The Role of Interior Designers in Society 5.0 in the Current Interior Industry

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Abstract

Qualified through education, experience and examination, an interior designer can identify, research and creatively solve problems and direct the design towards a healthy, safe and comfortable physical environment. Interior designers in society 5.0 are expected to be able to create new value through the development of advanced technology so that they can reduce the gap between humans and problems in the future. Apart from the above, "Design Thinking" is an effort to understand the meaning and scope of design in digital society. The era of the digital revolution is marked by digital media that dominates information and communication systems. Interior designers also understand it completely and are expected to be able to create concepts that construct meaning in a sustainable manner. In the era of society 5.0, In relation to the Sustainable Development Goals/SDGs, interior design is very important. The understanding of sustainability in influencing the environment has encouraged interior designers to adopt a more environmentally friendly approach. This is where the important role of interior designers plays, with advances in technology and design bringing changes to the interior industry. The aim of the research is to increase productivity and reduce costs, the automation process can reduce time from daily work, employees can focus on strategic work so as to create work more quickly. The method used in this research is a qualitative method with a phenomenological approach. The expected results of this research are that it can provide additional knowledge for the world of education, especially interior designers.

Keywords: *Society 5.0, Interior designer, Sustainable, Environment, Technology*

INTRODUCTION

Society 5.0 is concept that is general refers to development continuous technology increase automation and digitalization in industry , one of which is the interior industry . Interior design in this era focuses on merging between technology and humans , as well need For develop more system adaptive and responsive to change in environment industry interior... The role of interior designers before the era of society 5.0 was a interior designer only own not quite enough answer For create a room that is harmonious , functional and safe past A planning as well as planning room , which focuses on the preparation process interior elements . Whereas moment In the era of society 5.0, interior designers are being demanded For more understand his job with based technology in finish various challenge production in the interior industry for increase quality , speed up the production process , reduce need power work , create system integration so more efficient . Based on matter the on then , in study aim For understand and know role interior designer in the era of society 5.0 in the interior industry .

Become a interior designers don't only own Skills channel vision creativity in combine element element design in A composition course , but interior designer as problem solving need insight and creativity in see problems developing in society now . Challenge for interior designer is How Can see opportunity For create idea get creative in facilitate activities and behavior man in the space needed in the era of society 5.0. The current interior industry This . In society 5.0 which is society will integrate machine as well as intelligence artificial believed will help man with more maximum . So, society Can focus create innovation and creativity with new ideas in a way more active . (https://www.djkn.kemenkeu.go.id/kpknl-lahat/baca-article/16023/Mengenal-Revolution-Industri-50.html)

Society 5.0 is more focuses on integration between technology advanced such as AI, IoT, and with skill people and innovation that can push development system more production efficient , flexible , sustainable , and improving well-being . This matter aim For create system more production adaptive to change market demand , more focuses on experience customers, as well optimizing utilization source Power limited nature . As in the picture following:

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Figure 1 History of the Revolution Industry

Source https://www.dicoding.com/blog/society-5-0

Following is a number of profit other .

Enhancement Efficiency and Productivity

Society 5.0 will possible enhancement efficiency and productivity in various industry with automation of processes and usage technology new like utilization of AI and data analysis . For example course in the field of HR, utilization HRIS technology makes it possible company For integrating company data . This matter can makes it easier company in managing employee data and inventory in one easy platform accessed anytime and anywhere .

Enhancement Quality Products and Services

With use technology sophisticated , company can increase quality products and services them , so increase satisfaction customers and strengthen position them on the market.

Enhancement Flexibility Production

Society 5.0 will possible company For produce more products diverse and adaptable market demand with fast .

Enhancement Safety Work

Development technology towards the 5.0 era will possible exists use of robots and technology advanced other For reduce risk on -site accidents and injuries Work .

Enhancement Continuity

The essence of the 5.0 era is help industry more care to environment . This matter can started with use technology energy green and more production process efficient and responsible answer No only on society , but also its impact on the environment .

Increasing competitiveness

With apply technology sophisticated and more production processes efficient , company can increase Power competitive them in the global market and expanding their market share . Existing human resources are also required For Keep going improve their skills so that they No only do work Repetitive , but also capable own thinking strategic For upgrade performance .

Enhancement Quality of Life

Society 5.0 can help repair quality life man with increase access to service more health and education OK , as well possible development city intelligent or a more smart city sustainable and friendly environment .

Based on exposure on so formulation the problem is

How innovation can push development system more interior industrial production efficient ?

How optimize knowledge interior designer with AI assistance ?

How speed up work interior designer with help machine ?

Approach Solution Problem

The concept of society 5.0 in the interior industry is one challenge for interior designer for still exist in works including is :

Design for efficiency energy

Consumption energy is one of the contributor main change climate . Building responsible answer on part big house gas emissions world glass , caused by consumption energy . Interior designers can do Lots matter For increase efficiency energy buildings , esp with reduce amount energy required For heating , lighting , moderate equipment walking , etc. , and with provide energy renewable , non- carbon based For building like solar panels .

Air conditioning and lighting are two factors The most important thing an interior designer has . Because in part big hot building enter through window , it is important that installed window quality high and provide good insulation . Curtains and blinds guard air cold and hot the sun outside . Closing windows , blinds and shades possible residents control temperature building with economical way energy with open and close it in accordance need .

For save energy spent For lighting , many can done only with choose the right color . More color bright reflect more Lots light , meanwhile rooms with walls and more furniture dark need more Lots lighting artificial . Use surface reflective like glass or metal enhance amount light in the room with reflect it , reduce it dependence on lighting artificial .

Design with impact low environment

From perspective Sustainable design , very important for choose materials and products with impact environment Lowest . Organic materials (e.g. wood, wool , natural stone) apparently is an obvious choice , but We No can forget that source Power natural need treated in a way responsible answer . Choose fast material renewable (eg growing bamboo fast), and extracted with responsible way answer to environment .

Design for subtraction waste

Interior designers have Lots power in hand they in matter subtraction waste , and at the same time , responsibility answer big For Act in a sustainable manner. Source Power precious this planet limited , so activity throw away product quick after they go out from style and replace it with the current one This currently trendy No Again can justified . Luckily , the world of design become the more aware will necessity continuous thinking and experiencing enhancement interest in ongoing trends , such as cycle repeat , cycle reset , and repurposing. (https://www.arsitur.com/2019/09/5-principle-design-interior-sustainable.html)

LITERATURE REVIEW

Awang Eka Novia Rizali, ENVISI 2020 National Seminar: Creative Industries, Title Designer Intellectuality and Creativity as an Opportunity, Improving the Creative Industry.

In this proceeding, the concept of Society 5.0 is presented which causes changes in the way of life and human work processes. Humans have an important role in the current rapid development of information technology and industry. The creative industry is the driver of the creative economy in Indonesia.

Yogyakarta Industrial Training Center, Title: Getting to know the Interior Designer profession.

This article explains the role and profession of an interior designer with their duties and responsibilities as well as

being able to draw freehand and use CAD tools

Dwi Sulistyawati, Title Challenges for Interior Designers on Humans and Space Needs in the Era of Information Technology

This article explains the challenges of interior designers regarding advances in information technology in the field of interior design

Limya Oktavianni, Title Society 5.0: Title Smart Society, Definition and Application.

In this article, we explain the integration of robots and artificial intelligence to speed up the production process and reduce the need for labor. Creating an integration system between industrial fields to make it more efficient. Providing goods that are delivered more quickly according to consumer wishes at low prices.

Indonesian Media, 28 Nov 2023. Title Interior Design Innovation Gives a Deep Impression to a Building,

News conveyed about the role of Indonesian interior designers in their involvement in several buildings in Indonesia

Rahmawan D. Prasetya, Transspace Journal Vol. 3/1/2013, Title The Active Role of Interior Designers in the Development of the Creative Industry

In this article, it is explained that interior design is expected to be able to make both social and economic contributions to the country. Industries involved in the chain of interior design fields

Tjok Oka Artha Ardhana Sukawati, National Seminar on Design-Proceedings of SANDI 2021, Title The Role of Learning Designers in Welcoming the Era of Society 5.0

This seminar conveyed the readiness of intelligent communities to welcome the era of society 5.0

I Nyoman Larry Julianto, National Seminar on Design-Proceedings of SANDI 2021, Title Design Thinking in Efforts to Face the Era of Society 5.0

In this seminar, it was explained how an interior designer thinks design-wise in facing the Society 5.0 era

Amr Adel. Journal of Cloud Computing. Vol 11/40, 2022, Title Future of industry 5.0 in society: human-centric solutions, challenges and prospective research areas.

In this journal, a study of the difficulties and discussion of problems caused by robots and humans in the assembly process is presented.

Moslem Alimohammadlou; Zahra Khosepehr Environmental Science and Pollution Research. Vol 30, 2023, Title The role of Society 5.0 in achieving sustainable development: a spherical fuzzy set approach.

This journal is about Society 5.0 in encouraging the use of artificial intelligence in human life and trying to achieve better economic growth than before.

Elias G. carayannis; Joanna Marawska-Jancelewicz,.. Journal of the Knowledge Economy, Vol 13, 2022, Title The future of Europe: Society 5.0 and industry 5.0 as Driving Forces of Future Universities

This journal article discusses the concept of Society 5.0 and Industry 5.0, which is not a simple chronological continuation or alternative to the Industry 4.0 paradigm. Society 5.0 aims to place humans at the center of innovation, harnessing the impact of technology and the results of industry 4.0 with the integration of technology to improve the quality of life .

Bruno Salgues, Journal Science, Society and New Technology Series, Vol 1, 2018, Title Society 5.0: Industry of the Future, Technologies, Methods and Tools.

This journal discusses the rapid development of connected technology, which is now very sophisticated and spread throughout the world, Society 5.0 has emerged and brought with it dramatic social changes.

Padmanathan kasinatan et al, Sustainability Vol 14/22, 2022, Title Realization of Sustainable Development Goals with Disruptive Technologies by Integrating Industry 5.0, Society 5.0, Smart Cities and Villages

This journal discusses a prospective society that must be directed towards sustainable development, a process in which technology plays an important role. The proposed study addresses the potential of technology to achieve the Sustainable Development Goals through disruptive technologies.

METHODS AND ANALYSIS

The method used in this research is qualitative with a phenomenological approach. Phenomenological research is a type of research that looks and listens more closely, providing detailed explanations and individual understanding of their experiences. Phenomenological research aims to interpret and explain the experiences a person experiences in life, including experiences when interacting with other people and the surrounding environment. In the context of qualitative research, the presence of a phenomenon can be interpreted as something that exists and appears in the researcher's consciousness using certain methods and explanations of how the process of something becomes clear and real.

Phenomenological research prioritizes searching, studying and conveying the meaning of phenomena, events that occur and their relationship with ordinary people in certain situations. Qualitative research is included in pure qualitative research because its implementation is based on efforts to understand and describe the intrinsic characteristics of phenomena that occur to oneself (Eko Sugianto, 2015: 13).

This phenomenological approach will answer the problem formulation by means of: observations, data and documents from several sources as individuals through the experiences of interior designers in responding to their roles in the current era of society 5.0. The qualitative method with a phenomenological approach tries to solve problems in the interior industry production system and optimize knowledge with the help of AI and machines.

Production System Table

Source: Personal Doc

Analysis

How can innovation encourage the development of more efficient production systems?

Of course, we agree that innovation and strategy are a way to streamline production to increase the success of the business/work undertaken. The production process can be accelerated, waste and unnecessary expenses can be reduced. This is an approach that can increase production efficiency. One strategy to increase production efficiency in the digital era is to approach technology integration in the production process. This means that it will periodically reduce human tasks which has the potential to increase productivity. Integrating technology will optimize the use of resources and reduce operational costs and create production efficiency. Regarding Sustainable SDGS, it plays an important role in reducing environmental impacts by optimizing energy use. The main objective is to monitor and reduce inefficient energy use during production, encourage the realization of better energy efficiency and ensure sustainability in the long term .

To achieve successful production efficiency, we must adopt appropriate innovations and strategies. Success lies

in the use of the latest technology which enables effective optimization of production processes. The integration of innovation, strategy and the latest technology brings an increase in production efficiency. It shows how companies can optimize operational activities, minimize production costs, and simultaneously, generate higher profits. Controlling energy use not only facilitates efficiency but also ensures business sustainability in the future.

RESULT

How to optimize one's knowledge with the help of AI?

"Artificial Intelligence (AI) is a branch of computer science that represents knowledge using symbols rather than numbers, and processes information based on *heuristic methods* or based on a number of rules." (Encyclopedia Britannica). Artificial intelligence (AI) allows machines to learn from experience, adapt to new inputs and perform tasks like humans. Using artificial intelligence technology, computers can be trained to complete specific tasks by processing large amounts of data and recognizing patterns in the data. Several types of fields that use artificial intelligence include expert systems, computer games, fuzzy logic, artificial neural networks and robotics. Nowadays, computers are no longer only used as calculating tools, more than that, computers are expected to be empowered to do everything that humans can do. For this reason, artificial intelligence was created and inserted into a machine (computer) so that it can do work like humans can do, for example the ability to answer diagnoses and customer questions, as well as recognize handwriting, voice, faces and so on.

Main scope of artificial intelligence:

- Expert system. Computers are used as a means of storing expert knowledge. In this way, computers will have the expertise to solve problems by imitating the skills of experts

- Natural language processing. With natural language processing, it is hoped that users will be able to communicate with computers using everyday language.

- Speech recognition. Through speech recognition, it is hoped that humans will be able to communicate with computers using voice.

- Robotics and *Sensor Systems*

- *Computer vision* , tries to interpret images or visible objects through a computer

- *Intelligent Computer aid Instruction* . Computers can be used as tutors who can train and teach

Artificial intelligence is created and inserted into a machine (computer) so that it can do work like humans can do, for example the ability to answer diagnoses and customer questions, as well as recognize handwriting, voice, faces and so on.

How to speed up work with the help of machines?

Artificial Intelligence is a branch of science related to the use of machines to solve complex problems. This is usually done by following/copying the characteristics and thinking analogies of human intelligence/intelligence, and applying them as algorithms known to computers. With a more or less flexible and efficient approach it can be taken depending on the needs, which influence how the artificial intelligence behaves.

The development of technology in the campus world is certainly important in implementing field work processes that require acceleration in work. A job in processing raw materials into finished goods with a predetermined design through a process in a system that is carried out using existing machine tools. Interior design study program workshops become very important when used in the learning process for several courses that apply practice. The tools owned by the design and creative arts faculty are quite capable of providing answers to the lecturer's tasks assigned to students in creating their work. The work process in the wood workshop/laboratory is not completely like production activities in companies, but it can be a good learning experience for students. The following is the process carried out in the wood workshop/laboratory of the interior design study program, FDSk UMB:

1. *Molding Process* . A process of printing certain activities using raw materials from metal, acrylic or plywood.

2. *Machining Process* . A process that requires machine assistance in removing several parts. This process consists of widening/reaming, screwing. shaping, drilling/boring, drilling/drilling, sawing, grinding, turning and fracing/milling.

Joining Process . A process of combining several parts into a complete product. For example, cellphone holder products, souvenir crafts, etc

4. *Shearing Process.* A process of cutting into smaller parts so that they can be processed further. Usually on sheet metal using a cutting machine called a shear cutting machine.

5. *Finishing* . A drying process after spraying with certain materials in liquid or spray form.

The wood laboratory, with the existing space and tools, is expected to accommodate designer practicum service activities. The research involved workshops/laboratories as part of this research. Carrying out activities in the workshop room as part of research collaboration. Through the help of assistants in practice using tools with materials available at the location, this can be done by cutting, sawing, drilling, etc. To be able to find out whether existing tools can speed up existing work, compared to work done manually with the same process. The results obtained show that the machine really helps speed up the process of wood work being carried out.
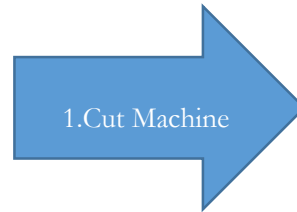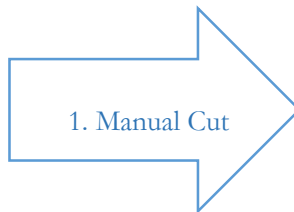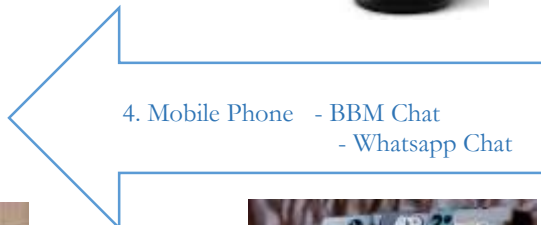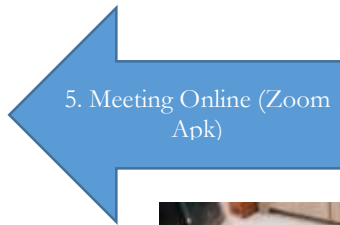
DISCUSSION

1. According to designer T. Atmadi, a teacher and interior design practitioner, expressed his experience regarding society 5.0 as follows: The use of computers in the learning process is highly recommended, because the process of drawing via computer aided design or CAD is something that students must master. Using CAD in the drawing process or design process after going through the sketching and other design development stages, must start from the most basic things when learning CAD. In learning CAD, designers can create new layers, set layer properties, and change objects to different layers. Designers can set individual object properties, such as changing the line color, changing the line type, or determining the line thickness. The presence of society 5.0 provides a significant change in the development of digital interior design technology, this makes CAD a very useful tool in creating technical, detailed and accurate drawings, as well as being able to create innovative designs. Efforts to face society 5.0 require us to think design-wise in creating visual works. It is hoped that the concept of society 5.0 can bring changes to the world of education for the better. Therefore, interior designers in facing society 5.0 can integrate machines and artificial intelligence which is believed to help humans more optimally. So, people can focus on creating innovation and being creative with new ideas more actively.
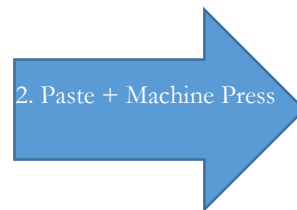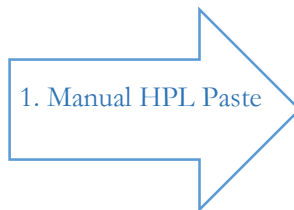
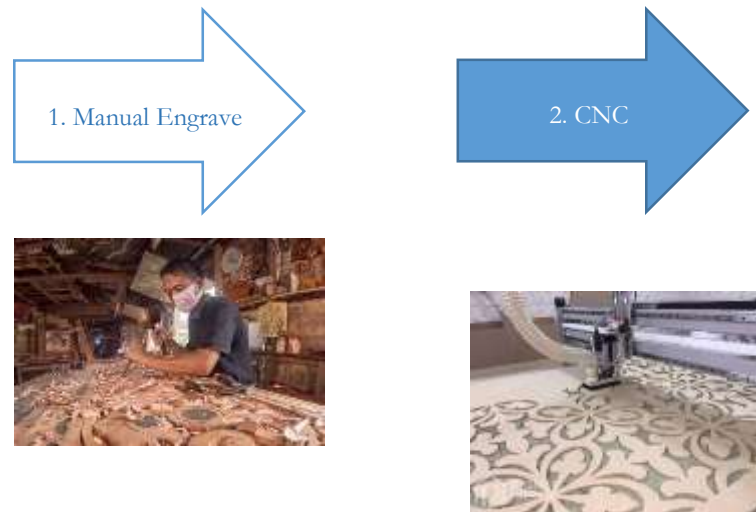2. According to Mother Designer. Yenny Reres

Working Method Designer → 1. Drawing Table → 2. Computer/ Desktop → 3. Laptop (movable)

Designer Communication Methods → 1. Meeting offline → 2. Cable Telepon → 3. cordless telephone

5. Meeting Online (Zoom Apk)

4. Mobile Phone — BBM Chat
— Whatsapp Chat

1. Manual Cut

1. Cut Machine
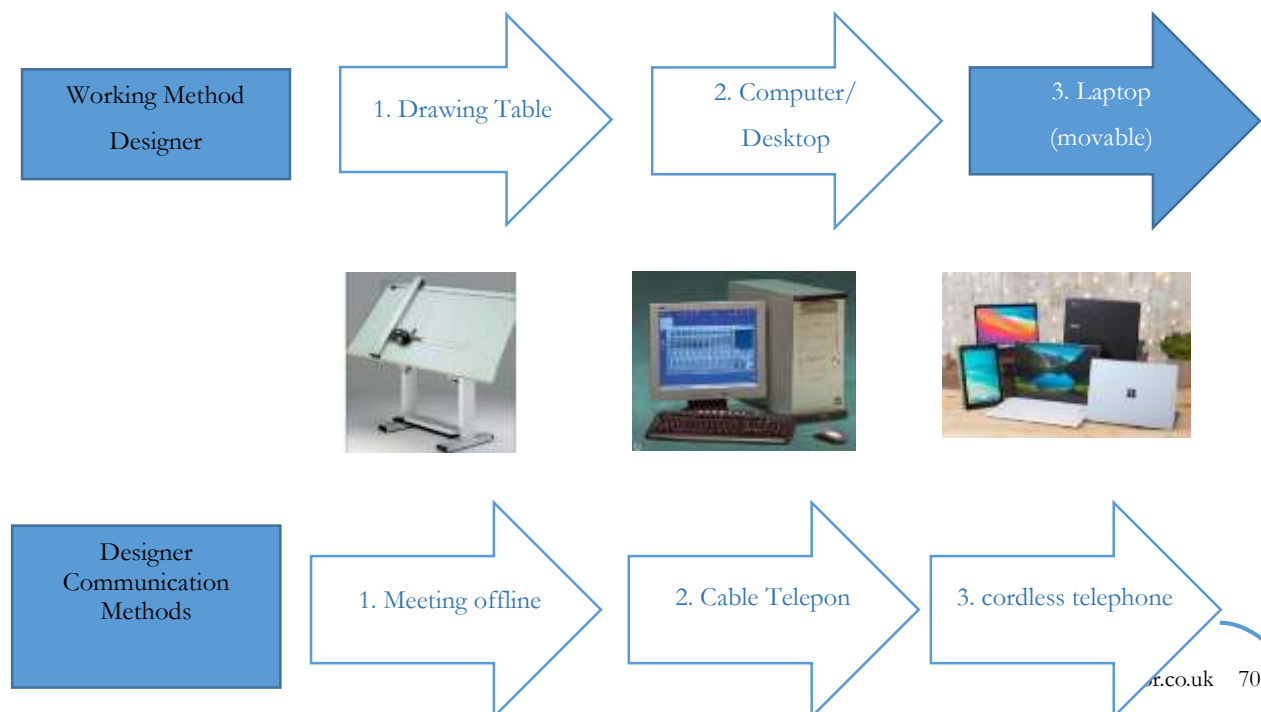
Working Method at the Workshop

1. Manual HPL Paste

2. Paste + Machine Press

Conclusion

- Speed up the work process

- Saving time

- Better quality of work

- Production costs can be minimized due to the speed of the production process

According to designer Angga Dwitiya Ramadhan

New challenges and opportunities in creating an environment that supports the prosperity and sustainability of the interior world that designers need to pursue. The following is input related to society 5.0 today:

a)   Use of Smart Technology, Interior designers must now consider the use of smart technology in space design. This can include the use of smart control systems for lighting, air and security systems. Designers must also design spaces to support the smart devices that society is increasingly using.

b)   Space Flexibility, With the trend of remote work and more flexible use of space, interior designers need to create spaces that can be adapted for various activities. This may involve the use of convertible furniture or movable partitions to create an All in work space, living room or study.

c)   Health, Interior designers will increasingly consider health and wellness factors in their designs. This can include the use of environmentally friendly materials, lighting designs that support the integration of natural elements into the space to improve the well-being of the occupants.

Understanding the trends and values of Society 5.0, interior designers can create environments that are not only aesthetic and functional, but also support well-being and sustainability for their occupants.

How to optimize one's knowledge with the help of AI?

Optimizing AI Features in 3D applications, to make it easier to experiment with various concepts and layouts without having to build physical prototypes.

How to speed up work with the help of machines?

By incorporating computerized AI technology into machines in the wood interior production process, designers and manufacturers can increase efficiency, accuracy and product quality, which will ultimately speed up project

completion and reduce production costs.

CONCLUSION

1. The important role of interior designers with advances in technology and design is bringing changes to the interior industry in society 5.0

2. With the concept of sustainable interior design in creating an environment and following the principles of sustainable interior design, we can reduce the negative impact of the environment on our society.

3. The qualitative analysis method chosen is in accordance with the research questions and research objectives. The researcher chose to use this qualitative analysis method with the consideration that the phenomenon being studied is a phenomenon that requires the use of deeper observations and observations and not using numerical or statistical models. Apart from that, with qualitative research it will be easier when dealing with real conditions or actual data.

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