Digital Leadership (Theory and Implementation in Higher Education)

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Article Info	ABSTRACT
Keywords: Digital Leadership, Implementation, Higher Education	This article is oriented to examine digital leadership theory and the implementation of digital leadership in higher education. The research method used is library research with a qualitative approach. The analysis used is content analysis or content from sources related to digital leadership in higher education. The research results show that (1). Leadership theory in the context of higher education is becoming increasingly important along with technological developments and the need for rapid adaptation to digital change. There are 5 important typologies for building digital leadership in educational institutions, namely digital competence, digital culture, digital differentiation, digital governance and digital advocacy. Digital leadership also requires understanding technology, collaboration between sectors and support for innovation through real movements according to each field. (2). Implementing digital leadership in a higher education institution requires the integration of technology in learning, developing digital skills of staff and students and increasing efficiency through digital systems while still considering the data security aspects of users and those involved in digitalization.
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INTRODUCTION

Indonesia is one of the countries with the highest number of universities, both public and private universities (Setiawan &; Lenawati, 2020). Leadership of higher education institutions is important and interesting to learn. This is because leadership theory continues to develop and change along with the development of the times and technology, especially in the era of the Internet of Things (IoT) or Artificial Intelligence (AI) today (Mihardjo et al., 2019). Digital technology changes the way we communicate and interact with each other, in this case, namely leaders and those who are led. It even changes the structure and mechanism of the institution itself (Brunner et al., 2023).

Changes in the digital leadership structure must be initiated and acted out by the top leadership itself. This is as the results of research from (Msila, 2022) which reveals the importance of the role of leaders in managing digital transformation in universities. Higher education leaders need to understand and adopt digital technologies effectively to improve student access and success. Digital leaders must also be responsive, caring and adapt quickly to digital changes (Kokot et al., 2023). The Pandemic period has made the need for educators and leaders to use digital technology increase (Antonopoulou et al., 2021). Thus,

it requires institutional leaders to transform quickly and precisely since the COVID-19 pandemic (Robertson et al., 2022).

Digital leadership refers to a leader's ability to leverage technology and digital innovation to achieve organizational goals. In the context of higher education, digital leadership includes digital transformation, the use of data for decision making, and the development of digital skills among staff and students (Tanucan et al., 2022). Digital leadership theory includes concepts such as understanding technology, innovation, change adaptation, and digital communication (Goreta et al., 2022). Therefore, there needs to be a study related to today's leadership massively. The study is an input and learning for all of us, especially leaders.

METHODS

This article uses a qualitative approach with the aim of providing an overview of the answers to the problems raised (Sugiyono, 2020). The research used is a type of literature review. The method is reproducible, identified and evaluated from various data sets that have been completed by researchers (Sugiono, 2015). The article in its research uses data analysis, namely content analysis (content) from literature sources that have been collected related to the theory and implementation of digital leadership in universities (Suwartono, 2014). In this study, researchers act as the main instrument to collect, analyze and make conclusions in this study.

RESULTS AND DISCUSSION

Digital Leadership Theory

Leadership is the capacity to guide an institution or institution in achieving its goals and building continuous excellence. An institution must build continuity of excellence well with the latest and time-appropriate systems (Ratajczak, 2022). Digital leadership is a leadership technique in using digital technology as a means of communication, development and achieving the goals of an institution-led (Ehlers, 2020). Digital Leadership can also be defined as a person's strategy in building the environment he leads into a digital environment with strategies, models, structures, mindsets and communication that use *platforms* digital (Saddique et al., 2023).

Digital leadership must also be able to provide a form of application in the effective use of technology, create a culture of collaboration between others and support innovation in the activities carried out (Cheng & Wang, 2023). Digital leadership has been widely applied in the business and economic world as an increase in work results and has a positive impact on these 2 fields. However, digital leadership can also be applied in education as an innovation. The application of leadership digitalization lies in the use of technology, *Internet of Things* (*IoT*), *Big Data*, *Cloud* and *Artificial Intelegent* (AI). An educational institution is an organization that can be promoted through digital technology, both the products produced and the workplace changed from traditional to digital (Antonopoulou et al., 2020). So, it can be concluded that digital leadership is an act of

leading using digital technology, be it *Artificial Intelegent* (AI) as well as other parts of digital technology that can be used in the leadership process itself.

In digital leadership there is a 5D typology (Ghimrawi & Tamim, 2022) that is:

a. Digital Competence

The ability of a leader to use and demonstrate his ability and knowledge of digital technology to be used in the educational institution led (Ghimrawi & Tamim, 2022). In line with this (Munsamy et al., 2023) Detailing digital capabilities in 6 main themes of the framework: (1) embracing digital, (2) leadership that facilitates digital drive, (3) digital adaptation and resilience, (4) fostering digital culture, (5) digital skills, and (6) ability to compete digitally.

So, a college leader must have digital skills not just in using technology. However, these digital capabilities have a broad meaning ranging from embracing communities or institutions led to being able to compete, survive and adapt to rapid digital change.

b. Digital Culture (Budaya Digital)

By definition, digital culture is the behavior and habit of utilizing digital technology in carrying out all activities at the institution (Busco et al., 2023). In carrying out digital leadership, someone needs a digital culture so that the digital leadership process that will be implemented can run well and according to the plan of the leader himself. The development of digital culture must be collaborated based on the values that exist in an institution (Ghimrawi & Tamim, 2022). Correspondingly (Öngel et al., 2024), said that in carrying out the development of digital culture, it must be inclusive by paying attention to diversity and utilizing the excellence and talents of each generation in the organization or institution.

c. Digital Differentiation (Diferensiasi Digital)

A digital leader must be able to provide space for all diversity and differences in using technology. The increasing diversity of people or students and lecturers in the world of higher education, digital leaders together with digital reformers must be able to overcome and protect every difference from them. So that they can work and study intelligently instead of hard (Ghimrawi & Tamim, 2022). In other words, digital differentiation is an effort to provide digital technology in accordance with their abilities and interests in learning.

d. Digital Governance (Tata Kelola Digital)

In managing digital leadership, a leader requires digital governance that comes from top to bottom. The highest leader must have the authority to be able to organize, command and make the best decisions in carrying out the leadership process to achieve the goals that have been set (Ghimrawi & Tamim, 2022).

e. Digital Advocay (Advokasi Digital)

Digital advocacy is a leader's effort in delivering the benefits of using technology for the community in an institution. Digtal advocacy is an important element in the formation of digitalization and digital culture (Ghimrawi & Tamim, 2022). Digital advocacy can also be interpreted as socialization efforts related to the use of technology to reach and shape digital culture.
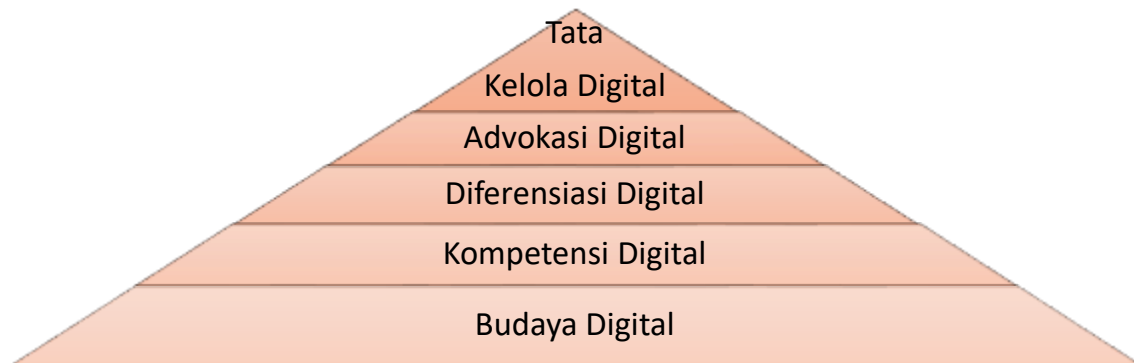
Picture. 1 Digital leadership typology (Ghimrawi & Tamim, 2022)

The typology of digital leadership is presented using a pyramid that describes the size and hierarchy of each section. Digital governance is the most important element so it is at the top but a small portion in doing digital leadership. While digital culture is the next important element and has the largest portion because it must be broad to all people in a led lemabaga (Ghimrawi & Tamim, 2022).

Implementation of Digital Leadership in Higher Education

In an article written by (Antonopoulou et al., 2020) revealed that the greater the level of effectiveness and high satisfaction in line with the level of implementation of digital leadership. Therefore, the implementation of digital leadership is important to be implemented properly in order to improve the results and performance of educational institutions, especially higher education. In implementing digital leadership, it is necessary digital skill such as social media management, cloud computing (cloud computing), digital applications (Antonopoulou et al., 2020).

Of course, in this use, not everyone understands in a fast time, socialization of the use is needed. However, this socialization is currently not a difficult thing because currently there are many students who come from Gen-z and millennials. They are people who were born and raised in the development of technology and digitalization. The task of a university leader is to provide instruments or tools that will be used by the community to be able to participate in the digital leadership presented.

In implementing digital leadership, there are several parts that must be understood by a leader who applies digital leadership in higher education (Ehlers, 2020) that is:
a. The position of Higher Education Institutions in the Digital world. In this regard, educational institutions must maximize the use of digital content and instruments for teaching purposes and various activities carried out in educational institutions, have developed binding structures and procedures for developing and using digital teaching content, exchange of digital teaching practices and the existence of an integrated digital learning architecture.
b. Digital Transformation Vision and Strategy. Related to the statement are the general and shared vision across educational institutions for digital transformation, the integration of the concept of digital transformation into existing strategies and guidelines, digitalization as part of the business activities of educational institutions

and their business models, allies and partnerships between universities that transform digitally and the perceived relevance of digital architecture and the life cycle of digital students in higher education.

c. Implementation and Promotion of Digital Transformation of Higher Education Institutions concerns the integration of data protection, IPR, *Digital Rights Management* (DRM) and copyright regulations throughout higher education as well as appreciation, motivation and incentives for integrating digital media and instruments into the teaching and learning process, the use of digital content and instruments in the teaching and learning process, forums, instruments and structures for the exchange of experiences in The whole university by integrating digitalization into teaching, the conception of quality for the digital transformation of student experience in teaching, administration and research, the professionalization of teachers and employees for digital transformation, the development of digital competencies, coaching and support for the development of digital practices in teaching and administration.

From the explanation above, it can be understood that the implementation of digital leadership must be planned and implemented slowly from an early age. Digital leadership in educational institutions must collaborate together between universities, not just one or two universities. In line with this, (Msila, 2022) In his research, it was revealed that collaboration between departments and units in universities is also key in supporting the implementation of digital technology and digital leadership.

The application of digital leadership in higher education involves several aspects including:

a. Technology integration in learning
   These managerial actions can be thought of as actions centered on strategies and learning models as well as and technology-centered actions that focus on systems, insights from data analysis, and seamless integration of technology through the platform. (Peter et al., 2020)

b. Staff and student digital skills development
   Digital skills need to be imparted to staff and students. Students, staff and lecturers constitute a digital society that will be in the digital leadership environment of a college leader (Karakose et al., 2023).

c. Increased efficiency through digital systems
   By utilizing digital tools to collect and analyze student and faculty data, digital leaders can gain a deeper understanding of their needs and preferences, thus creating a more personalized and efficient community experience (Fang, 2023).

With a deep understanding of the impact of digital technology, higher education leaders can create a culture that supports innovation and transformation in their institutions. This will help ensure that students from various backgrounds are not left behind in the use of digital technology for their education. In addition, leaders also need to pay attention to the differences in conditions between higher education institutions in urban and rural areas to optimize the application of digital technology.

The research still has limitations and shortcomings due to time and science. The research has not been able to provide concrete examples and findings related to digital leadership in Indonesian universities in depth. Researchers hope that in the future there will be those who can continue the research concretely with more complete regard to digital leadership in Indonesian universities and how far the development of digital leadership has been.

CONCLUSION

The results of this study can be concluded that digital leadership theory must be built through 5 typologies, namely digital competence, digital culture, digital differentiation, digital governance and digital advocacy. In its implementation in universities, it must contain an understanding of the position of universities in the digital world, digital transformation visions and strategies, as well as promotion and security in the digital world related to works and copyrights. However, digital leadership in higher education is not just about the application of technology, but also about cultural transformation and skills development among members of the college community. By understanding the theory and what needs to be done in implementing digital leadership, higher education institutions can take significant steps towards more effective digital leadership.

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