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The Reveal of Organizational Culture in Big Data-Based Organizations

Ani Setyowati [□], Adhi Widyakto, Risti Ulfi Hanifah

Department of Management, Faculty of Economics, Universitas Semarang, Semarang, Indonesia

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Abstract

The key success of an organization's business cannot be separated from the culture that develops in organization. Therefore, organizational culture as a set of values and rules plays very important to build organizational identity. Organizational culture can be designed through the technology which applied in the organization, because technology can be shaped the organizational structure. The purpose of this study is to reveal how far the organizational culture in an organization based on big data technology are formed. This analyzed uses the phenomenological method, focused in electric power services company, precisely at PT. Serkolinas. Data analysis was obtained through field observations and a number of unstructured interviews with a number of eight informants. The results showed that organizational culture can be formed through the technology applied in the organization. Technology as a suggestion in facilitating activities to encourage the perception and behavior of organizational members into a new symbol expressed in daily activities to support of organizational goals..

INTRODUCTION

Entering the all-sophisticated era, all activities are facilitated by the development of information and technology (Welch & Feeney, 2014). As modern technology has replaced the role of humans, the role of technology in addition to facilitating communication between humans, today's technology has almost entered all aspects of life. For example, started from shopping, working, studying, and even looking for information, it can be done instantly using mobile media accompanied by fast-paced supporting applications such as Google, Yahoo, and various other supporting applications. With the presence of support the applications such as google, yahoo, youtube, and various other social media, information obtained through devices connected to the internet and applications can be faster and more accurate. However, the sophistication of the information presented by social media through a number of

supporting applications cannot be easily optimized without being balanced by the ability of the human resources who use it (Türkmendağ & Tuna, 2021).

Despite the sophistication of technology and social media, it presents various kinds of information that are super fast. Technological sophistication has a negative impact on life, for example the decline in socialization between humans, to the bad influence caused by inappropriate information technology. The decline in socialization between one member of the organization with another organization appears when one member of the organization with other members of the organization cannot interact positively in supporting the goals of the organization or seem individual. Individual culture in the organization is able to threaten performance in an organization. Meanwhile, inappropriate technology, for example, is exposed to negative content that triggers negative perceptions, attitudes, and

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behaviors. We often encounter various negative impacts that arise from technological sophistication and social media in our daily life, and even cannot escape the news on television.

On the basis of some of these phenomenaOn the basis of some of these phenomena, technology is very important to study and develop, especially in creating a culture that has a positive role in human activities and activities within an organization. Organizational culture can be described as a pattern of behavior (Choo, 2013), artifacts, perceptions, values, and actions in manifesting various interactions among members of the organization (Schein, 2017). Not only in influencing behavior and interactions between organizational members, the role of organizational culture must be able to increase knowledge (Alavi et al., 2005; Argote, 2013; Liu et al., 2021), improve managerial quality (Rad, 2006; Choo, 2013), building a new organizational structure (Aktas et al., 2015), arriving at solutions in dealing with managerial crises in organizations (Sherman & Roberto, 2020).

As an important component in driving the pace of organizational development, organizational culture is closely related to the technology involved in the organization (Alavi et al., 2005; Argote, 2013; Choo, 2013; Dari et al., 2021). Technology can be assumed as a means of facilitating the activities of members of the organization (Pawlowski, 2004), technology is also an important means of shaping patterns of practice and structure in the activities of members of the organization (Ballard, 2003). Referring to these reasons, technology is absolutely essential in realizing the success of business processes in organizations (Nam, 2011) through the creation of an organizational culture that is in accordance with the goals of organizational members (Alavi et al., 2005; Argote, 2013; Choo, 2013; Dari et al., 2021)

The technology that is being intensively developed today is big data (Sahal et al., 2020; Sivarajah et al., 2017). Big data is the latest technology that is systematically developed in the digital era (Sivarajah et al., 2017), which is the development of a collection of data bases that have volume, velocity, veracity, and variety. larger than the previous data base ((Santos et al., 2018; Varian, 2014; Yaqoob et al., 2016), and is a strategy in improving organizational performance (Gren íková et al., 2021). In improving organizational performance, the role of big data is very important (Kim et al., 2021) because through the information presented by big data, both structured and unstructured information is processed

into information that is able to produce quality that is useful for the organization (Wilkin et al., 2020).

Findings from Al Dari et al. (2021) states that the capabilities of organizational members in creating and transferring IT can affect culture, both positive and negative organizational culture. However the findings of Alavi et al. (2005) in contrast to the findings of Al Dari et al. (2021). Alavi et al. (2005) found that it is organizational culture that influences technology and results in the use of technology in the organization. Although the two researchers described their findings as a link between organizational culture and technology, each study had different effects. It is different from other studies, namely the research of Choo (2013). The research of Choo (2013) states that organizational performance is largely determined by the effectiveness of the culture and information that develops within the organization.

In the otherhands, several previous studies have discussed the role of organizational culture. For example, the findings from Rad (2006) which discuss the role of organizational culture in managerial mechanisms. Research by Rad (2006) states that organizational culture is able to influence organizational performance through managerial mechanisms, for example determining the right bottom-up strategic plan, and organizational activities that are in accordance with organizational goals. Then research from Martelli et al. (2016) discusses organizational culture as a commitment and perception of organizational members.

Followed by a study from Choo (2013) which describes the effectiveness of organizational culture. Then, the findings of Sherman & Roberto (2020), which are research that supports all top management decisions through the role of organizational culture in dealing with managerial crises in an organization. All these studies discuss the role of organizational culture in managerial roles through different perspectives.

Likewise, previous research on big databased technology, such as the study from Wilkin et al. (2017), Yadegaridehkordi et al. (2020), Yasmin et al. (2020), Dan Ying et al. (2020) which has discussed the urgency of big data in improving performance and the best decisions in organizations. Up to the implementation of the practice of using information through big data in supporting decisions in the field of auditing and accounting practices such as research from Arnalbodi et al. (2017), Gepp et al. (2018), and Gepp & Kumar (2015).

However, there is still little findings of re-

search on organizational culture connected to big data technology. For example research from Al Dari et al. (2021) and Alavi et al. (2005) which only mentions the relationship between organizational culture and technology. Then research from Metallo et al. (2021) which mentions the perception associated with the use of big databased technology, but has not yet detailed the meaning of organizational culture that relates to big data technology that is developing today.

The purpose of this research is to reveal how an organizational culture is formed through a big data technology that is developing today. Because several previous studies have analyzed the role of organizational culture and the role of technology that develops in an organization, but not many have discussed in detail about organizational culture that is influenced by technology, through a case study approach in an organization engaged in the service sector. but also have to think about the concept of organizational performance.

This research is included in the category of qualitative research with a phenomenological approach. The phenomenological approach is used because it is able to absorb one's experience into a phenomenon to describe the universal meaning (Creswell et al., 2007). This research is different from several previous studies because it links organizational culture with big data technology that is developing within the scope of the organization which is still rarely studied in previous studies.

Based on several gaps, and the findings of previous research, researchers are very interested in researching the topic of organizational culture with the use of big data-based technology in order to reveal how far organizational culture has developed in organizations that have a big data technology base. Therefore, this research is not presented to compare one study with another, or to generalize a theory to produce causal relationships, but to enrich the new literature through the disclosure of organizational culture phenomena in big data technology companies.

Culture and Organizational Culture

Culture according to Schein (2017) is a set patterns of beliefs, values, assumptions, and behavior, as a level of manifestation that must be studied and demonstrated in an organization as well as individuals and groups of individuals within the organization.

As an internal variable in the organization, Wallace (1983) argues that the culture that develops in an organization articulates a pattern of re-

lationships between a set of interrelated variables between components for organizational survival. As a measure of organizational success, building organizational culture is very important, because organizational culture as a value embodied in the organization reflects ideas that are illustrated from time to time in accordance with organizational goals (Sue & Cristopher, 2001; Martelli et al., 2016; Schein, 2017).

Concepts and research related to culture have been carried out for a long time, no less than forty years ago. Because, in organizational studies, research and the concept of culture play a very important role to design behavior, future organizational expectations, and commitment which are illustrated in a series of actions on what organizational members believe in Loi et al. (2006).

Referring to this matter, as a reimagined concept, the findings of Sinkovics (2008) argue that culture in organizations should be rebuilt on the theoretical and methodological basis of cultural analysis, at the desired level on the basis of one's cultural origins are different, adapt to the dynamics of the organization involved.

Big Data based Technology

In the context of the organization, technology greatly affects the interaction between members of the organization. As the findings of Al Dari et al. (2021) which explains clearly, that the technological capabilities used in organizations are able to form a separate hierarchy or have an impact on the culture of a clan, both positive and negative cultures can be influenced by the technological capabilities applied in the organization. Likewise with the study of Alavi et al. (2005), in the findings of Alavi et al. (2005) culture in an organization is closely related to the use of technology used by the organization.

Technology can be described as a means to facilitate organizational activities, and implemented as a manifestation of excellence in increasing value compared to competitors. Especially in today's digital era transformation, technology is used for the purpose of maximizing profits from the organization's business (Siachou et al., 2021). The notion of technology can be assumed as a means of developing the resources and capabilities of organizational members (Clardy, 2008). Perception Schreyögg and Kliesch-Eberl (2007) defined technology capable of being a solution in resolving the limited ability of organizational members to carry out activities related to organizational member goals.

In this fast-paced era, the technology that

is being intensively developed by IT activists is big data (Sivarajah et al., 2017). Big data is the latest and greatest technology according to Gartner's Top 10 Technology Trends for 2013 and Top 10 Critical Tech Trends for the Next Five Years. As a growing trend, big data-based technology is in great demand (Sahal et al., 2020) because it presents information accurately and in real time through 4V characteristics than before. The 4V characteristics include volume, velocity, veracity, and variation which are greater than the previous data base (Gerard et al., 2014; Gepp et al., 2018).

Through information presented big data technology, organizations can gain various advantages such as ease of obtaining data information and customer satisfaction (Ying et al., 2020), increasing organizational capability (Yasmin et al., 2020), improving organizational performance (Yadegaridehkordi et al., 2020), facilitate practical activities in the field of accounting and (Arnaboldi et al., 2017; Gepp et al., 2018; Gepp & Kumar, 2015), and to the create of innovations that the organization continues (Ghasemaghaei & Calic, 2020).

From that reasons, the technology used in the organization greatly affects the culture that develops in the organization (Al Dari et al., 2021), as Al Dari et al. (2021) also stated that, "Organizational culture can be defined as a warehouse of knowledge, where organizational learning is the process of acquiring and updating this knowledge." is the process of acquiring and updating existing knowledge within the organization (Al Dari et al., 2021; Alavi et al., 2005; Argote, 2013).

METHOD

This study aims to reveal the role of organizational culture in organizations based on big data technology. Through qualitative research, social realities and interactions between organizational members can be captured clearly (Bleiker et al., 2019; Chariri, 2009). While the phenomenological approach is used because it is able to describe the phenomenon of a person or group of people into a real picture that can universally be presented in detail and complete based on the subjectivity of the experience of a person or group of people (Creswell et al., 2007).

The research object at PT. Serkolinas. PT. Sekolinas is a technology-based organization using big data applications. Big data in organizations is used as a means to facilitate organizational activities. PT. Serkolinas was chosen because the organization is unique and able to answer research problems. PT. Serkolinas is an organiza-

tion engaged in electricity services, which operates to serve electricity needs throughout Central Java and Yogyakarta. PT. Serkolinas has a total of more than 1,500 branch offices spread throughout Central Java and Yogyakarta.

To answer the research problem, the researcher interviewed eight informants. The informants have specific criteria, including minimum the head of the division, has worked in the company for at least three years, familiar with the company's operations. The head of the division indicated by reason of being able to describe the condition of the members of the organization as a whole, and understand the values embedded in the organization. Then a minimum working period of 3 years is an illustration of the understanding of the use of technology used in the organization as a means of carrying out company operations. The process of extracting information is carried out through unstructured interviews, and adjusts to the conditions of the informant's time.

To validity of the data, the researchers went through a triangulation process. Triangulation procesed is checking data sources through various ways to ensure the truth of the findings that arise, such as checked information from informants during interviews against facts in the field, checked information from one interviews with the other informants. Or by looking directly at the gimmick and gestures of the informant being interviewed.

RESULTS AND DISCUSSIONS

The concept of organizational culture according to the perception of members of the organization PT. Serkolinas

Culture can be defined as a patterns of value, beliefs, assumptions, and behavioral norms which is raised in the form of actions and social relations between one person and another. While organizational culture is a concept formed from a certain culture that is patterned according to what is expected by the organization (Schein, 2017).

Organizational members interpret a culture as a habit that is carried out continuously and has become a tradition that is carried out, as well as organizational culture. Organizational members interpret an organizational culture as a pattern of behavior that is carried out by all members and is believed to be a habit that continues to be developed in order to support organizational performance. The first informant state, "culture according to us, the habits that we run and we believe as a guide to behavior. Which aims to

support the success of the company. Work culture is very important because without a good work culture, organizational performance cannot be achieved optimally".

From the first informant can be concluded that organizational members and managers understand the definition of a culture within the organization. Referring to the definition of culture expressed by Schein (2017) organizational culture is a pattern of values, beliefs, assumptions, and behavioral norms which is raised in the form of actions and social relations between one person and another. And all elements of the organization's members and staff already understand and are clear about the definition of work culture.

A good work culture can improve organizational performance. such as the findings of research by Juliana et al (2021) and Choo (2013) which states that organizational culture greatly affects performance and effectiveness in an organization. From the results of the interviews above, it can also be concluded that the leaders and members of the organization understand the needs of the work culture that exists within an organization. A good work culture in addition to being able to improve organizational performance can also maximize the potential that exists within the organization.

An effective work culture can be seen from the obedience of organizational members to company rules, internal control runs well, and rules and policies run as expected (Choo, 2013). Work culture at PT. Serkolinas has been running effectively, as evidenced by the results of interviews with the second informants said that, "our work culture is quite effective, the proof is that SOPs have been implemented according to the rules, the application of technology and applications on computers or in the equipment of workers in the operational section has also been carried out according to standards. Even though in the early days of implementing technology, everything was difficult to adapt, but gradually,,,,, there was no one year, everything went as expected'.

From the second informant, it can be seen that members of the organization have carried out their work in accordance with the standardized SOPs of the company. The applied technology has also been implemented according to the company's leadership instructions, although it does not take long to adapt to the new technology.

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technology applied has also been implemented according to the instructions of the company leadership, although it does not take a while to adapt to the new technology.

The role of big data in creating organizational culture at PT. Serkolinas

Technology is an important suggestion in helping activities organized (Flyverbom & Murray, 2008), in addition to the presence of technology is able to create a new organizational structure (Alavi et al., 2005; Argote, 2013; Dari et al., 2021).

Big data-based technology applied at PT. Serkolinas is very helpful in activities at work, for example in terms of checking the data of customers who will become potential customers of PT. Serkolinas The third informant state, "with automatic technology, all activities become easier. Of course, technology has its strengths and weaknesses, the weakness is that it requires operators who are capable in their fields, while the advantages are ... all activities can be worth more than before the existence of advanced technology'.

PT. Serkolinas is one of the organizations that has an integrated system with partners operating to supply electrical energy throughout the archipelago and the integrated system is also connected to the directorate general of electricity in Indonesia. The technology applied by PT. Serkolinas is able to become a tool in determining the allocation of job desk division for operational officers.

Previously, the division of tasks related to the operations of employees in the engineering department used to be done manually. Taken from proof of receipt, or written information from the registration administration. But with the presence of big data-based technology. Customers who enter PT. Serkolinas, automatically notification goes to the engineering department, because of the integrated system with PT. PLN and DJK. The fourth informant state, "PT. Serkolinas has technology that is applied in computer and communication devices. All of these are called integrated systems such as big data-based applications. So the service process and company operations become systemized. And all online with integrated partners from the government and the state electricity service office".

For the example the finance department has been able to directly check payment notifications from customers which is integrated with the system at PT. PLN. Because the payment model from partners PT. Serkolinas in the form of transfer. With the existence of big data-based

technology, it is easier for the finance department to calculate the amount of revenue, because all applications installed on computer devices are integrated with PT. Serkolinas, namely PT. PLN Persero and the Directorate General of Electricity (DJK) Indonesia. The fifth and eight informant state, "with an integrated online system, we can more easily check customer administrative information, all customer data and the payment process for the transfer system can all be automatically checked on the online system".

Managers is more easier to make decisions, based on the information presented by big data technology. Because information can be accessed quickly via computer applications or mobile phones that are connected to the internet. Managers when they want to determine revenue targets for next month or make forecasts can be easier by looking at the information presented by big data technology connected to computer equipment at PT. Serkolinas. The sixth and seventh informant state' "with an integrated online system, it is easier for us to make decisions. Evaluating and planning is also easy. Because customer data is entered automatically, the payment system is also easy to check..... therefore, managers can monitor the total revenue at any time, and easily plan budget allocations for operations. So it is more helped by the existence of big data-based technology."

From some of the information obtained, with the technology, activities are easier, as revealed by Alavi et al. (2005), Argote (2005), and Dari et al. (2021) state that technology greatly helps activities, performance, and effectiveness in managing the organization, including in shaping the organizational culture that develops within the organization (Al Dari et al., 2021). Through technology, knowledge transfer can be formed and create capabilities that affect practice in organizations (Argote, 2013).

CONCLUSION AND RECOMMENDATION

The findings of this study are organizational culture as a value and perception contained in an organization can be formed through a technology that is applied in the organization. Technology as a suggestion in facilitating activities in the organization is able to create capabilities in forming an organizational culture. The technology that is being developed at this time is big data, big data is a means to assist the operational processes of the organization and a means to process decision making. Big data as a current application helps organizational members to create a value,

perception, and shape behavior that directly helps improve organizational performance. Through behavior, values, perceptions, which are created in line with organizational goals. A culture that develops into a positive working atmosphere that always helps improve information in the decision-making process.

The suggestion for further research, is better if the culture that develops in the organization is not only influenced by big data-based technology factors to decision-making process, but the technology applied in the organization also needs to be investigated in relation to organizational performance, control, and organizational effectiveness.

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