THE EFFECT OF DIGITAL TRANSFORMATION ON ORGANIZATIONAL PERFORMANCE: A META ANALYSIS

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ABSTRACT

The Effect of Digital Transformation on Organizational Performance: A Meta-Analysis. Digital transformation is a process of organizational change that utilizes digital technology to improve performance. Digital transformation includes aspects such as processes, business models, and changes in organizational culture. This research aims to analyze the impact of digital transformation on organizational performance. The research used a literature review method to analyze 37 journal articles published between 2016 and 2023.

The research results show that digital transformation has a positive and significant influence on organizational performance. This performance improvement can be seen in increased efficiency, productivity and organizational competitiveness. The impact of digital transformation on organizational performance is not always linear. Several factors can influence the magnitude of digital transformation, including Organization Size, Industry, Organizational Culture, Competitiveness, Technological Change, and Organizational Capability in managing digital transformation. Therefore, organizations need to understand the factors that can influence the impact of digital transformation and make optimal use of digital transformation to improve performance.

Keywords: Digital Transformation, Organizational Performance
JEL Classification:

INTRODUCTION

Improving business performance is one of the primary goals of organizations of all sizes and industries. One area that continues to receive great attention is the impact of

Information Technology (IT) on company performance. Early research on the relationship between IT capabilities and organizational performance focused on the direct influence of IT capabilities on organizational performance. For example, research by Chen et al. (2014) shows that IT capability has a positive and significant influence on financial performance and operational performance. More recent research has begun to explore other mechanisms that might explain how IT capabilities influence organizational performance. For example, research by Melville et al. (2004) show that IT capabilities can improve organizational performance through increasing efficiency, effectiveness and innovation.

Carr (2003) argues that the standardized and universal nature of IT today has led to a reduction in its strategic importance. Information systems that are increasingly standardized and common make it easier for companies to imitate or even improve their competitors' IT capabilities. This raises doubts about the impact and superiority of IT capabilities. Masli et al. (2011) and Chae et al. (2014) supports Carr's argument. They found that companies that have superior IT capabilities do not necessarily perform better than their competitors. Liu et al. (2013) and Yan & Sengupta (2011) also found that the relationship between IT capability and company performance is still unclear. They argue that it is still unclear how IT capabilities impact company performance.

One of the challenges in research on the relationship between IT capability and organizational performance is that there is no agreement regarding the definition and concept of IT capability. Some researchers define IT capability as an organization's capacity to use IT to achieve its goals, while other researchers define IT capability as a set of resources, processes and skills required to develop, implement and manage IT. Another challenge is that there is no agreement regarding the dimensions of IT capabilities. Some researchers identify the dimensions of IT capabilities as technical capabilities, business capabilities, and organizational capabilities, while other researchers identify the dimensions of IT capabilities as strategic capabilities, operational capabilities, and collaboration capabilities.

Previous digital transformation (DT) research has addressed various aspects, including the impact of DT on organizational performance, customers, and society. This research has provided a deeper understanding of the impact of DT, but there are still several aspects that need to be studied further. One aspect that needs to be studied further is DT measurement. Research on DT measurement has discussed various things, but there are still several aspects that need to be studied further, such as the development of a more comprehensive and valid DT measurement method, the application of DT and its impact in the long term, as well as the impact of DT on social and cultural aspects.

Systematic research and meta-analysis can be used to examine these aspects. This research can provide a deeper understanding of these aspects and can be a basis for further research. This research aims to determine variations in the definition of Digital Transformation, Antecedents of Digital Transformation, and Dimensions of Digital Transformation, Measuring Tools for Digital Transformation, Measuring Tools for Organizational Performance, and correlation coefficient values from research results to determine the Effect of DT Measures on Organizational Performance.

Digital transformation can be understood as changes that cause or influence digital technology in all aspects of human life. There is no definition of digital transformation that is generally accepted by researchers, but there are many definitions of digital transformation in

the literature, each tending to reflect the specialization and interests of that researcher. One quite comprehensive definition of digital transformation is a process of systematic and sustainable change in an organization that utilizes digital technology to improve performance, competitiveness and sustainability. This definition emphasizes the systematic and sustainable aspects of digital transformation, as well as the role of digital technology in improving organizational performance.

Digital transformation is becoming increasingly important for organizations conducting business in dynamic and competitive markets. Industry 4.0, which is the fourth phase of the industrial revolution, is characterized by the application of advanced digital technology, such as Artificial Intelligence (AI), *Internet of Things* (IoT), and *Cloud* .

Organizations that adopt digital transformation and the industry 4.0 concept can gain various benefits, such as increased efficiency and productivity, increased product and service quality, increased customer satisfaction, increased innovation and creativity, and increased competitiveness, but digital transformation also presents several challenges, such as; high investment costs, the need for new skills and competencies for employees, security and data privacy risks.

With the increasing role of technology in various aspects of life, organizations are required to adapt and utilize technology optimally to remain relevant and competitive. One important aspect of digital transformation is the effective and safe use of technology. Organizations need to ensure that the technology they use meets organizational needs and objectives, and is managed securely to protect sensitive data and information. Digital transformation is a complex process and requires commitment from all parties in the organization. Organizations that successfully carry out digital transformation will gain various benefits that can improve performance, competitiveness and sustainability.

Organizations need to realize that utilizing technology is not just about having sophisticated hardware and software, but also requires in-depth understanding and training for their employees. Employees need to understand how to leverage technology to increase productivity, collaboration and information security. Investment in technology to support digital transformation is indeed not small. However, it is important to remember that this investment will provide long-term benefits for the organization, such as increased operational efficiency, reduced costs, and increased customer satisfaction.

The Forrester report (2015) quoted by Jackson (2019) states that only 26% of organizations feel ready to implement digital technology. This shows that there are still many organizations that do not fully understand and utilize the potential of technology optimally. Therefore, organizations need to invest in employee training and development so that they have the skills and knowledge necessary to utilize technology effectively. Additionally, organizations need to have a clear strategy for managing and securing their digital information. With a comprehensive and strategic approach, organizations can leverage digital transformation to improve performance, competitiveness and long-term sustainability.

Rapid technological developments have brought significant changes in various aspects of life, including the business world. Digital transformation is a necessity for organizations to remain relevant and competitive in this modern era. Domains in digital transformation play an important role in determining the direction and focus of the transformation that will be carried out by the organization. Domains in digital transformation refer to areas or fields

within an organization that will experience change and renewal as a result of the application of digital technology. This domain will redefine many of the basic principles of strategy and change the rules by which companies operate to be successful. Choosing the right domain in digital transformation will determine the effectiveness and success of the overall transformation. Organizations need to conduct a thorough analysis to identify the domains that are most important and require significant change to support transformation goals.

Digital transformation does not have to be applied to all domains within the organization. Organizations can choose the domains that are most important and have the greatest *cost-effectiveness* and *value-added impact on business performance.* The transformation carried out must be adjusted to the needs of the organization's business processes and in line with long-term business strategy. With a strategic and targeted approach, digital transformation can bring great benefits to organizations, such as increasing operational efficiency, reducing costs, increasing customer satisfaction, and increasing competitiveness.

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Choosing the right domain in digital transformation will determine the effectiveness and success of the overall transformation. Organizations need to conduct a thorough analysis to identify the domains that are most important and require significant change to support transformation goals. Digital transformation does not have to be applied to all domains within the organization. Organizations can select the domains that are most important and have the greatest impact on business performance. The transformation carried out must be adjusted to the needs of the organization's business processes and in line with long-term business strategy. With a strategic and targeted approach, digital transformation can bring extraordinary benefits to organizations, such as increased operational efficiency, reduced costs, increased customer satisfaction, and increased competitiveness.

Domains in digital transformation are important for organizations because; directing the focus of transformation, helping organizations to focus on areas that most need change and have the greatest impact on business performance, adapting business strategies, encouraging organizations to adapt their business strategies to developments in digital technology and take advantage of new opportunities that arise, increasing the effectiveness of transformation and ensuring digital transformation implemented on target and have a significant impact on organizational goals. That the realm of digital transformation is an important component in a successful and sustainable digital transformation process. Organizations that successfully identify and manage their domains well will be in an advantageous position to benefit from digital transformation and become leaders in the industry 4.0 era **.**

METHOD

In this research, researchers used a meta-analysis literature review method as a research methodology using the PRISMA Approach. Researchers carry out an identification process for research related to this topic. In detail, the stages of the research methodology can be described as follows: Literature Search. This research focuses on searching literature in the form of research results published in journals and conferences. The search process was carried out by entering keywords related to the research problem and objectives of this research. Several international journals are used to obtain published research and conference results, including Google Scholar and Scopus. The keywords used in the process of searching for literature sources are "Digital Transformation" and "Organizational Performance". The search results are listed in Appendix 1. Inclusion and Exclusion Criteria Inclusion and exclusion criteria are determined by researchers to exclude research that falls within the exclusion criteria and select studies that meet the inclusion criteria. The inclusion and exclusion criteria that have been determined are:

1) Inclusion
   a. Scientific research takes the form of journals written in English;
   b. Year of study publication in the range 2016 – 2023;
   c. This research is in accordance with the problem formulation in this research;
   d. It is best for quantitative research to use survey methodology;
   e. Using quantitative research with correlation or regression analysis techniques;
   f. There is a definition of Digital Transformation and Organizational Performance;
   g. There are Transformational Digital Antecedents, Transformational Digital Dimensions;
   h. Using Transformational Digital Measuring Tools and Performance Measuring Tools.

2) Exceptions
   - The study is not related to the topic discussed.
   - Research writing does not use English.
   - Book
   - Journals or conferences with a publication year below 2016.

At this stage, an analysis and review process is carried out on the papers that have been collected so that an appropriate research topic is obtained. Based on the inclusion and exclusion criteria, papers were obtained that will be used in this research.

The data analysis method is a process of seeking meaning from a set of data so that it can be included in the discussion of research findings. In other words, this process is used to understand, analyze and reveal the phenomenon of an event and find answers to research questions. Data analysis methods in qualitative research are different from the methods used in quantitative approaches. In quantitative research, the data analysis method uses statistical testing tools, whereas in the qualitative approach, the data analysis method is a complex process and involves inductive and deductive reasoning, as well as description and interpretation so it cannot be tested statistically. Meanwhile, in qualitative research, data analysis methods can be carried out in several ways, namely thematic, comparative, disclosure, content and semiotics.

The data analysis technique used is qualitative content analysis technique. According to Krippendorff (in Drisko & Maschi, 2016), content analysis can be defined as "a research technique for making replicable and valid conclusions from text (or other meaningful things) to the context of its use." This qualitative content analysis is systematic and analytical but not

rigid. Categorization is only used as a guide, allowing other concepts or categorizations to emerge during the research process. The data presented in this research will be made in the form of tables and graphs.

RESULTS AND DISCUSSION

Analysis of Results

Filtering results based on the Prisma method were obtained from 37 journals. The method used in writing this article is a systematic literature review, namely an international literature search carried out using the Herzing Publish or Prerish application database which includes SCOPUS, Google Scholer, Crossref, Web of Science, Semantic Scholer, and Open Alexs. This literature review was carried out using the PRISMA method technique. The PRISMA method is a method used to carry out literature review and meta-analysis activities to facilitate reviewing the structure of the research objective roadmap (Moher et al., 2015).

Meta-analysis in literature reviews is used as an empirical source, where authors can summarize and analyze articles (Amelia et al., 2019). Furthermore, meta-analysis can also define articles according to their qualifications, which will play an important role in solving problems by explaining, synthesizing and assessing quantitative or qualitative evidence as news material. The systematic literature review process was carried out in 3 stages, consisting of searching and retrieving articles, filtering and sorting, and analysis. In the initial stage of searching for online journal articles related to the Influence of Digital Transformation on Organizational Performance, 249 journal articles were obtained in the period January 2016 to 2023. The results identified used the keywords "Digital Transformation" and "Organizational Performance", which resulted in a SCOPUS search: 199 titles, and Google Scholar: 50 titles.

At the sorting stage the articles are copied to "Microsoft Excel". From the filtering results, there was no duplication so it remained at number 249. Next, a more specific selection of articles was carried out by filtering articles based on the inclusion and exclusion criteria in Table 1. Exclusion criteria were articles that did not meet the criteria, such as book chapters, theses, short reports, non-empirical studies or articles. Only international conference proceedings and journal articles were considered to meet the inclusion criteria (Amelia et al., 2019).

Table 1. Inclusion and Exclusion Criteria

NO.	Inclusion Criteria	Exclusion Criteria
1.	In English	Doesn't speak English.
2.	Time period 2016-2023	The time range is below 2016
3.	This journal is indexed and published in International Publishing	Books, Theses, Thesis, Dissertation.
4.	Topic "The Effect of Digital Transformation on Organizational Performance".	All disciplines except Economics and Business.
5.	Quantitative research	The sample size is less than 150

The remaining 101 articles were then filtered again to look for journals that were relevant to the problem formulation. Each article is read and discussed briefly regarding what part is researched, the scope of research, type of research, tools for measuring independent and dependent variables, research focus as reflected in antecedents, definition and dimensions

of digital transformation, as well as research results and effect size. research. Ultimately, 58 articles were removed because they did not meet the research objectives. This resulted in 37 complete articles, which were thoroughly analyzed and synthesized to extract and summarize the basic findings necessary to address the research objectives.
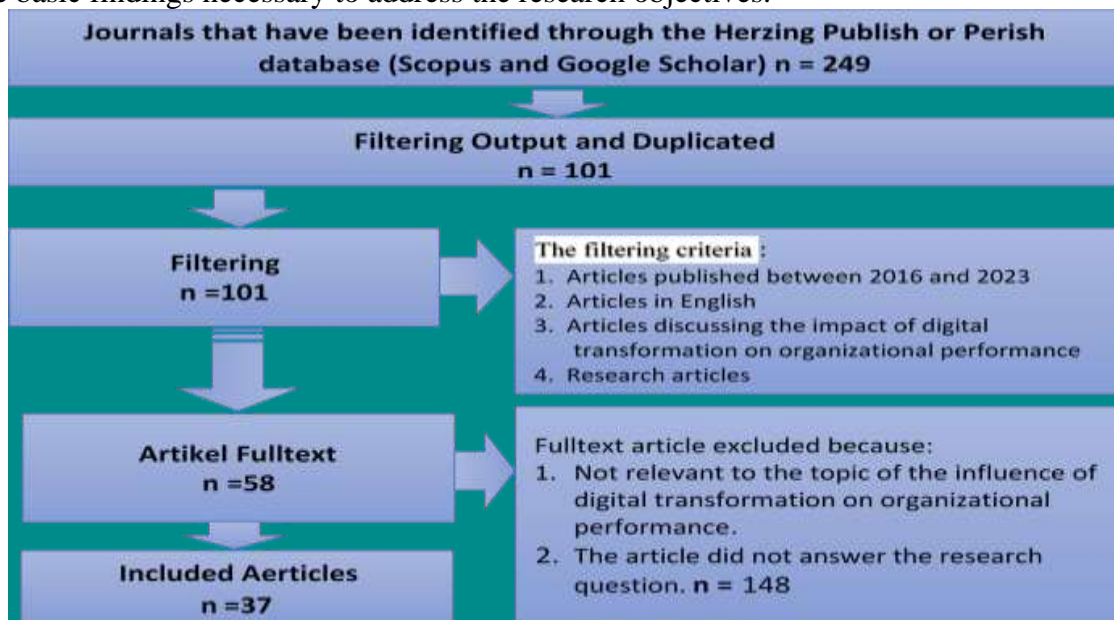

Figure 1: PRISMA diagram

ANALYSIS AND DISCUSSION

The journals selected for meta analysis regarding "The Effect of Digital Transformation on Organizational Performance are as follows. In 2016 and 2017 there were 2 articles each, in 2018 there were 1 article, in 2019 there were 4 articles, in 2020 there were 3 articles, while in 2021 and 2022 there were 7 articles each and in 2023 there were 11 articles.

Definition of Digital Transformation

Based on the results of the analysis of the entire definition of digital transformation used in research, it shows that the expressions that often appear are: the process of integrating digital technology into all aspects of an organization, increasing efficiency, organization, productivity and competitiveness respectively. by 16%, while other phrases were 4%. Based on the results of calculating the frequency of definitions of digital transformation variables used in all articles regarding the influence of digital transformation on organizational performance, it can be concluded that the most widely used definition is the process of integrating digital technology into all aspects of an organization. organization. This definition has a percentage of 16.2% which emphasizes aspects of digital technology and organization as two important elements in digital transformation. Other definitions that are also used in research regarding the influence of digital transformation on organizational performance are: Digital technology with a percentage of 16.2%, Organization with a percentage of 16.2%, Increased efficiency with a percentage of 15.8%, Productivity, with a percentage of 15. .8%, Competitiveness with a percentage of 15.8%.

The results of the analysis show that research on the influence of digital transformation on organizational performance includes various definitions of digital transformation. Selecting an appropriate research definition depends on the research objectives, the type of organization being studied, and the characteristics of the organizational environment. The following are some brief explanations of each expression that is often used in understanding digital transformation:

1. The process of integrating digital technology into all aspects of an organization emphasizes aspects of digital technology and organization as two important elements in digital transformation. This definition also emphasizes the holistic aspect, namely digital transformation must cover all aspects of the organization.
2. Digital technology emphasizes aspects of digital technology as the main factor in digital transformation. This definition emphasizes the importance of using digital technology to improve organizational performance.
3. Organizations emphasize aspects of organizational culture as the main factor in digital transformation. This definition emphasizes the importance of changing organizational culture to support digital transformation.
4. Increasing efficiency emphasizes the aspect of increasing efficiency as the main goal of digital transformation. This definition emphasizes the importance of digital transformation to reduce costs and increase productivity.
5. Productivity emphasizes the aspect of increasing productivity as the main goal of digital transformation. This definition is similar to the definition of "increasing efficiency", but places more emphasis on increasing output.
6. Competitiveness emphasizes the aspect of increasing competitiveness as the main goal of digital transformation.

This definition emphasizes the importance of digital transformation to improve an organization's ability to compete in the market. Research on the influence of digital transformation on organizational performance needs to pay attention to the definition of digital transformation used. The definition of digital transformation used must be appropriate to the research objectives, the type of organization being studied, and the characteristics of the organizational environment. Based on the results of the analysis above, the following is a more comprehensive or holistic definition of digital transformation based on the development trend of digital technology entering the industrial era 5.0:

"Digital transformation is a holistic and value-oriented organizational transformation process that covers all aspects of the organization, from processes, culture and technology, to business models, by utilizing digital technology to create new value for the organization, customers, employees and the organization. other stakeholders."

"This definition is relevant to the Industry 5.0 era which is characterized by rapid and complex technological developments." This definition emphasizes the following important aspects:

1. Holistic, namely digital transformation must cover all aspects of the organization, starting from processes, culture, technology, to business models.
2. Based on digital technology, namely digital transformation, utilizing digital technology as a means to achieve its goals.
3. Value-oriented, namely digital transformation that aims to create new value for the organization, customers, employees and other stakeholders.

4. Sustainability: Digital transformation must be environmentally and socially responsible. Implementing environmentally friendly technologies and encouraging ethical use of data can be additional pillars of this definition.

5. Agility: This definition can emphasize the need for organizations that are adaptable and flexible and can respond quickly to changes in the digital landscape.

6. Focus on people: While technology plays an important role, digital transformation must ultimately meet human needs and improve the well-being of employees, customers and society as a whole.

This definition is also in line with the development trend of digital technology entering the industrial era 5.0. The industrial era 5.0 is marked by the increasingly rapid and complex development of digital technology. Digital technology is not only used to increase efficiency and productivity but also to create new products and services, change business models, and improve the quality of life. With this definition, digital transformation can be a means for organizations to face the challenges and opportunities in the industrial era 5.0. Organizations that can carry out digital transformation well will have a competitive advantage and can improve their performance significantly.

The above definition reinforces Carr's (2003) argument about IT as a commodity, emphasizing the holistic transformation of organizations and the creation of value through technology. This reflects trends discussed by Jackson (2019), such as AI, ML, and robotics, as tools for organizational transformation and performance improvement. It then expands the concept of client IT capabilities to holistic aspects of the organization, emphasizing changes in processes, culture and business models from Masli et al. (2011). In the definition above, recognizing the importance of organizational and customer perspectives in digital transformation, is in line with Yan & Sengupta's findings at the construal level. As stated by Yan & Sengupta (2011), this strengthens their integrated IT business value model by emphasizing holistic aspects and value creation, linking technology with the processes, capabilities and organizational performance of Melville et al. (2004), and in line with Liu et al. (2013), views digital transformation as a complex process, emphasizing holistic change and technology integration for competitive advantage.

Here are some examples of implementing digital transformation in the industrial era 5.0: Utilization of Augmented Reality (AR) and Virtual Reality (VR) technology to provide a more immersive customer experience, Artificial Intelligence (AI) technology to automate processes and decision making, use of blockchain technology to create transparency and security in transactions, and the use of Internet of Things (IoT) technology to collect and analyze data. Organizations that want to carry out digital transformation need to understand digital technology development trends and consider the needs and goals of their organization.

Dimensions of Digital Transformation

Based on the percentage data in the digital transformation dimensions infographic, it can be concluded that digital transformation is a complex process that requires commitment from the entire organization. Digital transformation dimensions can be grouped into two categories, namely internal dimensions and external dimensions.

a. Inner Dimensions

Internal dimensions are dimensions that exist within the organization, namely:

1. Business model (8%): This dimension is important because digital transformation not only changes how organizations use technology, but also changes how organizations operate as a whole. By changing its business model, an organization can become more efficient, effective and competitive.
2. Digital technology (16%): This dimension is important because digital transformation cannot occur without technology. Digital technology allows organizations to collect data, analyze data, and make better decisions.
3. Process (13%): This dimension shows that organizations need to integrate digital technology into their business processes.
4. Change (13%): This dimension shows that digital transformation is an ongoing process that requires continuous change.

b. External dimensions
  External dimensions are dimensions that are outside the organization, namely:
  1. Products or services offered (8%): This dimension indicates that the organization needs to develop new products or services that use digital technology.
  2. Leadership (5%): This dimension is important because digital transformation requires the support of organizational leadership. Leaders must have a clear vision regarding digital transformation and be able to communicate this vision throughout the organization.
  3. Employee motivation (5%): This dimension shows that organizations need to create a work environment that supports digital transformation.
  4. Organizational culture (5%): This dimension shows that organizations need to create a culture that is innovative and easy to adapt to change.
  5. Employee performance (4%): This dimension shows that the organization needs to develop the skills of its employees to support digital transformation.
  6. IT innovation performance (4%): This dimension shows that the organization still needs to improve its ability to innovate in terms of technology.
  7. IT development strategy (3%): This dimension shows that organizations need to have a clear strategy for the development of their digital technology.
  8. Organizational structure (3%): This dimension indicates that the organization needs to adapt its organizational structure to support digital transformation.

Based on this percentage data, it can be concluded that the most important dimensions in digital transformation are business models, digital technology and processes. These dimensions are important because they are the foundation of digital transformation. The business model is the most important dimension because it determines how an organization operates. By changing its business model, an organization can utilize digital technology to be more efficient, effective and competitive. Digital technology is an important dimension because it allows organizations to collect data, analyze data and make better decisions. Digital technology also enables organizations to develop new and innovative products or services. Process is an important dimension because it determines how an organization carries out its activities. By integrating digital technology into its business processes, organizations can increase the efficiency and effectiveness of their business processes. Other dimensions are also important in digital transformation, but not as important as the three dimensions mentioned above. These dimensions can support the success of digital transformation, but do not determine the success of digital transformation.

Based on this percentage data, it can be concluded that digital transformation is a complex process that requires commitment from the entire organization. Organizations need to understand the dimensions of digital transformation and develop effective strategies to achieve their digital transformation goals. Here are some tips for developing an effective digital transformation strategy:

a. Start by understanding the needs of the organization, understand the goals the organization wants to achieve through digital transformation?
b. Identify the dimensions of digital transformation that are most important to the organization, focusing on these dimensions.
c. Develop a comprehensive strategy that covers all dimensions of digital transformation.
d. Implement the strategy in stages and evaluate it periodically.

By understanding the dimensions of digital transformation and developing effective strategies, organizations can increase their chances of success in digital transformation.

Antecedents of Digital Transformation

Based on the results of calculating the antecedent frequency of digital transformation variables used throughout the article, the influence of digital transformation on organizational performance can show that:

1. The antecedent most widely discussed in research on the influence of digital transformation on organizational performance is technological development with a percentage of 20%. This shows that technological developments are the most important factor driving digital transformation.
2. Other antecedents that are also discussed in research regarding the influence of digital transformation on organizational performance are:
a. Business competition, with a percentage of 21%. This shows that increasingly fierce business competition is encouraging organizations to carry out digital transformation to increase their competitiveness.
b. Consumer behavior, with a percentage of 21%. This shows that changes in increasingly digital consumer behavior encourage organizations to carry out digital transformation to meet consumer needs.
c. Transformational leadership, with a percentage of 12%. This shows that transformational leadership can encourage organizations to carry out digital transformation.
d. Others, with a percentage of 21%. Other antecedents discussed in research regarding the influence of digital transformation on organizational performance include government policy, industrial policy, regulatory changes, market forces, social factors, and economic factors.

In general, it can be concluded that research on the influence of digital transformation on organizational performance includes various antecedents. The selection of appropriate antecedents to study depends on the objectives of the research, the type of organization being studied, and the characteristics of the organizational environment. Here are some brief explanations of each of the factors that precede it:

1. Technological developments are changes that occur in technology, both in terms of hardware, software and infrastructure. Technological developments can encourage digital transformation by providing new technology that organizations can utilize to improve their performance.

2. Business competition is competition that occurs between organizations operating in the same field. Increasingly tight business competition encourages organizations to carry out digital transformation to increase their competitiveness.
3. Consumer behavior is the way consumers buy, consume and use products or services. Changes in increasingly digital consumer behavior encourage organizations to carry out digital transformation to meet consumer needs.
4. Transformational leadership is a leadership style that focuses on employee and organizational development. Transformational leadership can encourage organizations to carry out digital transformation by creating a culture that supports innovation and change.

Research on the influence of digital transformation on organizational performance needs to pay attention to the appropriate antecedents to be studied. Appropriate antecedents will help researchers to understand the factors driving digital transformation and their impact on organizational performance.

Types of research

Based on the results of calculating the frequency of research types used in all articles regarding the influence of digital transformation on organizational performance, it can be concluded that:

a. The most widely used type of research is qualitative research with a percentage of 21.62%. Qualitative research is used to understand the processes and dynamics of change that occur in organizations due to digital transformation.
b. Other types of research that are also used in research regarding the influence of digital transformation on organizational performance are:
   1) Quantitative research, with a percentage of 24.32%. Quantitative research is used to test hypotheses regarding the influence of digital transformation on organizational performance.
   2) Case study, with a percentage of 24.32%. Case studies are used to understand the processes and dynamics of changes that occur in organizations due to digital transformation.
   3) Statistical and regression analysis, with a percentage of 21.62%. Statistical analysis and regression are used to test the relationship between variables studied in quantitative research.
   4) Conceptual model, with a percentage of 2.70%. Conceptual models are used to describe the relationships between variables studied in qualitative and quantitative research.
   5) Multi-Criteria Decision Analysis (Multi Criteria Desicion Analytis), with a percentage of 2.70%. MCDA analysis is used to compare alternative digital transformation strategies.
   6) Qualitative and quantitative research, with a percentage of 2.70%. Qualitative and quantitative research combines both research methods to provide a more comprehensive understanding of the phenomenon under study.

In general, research on the influence of digital transformation on organizational performance includes various types of research. Choosing the right type of research to research depends on the research objectives, the type of organization being studied, and the characteristics of the organizational environment. Here are some brief explanations about each type of research:

1. Qualitative research is research that uses non-numerical data to analyze social phenomena. Qualitative research is often used to understand the processes and dynamics of change that occur in organizations due to digital transformation.
2. Quantitative research is research that uses numerical data to analyze social phenomena. Quantitative research is often used to test hypotheses about the influence of digital transformation on organizational performance.
3. Case research is research that focuses on one or several specific cases. Case research is often used to understand the processes and dynamics of changes that occur in organizations due to digital transformation in depth.
4. Statistical analysis and regression are data analysis techniques used to test the relationship between the variables studied. Statistical and regression analysis are often used in quantitative research to test hypotheses about the influence of digital transformation on organizational performance.
5. A conceptual model is a graphical representation of the relationships between the variables studied. Conceptual models are often used in qualitative and quantitative research to explain the hypotheses being tested.
6. MCDA analysis is an analysis technique used to compare alternative digital transformation strategies. MCDA analysis is often used in quantitative research to determine the most effective digital transformation strategies.
7. Qualitative and quantitative research is research that combines both research methods to provide a more comprehensive understanding of the phenomenon being studied.

Qualitative and quantitative research is often used in research on the influence of digital transformation on organizational performance to understand the processes and dynamics of change that occur in organizations in depth and test hypotheses about the influence of digital transformation on organizational performance.

Data Analysis Tools

Based on the results of calculating the frequency of data analysis tools used in all articles regarding the influence of digital transformation on organizational performance, it can be concluded that:

a. The most widely used data analysis tool is quantitative analysis with a percentage of 24.32%. Quantitative analysis uses numerical data to analyze relationships between variables. Quantitative analysis is often used to test hypotheses about the influence of digital transformation on organizational performance.
b. The second data analysis tool that is widely used is qualitative analysis with a percentage of 21.03%. Qualitative analysis uses non-numerical data to analyze social phenomena. Qualitative analysis is often used to understand the processes and dynamics of change that occur in organizations due to digital transformation.
c. Other data analysis tools that are also used are:
   1. Conceptual model, with a percentage of 10.81%. A conceptual model is a graphical representation of the relationships between the variables studied. Conceptual models are often used to explain hypotheses tested in research.
   2. Statistical analysis, with a percentage of 10.81%. Statistical analysis is an analytical method used to test hypotheses about the relationship between the variables studied. Statistical analysis is often used to quantitatively test hypotheses about the influence of digital transformation on organizational performance.

3. Case analysis, with a percentage of 8.11%. Case analysis is an in-depth study of one or more cases. Case analysis is often used to understand the processes and dynamics of change that occur in organizations in depth.

4. Structural equation model (SEM), with a percentage of 8.11%. SEM is an analytical method used to test the relationships between variables studied in the context of a structural model. SEM is often used to test hypotheses about the influence of digital transformation on organizational performance in the context of certain theoretical models.

5. Regression analysis, with a percentage of 5.41%. Regression analysis is used to test the relationship between the dependent variable and the independent variable. Regression analysis is often used to quantitatively test hypotheses about the influence of digital transformation on organizational performance.

6. Qualitative and quantitative analysis, with a percentage of 2.70%. Qualitative and quantitative analysis combines both methods of analysis to provide a more comprehensive understanding of the phenomenon under study.

7. Correlation analysis, with a percentage of 2.70%. Correlation analysis is used to measure the relationship between two variables. Correlation analysis is often used to qualitatively test hypotheses about the influence of digital transformation on organizational performance.

In general, it can be concluded that research on the influence of digital transformation on organizational performance uses various kinds of data analysis tools. The selection of appropriate data analysis tools depends on the research objectives, the type of data available, and the characteristics of the phenomenon being studied.

Measures of the Effect of Digital Transformation on Organizational Performance

The results of calculating the magnitude of the influence of digital transformation on organizational performance can be concluded:

a. Large effect with a percentage of 29.73%. This means that digital transformation has a huge influence on organizational performance. This can be seen from the significant increase in organizational performance after carrying out digital transformation.

b. Medium effect with a percentage of 62.16%. This means that digital transformation has a significant influence on organizational performance. This can be seen from the moderate increase in organizational performance after carrying out digital transformation.

c. Small effect with a percentage of 8.11%. This means that digital transformation has little influence on organizational performance. This can be seen from the small increase in organizational performance after carrying out digital transformation.

In general, the results of calculating the frequency of this effect size show that digital transformation has a positive influence on organizational performance. This influence can be seen in increasing organizational performance in various aspects, such as efficiency, effectiveness and competitiveness. From the calculation results, an average effect size of 0.176 is obtained. Based on these criteria, it means that digital transformation has a moderate influence on organizational performance. Several factors that can influence the size of the impact of digital transformation on organizational performance include:

a. Organizational readiness level. Organizations that have a high level of readiness in carrying out digital transformation will be more likely to have a big impact.

b. Quality of digital transformation implementation. The better the quality of implementing digital transformation, the greater the effect obtained.

c. Organizational environmental conditions. Supportive organizational environmental conditions will make it easier for organizations to get a big impact from digital transformation.

By paying attention to the size of the influence of digital transformation on organizational performance, organizations need to prepare themselves well before carrying out digital transformation. This preparation includes increasing organizational readiness, preparing a comprehensive implementation plan, and identifying supportive organizational environmental conditions.

Research Limitations

This research has several limitations, namely:
1. This research only examines the effect of digital transformation on organizational performance in general. Further research needs to be carried out to examine the influence of digital transformation on organizational performance in various sectors and organizational scales.
2. This research only examines the effect of digital transformation on organizational performance in the short term. Further research needs to be conducted to examine the influence of digital transformation on long-term organizational performance.

CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that digital transformation has a positive influence on organizational performance. This influence can be seen in increasing organizational performance in various aspects, such as efficiency, effectiveness and competitiveness which can be concluded as follows:
1. Digital transformation can be defined as an organizational transformation process that covers all aspects, from processes, organizational culture and technology, to business models, by utilizing digital technology to create new value for customers, employees and other stakeholders.
2. The dimensions of digital transformation that are most widely discussed in research on the influence of digital transformation on organizational performance are organizational processes and culture.
3. The antecedent of digital transformation that is most widely discussed in research on the influence of digital transformation on organizational performance is technological development.
4. The type of research most widely used in research on the influence of digital transformation on organizational performance is qualitative research.
5. The data analysis tool most widely used in research on the influence of digital transformation on organizational performance is qualitative analysis.
6. The magnitude of the influence of digital transformation on organizational performance can be categorized into three, namely large, medium and small.

Suggestion

Based on the key findings from this research, here are some suggestions for organizations looking to undertake digital transformation:

1. Organizations need to prepare themselves well before carrying out digital transformation. This preparation includes increasing organizational readiness, preparing a comprehensive implementation plan, and identifying supporting organizational environmental conditions.
2. Organizations need to choose dimensions of digital transformation that suit organizational needs and goals.
3. Organizations need to identify digital transformation antecedents that can support digital transformation success.
4. Organizations need to use the right type of research and data analysis tools to examine the impact of digital transformation on organizational performance.

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