sustainable products and services. Practically, local wisdom is a community effort in storing resources that continuously to meet life's needs while maintaining environmental sustainability (Hadiwijoyo, 2012). For this reason, it is necessary to practice the application of knowledge management in managing tacit and implicit knowledge to overcome local wisdom into implied knowledge so that it can be use as reference for developing villages with its core strength of local characteristics.

The demands of building pressure increase income and instant ideas to develop the community. These models tend to ignore local culture so that in its development it implies local wisdom that is thick with the people's way of life. Several communities have succeeded in turning the crisis into an opportunity and collectively they understand, discuss, think of solutions with stakeholders by reviving traditional knowledge and local wisdom (Mungmachon, 2012). The classical decision-making model involves expertise with the ability to make effective decisions that have a character that is limited to ethical and cognitive abilities in predicting the technical, economic, and social consequences of decisions taken. Knowledge is the last category in the knowledge hierarchy that focuses on the past and present, while decision making has a future orientation (Nurulin, et al., 2019).

The essence of this high understanding of knowledge is the process of distributing past knowledge to be analysed as a fulcrum in decision making for the future. Traditional knowledge management focuses on the acquisition, codification and knowledge transfer that transforms tacit knowledge into explicit knowledge which becomes knowledge capital for organizations (Kreiner, 2002). In practice, this knowledge management needs to be followed up by creating designs for improving management system skills that focus on creating, developing, and maintaining a body of knowledge from human resources to translate into operational improvements and better recognized results in organizations (Riberio, 2012).

3. Conclusion

The local authentic and culture of the village community have a lot of wisdom gained from the learning and wisdom of the previous generation throughout their lifetime which is then passed on to the next generation in the form of verbal and practical intellectual inheritance. Referring to knowledge management terms, this intellectual heritage is still in the form of tacit and implicit knowledge that needs to be managed properly so that it can be processed into community guidelines, community leaders and all stakeholders in making decisions for planning sustainable village development. The Ba concept introduced by Nonaka and Konno (1998) describes the space or container where knowledge is created, shared, and utilized. In practice, village communities need a space to manage this knowledge physically (buildings, places) and well-organized knowledge management activities (a management).

Community learning centers (CLC) which included four aspects of SECI can be formed to implement knowledge management as an effort to develop sustainable villages. CLC should organize four spaces to meet the needs of 'ba', the first is where individuals can share feelings, emotions, experiences, and mental models face to face (originating ba). Second, where tacit knowledge transforms into explicit knowledge through dialogue and metaphor (interacting matter). Third, a place for virtual interaction between groups by utilizing information technology to facilitate cooperation and collaboration (virtual sharing/systemizing ba). The last, a space which facilitating the conversion from explicit knowledge to tacit knowledge that is on the site (exercising work) such as conducting training, workshops, human resource capacity building, on the job training, etc. CLCs that are formed and implemented in villages can be a means of community-based non-formal education that provides appropriate solutions to actual problems

referring to local wisdom that has been stored neatly so that it can be accessed again, either used directly in decision-making or processed and distributed in community empowerment.

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