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"HARMONIZING KNOWLEDGE FOR SUSTAINABLE TRANSFORMATION"

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Hybrid International Conference

2nd Multidisciplines Bosowa International Conference (MBIC)

"Harmonizing Knowledge for Sustainable Transformation"

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Welcoming Note

Welcoming Note
Prof. Dr. Ir. Batara Surya, ST., M.Si.
Rector of Bosowa University, Indonesia

Distinguished Scholars, Researchers, Academics, and Esteemed Colleagues,

It is with great honor and privilege that I extend a heartfelt welcome to all the esteemed contributors, participants, and readers of the proceedings from the **2nd Multidisciplines Bosowa International Conference (MBIC)**. Under the theme *"Harmonizing Knowledge for Sustainable Transformation,"* this conference has served as a remarkable platform for intellectual exchange, bringing together researchers, academics, and practitioners from diverse disciplines with a shared vision of fostering sustainable development.

At a time when the world faces unprecedented challenges—climate change, social inequality, economic instability, and rapid technological transformation—it is more crucial than ever to seek collaborative, interdisciplinary approaches to address these issues. The theme of this year's MBIC reflects the essence of our collective responsibility as scholars and researchers to harmonize knowledge, ensuring that the solutions we develop are comprehensive, inclusive, and sustainable.

Bosowa University is proud to host this conference, which not only provides a platform for exchanging innovative ideas but also encourages critical reflection on how academic research can contribute to real-world solutions. By bringing together experts from a wide range of fields—including science, engineering, social sciences, business, and the humanities—the conference promotes a holistic view of sustainable transformation, emphasizing that the solutions of tomorrow will be forged through collaboration and the convergence of diverse perspectives.

The papers presented and discussed at this conference, now compiled in these proceedings, reflect a wide array of cutting-edge research and thought leadership. The topics range from technological innovations to sustainable economic models, from educational reforms to environmental stewardship. Each contribution represents a critical step toward understanding the complexities of sustainability in a globalized world and highlights the innovative thinking required to address these challenges.
These proceedings serve as a testament to the conference's success, offering a valuable resource for academics, policymakers, and practitioners alike. They embody not only the hard work and dedication of the contributors but also the vibrant discussions and exchanges that took place during the conference sessions.
I am confident that this publication will not only inspire further research but also provide actionable insights that

can influence policies, practices, and innovations toward a more sustainable future.

To the organizing committee, keynote speakers, and all participants, I express my deepest appreciation for your commitment to making this event a success. Your efforts have ensured that the 2nd MBIC continues to build on the legacy of interdisciplinary collaboration, and I am grateful for your contributions to the advancement of knowledge.

I also wish to extend my sincerest thanks to all the authors whose work has enriched this conference and to the reviewers who helped maintain the high quality of the research presented. Your dedication to advancing knowledge and contributing to the global discourse on sustainability is invaluable.

As we reflect on the discussions and outcomes of this conference, I encourage all of you to continue pushing the boundaries of your respective disciplines, fostering cross-disciplinary collaborations, and embracing innovative solutions to create a more sustainable, equitable, and prosperous world for future generations.

Once again, welcome to the proceedings of the **2nd Multidisciplines Bosowa International Conference**. I look forward to seeing the ongoing impact of this important work and am confident that it will inspire meaningful change in academia and beyond.

Thank you, and let us continue working together in the spirit of knowledge and sustainability.

Warmest regards,

Prof. Dr. Ir. Batara Surya, ST., M.Si.
Rector,
Bosowa University, Indonesia

Preface

We are pleased to present the proceedings of the **2nd Multidisciplines Bosowa International Conference (MBIC)**, held under the theme *"Harmonizing Knowledge for Sustainable Transformation."* This international conference, hosted by Bosowa University, brought together scholars, researchers, and professionals from diverse disciplines and geographical locations, all united by a shared commitment to fostering sustainable development through the harmonization of knowledge.

In a rapidly changing world facing complex global challenges such as climate change, social inequality, technological disruption, and economic instability, the need for multidisciplinary collaboration has never been more critical. The MBIC aims to provide a platform for intellectual exchange, where ideas from various fields intersect to create innovative and comprehensive solutions for a sustainable future.

The theme of this year's conference, *"Harmonizing Knowledge for Sustainable Transformation,"* underscores the importance of integrating insights from different disciplines to address the multifaceted issues facing our world today. The contributions found in these proceedings reflect the diversity of thought and research that were presented during the conference. From engineering and environmental studies to social sciences and education, these papers explore innovative approaches to sustainability, offering valuable insights that can contribute to meaningful global transformation.

We would like to express our gratitude to the esteemed keynote speakers, presenters, and participants who contributed their knowledge and expertise to make this conference a success. Special thanks also go to the organizing committee and reviewers for their dedication to ensuring the high quality of submissions. Without their efforts, the success of this conference and the production of these proceedings would not have been possible.

The papers presented in this collection are not only a reflection of the valuable research discussed during the conference but also a testament to the ongoing efforts of the academic community to contribute to a more sustainable and equitable future. We hope that the work compiled here will inspire further research, foster interdisciplinary collaboration, and provide practical insights for tackling the challenges of sustainable development.

As we face an uncertain future, it is crucial that we continue to foster dialogue, exchange knowledge, and work collectively toward solutions that benefit not only our generation but also those to come. The **2nd Multidisciplines Bosowa International Conference** is just one step on this journey, and we look forward to the continued impact of this work.

We hope you find the content of these proceedings insightful and inspiring as you pursue your own research and professional endeavors.

Sincerely,
The Editorial Committee
2nd Multidisciplines Bosowa International Conference (MBIC)
Bosowa University, Indonesia

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ANALYSIS OF INTEREST IN ONLINE BUSINESS WHILE STUDYING FOR STUDENTS

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ABSTRACT

This study aims to analyze the interest of Makassar Akba Technology University students in running an online business during college. The research was conducted through a survey of 100 student respondents from various study programs at the university. The results of the analysis show that the majority of respondents (75%) are very interested in running an online business while studying, 20% are interested, and 5% are quite interested. The main motivating factors for students are the potential for additional income, time flexibility, and the opportunity to develop business skills. The implication of this research is the importance of universities in providing adequate support and facilities for students who are interested in running an online business while studying. This research can be a basis for universities in designing programs and activities that can encourage students' interest in getting involved in online business as an additional activity during college.

KEYWORDS

Motivation; Online business; Student interests; Studying.

1. INTRODUCTION

Currently, students face the need to demonstrate creativity in seeking independent income, rather than relying solely on financial support from their parents. The college period can be an ideal time for students to start their own businesses. Besides focusing on learning and participating actively in organizational activities to prepare for future careers, there is no harm in students deepening their knowledge in the business world. Nowadays, there are various business opportunities available for students, especially in the realm of online business. With creativity and sensitivity in seizing opportunities, as well as the courage to take risks, many business opportunities are suitable for students with limited capital. For students, managing a business is not just about earning extra pocket money, but also as preparation and a valuable opportunity for the future after completing their studies. Through business experience, students can prepare themselves financially before graduation and reduce worries about employment after finishing their education.

The development of information technology has brought significant changes in various aspects of life, including in the business and education sectors. One interesting phenomenon that has emerged is the increasing interest of students in running online businesses while continuing their studies. Online business is becoming an increasingly popular choice due to its high flexibility, relatively low capital, and the broad market potential that is not limited by geographical boundaries. Besides being able to apply the knowledge they acquire in college, students also have the opportunity to develop entrepreneurial skills, earn additional income, and better prepare themselves for entering the workforce after graduation.

However, running an online business while studying also presents its own challenge. Time management, balancing studies and business, and the pressure to succeed in both areas are common problems faced by students. Many studies have highlighted the importance of entrepreneurial skills and business development among students, but there is still a gap in the literature regarding how students can effectively manage their time and resources to run an online business without neglecting their academic performance. This research is expected to fill this gap by providing deeper insights into the challenges and successful strategies that can be applied by students.

This research aims to analyze students' interest in running online businesses while studying and identify the factors that influence their success. By understanding the interests and challenges faced, this study seeks to provide practical recommendations that can help students manage their time and resources more effectivel Scientifically, this research is justified in filling the gap in the literature on entrepreneurship among students and offering solutions that can enhance the balance between studies and business, enabling students to achieve success in both areas without having to sacrifice one for the other.

2. METHODOLOGY

The research method used in this study is a quantitative descriptive survey. Research was conducted on students at Akba Technology University Makassar with the aim of analyzing their interest in running an online business during college. The research population included students from various study programs at the university, and the research sample was taken as many as 100 respondents. Sampling was carried out using a simple random sampling technique to ensure equal representation from all study programsThe data collection tool used is a questionnaire consisting of closed questions designed to measure students' level of interest and the factors that motivate them to run an online business. The questionnaire was tested first to ensure its validity and reliability.

Data obtained from the questionnaire was analyzed using descriptive statistical methods to describe the percentage of respondents who were very interested, interested and quite interested in running an online business. In addition, factor analysis was carried out to identify students' main motivations for running an online business, such as the potential for additional income, time flexibility, and the opportunity to develop business skills. The results of this analysis are then presented in the form of tables and graphs to facilitate interpretation. This research also includes a discussion regarding the implications of the research results for universities, especially in providing adequate support and facilities for students who are interested in running an online business while studying.

3. RESULTS AND DISCUSSION

The results of a survey conducted on 100 students at Akba Technology University, Makassar, showed that interest in running an online business during college was very high. Most respondents, namely 75%, stated that they were very interested in running an online business. As many as 20% of respondents expressed interest, while the other 5% were quite interested. This data illustrates the significant enthusiasm of students for online business opportunities in the midst of their academic activities. This indicates that students see online business as an interesting opportunity and worth exploring during their studies.

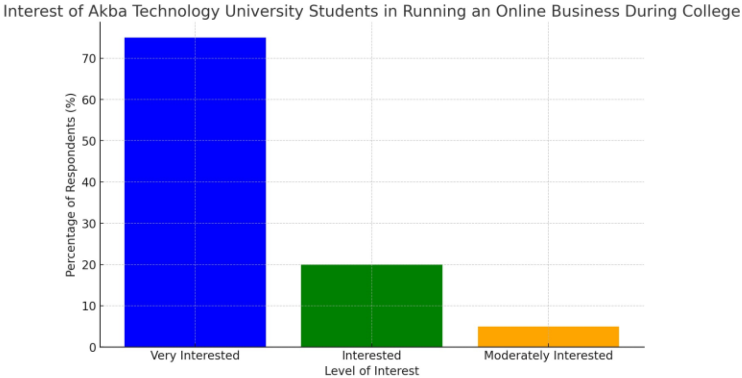

Figure 1. Graphic of student analysis results

In Figure 1, the graph of the results of student analysis is a graph that depicts the results of research regarding the interest of Akba University of Technology students in running an online business during college. This graph shows that the majority of respondents (75%) are very interested, 20% are interested, and 5% are quite interested in running an online business during their study period. This graph helps visualize the data more clearly and provides an idea of the level of student enthusiasm for online business opportunities.

The main motivations that drive students' interest in running an online business include the potential for additional income, time flexibility, and the opportunity to develop business skills. The potential for additional income is the dominant factor motivating students, considering that many of them are looking for ways to support their financial needs while studying. The time flexibility offered by online businesses is also attractive to students, because it allows them to adjust business activities to dynamic study schedules. Apart from that, the opportunity to develop business skills is an attraction in itself, considering that this experience can be useful for their future careers.

The results of this research have important implications for Akba Technology University Makassar. The high interest of students in online business shows the need for universities to provide adequate support and facilities for students who want to do business. This support can take the form of providing workshops, seminars and training related to online business, as well as providing access to resources such as fast internet and adequate work space. In this way, universities can create a conducive environment for students to develop their businesses without disrupting academic activities.

This research can be a basis for universities in designing programs and activities that can encourage students' interest in getting involved in online business. Universities are advised to create business incubators or entrepreneurship centers that can guide and support students in developing their businesses. In addition, collaboration with industry players and e-commerce platform providers can give students access to a wider market and practical knowledge about online business. With these steps, universities not only help students achieve academic success but also prepare them to face the competitive business world after graduation.

4. CONCLUSION

The conclusion of this research shows that Akba Technology University Makassar students' interest in running an online business during college is very high. Of the 100 respondents surveyed, 75% showed very high interest, 20% were interested, and 5% were quite interested. Key motivations driving this interest include the potential for additional income, time flexibility, and the opportunity to develop business skills. These findings reflect the tendency of students to seek additional opportunities that can provide financial benefits and personal development outside of their academic activities.

This research also highlights the important role of universities in supporting students' interest in online business. Universities are expected to provide support in the form of adequate facilities, training and guidance to help students develop their online businesses without disrupting academic studies. The implication of this research is that universities need to design programs and activities that can encourage and facilitate students to get involved in online business, so that they can maximize their potential in both academic and entrepreneurial fields. With the right support, students will not only gain financial benefits but also valuable experience and skills that can benefit their future careers.

STATEMENT

We would like to express our deepest gratitude to all parties who have provided support and assistance during this research. We would like to express our special thanks to the leadership and staff of Makassar Akba Technology University for the support and facilities provided, so that this research can run smoothly. We also thank the respondents, namely students from Akba Technology University Makassar from various study programs, who have taken the time and are willing to provide data which is very important for the success of this research.

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THE EFFECT OF USING ANIMATED MEDIA ON LISTENING LEARNING

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ABSTRACT

This study aimed to determine the effect of using animation media on listening learning. This type of research was an experimental research. The research instrument was a multiple choice test. The researcher gave a pretest to the experimental class. Then, the students are taught using animation media and they were given a posttest. The research sample was 30 students of class VII-3 and 30 students of class VII-9. The results shows that there is an effect of using animation media on listening learning. It can be seen from the results of the calculations contained in the appendix that the t-count is greater than the t-table, namely 3.771 > 0.254. Because the t-count is larger than the t-table, the hypothesis H1 is accepted and the hypothesis H0 is rejected. Thus, it can be concluded that there is a significant effect of using animation media on listening learning

KEYWORDS

Animation Media, Listening learning

1. INTRODUCTION

Learning is the main thing in life which is a place to hone one's skills in language skills. Learning can be through formal or informal education. The learning cycle is an interaction between students, teachers, and learning resources in a current environment. However, educational problems in each case often arise at the same time as technological developments which also influence the world of education.

Quality education depends on learning motivation and teacher creativity. Not only that, it can be supported by adequate facilities and teacher creativity which will make it easier for students to achieve learning targets.

The success of learning is greatly influenced by the use of suitable media from a teacher. The use of suitable media in learning will bring out students' competence in something new. Facing advances in modern science and technology, the importance of teaching materials for improving the quality of education has become increasingly prominent.

Learning media are channels used to convey news, information and learning materials to message recipients. The use of teaching materials in teaching can stimulate students' interest and new knowledge. For example, audio-visual media is one of the learning media that can motivate students in the learning process, so that students become more active in responding to the material they have seen and heard. Therefore, teachers need to be more professional and innovative in carrying out learning tasks.

Audio-visual media is media that is related to the senses of hearing and sight. Therefore, audio-visual media is combined with the use of sound and images.

Through learning Indonesian, students will acquire language skills which include listening, speaking, reading and writing skills. When learning Indonesian, students can hear some material, such as paying attention to stories and retelling stories that students have heard.

According to Saddhono and Slamet (2012: 8), listening is said to be a receptive language activity in a conversation activity (talking) using a hearing medium (audio) or a viewing medium (visual).

According to Tarigan (2008:31), listening is the process of listening to language signals, understanding, appreciating, and explaining them thoroughly to receive information, capture content or information, and understand the meaning of the information conveyed by the speaker.Through language or spoken language.

Listening skills are very important to develop because the process of listening does not necessarily mean listening. Listening here is being able to understand other people's ideas and opinions verbally. The purpose of listening is to capture, understand and appreciate the messages, ideas, ideas contained in the listening material.

2. DISCUSSION

a. Media

The word media comes from the Latin medius, which literally means introduction. In Arabic, an intermediary medium or messenger from the sender to the recipient of the message. Quoting (Arsyad Azhar, 2013: 3) Gerlach and Eli (1971) said that media in the broadest sense are people, materials or events that create conditions that enable students to acquire knowledge, skills or attitudes. According to Fleming (1987) in Arsyad Azhar (2013: 3), media shows its function or role, namely managing an effective relationship between the two main parties in the student learning process and lesson content.

The Association for Education and Communication Technology (AECT) defines media, namely all forms of dissemination of information. Meanwhile, the Education Association (NEA) defines it as an object that can be manipulated, seen, heard, read, or spoken along with instruments that are used properly in learning activities, which can influence the effectiveness of instructional programs.

Learning media is a combination of materials and tools or a combination of software and hardware (Sadiman, et al, 1996:5). Learning media can be understood as media used in the learning process to achieve goals. In essence, the learning process is also communication, so learning tools can be understood as communication tools used in communicating. Learning devices play an important role as a means of conveying learning information.

1) Media Audio

Audio media in the world of learning is defined as teaching materials that can be presented in sound form and can stimulate the learner's thoughts, emotions, attention and skills needed for the teaching process. From a learning development perspective, audio media is considered cheap, interesting and easy to prepare class material for use by teachers and students.

According to Sadiman (2005:49), audio media is a means of conveying information, which is conveyed in the form of auditory symbols in verbal (verbal or oral) and nonverbal form. Meanwhile, according to Sudjana and Rivai (2003: 129), audio media is teaching material that contains information in the form of hearing (vocal cords), which can stimulate students' thoughts, feelings, attention and tendencies to learn and the learning process occurs.

2) Media Visual

Visual media is the delivery of messages or information technically and creatively, displaying images, graphics, as well as clear arrangements and positions so that recipients can get the intended messages and ideas. When there is a relationship between visual media and learning, learning becomes interesting, effective and efficient. Visual media is a learning resource that contains information or topics, the information or topics are presented in an interesting way in the form of a combination of images, text, actions and animation, adapting to the age of the students, making learning interesting and not boring.

3) Media Audio Visual

Audio visual learning media. Media that can display images and sound at the same time, such as: Film, Compact Disc (CD), TV, and Video. According to Rudi and Cepi (2008:19), videos are some still images that move quickly and are projected to give the impression of being alive and moving.

According to Sukiman (2012: 187), videos are capable of displaying moving images or live images accompanied by sound. Experience shows that the word video comes from the English abbreviations audio and video. The word vi is an abbreviation for visual which means image, then the word Deo is an abbreviation for audio which means sound. There is also an opinion that says video actually comes from Latin, video-vidi-visum, which means seeing (having the power of sight, being able to see (K. Prent et al, Indonesian Latin Dictionary, 1969: 926)

An animated video is a moving image created by many different objects that are specifically designed to always follow a predetermined path. We are talking about images of people, texts, images of animals, images of plants, buildings, etc. In the Big Indonesian Dictionary, animation is a film in the form of a series of paintings or images that differ slightly from each other so that when played they appear on the screen to move.

According to Furoidah (2009), learning animation media is media that contains a collection of images that are processed in such a way as to produce movement and are equipped with audio so that they appear alive and store learning messages. Learning animation media can be used as a teaching aid and can be used to teach a subject at any time. The types of animation are: First, animation. First, traditional animation is often referred to as hand-drawn animation. In the 20th century, most animation started from this traditional animation. Then the image is painted by hand, and the movement of the object gradually appears on each sheet of paper. Traditional animation requires artistic skills from the painter.

Second, 2D animation can also be done in traditional ways, but 2D animation is already included in the category of vector-based computer animation. The results of this 2D animation are often called cartoons, which means interesting images. 2D animation is also widely used as Graphical User Interfaces (GUIs) which are used in everyday life, such as Mac or Windows.

Third, 3D animation requires programs such as Maya and Cinema 4D, 3D animation is also often called CGI (Computer-Generated Imagery). In 3D animation, an animator usually starts a drawing by drawing a bone, and then draws other parts to add to the bone drawing. For example, adding muscle, body, skin and other parts. 3D animation is more complex than 2D animation and requires more understanding of moving objects.

Fourth, motion graphics are one way to make 3D animation come alive, but apart from that, animated graphics are usually used to move (typograph) text and logos for promotional purposes. The skills required for motion graphics are different from previous animations, but there are several general skills in motion graphics, such as motion synthesis and camera graphics.

Fifth, this technique was first introduced in 1906 by Stuart Blakton. Initially, stop motion was done using clay, dolls, or Lego. When the characters were ready, their bodies were moved and then photographed with different movement details in each photo. This animation requires many frames and takes a long time.

b. The nature of Learning

Learning is an effort made by someone (teacher or other person) to teach students. In formal education or schools, teaching is a task entrusted to teachers because teachers are professionals.

According to Mudhofir (1987:30), in general there are four learning patterns. First, the teacher-student learning pattern, which does not use teaching aids/learning materials. This learning pattern depends on the teacher's ability to present material and communicate it orally to students. Second, the pattern (teacher+tools) with students. In this learning pattern, the teacher is supported by various teaching materials, called teaching aids, to explain and display abstract information. Third, the (teacher) + (media) pattern with students. This learning pattern takes into account the limitations of teachers who are not the only source of learning. Teachers can use various teaching aids as teaching aids that can replace the teacher in learning. And fourth, media patterns with students or distance learning patterns using media or teaching materials that have been prepared. According to Adam and Dickey (Oemar Hamalik, 2005), the role of teachers is actually very broad, including:

1) Teacher as teacher (teacher as instructor).
2) Teacher as guide (teacher as counselor).
3) Teacher as scientist (teacher as scientist).
4) Teacher as a person (teacher as person).

Teachers must act as a driving force by motivating students, facilitating learning, organizing classes and developing teaching materials, evaluating planned learning outcomes, monitoring student activities, and so on..

c. Language Skill

Listening is a language action that is often carried out in everyday life. However, the meaning of listening often overlaps with the meaning of listening and hearing. Therefore, before we talk about listening, we first note the differences between the three activities (hearing, hearing, and listening).

Through the listening process, someone can communicate well. Apart from that, by the process of listening someone can master phonemes, vocabulary and sentences (Qudus & Yusri, 2017). Meanwhile, listening is done simply by accident, so it does not have a clear specific purpose. Listening is only done with audio for information that does not require knowledge in a particular scientific field.

Listening is the process of listening while understanding and realizing the meaning and information of sounds. So, the listening process includes hearing, whereas hearing does not necessarily mean listening. Listening is the process of listening to verbal symbols, understanding, appreciating and explaining them thoroughly to obtain information, master the content or information, and understand the communicative meaning conveyed by speech or spoken language. (Tarigan, 2008:31).

Haryadi and Zamzani (1996:21) say that listening is an activity carried out by someone whose aim is to understand the sounds of language and understand what those sounds convey.

Based on the definition above, it can be concluded that listening is the process of processing language sounds captured by the human sense of hearing to find an idea and provide a response that creates a two-way relationship between the speaker and the listener. Listening is divided into several types, namely:

1) Extensive Listening

Extensive listening is a more general and expressive listening activity that does not need to be done under teacher supervision. Extensive listening can also be called the listening process that occurs in everyday life, such as listening to radio programs, watching TV, talking on the street, in the market, preaching in the mosque, and so on. Some types of extensive listening activities include:

First, social listening is a listening activity that people carry out in social life such as in markets, airports, supermarkets, and so on. This type of listening takes place in social situations and provides responses and attention to things conveyed by other people (Wibowo, 2016). Social listening is usually done when conversing with friends, listening to parents' advice, and so on.

Second, secondary listening is a type of casual listening and extensive listening activity (Kusumadewi, 2018). Secondary listening is a listening activity that occurs coincidentally while we are doing another activity. For example, when someone is studying in their room, they are also able to hear sounds outside the room such as television, radio, etc. However, this did not disturb his concentration.

Third, aesthetic listening or appreciative listening, namely listening activities carried out by appreciating or enjoying certain sounds, such as listening to someone reading poetry. In this listening process, the listener blends in with the material they are listening to. Appreciative listening is an important listening activity taught to young children. Appreciative listening is a child's ability to enjoy and feel what they hear (Noviana, 2013). There are three media that can be used to develop this type of listening ability, namely music, rhythmic language, and visual sculpture. By listening to aesthetics, a person's emotions will be aroused, resulting in feelings of joy, emotion and appreciation. This aesthetic or appreciative listening activity is important for students, because in this case students are trained to be more active when receiving information. Being active here means that he dares to express ideas, feelings or criticism of the material he has listened to.

Fourth, passive listening is accepting a statement without conscious effort, which usually marks our efforts when studying less carefully, in a hurry, memorizing by heart, practicing casually, and mastering a language (Fatmawati, 2011). In general, passive listening activities occur randomly and unintentionally. According to Hermawan (in Farchan, 2013) in passive listening, the listener does not evaluate the speaker's messages, but only follows the speaker, how the speaker develops his thoughts and ideas. In this activity the listener and speaker are building an environment that is accepting and supportive.

2) Intensive Listening

Intensive listening means listening carefully, meaning listening to understand the meaning. Several things you need to know about intensive listening include intensive listening which is basically listening for understanding, intensive listening requires a high level of concentration of thoughts and feelings, intensive listening is basically understanding formal language and intensive listening requires the production of the material being listened to.

The main purpose of listening is to obtain facts, analyze facts, listen and evaluate facts, get inspiration, have fun, and improve speaking skills (Adianna, 2002:7).

a) Listening to find fact

By listening, a person gets the facts he wants to know. For example through scientific meetings, speeches, radio and television. By listening, people can get the facts they want to know. Example:

Members of agricultural groups can listen to national government radio and television broadcasts for agricultural information purposes.

b) Listening to analyse fact

Listening to analyze facts is to explain the facts based on the elements of understanding as a whole. The main goal of fact analysis is to understand the meaning down to the smallest detail. In this way, as a listener, you can understand all aspects of the facts in order to understand the facts correctly. The meaning of an event can be understood through the meaning of any word, phrase, sentence or sound. This can be achieved by listening carefully. As listeners, we need to understand that it is impossible to use the listener's senses to analyze all recorded facts that can penetrate the human brain.

c) Listening to evaluate fact

Evaluation Facts can be assessed with the following questions: Are these facts valuable? Is that fact valid? Are these facts related to your knowledge and listening experience? If the facts learned as a listener are valuable, accurate, and related to knowledge and experience, then these facts can be used to increase knowledge. If it does not correspond to the facts, it must be rejected. Therefore, the listener's main role in assessing facts is to decide whether to accept or reject.

d) Listening to get an inspiration

One often listens to get inspiration. Usually, people can get inspiration from listening to lectures, scientific conferences, conferences, artist meetings, television, discussions and debates. Inspirational speakers are speakers who try to inspire, motivate, touch emotions, encourage and increase the audience's enthusiasm for inspiration. Ultimately, the audience will be moved by their emotions about what the speaker says.

Inspiration for poetry creation, listeners can listen to poetry readings, record poetry readings or take part in poetry competitions. The more poetry activities, the more inspiration for poetry.

e) Listening to have an entertaiment

Someone can get entertainment by listening, such as listening to music on a tape recorder, VCD, radio or TV and listening to speeches. For some Indonesians, radio broadcasting is the cheapest form of entertainment. Apart from radio, television is another entertainment medium. Apart from audio devices, these devices also display images, because TV is a combination of sound and image. If speakers want to be successful in a speech or presentation, they must be able to entertain or please the audience. This can be done through a variety of supportive or friendly and caring words, or with a humorous setting.

f) Listening to revise speaking skill

The results of a person's auditory vocabulary will influence his speaking ability. The more vocabulary you master while listening, the better your speaking skills will be. This can be done, among other things, by listening to other people's conversations. This will be clearly visible in learning a foreign language or English.

Factors that Influence Listening Skills. Tarigan (1994:99-107) concluded that there are eight factors that influence listening as follows:

a) The physical condition of a listener is an important factor that influences the effect and quality of listening. Health and physical well-being are important assets that define every listener.
b) Psychological factors are divided into two, namely positive psychological factors that have a good influence, and negative psychological factors that do not help listening activities.
c) Experience factor, disinterest is the result of little or no experience in the field being studied.

d) Attitude factor, a person's attitude will influence listening activities because basically humans have two attitudes, namely accepting and rejecting. These two attitudes have an impact on listening, namely positive and negative effects.

e) Motivational factors are one of the determinants of a person's success. If motivation is strong, the person will achieve his goals. Motivation is related to a person's person or personality. If we believe and believe that our personality has a cooperative, considerate and analytical nature, we will become better and superior listeners rather than thinking that we are lazy, argumentative and egocentric.

f) Gender factor, Julian Silverman discovered the facts that men's listening style is generally objective, active, hard-hearted, analytical, rational, stubborn or unwilling to back down, neutralizing, intrusive (disturbing), independent or independent, capable sufficient for one's own needs (self-sufficiency), able to master and control emotions; while women's listening styles tend to be more subjective, passive, friendly or sympathetic, diffusive (spread), sensitive, easily influenced, easy to give in, receptive, dependent (not independent), and emotional.

g) Environmental factors, in the form of the physical environment and social environment. The physical environment refers to the layout and arrangement of classrooms and listening learning facilities. The social environment includes an atmosphere that encourages children to experiment, express and evaluate ideas.

h) Role factors in society. Our listening skills will also be influenced by our role in society. As teachers and educators, we look forward to speeches, lectures or radio and television programs on educational and teaching topics at home and abroad. The rapid development of the field of knowledge requires the development of good listening skills.

Speaking skills are a means of communicating ideas that are prepared and developed according to the needs of the listener or listener (Saddhono & Slamet, 2014: 50).

Speaking skills are the process of communicating by uttering articulatory sounds to convey meaning so that the meaning can be understood by other people.

Reading skills according to Dalman 2013:5 are activities aimed at finding all kinds of information in writing. According to Klein, et al in Rahim (2010:3), the definition of reading includes (1) reading is a process, (2) reading is strategic, and (3) reading is interactive.

According to Tarigan (2008:7), reading is a process carried out and used by readers to obtain messages that the writer wants to convey through written language. Somadayo (2011:1), reading is an interactive activity to extract and understand the meaning contained in written material.

Writing Skills, Slamet (2008: 141) states that in essence it is not just the ability to write graphic symbols so that they take the form of words, and the words are arranged into sentences according to certain rules, but writing skills are the ability to express thoughts into written language by collecting sentences. complete and clear to convey these ideas to the reader

In the opinion of Saleh Abbas (2006: 125), writing skills are the ability to express thoughts, opinions and feelings to other people through written language. According to Ahmad Rofi'uddin and Darmiyati Zuhdi (1999: 159), writing skills are the skill of expressing thoughts, ideas, opinions about something, responding to a statement of desire, or expressing feelings using written language.

3. RESEARCH METHODS

This research is a type of experimental research. Experimental research is research that is used to find the effect of certain treatments on others under controlled conditions. Controlled conditions mean that the results of the research are converted into numbers. The data analysis used is statistical analysis (Sugiyono, 2011:72).

Emmory said that experimental research is a special type of research used to determine variables and how relationships form between one another. According to the classical concept, an experiment is a study to determine the effect of a treatment variable (independent variable) on an impact variable (dependent variable).

Experimental research is also research that is deliberately carried out by researchers by applying certain treatments to subjects to trigger events/conditions that need to be studied and the consequences they cause.

In the research design, there are two groups selected at random, then given a test to determine the situation to see whether there are differences between the experimental group and the control group.

Appropriate data collection techniques that can be supported deductively to obtain research data. The data collection technique in this research uses the test method. The test method is an approach to finding the results of learning given within a certain period of time. In this research. Tests are used to obtain information about further development.

Data analysis techniques are the methods used to process data. This research method uses experimental class research and control class research. The assessment process in this research uses SPSS (Statistical Package for the Social Sciences). SPSS is an application program that functions to analyze statistical data from a data management system in a graphical environment using descriptive menus and simple dialog boxes so that it is easy to understand how to operate it. (Aminoto & Dwi, 2020:3).

4. RESULT AND DISCUSSION

Based on the results of calculations using SPSS, it shows that the t-count at a significant level of 0.05 is in accordance with the data results that have been described, and a value of 3.771 is obtained. Based on the t-count value, n-2= 60-2= 58. So, t-count is 3.771 and t-table is 0.254, thus it is stated that t-count > t-table. Based on the results of t-test data analysis for the experimental class and control class, it shows that there is a significant influence in the use of animation media on listening learning.

The hypothesis tested using the t test statistic, namely the use of animation media on listening learning, was stated to have a significant effect because the results of data analysis showed that the value of Indonesian in listening learning taught with animation media was better than with audio media. After carrying out calculations based on statistical analysis of the t-test, a value of 3.771 was obtained. The calculation results show that the t-table value n-2 = 58 and 28 in the significant table is 0.05, which is 0.254. In these calculations it can be stated that t-count > t-table. So, the results of hypothesis testing after carrying out the t-test analysis are as follows: The Null Hypothesis (H0) is rejected and the Alternative Hypothesis (H1) is accepted, meaning that there is a significant influence on the use of animation media on listening learning.

Judging from the results of the research that has been carried out, it can be concluded that there is an influence of the use of animation media on listening learning. The t-test results are t-count at a significance level of 0.05, the t-count result is 3.771 and the t-table is 0.254 (3.771 > 0.254), implying that t-count > t-table. This means that H1 is accepted and H0 is rejected. Accepting H1 means that there is a significant influence on the use of animation media on listening learning.

From the results of the research that has been carried out, every educator must be creative in choosing media in implementing the learning process, so that students are more interested and enthusiastic in learning. All related components in the field of education must have an interest in empowering the implementation of ideal learning so that learning targets can be recognized as appropriate to educational goals.

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THE INFLUENCE OF PUZZLE MEDIA ASSISTED BY GOOGLE CLASSROOM APPLICATION ON STUDENTS' LEARNING OUTCOMES

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ABSTRACT

This study aims to investigate the impact of puzzle media assisted by the Google Classroom application on students' learning outcomes in the material of human movement system for class XI at SMA Negeri 1 Makassar. The research questions focus on the effect of this intervention on student performance. The objectives are to assess the influence of puzzle media assisted by Google Classroom on learning outcomes and to determine its effectiveness in improving student achievement. This research is significant as it offers students an opportunity to enhance their understanding of the material and introduces innovative learning experiences. Utilizing a quasi-experimental design with a Pretest-Posttest control group, the study analyzed data using the independent sample t-test in SPSS 24 software. The results indicate a significant effect ($p < 0.05$) of using puzzle media assisted by Google Classroom on student learning outcomes. Thus, incorporating this technology-enhanced learning approach can positively impact student achievement in the human movement system material at SMA Negeri 1 Makassar.

KEYWORDS

Google Classroom; Learning Outcomes; Puzzle Media

1. INTRODUCTION

Based on the goals of the 2013 Curriculum, both teachers and students are required to be more active in the teaching and learning process. Teachers are expected to actively stimulate the creativity of their students, fostering dynamic communication. The distinctive feature of the 2013 Curriculum lies in its use of the Scientific Approach, comprising initial activities, core activities consisting of observing, questioning, experimenting, associating, and communicating (the 5Ms), and concluding activities. This curriculum also allocates time for character-building self-development activities for students. Students are not merely introduced to theories; rather, they are encouraged to engage in experiential learning processes with the aim of producing high-quality individuals.

To achieve educational goals, educators should implement a teaching system, one of which is by using the 2013 curriculum principles that have been established. The curriculum currently being developed is the 2013 Curriculum. The 2013 Curriculum is refined from the 2006 Education Unit Level Curriculum (KTSP). The 2013 Curriculum is a curriculum that refers to a balance between attitudes, skills and knowledge to build soft skills and hard skills. In fact, currently there are still teachers who choose the easiest path and only pursue learning outcomes without implementing the principles of the 2013 Curriculum. Teachers teach only what is in books, with such lessons it can influence student learning outcomes in biology learning.

Success in the learning process cannot be separated from the activities of students and the readiness of teachers in providing information or lesson material. Students who are students are required to have a high interest in learning and teachers are required to master the material to be taught and be able to choose appropriate methods, approaches, models and learning media so as to create students' attitudes by responding to the media as a support for learning so as to improve learning outcomes. learners. For example, in the biology learning process which is exploratory and discovering, not just memorizing, the biology learning process requires a model, method and media so that students are more active in learning and acting to understand the concepts and principles of biology so that the expected learning outcomes of the participants educate better.

There are many learning models that can be used in the teaching process. However, not all learning models can be applied in teaching, of course everything must be adapted to the needs regarding the material to be presented. One learning media that can be applied to human movement system material is puzzle media. Puzzle learning media is a learning media that uses images paired into a systematic sequence, such as arranging images sequentially, showing images, providing image descriptions and explaining images. This puzzle is different from image media where the puzzle is in the form of images that have not been arranged sequentially and those who use it are students, while the image media is in the form of complete images that are used by the teacher in the learning process. By arranging pictures, teachers can find out students' abilities in understanding material concepts and train logical and systematic thinking, they can see students' abilities in arranging pictures sequentially, showing pictures, giving descriptions and explaining pictures, so that students can discover material concepts independently. by reading the picture. With pictures related to learning material, students are more active and the final goal of the learning process can be achieved, namely that student learning outcomes can improve.

Based on the results of initial observations through interviews with biology subject teachers in class deep understanding, and requires a learning process compared to other learning subjects. Because there are obstacles in implementing learning media that are appropriate to the material to be taught. In the learning process in class, students are generally less enthusiastic about participating in learning, they are less enthusiastic about completing the tasks given, less active in asking questions, and less able to work together with their friends in group discussions because they are used to the learning process by teachers who are more in control. important role in the learning process.

Apart from that, the use of learning media and the presentation of teaching material that is less interesting also causes boredom so that students are not motivated to participate in learning. The use of media as a vehicle for distributing information is a supporting factor for learning activities. Therefore, there are several student scores that have not reached the minimum completeness criteria (KKM) that have been determined, namely 75, from teacher data for classes XI MIPA 5 and XI MIPA 6, totaling 71 students, where class There are 35 students from class Students who have not reached the KKM score must take part in remedial or improvements carried out by the teacher.

The movement system material contained in the 2013 Curriculum in class XI discusses the bones that make up the skeleton of the human body. For this reason, in teaching this movement system material, you can use puzzle learning media to investigate directly the surrounding environment and various sources regarding human movement systems. Therefore, choosing puzzle learning media is the right choice in discussing movement system material, because in this case there appears to be a connection between the material that will be presented in biology learning. So the author is interested in finding out to what extent the use of puzzle media assisted by the Google Classroom application influences student learning outcomes.

2. METHODOLOGY

This research employs a quantitative approach, emphasizing variables as research objects, which are operationalized for clarity. It falls under the category of quasi-experimental research, incorporating a control group but lacking full control over external variables influencing the experiment's implementation, as control is exerted primarily over the most dominant variable. The chosen research design is the Pretest-Posttest Control Group Design, as outlined by

Sugiyono (2019). This design involves randomly selecting two groups and administering a pretest to ascertain any initial differences between the experimental and control groups. A favorable pretest outcome indicates no significant differences in the experimental group's scores.

The study's population consists of 208 students enrolled in class XI MIPA at SMA Negeri 1 Makassar during the 2019/2020 academic year, distributed across six classes. Sampling methodology involves the selection of two classes characterized by homogeneity, employing a random sampling technique. Class XI MIPA 5 is assigned as the experimental group, incorporating puzzle media into the instructional approach, while Class XI MIPA 6 is designated as the control group, receiving traditional instruction without media supplementation.

Descriptive statistical analysis, facilitated by SPSS version 24.0 for Windows, is conducted to ascertain average student learning outcomes, class intervals, standard deviations, and the range between maximum and minimum values. Satisfactory learning outcomes are determined by meeting the minimum passing criteria (KKM), which is set at 75 for biology subjects. Inferential statistical analysis involves conducting various hypothesis testing procedures. Initially, fundamental tests, including normality and homogeneity tests, are executed. Subsequently, an independent samples t-test is utilized to test hypotheses regarding the impact of the experimental intervention on student learning outcomes.

3. RESULT AND DISCUSSION

a. Research Result

This research was carried out at SMA Negeri 1 Makassar. The results of this research are answers to the problem formulation that has been previously determined and aims to find out how the influence of puzzle media assisted by the Google Classroom application has on students' Biology learning outcomes. Data collection in this research was by giving pretests and posttests to students to determine students' Biology learning outcomes. The sample in this study was 69 respondents who were divided into two classes, namely class XI MIPA 5 and Class XI MIPA 6, who were selected using simple random sampling techniques.

1) **Description of Pre-test and Post-test Results Data for Experimental Class with Puzzle Learning Media**

The research stage carried out in the experimental class was using puzzle learning media which was carried out in class XI MIPA 5. Statistical data on the results of the experimental class learning tests are presented in the table below:

Table 4.1. Descriptive Statistics Data Processing Learning Test Result Scores Human Movement System Material Class XI MIPA 5 SMA Negeri 1 Makassar

Statistics	*Pre-Test* Experimental Class	*Post-Tes t*Experimental Class
Number of Samples	35	35
Maximum Score	76	76
Minimum Score	16	20
Mean	40.71	46.69
Variance	203,269	195,575
Range	60	56
Standard Deviation	14,257	13,985

Based on data 4.1, it can be seen that the test results of the Pre-test and Post-test learning outcomes have a sample size of 35 students. The maximum score on the pre-test is 76 and on the post-test 76. Then, the minimum score on the pre-test is 16 and the post-test is 20. The mean between the two tests is 40.71 on the pre-test and 46.69 on the post-test. The variance between the two tests is

203,269 in the Pre-Test and 195,575 in the Post-test. Then the range between the two tests is 60 on the pre-test and 56 on the post-test. Lastly, the standard deviation, which was 14,257 in the pre-test and 13,985 in the post-test.

Table 4.2. Maximum Completeness Criteria (KKM) Biology Learning Results Human Movement System Material Experimental Class

Mark	Category	Pre-Test	Percentage (%)	Post-Test	Percentage (%)
0 – 74	Not finished	34	97 %	34	97%
75 – 100	Complete	1	3 %	1	3%
Amount		**35**	**100**	**35**	**100**

Based on table 4.3. Students are said to be complete if they obtain a maximum completeness score of >75. Judging from the post-test results of students after going through learning using the direct learning model, 3% of students passed the KKM. Thus it can be said that learning in the experimental class using puzzle learning media is not effective.

2) Description of Control Class Pre-test and Post-test Results Data Without Using Puzzle Learning Media

This research was carried out in the control class, namely class XI MIPA 6 on human movement systems material. In the control class without using puzzle learning media. Data collection was based on students' pre-test and post-test results before and after going through the learning process of human movement system material. Statistical data on control class students' learning outcomes tests are presented in the following table:

Table 4.3. Descriptive Statistics Data Processing Learning Test Result Scores Human Movement System Material Class XI MIPA 6 SMA Negeri 1 Makassar

Statistics	*Pre-Test* Control Class	*Post-Test* Control Class
Number of Samples	34	34
Maximum Score	60	60
Minimum Score	20	13
Mean	39.35	34.56
Variance	95,266	130,375
Range	40	47
Standard Deviation	9,760	11,418

Based on data 4.3, it can be seen that the results of the pre-test and post-test learning outcomes have a sample size of 34 students. The maximum score on the pre-test is 60 and on the post-test 60. Then, the minimum score on the pre-test is 20 and the post-test is 13. The mean between the two tests is 39.35 on the pre-test and 34.56 on the post-test. The variance between the two tests is 95,266 in the Pre-Test and 130,375 in the Post-test. Then the range between the two tests is 40 on the pre-test and 47 on the post-test. Lastly, the standard deviation, which was 9,760 in the pre-test and 11,418 in the post-test.

The number of students who have the criteria for passing the KKM that has been determined is 75. In the pre-test before the learning took place, the scores of all students were below the KKM or <75 so that the level of student learning outcomes was in the poor category with the predicate 'D'. Meanwhile, in the post-test, the frequency of student learning outcomes <75 fell in the 'poor' category with the predicate 'D'. This data proves that in the control class without using puzzle learning media it was not effective.

3) Comparison of Learning Achievement Test Results between Control Class and Experimental Class

Comparison of data from learning outcomes tests between the control class and the experimental class after going through the data analysis process of descriptive statistical analysis. The following table compares the increase in learning outcomes between the two classes based on the number of students who passed:

Table 4.5 Comparison Table of Improvement in Participants' Learning Outcomes

Class	The number of students	Number of Students Who Graduated	
		Pre-Test	Post-Test
Control Class	34	0	0
Experimental Class	35	1	1

Normality test

The Normality Test used uses SPSS 24 with the Normality Test (Kolmogorov-Smirnov). Data is said to be normally distributed if the significant value (Sig) is > 0.05. The learning outcomes data for both the experimental class and the control class have a sig > 0.05, so it can be concluded that the data group is normally distributed.

Homogeneity Test

After carrying out the normality test, a homogeneity test is then carried out which aims to determine the level of similarity of variance between the two groups, namely the experimental group and the control group. Data is said to be homogeneous if the significant value (Sig) is > 0.05. The homogeneity test of two variables can be obtained through the Homogeneity of Variance Test with the help of SPSS 24. The distribution of Pre-test and Post-test data is 0.148 > 0.05, which can be concluded that the two test results data on learning outcomes for human movement system material have the same variance. homogeneous.

Hypothesis testing

Hypothesis testing carried out in this research was by using the Independent T-Test in SPSS 24. Hypothesis testing was carried out to test whether there was an effect of usingpuzzle learning media assisted by the Google Classroom application on learning outcomes of human movement system material. If the sig value is > 0.05, it is said that there is no influence on using Ispringsuite9 media as an evaluation tool. Meanwhile, if the sig value is <0.05, it is said that there is an influence from the use of puzzle learning media assisted by the Google Classroom application. The results of the hypothesis test are 0.000 < 0.05, so it can be concluded that there is an influence of the use of puzzle learning media assisted by the Google Classroom application on learning outcomes in the human movement system material for class XI MIPA 5 and class XI MIPA 6 at SMA Negeri 1 Makassar.

b. Discussion

Based on the results of research data processing that has been carried out, it shows that there is a significant difference in the learning outcomes of students who are taught using puzzle media and students who are taught not using puzzle media. Based on the results of descriptive statistical analysis of the experimental class in table 4.1 and the control class in table 4.4, it shows that the learning outcomes of students who used puzzle media in the experimental class were one student who passed the KKM compared to students in the control class who did not use puzzle media. Furthermore, from the results of inferential data analysis on. Hypothesis testing of student learning outcomes in the pre-test and post-test obtained a significant value of 0.000, where the significant value was smaller than the significant value of α 0.05, meaning it could be concluded that H0 (no influence) was rejected and H1 (there was an influence) was accepted.

The results of this analysis prove that the use of puzzle learning media can improve student learning outcomes. Puzzle learning media is an image media that contains images of the skeleton that makes up human bones and disorders of the movement system and is displayed online. Images from this puzzle media can make it easier for students to understand better and improve students' memory and thinking about the material, images are presented that resemble the original form of the subject being discussed. For example, in the human movement system material, to enable students to see more clearly how the skeleton is arranged, it is made as simple as possible so that it is easier for students to understand and study so that the material studied is easier to digest.

The increase in student learning outcomes proves that there is an influence on the use of puzzle learning media. Not only that, puzzle learning media provides new learning experiences and variations for students so of course in the future it is hoped that there will be an increase in learning outcomes in Biology material.

This research is in line with research conducted byEla Latifatul Fajariah (2017), where the use of puzzle learning media can improve student learning outcomes. So it can be concluded that the use of puzzle learning media is able to improve student learning outcomes by strengthening the results of primary data and data processing results for class XI students at SMA Negeri 1 Makassar on Human Movement Systems material.

4. CONCLUSION

Based on the results of research that has been carried out and described previously, the author draws the following conclusions:Biology learning outcomes for class Biology learning outcomes for class There is a significant effect of using puzzle learning media on students' Biology learning outcomes in class XI SMA Negeri 1 Makassar for the 2019/2020 academic year when compared to learning without using puzzle media. The average value of the experimental class is 46.69 and the average value of the control class is 34.56, the average difference is 12.13. Thus, there is an increase in value of 12.13 by using puzzle learning media when compared to learning without using puzzle learning media. Based on the results of inferential analysis using IMB SPSS Statistics 24, it was obtained that Sig(2.Tailed) < α or (0.000 < 0.05). So, based on the testing criteria, it can be said that the puzzle learning media assisted by the Google Classroom application has an influence in improving student learning outcomes at SMA Negeri 1 Makassar.

STATEMENT

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PERCEPTIONS OF STUDENTS REGARDING ONLINE LEARNING POST COVID-19

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ABSTRACT

The COVID-19 pandemic has altered the educational landscape, compelling educational institutions to transition to online learning. This study aims to investigate students' perceptions of online learning post-COVID-19, focusing on its novelty, long-term relevance, and potential for new research avenues. Employing a quantitative approach, the research involved 60 students from the Akba Technology University Makassar (UNITAMA) campus. Data were collected through a random sampling method using a questionnaire with structured questions regarding students' online learning experiences, preferences for online versus offline learning, and expectations for future learning. The research findings indicate that a majority of students hold positive views or strongly agree with online learning, notwithstanding the challenges they encounter. These findings offer valuable insights for educational institutions to enhance online learning experiences in the future while considering student needs and preferences.

KEYWORDS

Student Perception; Online Learning; Post COVID-19; Education.

1. INTRODUCTION

The COVID-19 pandemic has drastically changed the educational paradigm around the world, forcing educational institutions to adapt and switch to online learning models. This sudden change has had a significant impact on the entire education ecosystem, including students, teachers, and the institution itself. Online learning has emerged as the main solution to ensure the continuation of the teaching and learning process without physical meetings. However, this rapid transition to online learning also presents various new challenges, both in terms of technology, infrastructure, and psychological and social impacts. Therefore, it is very important to explore and understand students' perceptions of online learning in the post-COVID-19 era, in order to identify the needs and obstacles they face, and formulate more effective strategies for the future.

Before the pandemic, online learning was still considered an alternative learning that had not completely replaced face-to-face learning. However, along with the pandemic, online learning has become the main choice for continuing the teaching and learning process in many educational institutions. Various studies have been conducted to understand the impact of online learning on students, including factors that influence the effectiveness of online learning, necessary technology requirements, and effective online learning strategies.

This research aims to provide a deeper understanding of student perceptions of online learning post COVID-19. This study will identify the factors that influence students' perceptions of online learning, as well as explore how the experience of learning online during the pandemic has influenced their views of online learning in the future. This research will also look at whether there are differences in perceptions between students from various backgrounds, such as education level, major, and online learning experience before the pandemic.

Although online learning has become an integral part of modern education, there is still a significant gap in understanding how students respond to this method, especially after long experiences during the COVID-19 pandemic. Several studies show a mismatch between students' expectations of online learning and the reality they experience. Students often face unexpected challenges and technical obstacles that disrupt their learning process, while their expectations about flexibility and ease of access are not always met. Therefore, more in-depth and comprehensive research is needed to fill this gap and provide a more holistic view of students' perceptions of online learning post COVID-19. This research must cover various aspects, such as student-lecturer interaction, effectiveness of material delivery, as well as the psychological and social impacts of distance learning, in order to build an education system that is more adaptive and responsive to student needs in this digital era.

The main aim of this research is to investigate and analyze in depth students' perceptions of online learning post-COVID-19. Thus, it is hoped that the results of this research can provide useful guidance for educational institutions in designing online learning strategies that are more effective and suit student needs.

2. METHODOLOGY

This research uses a quantitative approach to collect and analyze data about student perceptions of online learning post COVID-19. This approach was chosen to provide a clear and measurable picture of students' views on online learning. A quantitative approach also allows researchers to perform in-depth statistical analysis of the data collected.

Data will be collected through questionnaires distributed to students. The questionnaire will be designed to collect information about online learning experiences during the pandemic, preferences for online or face-to-face learning, and their expectations for future learning. Questionnaires will be given to students online via survey platforms such as Google Forms. The use of online survey platforms allows for efficient data collection and can be accessed by respondents from anywhere.

The collected data will be analyzed using descriptive statistical analysis techniques. This analysis will include calculating frequencies, means, and medians for the relevant variables in this research. Apart from that, a comparative analysis will also be carried out to compare the perceptions of students from various backgrounds, such as majors, gender. This analysis will provide deeper insight into how students' views of online learning vary between these groups.

3. RESULTS AND DISCUSSION

The research results show that the majority of students have a positive view of online learning after COVID-19. Of the total of 60 respondents who participated in this research, 80% agreed or strongly agreed that online learning was effective in supporting their learning process. This is in line with previous research which shows that students tend to consider online learning as an effective alternative, especially in emergency situations such as the COVID-19 pandemic.

Students' positive views towards online learning can be explained by several factors. First, the flexibility of study time and place offered by online learning allows students to study according to the schedule and environment they choose. This is in accordance with Smith's (2020) research findings, which show that flexibility is one of the main factors that makes students feel comfortable with online learning.

Apart from that, easy accessibility of learning materials is also an important factor that supports students' positive views towards online learning. In this research, as many as 75% of respondents agreed or strongly agreed that they could access learning materials easily through online platforms provided by universities. This is in line with research by Jones et al. (2020) who found that students appreciate the ease of accessibility of learning materials in the context of online learning.

Apart from these factors, online interactions with lecturers and fellow students were also considered positive by the majority of respondents. As many as 70% of respondents agreed or strongly agreed that they felt involved in online discussions and received support from their lecturers and friends during online learning. This shows that online interactions are able to create collaborative and interactive learning experiences for students, in line with the research findings of Brown et al. (2019) who emphasize the importance of social interaction in online learning.

However, there are also several challenges faced by students in participating in online learning. One of them is a technical problem such as an unstable internet connection or inadequate hardware. In this research, as many as 45% of respondents experienced technical problems that hampered their online learning process. This is in line with the research findings of Jones et al. (2021) who found that technical problems were one of the main obstacles in online learning.

Apart from that, the lack of direct social interaction is also a challenge for some students. Although online interaction can create a collaborative learning experience, it cannot replace the direct social interaction that usually occurs in face-to-face learning. In this research, as many as 60% of respondents stated that they missed direct social interaction with their lecturers and friends during online learning.

From the results of this research, it can be concluded that students have a positive view of online learning post COVID-19, although there are still several challenges that need to be overcome. These results are consistent with previous research findings which show that online learning is effective in supporting student learning processes, especially in emergency situations such as the COVID-19 pandemic. Therefore, universities need to continue to improve the quality of their online learning by paying attention to factors that can improve the student learning experience, such as flexibility, accessibility, and quality online interactions.

4. CONCLUSION

This research provides an in-depth picture of student perceptions of online learning post COVID-19. Findings show that the majority of students have a positive view of online learning, although there are some challenges that need to be overcome. Flexibility, accessibility and quality online interactions are the main factors that support students' positive views towards online learning. However, technical problems and lack of direct social interaction are still obstacles in online learning.

The results of this research support theories that emphasize the importance of flexibility, accessibility, and social interaction in online learning. Constructivism theory, for example, suggests that effective learning occurs when students are actively involved in the learning process and have the opportunity to interact with lecturers and fellow students. The findings of this research show that online interaction is able to create collaborative and interactive learning experiences for students, although it cannot replace direct social interaction.

For further research, it is recommended to conduct a comparative study between online learning and face-to-face learning to evaluate the effectiveness of both in supporting student learning processes. Additionally, longitudinal research can be conducted to identify changes in students' perceptions of online learning over time and changing situations, such as improvements in technological infrastructure and changes in educational policies. This research can provide deeper insight into the long-term effectiveness of online learning and help universities develop better learning strategies in the future.

STATEMENT

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INTEGRATIVE COMMUNITY EMPOWERMENT IN SUSTAINABLE TOURISM VILLAGE DEVELOPMENT IN GOWA REGENCY

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ABSTRAK

Kabupaten Gowa merupakan salah satu daerah di Indonesia yang memiliki potensi pariwisata unggulan. Wilayahnya didukung oleh kekayaan alam, budaya dan sejarah. Pencanangan pengembangan sektor pariwisata salah satunya melalui konsep desa wisata. Desa wisata diharapkan menjadi daya dorong dalam Program Pemulihan Ekonomi Nasional pasca pandemi Covid-19. Sampai akhir tahun 2023 telah dirintis 25 Desa Wisata di Kabupaten Gowa. Namun realitanya desa wisata yang telah dirintis beberapa telah mati sebelum berkembang. Pengembangan desa wisata bukan hanya berhubungan dengan infrastruktur fisik tetapi perlu dibangun interaksi dengan masyarakat setempat dalam hal ini komunitas lokal. Tujuan penelitian ini untuk menganalisis bentuk keterlibatan komunitas dan strategi pemberdayaan komunitas guna terwujudnya pengembangan desa berkelanjutan di Kabupaten Gowa. Metode yang digunakan deskriptif kualitatif dengan teknik analisis data Milles dan Huberman yaitu reduksi data, penyajian data, dan penarikan kesimpulan. Penelitian ini menambah referensi kajian pemberdayaan komunitas dan kebijakan pada pengembangan desa wisata berbasis masyarakat. Hasil penelitian menunjukkan terdapat tiga bentuk keterlibatan komunitas dalam pengembangan desa wisata yaitu ; (1) keterlibatan secara partisipatif dimana komunitas melibatkan diri secara inisiatif dengan melihat potensi kemaslahatan/tujuan, (2) pendekatan struktur pemerintah Desa dan (3) ketidakterlibatan komunitas karena keterbatasan akses dan minimnya informasi terkait konsep Desa Wisata. Strategi pemberdayaan komunitas yakni (1) model perencanaan partisipatif, strategi ini mengumpulkan informasi dari masyarakat dan menggunakannya dalam proses perencanaan. (2) Pariwisata berbasis komunitas dimana melibatkan

partisipasi aktif masyarakat setempat dalam pengembangan dan pengelolaan desa wisata. (3) Strategi pemberdayaan komunitas integratif, ini mencakup pemberdayaan yang mencakup pendekatan pembangunan yang memperhatikan aspek ekonomi, lingkungan, sosial, dan budaya.

KATA KUNCI

pemberdayaan, komunitas, desa, wisata, integratif, partisipatif

ABSTRACT

Gowa Regency is one of the regions in Indonesia that has superior tourism potential. The region is supported by natural, cultural and historical riches. One way to launch the development of the tourism sector is through the concept of tourist villages. It is hoped that tourist villages will be a driving force in the National Economic Recovery Program after the Covid-19 pandemic. By the end of 2023, 25 tourist villages have been initiated in Gowa Regency. However, in reality, several tourist villages that have been pioneered have died before they developed. The development of a tourist village is not only related to physical infrastructure but also requires interaction with the local community, in this case the local community. The aim of this research is to analyze forms of community involvement and community empowerment strategies to realize sustainable village development in Gowa Regency. The method used is descriptive qualitative with Milles and Huberman data analysis techniques, namely data reduction, data presentation and drawing conclusions. This research adds references to studies of community empowerment and policies in the development of community-based tourism villages. The research results show that there are three forms of community involvement in the development of tourist villages, namely; (1) participatory involvement where the community involves itself initiatively by looking at potential benefits/goals, (2) the Village government's structural approach and (3) community involvement due to limited access and lack of information related to the Tourism Village concept. Community empowerment strategies are (1) participatory planning model, this strategy collects information from the community and uses it in the planning process. (2) Community-based tourism which involves the active participation of local communities in the development and management of tourist villages. (3) Integrative community empowerment strategy, this includes empowerment

that includes a development approach that takes into account economic, environmental, social and cultural aspects.

KEYWORDS
empowerment, community, village, tourism, integrative, participatory

1. INTRODUCTION

The 2030 Sustainable Development Agenda, adopted by all UN Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and in the future. At the heart of the SDGs are 17 Sustainable Development Goals (SDGs), which are an urgent call to action for all countries both developed and developing in a global partnership. They recognize that ending poverty and other deprivations must go hand in hand with strategies that improve health and education, reduce inequality, and spur economic growth while addressing climate change and working to preserve oceans and forests (Bernsen et al., 2022).

Village Sustainable Development Goals are an integrated effort to realize Villages without poverty and hunger, Villages with equitable economic growth, Villages with health care, Villages with environmental care, Villages with education care, Women-friendly Villages, Networked Villages, and Culturally Responsive Villages to accelerate the achievement of Sustainable Development Goals. The Village SDGs is a blueprint for sustainable development that is included in the priority program for using the Village Fund since 2021 (Saldarriaga Isaza & Salas, 2024).

Sustainable development can be achieved through village community empowerment. (Maclure, 2023). Village community empowerment is an effort to develop community independence and welfare by increasing knowledge, attitudes, skills, behavior, abilities, awareness, and utilizing resources through the establishment of policies, programs, activities, and assistance that are in accordance with the essence of the problem and the priority needs of the village community.(Chivers et al., 2022).

This research discusses the empowerment of integrative communities engaged in the tourism sector. The development of tourism villages has developed in various countries and is expected to overcome poverty in rural communities (Komaki, 2023). The implementation of a tourist village is one form of rural area development towards a more participatory direction (Hilman & Nimasari, 2018).

The emergence of tourism villages is a form of development implementation aimed at increasing productivity and community welfare. The process is closely related to growth and change (Fakih, Mansour 2009). In addition to improving welfare, the practice of tourism at the village level is an effort to create a comfortable environment, effective local governance, and improve the morality of the local community (Renold, 2019). The planning of tourism villages should in principle prioritize ecological aspects that aim to preserve the environment, respect local culture, and provide both economic and social benefits for all stakeholders (Melnyk et al., 2023). Several studies have proven that tourist villages are a source of income for local communities through the sale of goods and services (Firman, 2021).

Community involvement in the development of tourist villages is needed to be a driving force for regional development that can increase community income and the absorption of new workers and entrepreneurial services (Utami, 2020). An approach that prioritizes community involvement is important to develop collaboration between the government and the community in an effort to find new opportunities in tourism village activities (Hsu et al., 2022).

Gowa Regency is one of the regions in South Sulawesi that has the potential for Tourism Objects and Attractions (ODTW). Until 2023, 25 tourism villages have been initiated (Disbudpar Gowa, 2023). However, the reality and results of the portrait in the field of the tourist village are not as expected. The Bantimurung Gallang Waterfall tourist attraction in Pao Village, although it has good facilities and accessibility, has not been able to attract maximum visits. Likewise, Jungle Camp in the Bili-Bili dam area has not been maximized properly in the form of permits and community / community cooperation from related parties (Zulkifli, 2017). Likewise, the tourist market in Bissoloro Village is in a state of suspended animation with no significant activity (Reski R, 2020). The portrait of the three tourist objects above is the reality of the condition of tourist objects in the Tourism Village in Gowa Regency.

Research results have reviewed the lack of role and participation of local communities in the development of ecotourism (Wahyuni, 2018). From various research results on tourist villages in Indonesia, the main problem is the lack of community mastery of local potential, so there are very few studies that describe the success of independent village sustainability (Ulum & Dewi, 2021). This can be used as a basis for examining sustainable community involvement in the development of tourist villages.

The application of community empowerment in an integrative way is very interesting to study, because empowerment in general is less focused on local resources (Ataöv et al., 2022). This research focuses on the activities of communities who are members of the Tourism Awareness Group (Pokdarwis) that accompany the existence of each tourist attraction. This research aims to analyze the form of community involvement and design an integrative community empowerment strategy in the development of tourism villages. The results of this research can be used to complement previous research that describes stagnation in social empowerment practices. This research also has implications for adding references to studies on community involvement in the field of local development and encouraging policies for the formation of tourist villages to be based on the community.

2. METHODOLOGY

This research uses descriptive qualitative with the type of case study aims to explore various findings related to the involvement of the Tourism Awareness Group (Pokdarwis) community to determine an integrative and sustainable community empowerment strategy. Data collection was carried out starting from observation, in-depth interviews, and documentation related to the development of tourist villages (Mukhtar, 2013).

Informants in this study used purposive sampling technique, namely sampling based on efforts to achieve research objectives. The key informants selected are; Tourism Office of Gowa Regency, Head of Pao Village, Tombolo Pao Subdistrict, Pao Village Tourism Awareness Group (Pokdarwis), Pokdarwis Bontorappo Bissoloro Village and Pokdarwis Jungle Camp Bontoparang Village. Data analysis through 3 stages Milles & Huberman), namely data reduction in the form of a process of selecting, simplifying and transforming data that emerges from written notes in the field, then presenting data, namely adjustments about whether the data is relevant or not between the data and research objectives, and finally drawing conclusions / verification (Mukhtar, 2013).

3. RESULT AND DISCUSSION

The results show that there are three forms of community involvement in the development of tourist villages, namely; participatory involvement where the community involves itself in an initiative by looking at the potential benefits/goals. Community participation is key in the development of sustainable tourism villages. Participatory involvement in the community occurs when community members take the initiative to get involved by considering the potential benefits or common goals.

This reflects the active and voluntary collaboration of individuals within the community to achieve the desired outcome. Although community involvement did not begin at the planning stage, the community still tried to involve themselves. Next came engagement through the village government structure. The Tourism Awareness Group (Pokdarwis) must be formed at the time of proposing the Tourism Village decree. So that the Village Government formed a Tourism Awareness Group (Pokdarwis). The formation of Pokdarwis is through the mechanism of the closest person from the village government. It was found that the Pokdarwis management was always the manager of the tourist attraction as well as staff at the Village Office. Then, the community was not involved because of limited access and lack of information related to the concept of forming a Tourism Village. This community is outside of Pokdarwis. These include Karang Taruna organizations, Student and Student Associations, PKK, Majelis Taklim, Farmer/Rancher Groups.

Picture ; *Bissoloro Village Tourism Market*

Then a community empowerment strategy was found, namely the participatory planning model, this strategy collects information from the community and uses it in the planning process, evaluation implementation and sustainability of the Tourism Village. Then community-based tourism which involves the active participation of local communities in the development and management of tourist villages. Local communities are used as objects and subjects. The existence of the community is the key to the development of a tourist village. All community organizations in the village must gather and have representatives in the Tourism Awareness Group (Pokdarwis). So that the integration in it makes the strength of the community in developing the village and tourism will be stronger. Integrative community empowerment strategy, this includes empowerment that includes a development approach that takes into account economic, environmental, social, and cultural aspects.

Community development should aim to build communities. Community development involves developing social capital, strengthening social interactions within communities, bringing them together, and helping them to communicate with each other in ways that can lead to genuine dialog, understanding and social action. The loss of community has resulted in division, isolation, and individualization, and community development tries to reverse these effects. Community development is indispensable if the establishment of good and lasting community-level structures and processes is to be achieved. Various findings related to community empowerment and the development of tourist villages were analyzed with Jim Ife and Frank Tesoriero's concept of empowerment.

They argue that an important element of community empowerment is the involvement of communities in every stage of development as well as increasing their capacity and independence in dealing with social, economic and environmental problems (Ife & Tesoriero, 2008). In addition, the data obtained from this research also needs to be linked to the concept of a tourism village, which is defined as an area that is prioritized for development in the field of tourism with the aim of environmental conservation, improving the welfare of local communities, and incorporating education in it (Haryono et al., 2018). Tourism villages are considered as one of the options and innovations in the sustainable development agenda that prioritizes empowerment, economic, social, and environmental (Lestari et al., 2019).

The two concepts used in this research are related to each other. The emergence of the concepts of community empowerment and village tourism is a critique of top-down oriented development schemes, thus privileging bottom-up development and empowerment schemes. The empowerment schemes initiated by both concepts are expected to be able to meet the various needs and challenges of the empowered local communities (Jebaru Adon & Triono Jeraman, 2023). The main target of empowerment will be achieved if it prioritizes community involvement, capacity building, and the widest possible access (Pratidina Santoso, 2022).

4. CONCLUSION.

Pengembangan desa wisata melalui pemberdayaan Komunitas merupakan kunci keberlanjutan pembangunan. Hal tersebut akan meminimalisir mangkraknya proyek pembangunan dan menyebabkan kerugian besar secara materi. Pemanfaatan potensi kekayaan alam dapat dinikmati oleh masyarakat untuk meningkatkan taraf hidupnya. Ketidakterlibatan kelompok masyarakat dalam pembangunan seyogyanya menjadi evaluasi sehingga pelibatan masyarakat seharusnya dimulai sejak perencanaan awal hingga pengembangan akhir dan keberlanjutan. Kegagalan pada praktik pemberdayaan sebelumnya sehingga membuat masyarakat/komunitas belum mampu keluar dari lubang ketidakberdayaan dan kemandirian sedangkan berbagai peluang berada di sekitar mereka. Sehingga strategi pemberdayaan harus berpijak melalui basis komunitas lokal seperti Kelompok Sadar Wisata (Pokdarwis) yang menghimpun berbagai elemen organisasi tingkat Desa perlu diperhatikan dan diberikan ruang. Pengembangan desa wisata berkelanjutan memposisikan komunitas sebagai objek dan subyek pemberdayaan sekaligus penentu arah pemberdayaan. Sekaligus menjadi rekomendasi bagi pihak pemangku kebijakan dan fasilitator pemberdayaan agar praktik pemberdayaan sosial bersumber dari berbagai potensi lokal dan kebutuhan mendasar mereka secara terintegratif.

STATEMENT

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EFL STUDENT'S INTRINSIC AND EXTRINSIC MOTIVATION AT PRIVATE UNIVERSITY

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ABSTRACT

This study aims to investigate EFL student's intrinsic and extrinsic motivation at private university. The respondent of this study is English students in the first-year academic at Maros Muslim University. The study employed qualitative research which used interview as the instrument. The interview conducted in semi-structure and was analysed through thematic analysis. The results showed that several factors in motivating students to learn English. Those factors were categorized into intrinsic and extrinsic motivation within students. Intrinsic motivation factors included *learning is my passion and dream, learning is interesting* and *learning is impressive*, whereas extrinsic motivation factors such as *easy to get job, teacher's competence, parent's support/request* and *get rewarded*. It can be concluded that several students still have to triggered by external factor to be motivated and some students who have intrinsic motivation first will be more motivated in learning English.

KEYWORDS

EFL students, Intrinsic Motivation, Extrinsic Motivation

1. INTRODUCTION

Motivation is the willingness to act in doing something persistently to attain specific goals. Motivation can be regarded as someone’s behaviour towards certain things along with how much the desire is pursued. The most common definition of motivation is probably related to the direction and magnitude of human behaviour (Dörnyei and Ushioda 2011). Why someone choose to do certain action, how perseverance of them in doing and how big their attempt in achieving the action.

In educational context, motivation is viewed as one of factors in deciding students successful or failure (Munir, Aryani, and Mulia 2022). It considered high motivation students will be easier to achieve learning goals rather than low motivation students. The motivation can be intrinsic and extrinsic. Students who have intrinsic motivation means they do all things related to their academic because they want to be improved. The motivation comes from themselves without any outside interfering factors. Students with intrinsic motivation merely do the action because they like it and need it so that there is no particular explanation (Reiss, 2012; Elizabeth & Ena, 2019). When the students have intrinsic motivation in learning, they can be more optimistic and enthusiastic in learning which allows the process of assimilating the material to be more effective. As well, they do not simply lose up on existing hurdles, nor do they give up quickly in obtaining something.

Contrary, students with extrinsic motivation tend to do the action with motives. They need to be triggered through external factors such as reward or punishment to be motivated. Extrinsic motivation can increase excitement among students with low motivation levels (Serin 2018). Extrinsic motivation promotes effective learning activities. Henceforth, extrinsic motivation can help the emergence of intrinsic motivation or even increase it (Harackiewicz, 1979; Ryan, 1982; Hayamizu, 1997). Extrinsic motivation has a big influential in intrinsic motivation’s students, as Zhang (2023) have shown that extrinsic motivation significantly impacts intrinsic motivation during children's educational development. He investigated that through external rewards such as verbal and tangible rewards can develop children's intrinsic motivation as long as it used properly. In addition, several previous studies have investigated the intrinsic and extrinsic motivation among English learners (Selimovic 2022; Syar et al., 2023; Latauga et al., 2023), the findings imply that students tended to have more extrinsic motivation than intrinsic motivation in learning English.

The influence of intrinsic and extrinsic motivation in learning English as foreign language is significant to be investigated particularly at private university. Both intrinsic and extrinsic motivation have big impact on the student's learning achievement. Intrinsic motivation in students takes personal desires to learn and leading to the good outcomes learning and extrinsic motivation in students can vary it depends on the external factors interfered to the students. Lin, et al. (2003) argued that higher education aims to increase motivation on students for lifelong learning. It can be assumed that by enhancing and reinforcing the student's motivation in learning, it can give enormous benefits for students in their long-term development.

Concerning student's motivation in learning English, researchers have observed that EFL students particularly students in their first-year academic in Maros Muslim University do not seem to really like learning English, as indicated by the attitude of some students who are indifferent and unenthusiastic during learning process. Even if it is only a few students but this will undermine learning goals and outcomes. Hence, this study was carried out to examine the students' motivation in learning English as foreign language in the context of private higher university. The researchers wondered what motivation students had for wanting to study in the university whether it comes from internal or external factors. Therefore, researchers hope to gain new insights from students' thought on their motivation in learning English as foreign language at private university.

2. METHODHOLOGY

The method of this study applied qualitative research which aims to investigate the intrinsic and extrinsic motivation of students towards learning English as foreign language at private university. This study is conducted at Maros Muslim University which located at Maros Regency near from Makassar as main city of South Sulawesi province, Indonesia. This study's respondent is a group of 10 freshmen from the English major who have recently enrolled in the university. The researchers collected data through interview. The semi-structured interview was conducted face-to-face, which allows students to feel more comfortable in answering questions. Then, the data analysis used thematic analysis. The procedure after collecting the data, researchers tried to discern the data by looking at the interview results and focused on the problems of this study. Furthermore, researchers found the theme and adjusted to the phenomenon occurred in the field.

3. RESULT AND DISCUSSION

The results presented the findings of data from interview related to the EFL students' motivation intrinsic and extrinsic motivation at private higher university. The respondents' answers vary that lead to several reasons why they learn English and decided to choose English program at university. These reasons were analysed whether it comes from themselves as intrinsic motivation or external factors behind it. Therefore, the results were presented in the thematic form.

1. Intrinsic Motivation

a. Learning English is my passion and dream

For some students, learning English and majoring in English is their passion. They are pleased and relish whenever they learn and speak English. The desire to gain more knowledge is constantly exist within themselves so that their motivation in learning English is not easily down.

> *"When I learn English, I feel happy and enjoy because I can learn new language and when I speak English, it was like in the movie that I always watch. It is my dream to be able to speak English so that I can travel around the world"* (S1)
>
> *"Well, I feel like I really enjoy it so much because learn English is one of my passions. I feel when you really like something and you study for that it is not even a problem because you like that"* (S7)

b. Learning English is interesting

Some students argued that the motivation they learn English because it is interesting. The materials related to grammar make them feel curious to know more and more.

> *"I enjoy learn English, I'm enthusiastic to learn because I'm interested in English especially in grammar, there are a lot of knowledge that I've known"* (S3)
>
> *"I feel enjoy to learn English because the knowledge makes me know many things and the more I know the more I'm curious about English"* (S5)
>
> *"I'm interested in English because I want to learn speak and structure about the language so that it can improve my communication ability"* (S10)

c. Learning English is impressive

One of reasons why students want to learn English because it is impressive for them. When they are able to speak English, it looks amazing and they are proud for it. The students feel satisfied if they understand the people who speak English and they do not need subtitle to comprehend the meaning. Therefore, it makes them more motivated to master the language.

"When I learn English, I feel happy. It makes me look cool when I speak English" (S6)

> *"What makes me satisfied when you can watch a video or movie without subtitle and you get the point that they're trying to tell about, it makes me think that I finally can understand what they are talking about and I think that is so cool when you can understand well"* (S7)

2. Extrinsic Motivation

a. Easy to get job

The majority of students believed that learning English will provide them with several work opportunities in the future. In today's digital era, simply comprehending something is insufficient without knowing the English language. As a result, being able to speak English has a good value wherever they wish to work in the future and that is make them more motivated in learning English.

> *"…we know English is international language so when I can speak English, it opens a lot of opportunity in my future like to get a job"* (S2)

> *"I learn English because it is about the job opportunity later when I graduate"* (S8)

> *"…is about job because in the job area need more people who can understand and speak English. Actually, I already have planned to get the job that I want and the requirement is must be good in English"* (S9)

b. Teacher's competence

Several students mentioned that one of reasons they are motivated in learning English is due to the teacher's competence. The ability of one the university's teachers leads them to believe that English is no longer difficult. The teacher teaches the material in a simple way so that students can absorb easier and feel more motivated in learning. The teacher's competence to create a pleasant yet competitive environment in the classroom keeps students engaged throughout the lesson.

"I become interested in English since one of teacher who teach me makes the material simple and easy to learn" (S3)

"I ever got the moment when I really enjoy to learn English, especially in grammar I can be able to understand well the material because of the teacher teach the lesson in a simple way" (S5)

"… I'm feeling happy when I learn something new in English especially in grammar. I can know the rules, I know why it can be like this and that when we make sentences and that is because the teacher who teach me" (S6)

c. *Parent's support/request*

It is fairly common to discover students entering and studying English due to their parents' supporting or being told to enter that major. Some students confessed that they choose to learn English and become an English major is because their parents. Then, the only reason they are motivated to learn English is parent's willingness.

"… the factor I learn English is just support from my parents and it followed with my strong intention even I realized that my basic in English is very low so I need to hard work to learn and practice more" (S4)

"… my parents ask me to enter English major and since after that I became enjoy to learn English" (S6)

"Actually, it is my parents request to enter English major because they want me to become a teacher" (S8)

d. *Get rewarded*

Get rewarded is the most prominent factor when discussing extrinsic motivation. Of course, the average student is motivated to learn if they are attracted by reward. Reward is not merely in a form of prize but it can be compliment as well. In fact, in this study, some students prefer compliment rather than prize to make them more motivated to learn English.

"I'm so excited when my teacher said 'you are good', I feel like I'm proud of myself" (S1)

"I don't like prize because it is awkward for me, I prefer to get compliment as long as it is an honest opinion from teachers not just to comfort me if I'm doing wrong for example" (S3)

"… yes, I like when teacher give me compliment whenever I did a good job in the class" (S4)

"I prefer a compliment than present because I'm not really like someone give me present for free" (S5)

"I prefer to get compliment from teacher because I think a compliment makes me more motivated in learning" (S8)

"I choose to get compliment from teachers since it makes me more motivated to learn more" (S10)

A number of students choose to get prize as well in activating their motivation in learning English.

"… I'm excited to learn more because I want to get the prize so I'm more motivated" (S2)

"I prefer to get prize than compliment because I'm more motivated if there is a present to be given" (S6)

"Absolutely yes. Not going to lie because I'm feeling honored. *That is make me want to study harder"* (S7)

"… yes of course, I'm feeling excited and motivated if we get prize, we are happy" (S9)

Based on the results above, it can be stated that various factors that can lead students to be more motivated in learning English as foreign language either intrinsic or extrinsic. The factors that included extrinsic motivation such as *easy to get a job, teacher's* *competence, parent's support/request and get rewarded*. First factor is about job opportunity. Most students argued mastering English is essential for getting a job easily. Besides being proficient in certain specific fields, any job undoubtedly requires people who are fluent in English. This result is in accordance with Selimovic's (2022) research who pointed out that learning English language is necessary for a successful career and achievement in life. Therefore, the students thought that learning English will make them have good value in their future career after graduate from university.

Second factor is teacher's competence. The competence of teacher in teaching English is definitely have big power in motivating students to learn. The teacher's ability in simplifying materials and creating comfortable atmosphere in the class make students more motivated during learning process. It is in line with research from Usman et al. (2016) said that teachers are the most significant external factor influencing student's motivation. Third factor is parent's support/request. Parental support or request to their children is assuredly the common factors in motivating students because all parents want to be the best for their children. Fortunately, all students who enter to English major are enjoy to learn English even though it is only for parental reasons but they do well, despite the fact that some students are still lack of basic skill in English. The study from Kapanova (2023) showed that family factors have an important role in English learning. It was found that students are more motivated to learn English when their parent encourage them. The last factor is getting reward. Study from Putri et al. (2021) presented that reward from teachers had influenced student's motivation to learn. Mostly students will be motivated if the teachers attracted by reward such as prize. However, some students in this study prefer reward in the form of compliment rather than prize. The students believed that compliment will be more impacted in motivating them to learn English.

Following the extrinsic motivation, the intrinsic motivation is existed within students' behaviour. The interview results indicated that there were 3 factors included intrinsic motivation such as *learning English is my passion and dream, learning English is interesting and learning English is impressive*. First factor is related to the student's passion and dream in learning English. Some students stated that they are excited and like studying English because they love it so much that even if there are difficulties interfere alongside the process of learning, they can still manage well since they are passionate about it. Beg (2021) also assumed that effective learning is strongly tied to the learner's passion, and the responsibility of the teacher is to create methods to connect with that passion. Second factor is that learning English gets students' interest. Ginting et al (2021) concluded that students with high interest in learning English are more motivated and attentive, leading to better achievement in the subject. Moreover, this factor arose because extrinsic motivation existed first among students. Several students argued that they become interested in English because of the teacher's ability to convey material in a simple way while still making learning more challenging and enjoyable. Therefore, students were initially prompted by external factor, followed by internal factor. The last factor in intrinsic motivation is studying English allow students to feel impressive to themselves. Then, there is a feeling of pride within students themself. They viewed English as a skill to be proud of and it would be cool if they could speak English thus their motivation in learning English remained constant.

4. CONCLUSION

Regarding to the results, it showed that there were several factors comes from students which can be categorized as intrinsic and extrinsic motivation within students. These findings can be concluded that students who have extrinsic motivation at first are hoped to develop their internal motivation so that the intrinsic motivation will be followed naturally. In addition, students who initially have intrinsic motivation will be more motivated and remained constant if they receive extrinsic motivation around them. This study is expected to bring insight among teachers to always consider student's motivation in learning English especially their intrinsic and extrinsic motivation.

STATEMENT

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THE IMPACT OF USING CHAT GPT IN THE EDUCATIONAL WORLD

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ABSTRACT

ChatGPT, or Generative Pre-trained Transformer for Conversations, stands as a testament to OpenAI's pioneering efforts in the realm of natural language processing. Developed upon the robust architecture of GPT-3.5, this model showcases unparalleled prowess in generating text that rivals human-like abilities, thereby revolutionizing the landscape of conversational AI. The natural language processing capabilities inherent to ChatGPT have undergone a remarkable evolution, catalyzing more intricate and informative exchanges with users. This evolution has ushered in a new era wherein ChatGPT not only responds but comprehends nuances within dialogue, approaching levels of empathy akin to human interaction. Looking ahead, the trajectory of ChatGPT's development hinges on three pivotal fronts. Foremost is the endeavor to enrich its situational understanding and emotional intelligence, thereby elevating response quality to mirror human empathy. Secondly, strides are being made to fortify its capacity to assimilate real-time information, ensuring that responses remain precise and pertinent through continuous knowledge updates. Lastly, efforts are underway to imbue ChatGPT with technological enhancements that foster dynamic and interactive user interfaces, fostering seamless interactions. The applications of ChatGPT span a plethora of domains, including virtual assistants, customer service, and education, underscoring its indispensable role in bridging the gap between humans and technology. However, the deployment of such advanced AI models warrants diligent consideration of ethical and safety implications. Addressing these concerns in tandem with ongoing

development is imperative to nurture ChatGPT and analogous technologies into dependable and efficacious allies across all facets of human existence.

KEYWORDS

ChatGPT, OpenAI, AI, Artificial Intelligence

1. BACKGROUND

Artificial intelligence (AI) and machine learning technologies, which are critical players in the landscape of technological advancement, have evolved rapidly and found application in a wide range of domains in recent years [1,2]. This burgeoning utilization stems from their remarkable capacity to emulate human-like outputs while significantly mitigating the expenditure of human energy and time [1-4]. The overarching concept of AI encapsulates a diverse array of technologies and methodologies geared towards endowing computer systems with the aptitude to execute tasks that traditionally necessitate human intelligence [5]. Put simply, AI represents the emulation of human cognitive faculties within machines, imbuing them with the capability to reason and respond akin to their human counterparts [2]. As AI permeates various facets of society, it is a quintessential exemplar of the 'datafication' phenomenon, catalyzing profound transformations across societal paradigms [6]. Within the expansive realm of AI, several sub-disciplines coalesce, including machine learning, supervised learning, unsupervised learning, natural language generation, and natural language processing (NLP), each contributing distinct functionalities and methodologies to the overarching AI framework [7].

One category of chatbot leveraging AI to interpret user inputs in a manner mirroring human conversation and craft responses accordingly is the AI chatbot. These sophisticated conversational agents are engineered to engage with users through Natural Language Processing (NLP), deciphering their queries and intents with a human-like comprehension [2]. A notable example in this realm is the text-based chatbot, ChatGPT (Chat Generative Pretrained Transformer 3.5), a prodigious language model developed by OpenAI, a pioneering initiative headquartered in San Francisco and co-founded in 2015 by visionaries such as Elon Musk, Sam Altman, Greg Brockman, Ilya Sutskever, Wojciech Zaremba, and John Schulman [8]. ChatGPT, a distinguished member of the GPT lineage, traces its roots to its predecessor, GPT-1, which debuted in 2018 and has since been extensively explored and deployed across a myriad of articles, patents, and services worldwide. The subsequent iteration, GPT-2, was unveiled by OpenAI in 2019, but concerns about potential misuse led to withholding its entire dataset. In 2020, OpenAI unveiled the pinnacle of its linguistic innovation, GPT-3.5, the largest and most advanced language model in its portfolio. Positioned within this evolutionary trajectory, ChatGPT emerges as a testament to the culmination of OpenAI's relentless pursuit of cutting-edge AI technology [8]. Functioning as a manifestation of GPT-3.5's capabilities, ChatGPT epitomizes a chatbot par excellence, adept at assimilating vast troves of data and articulating responses in a manner reminiscent of human language [8]. Its omnipresence across diverse academic domains underscores its indispensability, as it finds utility in tasks ranging from language translation and document summarization to inferencing and question-answering systems [8]. Integrating AI technologies like ChatGPT within academia, research, education, and knowledge dissemination has sparked scholarly interest, with inquiries revolving around its ramifications pervading theoretical discourse [9-11]. Yet, a dearth of empirical studies probing the actual impact of ChatGPT within academic spheres persists, necessitating a nuanced exploration of scholars' perspectives and experiences vis-à-vis this transformative technology. Thus, this study endeavors to illuminate the multifaceted influence of ChatGPT within academia, elucidating its myriad benefits and potential drawbacks, as well as delineating scholars' attitudes and perceptions towards its adoption. Moreover, it seeks to unravel the current landscape of ChatGPT implementation in academic settings, offering insights into future trajectories and opportunities for refinement and advancement.

2. LITERATURE REVIEW
Artificial Intelligence

Artificial Intelligence, heralded as a technological marvel, embodies the pinnacle of computational prowess, endowed with the remarkable capacity to replicate and even surpass human cognitive faculties, as expounded by Jarrahi (2018, p. 1). Its omnipresence permeates diverse sectors, including but not limited to finance, healthcare, transportation, art, and beyond, as underscored by Dejoux and Léon (2018, p. 190). Figure 1 serves as a visual testament to the expansive repertoire of functions seamlessly executed by AI, encompassing an eclectic array of tasks ranging from data analysis and pattern recognition to autonomous decision-making and creative endeavors.

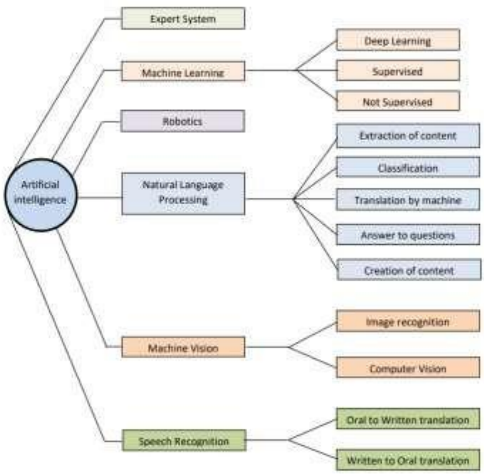

Figure 1. Function of AI

The landscape of contemporary Artificial Intelligence (AI) comprises a diverse array of functionalities, each catering to distinct facets of human cognition. Among these, Expert Systems stand as stalwarts of problem-solving ingenuity, meticulously crafted to emulate human cognitive processes with precision and finesse. Complementing this, Machine Learning, as elucidated by Brynjolfsson and McAfee (2014, p. 91), represents the epitome of computational adaptability, characterized by its intrinsic capacity to refine methodologies and optimize outcomes iteratively, leveraging the vast troves of data at its disposal. Furthermore, Natural Language Processing (NLP) emerges as a cornerstone of AI, heralding a paradigm shift in human-computer interaction by enabling machines to comprehend and analyze human language with unprecedented fluency and accuracy. This, in turn, serves as the bedrock for the evolution of Speech Recognition AI, facilitating seamless communication between humans and machines through spoken language interfaces. In parallel, Machine Vision, as delineated by Jarrahi (2018, p. 2), embodies the pinnacle of algorithmic prowess, empowering machines to discern and interpret visual information with acuity akin to human perception. Together, these modalities constitute the foundational pillars upon which the edifice of contemporary AI is erected, each contributing its unique capabilities to the collective tapestry of artificial intelligence. However, despite the remarkable strides witnessed in AI technology, the realization of AI systems capable of emulating the full spectrum of human intelligence remains an elusive goal. This dichotomy engenders a multifaceted discourse among experts, with divergent perspectives delineating the contours of AI's societal impact. On one hand, proponents extol the virtues of AI as a boon to decision-making processes, advocating for its integration into managerial frameworks as a trusted ally, as posited by Dejoux and Léon (2018, p. 191). Conversely, another school of thought envisions a symbiotic relationship between AI and humanity, foreseeing a future wherein AI augments and enhances human capabilities to unprecedented heights. However, amidst these optimistic prognostications, a third faction voices apprehensions regarding the encroaching specter of strong AI, postulating its potential to supplant human labor through the automation of cognitive tasks, as highlighted by Jarrahi (2018, p. 2). This contingent vehemently underscores the imperative for AI developers to prioritize ethical and societal considerations in the pursuit of intelligent machines, lest the unchecked proliferation of AI precipitate unforeseen ramifications for humanity at large.

ChatGpt

In the era of digital transformation, the presence of artificial intelligence-based technology increasingly influences various aspects of human life. One prominent innovation in this field is ChatGPT, a generative language model developed by OpenAI. ChatGPT leverages Transformer architecture and transfer learning approach to provide advanced natural language processing capabilities. With its ability to generate contextual and responsive text, ChatGPT represents a significant milestone in the evolution of artificial intelligence and leads to a paradigm shift in human-machine interactions.

As part of the GPT (Generative Pre-trained Transformer) model family, ChatGPT is known for its capacity to understand the context and produce natural-sounding text. Its learning process, involving the processing of large amounts of data and unsupervised learning, enables it to provide contextual responses to user questions and requests. This skill makes it a relevant tool in various contexts, from everyday virtual assistants to educational and research solutions.

However, alongside its impressive capabilities, the implementation of ChatGPT also raises certain questions and challenges. Ethical issues, such as data security and potential bias in its generated outputs, are serious concerns. Therefore, a deep understanding of how ChatGPT works, as well as its applications in various fields, is crucial to address challenges and maximize its potential. In this context, this article will explore the theoretical foundations of ChatGPT, its potential impacts on various aspects of life, and the challenges that need to be overcome to ensure its ethical and beneficial use for society as a whole.

The theoretical foundations of ChatGPT can be divided into several key aspects that form the philosophical and technical basis:

1. Transformer Architecture: The Transformer Architecture is the main foundation of ChatGPT. The Transformer is a model that enables efficient and contextual text processing. The Transformer's self-attention mechanism enables the model to focus on important parts of the input text, resulting in a better understanding of the context within a sentence or document.
   Transformer Architecture:

   Self-Attention Mechanism: This is the core of the Transformer architecture. When the model processes text, each word in the sentence is mapped to a vector, and these vectors are then used to calculate the weight or importance of each word in the context of the sentence. This allows the model to "attend to" relevant words in the sentence to generate a better representation.
   Multi-Head Attention: To enhance the model's ability to attend to different pieces of information, self-attention is performed in parallel across multiple "heads" or subspaces. Each head produces a different representation, and these representations are then combined to produce the final output.
   Positional Encoding: Because the Transformer does not recognize sequence in the input, positional encoding is used to provide information about the relative position of words in the sentence, which is critical for understanding the sequence of words in context.
2. Transfer Learning: Transfer learning plays a key role in the development of ChatGPT. The model is first trained on large and general tasks, such as synthesizing information from the entire internet. After that, the model is fine-tuned for specific tasks, such as text generation for conversations. This approach allows the model to leverage the knowledge gained from previous training, speeding up the learning process and enhancing the model's performance on specific tasks.
   Transfer Learning:

   Pre-training: The initial model (e.g., GPT-1) is trained on large and general tasks, such as predicting the next words in text from the internet. This process results in a model that has a broader understanding of human language.

Fine-tuning: After the initial model is trained, it is fine-tuned for specific tasks, such as text generation for conversations. At this stage, the model is "fed" with a dataset containing examples of these specific tasks to improve its performance on them.

3. Generative Pre-training: GPT adopts a pre-generative approach in its learning. This means the model is trained to predict the next words in a sentence. By predicting the next words, the model can better understand the structure of language. It also allows the model to generate text that is more natural and contextually appropriate.
   Generative Pre-training:

   Masked Language Modeling (MLM): During pre-training, the model is trained to predict hidden words in sentences. This forces the model to understand the relationships between words in a sentence and produces more accurate word representations.

   Next Sentence Prediction (NSP): The model is also trained to detect whether two consecutive sentences are related or not. This helps the model understand the text's broader context.

4. Large-scale Unsupervised Learning: ChatGPT relies on large-scale unsupervised learning. This means the model is trained using a very large number of parameters and extensive unsupervised data. The training process involves processing a large amount of text that forms the model's knowledge base. By leveraging a large amount of data, the model can learn complex patterns in human language and generate better responses in various contexts.
   Large-scale Unsupervised Learning:

Data Preprocessing: Before training, raw text data is preprocessed for cleaning, tokenization, and possibly other steps to prepare it for model training.

Model Training: The training process involves the use of powerful GPUs to process large amounts of data. The model is fed a diverse range of texts to learn complex patterns in human language.

Evaluation: After training, the model is evaluated using metrics such as perplexity or BLEU score to assess how well the model understands language and can generate natural text.

3. METHOD

This study endeavors to delve into the prospective ramifications of ChatGPT technology within the academic sphere, offering insights gleaned directly from the experiences and perspectives of academics themselves. In elucidating the multifaceted influence of ChatGPT on academia, this research endeavors to unravel the intricate interplay between AI and the scholarly pursuit of knowledge, illuminating how academics perceive and interpret the evolving landscape of scientific inquiry and pedagogy in light of AI integration. To fulfill this overarching objective, the study delineates two specific aims, each designed to elucidate distinct facets of the ChatGPT phenomenon within academia:

a. The primary aim revolves around eliciting and synthesizing academics' perspectives on ChatGPT technology, thereby affording a nuanced understanding of its perceived utility, efficacy, and ethical implications. By engaging directly with the academic community, this facet of the research seeks to distill diverse viewpoints and insights, shedding light on the myriad ways in which ChatGPT is perceived and utilized within scholarly circles.

b. In addition to the aforementioned goal, the study aims to conduct a thorough investigation of the tangible impact of ChatGPT on the professional lives of academics. This entails delving into the intricate dynamics at play, ranging from shifts in research methodologies and scholarly communication to the evolving pedagogical paradigms engendered by AI integration. By probing the lived experiences of academics, this facet of the research aims to elucidate how ChatGPT shapes and reshapes the professional landscape of academia, both in terms of opportunities and challenges.

In summation, this study embarks on a multifaceted inquiry into the transformative potential of ChatGPT technology within academia, weaving together insights from academic discourse and firsthand experiences to construct a comprehensive narrative elucidating its impact on scholarly endeavors and educational practices. Through this endeavor, the research endeavors to contribute to a deeper understanding of the complex interplay between AI innovation and the pursuit of knowledge within the academic milieu.

4. RESULTS AND DISCUSSION

This thematic approach was meticulously crafted to serve as a conduit for unearthing participants' foundational understanding and awareness regarding ChatGPT technology, thereby laying the groundwork for a comprehensive exploration of their experiential insights. Positioned as the linchpin of their engagement, ChatGPT technology assumes a central role within their narratives, acting as the focal point around which their experiences revolve. Although this thematic axis may not inherently furnish direct responses to the research inquiries at hand, its significance lies in its capacity to set the stage for subsequent analyses. By elucidating participants' baseline knowledge and perceptions regarding ChatGPT, this preliminary exploration furnishes invaluable context for interpreting their subsequent reflections and perspectives. Moreover, it serves as an indispensable prelude, priming the analytical terrain and orienting the subsequent discourse towards a more nuanced understanding of participants' lived experiences. In essence, while this thematic strand may not directly address the research questions per se, its inclusion within the analytical framework is instrumental in establishing a foundational framework for the ensuing investigation. As such, it assumes a pivotal role as an introductory pillar, laying the groundwork for the ensuing exploration into the multifaceted implications of ChatGPT technology within the participant cohort's experiential landscape.

An in-depth exploration into the intricacies of ChatGPT offers a unique vantage point from which to glean insights into its reception and conceptualization within the academic realm. Central to this examination is the pivotal role that academics play in shaping and framing the discourse surrounding ChatGPT. Positioned as purveyors of knowledge and stewards of intellectual inquiry, their perspectives and attitudes towards this technology carry significant weight in delineating its trajectory and potential impact. Within academic circles, ChatGPT is approached and perceived through a multifaceted lens, with scholars espousing diverse viewpoints reflective of the complex interplay between technological innovation and scholarly discourse. At the forefront of this discourse is the notion that ChatGPT occupies a central position within the current landscape of Natural Language Processing (NLP) models, representing a paradigm shift towards anthropomorphic AI technologies that mirror human conversational dynamics. This anthropomorphic lens frames ChatGPT not merely as a tool, but as a sentient entity capable of engaging in dialogue akin to human interlocutors, thereby blurring the boundaries between artificial and human intelligence. Conversely, juxtaposed against this narrative of technological advancement lies the recognition that ChatGPT remains in a nascent stage of development, characterized by its beta phase and attendant imperfections. Despite these nascent limitations, however, a prevailing sentiment among academics underscores the immense potential harbored by ChatGPT, with many prognosticating its capacity to catalyze a paradigm shift in various facets of life. It is within this dialectic between present limitations and future promise that the discourse surrounding ChatGPT is situated, emblematic of the dynamic interplay between technological innovation and scholarly speculation. Moreover, beyond its immediate implications, academics contend that ChatGPT holds the potential to shape the trajectory of future technological development, exerting a transformative influence on societal norms and human-machine interactions. As such, the discourse surrounding ChatGPT transcends mere speculation, assuming a prophetic dimension wherein its impact extends far beyond the confines of present realities, permeating the very fabric of future societal paradigms.

ChatGPT heralded as a groundbreaking discovery, is poised to permeate diverse domains and vocations, catalyzing a wave of innovation and metamorphosing them in its wake. Moreover, participants widely construe ChatGPT as a harbinger of positive technological advancement, prognosticating myriad changes on the horizon. Its inception stands as a testament to the strides made in computational technology, a fruit borne of the advancements achieved in 2020. Evolving into a system capable of orchestrating ingenious solutions through the adept processing of copious and intricate data sets, ChatGPT has captured considerable attention. Its allure lies in its ability to glean novel insights from the corpus it ingests, mimicking human perception and comprehension with remarkable fidelity. In my estimation, ChatGPT represents a refined iteration of the sophisticated and inventive Deep Learning-based AI paradigm, epitomized by its predecessor, GPT, nurtured and honed by OpenAI over the years. Analogously, leveraging this foundational framework, the organization previously introduced DALL-E, underscoring its prowess in pushing the boundaries of AI innovation. With ChatGPT as a harbinger, the landscape appears ripe for the proliferation of diverse and impactful GPT applications, promising a cascade of transformative possibilities (C7). In the contemporary landscape characterized by the swift evolution of AI technology, the proliferation of such applications seems not only inevitable but indeed anticipated. Hence, maintaining pace with the ongoing advancements assumes paramount importance, necessitating a concerted effort to comprehend and scrutinize these progressions through the dual lenses of societal and technological implications. Within this milieu, ChatGPT emerges as a pivotal milestone, offering profound insights into the contours of future lifestyles, particularly within the realms of philosophy, art, and communication domains that perennially captivate scholarly discourse and public imagination alike. Themes once relegated to the realms of science fiction, immortalized in literature and cinema, are steadily materializing into present-day realities. Against the backdrop of our era's unabated fascination with technological innovation and the concerted strides made in this trajectory, the advent of ChatGPT hardly comes as a startling revelation, but rather as a natural progression in the continuum of human ingenuity and technological prowess (C3).

This theme answers our first three research questions. Participants' perspectives on how ChatGPT integrates into academia and the educational process (P1 and P2) as well as its strengths and weaknesses (P3) are evaluated under this theme. ChatGPT has practical implications for academics. ChatGPT benefits academics by assisting them with various aspects of education and academic production processes. In this regard, participants directly describe ChatGPT as an "assistant-like" tool or use similar expressions: ChatGPT assists academics in a variety of tasks, including finding topics for academic articles, designing article structures, accessing literature, and performing semantic and formal correction and editing on texts. It has also begun to be used in academia to broaden course content and offer new perspectives (C10). Participants emphasized that the integration of ChatGPT into the academic workflow yields substantial benefits, particularly in terms of time efficiency. By expediting the traditionally laborious process of accessing and organizing research-related information, ChatGPT streamlines academic production, affording scholars the ability to swiftly locate and structure pertinent data. Furthermore, participants underscored ChatGPT's role in expediting and simplifying academic endeavors, particularly evident during the literature review phase-a crucial juncture demanding significant temporal investment at the onset of scholarly undertakings. According to their accounts, ChatGPT facilitates the review of extensive literary repositories, now pervasive across myriad disciplines, thereby broadening the spectrum of information sources available to researchers. ChatGPT integration into academic workflows not only speeds up the comprehensive scanning of large amounts of literature but also acts as a conduit for breaking down linguistic barriers, resulting in a more inclusive and globally accessible academic landscape. This multifaceted advantage of ChatGPT not only expedites literature reviews but also facilitates a more seamless and inclusive scholarly discourse on a global scale. ChatGPT can help with a lot of scientific writing tasks, including structuring and evaluating the format and content of scientific texts, finding and fixing mistakes, and so speeding up academic work:

Since I don't do academic research, I'm not sure how this fits into academic studies, but I think ChatGPT's fast data access, translation, paraphrasing, and other features will help academic citizens in their work (C4).

Lastly, there's a chance that ChatGPT's ease of use for academic procedures will make it harder to perform research for academic purposes. The weakness of ChatGPT is that it reduces academic production capabilities:

The ease with which information can now be accessed thanks to technology may cause students' and scholars' capacity for research to decline (C8).

5. CONCLUSION

After going through several stages in the research including, design, development, and testing, the following conclusions can be drawn:

1. This technology brings tremendous challenges and opportunities. AI has become a major force in the development of technology

that changes the way we live and work. However, with power comes responsibility, and we must face various challenges, including ethical issues, privacy, and data security.

2. The opportunities offered by AI are also immense. AI has the potential to improve quality of life, efficiency, and innovation across a wide range of industries. From better disease diagnosis to smarter mobility, AI brings positive changes in various aspects of our lives.

To face the future of AI wisely, there needs to be a balance between innovative technological development and the protection of ethical values, privacy, and security. We must ensure that the use of AI focuses on human benefits and respects individual rights. The future of AI is a challenge that requires careful planning and awareness of social impacts while embracing the unlimited opportunities offered by this technology.

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DISTRIBUTION AND ALTERNATIVES FOR MANAGEMENT OF CORAL REEF RESOURCES ON THE COAST OF BAY LAIKANG, JENEPONTO DISTRICT

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ABSTRAK

Pesisir Teluk Laikang merupakan kawasan yang memiliki sumberdaya alam yang bernilai ekonomis tinggi, sehingga mempunyai potensi untuk dapat dikembangkan. Informasi terkait dengan penataan zonasi pada kawasan pesisir Teluk Laikang di Kabupaten Jeneponto masih kurang dan belum didukung oleh penelitian ilmiah sebelumnya. Tujuan penelitian ini untuk menyusun sebatran dan altrnatif pengelolaan sumberdaya terumbu karang di Teluk Laikang Kabupaten Jeneponto. Penelitian dilakukan di wilayah pesisir Teluk Laikang, Kabupaten Jeneponto dengan pertimbangan bahwa terdapat ekosistem terumbu karang yang memerlukan pengelolaan. Pengambilan data dilakukan dengan cara survei dengan mengambil sampel air di 12 stasiun pengamatan sederhana menggunakan perangkat lunak GIS. Stasiun penelitian dipilih berdasarkan luas proporsional untuk mewakili karateristik perairan yang akan di survei, kemudian dipadukan dengan data pengamatan citra satelit dan Metode pemetaan terumbu karang menggunakan Metode indeks Kedalaman Invarian (Depth Invariant Index) atau juga dikenal dengan Metode Algoritma Lyzenga. Sebaran terumbu karang di pesisir Teluk laikang memiliki luas 93.85 hektar memiliki tipe *Acropora formosa* salah satu jenis karang penting penyusun terumbu karang.

Diharapkan hasil penelitian ini dapat membantu pengelola setempat dalam mengoptimalisasi sumberdaya terumbu karang Teluk Laikang Jeneponto.

KATA KUNCI

Budidaya Perairan, Pengelolaan, Potensi sumberdaya, Sebaran terumbu karang, Teluk Laikang Jeneponto

ABSTRACT

The coast of Laikang Bay is an area that has natural resources of high economic value, so it has the potential to be developed. Information related to zoning arrangements in the coastal area of Laikang Bay in Jeneponto Regency is still lacking and has not been supported by previous scientific research. The aim of this research is to develop distribution and alternative management of coral reef resources in Laikang Bay, Jeneponto Regency. The research was conducted in the coastal area of Laikang Bay, Jeneponto Regency with the consideration that there is a coral reef ecosystem that requires management. Data collection was carried out by survey by taking water samples at 12 simple observation stations using GIS software. Research stations were selected based on proportional area to represent the characteristics of the waters to be surveyed, then combined with satellite image observation data and coral reef mapping methods using the Depth Invariant Index Method or also known as the Lyzenga Algorithm Method. The distribution of coral reefs on the coast of Laikang Bay has an area of 93.85 hectares and has the Acropora formosa type, one of the important types of coral that make up coral reefs. It is hoped that the results of this research can help local managers in optimizing the coral reef resources of Laikang Jeneponto Bay.

KEYWORDS

Aquaculture, Management, Resource Potential, Coral Reef Distribution, Laikang Jeneponto Bay

1. INTRODUCTION

Indonesia has a sea area of 6.4 million km2, a coastline of 108,000 km and a diversity of potential coastal and marine resources including mangroves, coral reefs, seagrass beds, seaweed and fisheries (Arto et al, 2021; Sutardjo, 2014). Coastal areas are managed with an orientation towards optimizing the utilization of coastal, marine and small island resources (Basri, 2020). Coastal environmental management is managed through an ecosystem-based approach (Ali et al 2018).

Jeneponto Regency's water potential, with a coastline of 40 km, has quite extensive water resources and has the potential to develop areas for seaweed cultivation, fishing, coral transplantation, beach tourism and fisheries conservation. (Fatma, 2014). (Williams et al., 2019) emphasized that “Over millennia, the strength of connections between humanity and coral reef ecosystems has intensified globally. Over thousands of years, the strength of the relationship between humans and coral reef ecosystems has increased globally.

The coast of Laikang Bay is an area that has natural resources of high economic value, so it has the potential to be developed. Not much is known about coral reef zoning mapping in the coastal area of Laikang Bay, Jeneponto Regency. Coral reef zoning mapping is an effective way to prevent conflicts arising in the use of coral reefs in an area (Angela, 2023; Salim et al., 2021). In addition to avoiding the occurrence of a conflict, according to (Jaya et al, 2022) mapping coral reefs in an area can be the first step in carrying out a village development plan, so the results of mapping coral reefs are very important. This is also in line with the implementation of Law Number 27 of 2007 concerning Management of Coastal Areas and Small Islands, namely that every area directly bordering the sea is required to prepare a coastal area zoning plan as a guideline for utilizing coastal and marine space. The aim of carrying out this research is to develop a zoning of potential coral reef resources in Laikang Bay, Jeneponto Regency, so that it can be used as an alternative for coastal area management in the coastal area of Laikang Bay, Jeneponto.

2. METHODOLOGY

This research was carried out in the coastal area of Laikang Bay, Jeneponto Regency. The consideration for choosing this r©esearch location is because there is a coral reef ecosystem that requires management. The research location on the coast of Laikang Bay, Jeneponto Regency is shown in Figure 1.

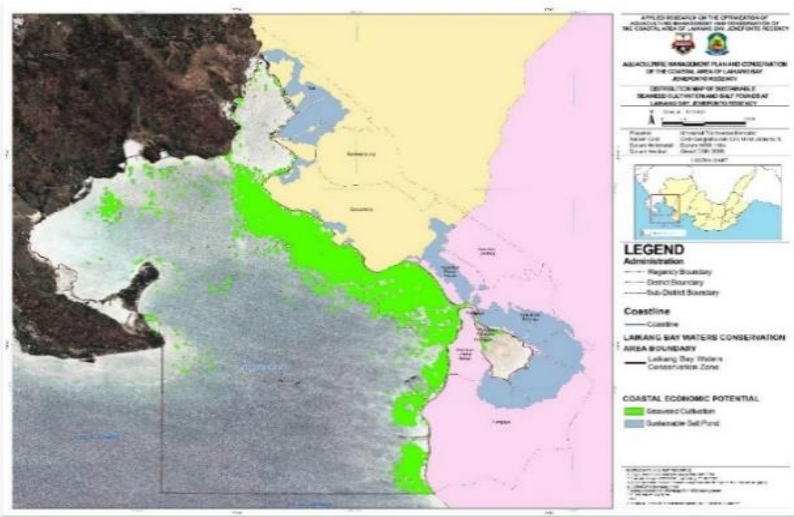


Figure 1. Research location on the coast of Laikang Bay, Jeneponto Regency

Source: Google Maps, 2018

The research approach used is a combination of qualitative and quantitative (mixed method) and the type of research chosen is a case study which prioritizes data quality (Creswell, 2016) The tools used in this research include GPS (Global Positioning System) to determine the coordinates of the research location, a thermometer to measure temperature, a refractometer to measure salinity, a current meter to measure current speed, a pH meter to measure pH, and a test kit to measure nitrite, nitrate. , phosphate, DO meter to determine Oxygen. The method for measuring water quality parameters is based on standards (American Public Health Association (APHA, 2017)

Data collection methods consist of primary data and secondary data. Primary data is data obtained from primary sources through direct observation (observation) from the field. Secondary data uses various documents related to the situation and conditions of the Laikang Bay coastal area, Jeneponto Regency.

Data collection was carried out by taking water samples at 12 simple observation stations using GIS software. Research stations are selected based on proportional area to represent the characteristics of the waters to be surveyed. The total stations in this research were 12 stations selected from 23 research stations

The coral reef mapping method uses the Depth Invariant Index Method or also known as the Lyzenga Algorithm Method (Lyzenga, 1981) which is based on the fact that the light reflected from below is a linear function of the reflectance of the bottom of the water and an exponential function of the depth of the water, with the following algorithm (Alrassi et al., 2016; Danoedoro et al., 2019; Lyzenga, 1981; Surya et al., 2021)

$$Xi = ln\ (Li)$$

$$Ln\ (Li) = -\ [(ki/kj)\ in\ (Ij)]$$

Where

Li and Lj : the reflectance value of the i and j bands

Ki/Kj : the attenuation coefficient ratio from the i and j bands

While to find the value of coefficient attenuation (Ki / Kj) is:

$$ki/kj = a + a\sqrt{a^2 + 1}$$

$$a = \frac{(varxi - varxj)}{2\ covXiXj}$$

Where:

Xi : The variance of band i,

Xj : Variant of band j and

XiXj : Covariance from band ij

3. RESULT AND DISCUSSION

Condition of Laikang Bay

Jeneponto, which consists of 5 villages/sub-districts, is a coastal area and the other 9 villages/sub-districts are non-coastal areas with varying topography or height above sea level with an area of 121.81 km2. The administrative boundaries of Bangkala District are as follows: (i) To the north it borders Gowa Regency, (ii) To the east it borders Tamalatea District, (iii) To the west it borders West Bangkala District, (iv) To the south it borders the Flores Sea . Bangkala District has an area of 121.81 km2. Kapita Village has the largest area, namely 21.81 km2 or 17.90% of Bangkala District, while the smallest area is Tombobuto Village, namely 3.13 km2 or 2.57% of Bangkala District.

West Bangkala District is one of 11 sub-districts in Jeneponto Regency which borders Gowa Regency to the north, Tamalatea District to the east, West Bangkala District to the west and the Flores Sea to the south. According to the distance, the location of each village/kelurahan to the sub-district capital and district capital varies greatly. The distance between villages/sub-districts to the sub-district capital and to the district capital ranges from 0-16 km. The farthest distance from the sub-district capital (Benteng) is Marayoka, which is around 16 km, while the closest distance is Benteng Village.

The administrative boundaries of West Bangkala District are as follows: (i) To the north it borders Gowa Regency, (ii) To the east it borders Bangkala District, (iii) To the west it borders Takalar Regency, (iv) To the south it borders the Sea Flores (BPS Jeneponto, 2023)

The topography in Jeneponto Regency is relatively varied, ranging from flat topography, undulating, rolling, hilly to mountainous. In the northern part of Jeneponto Regency it consists of highlands with an altitude of 500 to 1400 meters above sea level, the central part with an altitude of 100 to 500 meters above sea level, and in the southern part it includes lowland areas with an altitude of 0 to 150 meters above sea level (Topography from 0 to 200 meters above sea level is spread over area of 63,675.62 ha, or around 79.46% of the total area of Jeneponto Regency

(Pemda Kab. Jeneponto, 2022). The topographic map of Jeneponto district can be seen in Figure 2.

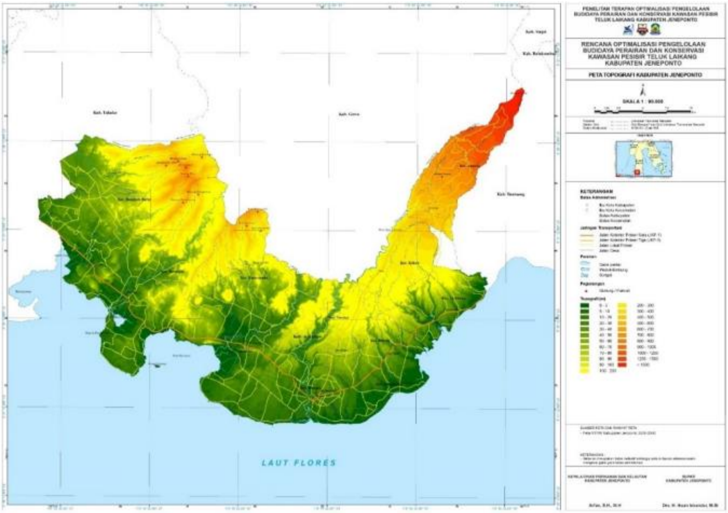
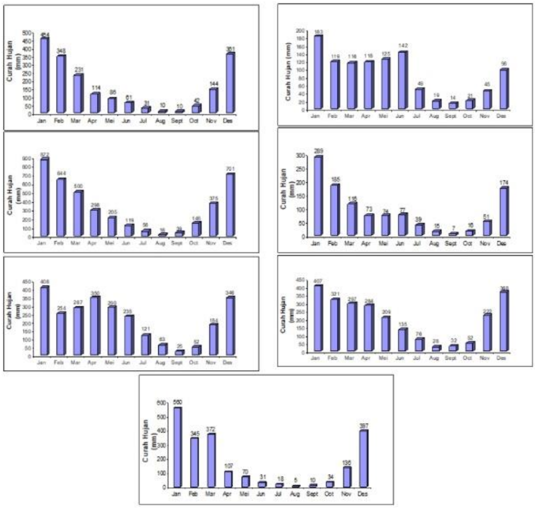


Figure 2 Topographic map of Jeneponto Regency
Source (Jeneponto Regency Regional Government, 2022)

Climate (distribution pattern and amount of annual rainfall) Kab. Jeneponto is classified as dry in almost all sub-districts, apart from Rumbia, Kelara and some sub-districts. Bangkala, which is classified as a bit wet. Climatic conditions like this indicate that the productivity of various types of agricultural commodities in Jeneponto Regency will face extreme water shortages. The rainfall conditions in this region are represented by data from 7 rain recording stations, namely, Allu, Balangloe, Jeneponto, Bisoloro, Loka, Malakaji and Takalar, showing an average annual rainfall ranging from 1049 - 3973mm/year. (B. K. Jeneponto, 2023). Rainfall graph at Allu (a), Balangloe (b), Bisoloro (c), Jeneponto (d), Loka (e) and Malakaji (f) Malakaji stations, Kab. Jeneponto is seen in Figure 3.



Gambar 3 Grafik curah hujan pada stasiun Allu (a), Balangloe (b), Bisoloro (c), Jeneponto (d), Loka (e) dan malakaji (f) Malakaji, Kab. Jeneponto

Based on rainfall data obtained from the rain recording station, the climate type of Jeneponto Regency is a slightly wet to dry climate type. Where at Loka, Malakaji and Beseloro stations the climate is slightly wet, while at Allu, Balangloe, Jeneponto and Takalar stations the climate is slightly dry to dry as shown in the climate classification table for each rainfall gauge seen in Table 1.

Table 1. Climate classification for each rainfall gauge based on Oldeman & Smith Ferguson.

No	Stasion	Oldemen	Smith Ferguson
1	Allu	D3	D
2	Balangloe	E3	D
3	Bisolero	B2	C

4	Jeneponto	E4	E
5	Loka	B2	B
6	Malakaji	B2	C
7	Takalar	D4	D

The rainfall that dominates the Jeneponto Regency area is 2086 mm/year, around 41.30%, while rainfall is 2615 mm/year with the smallest area, only around 3.03% of the total area of Jeneponto Regency. Rainfall and its area in Jeneponto Regency, as well as the proportion of each area of rainfall to the total area can be seen in Table 2.

Table 2 Rainfall and its extent in Jeneponto Regency, as well as the proportion of the area of each rainfall to the total area

Rainfall	Wide (Ha)	Wide (%)
1116 mm/tahun	12,436.16	15.52
1890 mm/tahun	24,263.49	30.28
2086 mm/tahun	33,096.29	41.30
2329 mm/tahun	3,746.44	4.68
2615 mm/tahun	2,427.07	3.03
3973 mm/tahun	4,163.34	5.20
Grand Total	**80,132.80**	100.00

Source: RBI Map Scale 1:50,000, BIG, 2017

The general geology of Jeneponto Regency is included in the Geological Map of the Pangkajene Sheet and the Ujung Pandang Sheet at a scale of 1: 250,000 (Figure 4). The group of old rocks whose age is generally unknown consists of ultrabasic rocks, metamorphic rocks and melange rocks. These old rocks are unconformably overlain by the flysch deposits of the Balangbaru Formation (Kb) which are of Late Cretaceous age. The lithological characteristics are almost the same as the Marada Formation in the Kahu area, consisting of shale and slate. Paleocene volcanic rocks (Tpv) are propylized, covering unconformably over the rocks.

This volcanic rock has undergone changes in composition from andesite to basalt, consisting of tuff, breccia and lava, dark gray to greenish in color, sometimes with joints filled with very intensive epidote contact minerals, so that in some places it sometimes forms lenses or is filled with quartz veins. The breccia rocks, in some places are composed of components of various materials, lapilli measuring up to 50 cm. On top of the Paleocene shale rocks and volcanic rocks, terrestrial sedimentary rocks with coal inserts from the Mallawa Formation (Temt) were deposited. Gradually, upwards it turns into carbonate (limestone) deposits which are thought to be from the Tonasa Formation (Temt). This formation partly shows dense layered crystalline limestone and partly coral limestone, which is widespread in the western part occupying high topography forming hills, estimated to be of Middle Miocene age. Geology and its area in Jeneponto Regency, as well as the proportion of the area of each geology to the total area can be seen in Table 3.

Table 3. Geology and its area in Jeneponto Regency, as well as the proportion of the area of each geology to the total area

Geologi	Wide (Ha)	Wide (%)
Basalt and basalt retal	7,239.83	9.03
Volcanic Rock	5,835.57	7.28
Lompobatang Volcanic Rocks	22,077.79	27.55
Breccia, lava and tupa	869.47	1.09
Alluvium and Beach Deposits	6,015.20	7.51
Alluvium deposits, lakes and pant	564.43	0.70
Camba Formation	17,785.07	22.19

Tonasa Formation	12,310.61	15.36
Hasil erupsi parasit	75.78	0.09
Lava	7,354.08	9.18
Pusat erupsi	4.99	0.01
Grand Total	**80,132.80**	**100.0**

Sumber (Pemda Kabupaten Jeneponto, 2022)

The geological conditions of Bangkala and West Bangkala Districts are dominated by the tonasa formation type and the smallest areas are basalt and retal basalt, as in Table 4.

Table 4. Geology and its extent in Bangkala and West Bangkala Districts

Geologi	Wide (Ha)
Bangkala	**13,095.34**
Basal dan retal basal	332.28
Batuan Gunungapi	402.98
Endapan Aluvium dan Pantai	1,045.74
Formasi Camba	2,685.12
Formasi Tonasa	6,225.73
Lava	2,403.49
Bangkala Barat	**16,454.74**
Batuan Gunungapi	3,528.49
Endapan Aluvium dan Pantai	607.29
Endapan aluvium,danau dan pant	564.43
Formasi Camba	3,061.61
Formasi Tonasa	4,366.20
Lava	4,321.73
Pusat erupsi	4.99
G Total	**147,409.08**

Sumber: Peta RBI Skala 1:50.000, BIG, Tahun 2017

The potential contained in the Laikang Bay Coastal Area and the Surrounding Sea includes ecological potential, economic potential and socio-cultural potential. These three potentials are capital in managing the Laikang Bay Coastal Area and the Surrounding Sea.

Water quality can be viewed through the physical, chemical and biological properties of water or a combination of these properties. Water quality parameters as primary data at the research location in the Laikang Bay Coastal area, Jeneponto Regency are shown in Table 5. A table diagram of oceanographic characteristics in the coastal area of Laikang Bay and the surrounding sea is shown in Table 5.

Table 5. Water Quality Parameters in the Laikang Bay Coastal Area

No	Parameter	Value
1	Suhu (0C)	27.306
2	Salinitas (psu)	34.05
3	Kec. Arus (cm/det)	0.036
4	Gelombang (cm)	55
5	Klrofil-a (mg/m3)	10.31
6	Kekeruhan (NTU) (mg/l)	114,22
7	pH	8.04
8	Surface Co2	38.14
9	Nitrit (NO2 -N) (mg/l)	0.69
10	Nitrat (NO3 -N) (mg/l)	0,55
11	Total Phospat (PO4-P) (mg/l)	0.11
12	O2 (mmol m-3)	204.72
13	Phytoplankton	2.04

Data source: Survey Results July 24 2021 (location 119.508°E;5.581°S)

Coral Reef Distribution

A map of the distribution of coral reefs in the coastal area of Laikang Bay, Jeneponto Regency is shown in Figure 4.

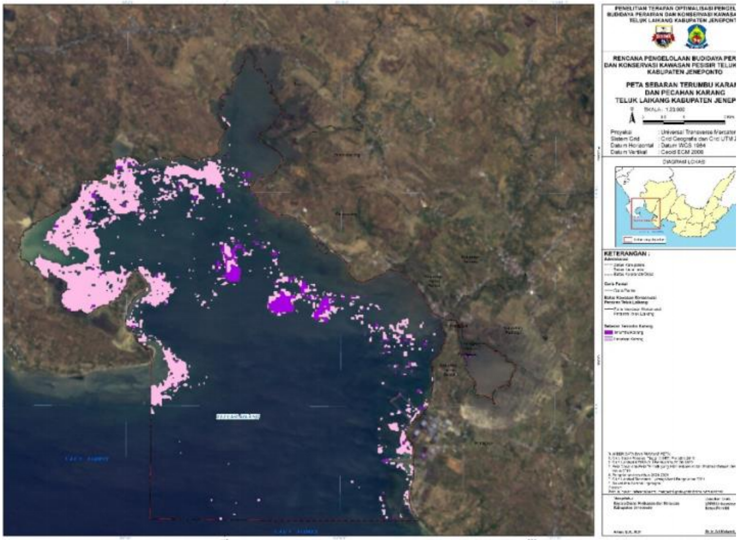


Figure 4. Map of Coral Reef Distribution and Conservation of the Laikang Bay Coastal Area, Jeneponto Regency

Source: Results of Field Analysis and Survey, 2021

The distribution of coral reefs on the coast of Laikang Bay has an area of 93.85 hectares. The coral reef ecosystem in the Laikang Bay area has the Acropora formosa type. Acropora sp coral has a reproductive season that is not simultaneous and stretches over a long period. Corals of the Acropora genus are one of the most important types of coral that make up reefs. Coral reproduction is known to have very high variations in the method and timing of reproduction as well as the gametogenesis cycle, both between species and within the same species (Mulyani et al, 2018). Karang *Acropora formosa* terlihat pada Gambar 5.

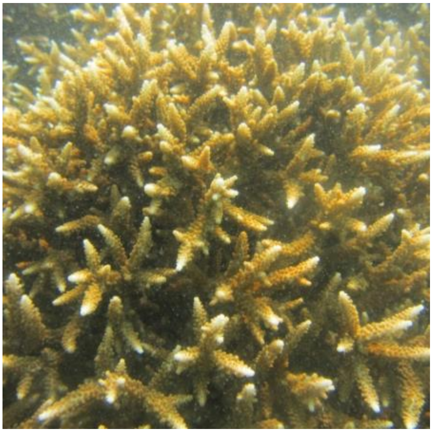


Figure 5. Coral Acropora formosa

Source: (2021 Survey Results, 05o35'298" LS; 119o31'306" LT)

Coral ecosystems have ecological functions such as providing habitat, food sources, breeding, growing and spawning grounds for various marine organisms, while coral reefs play a role in increasing fisheries productivity and protecting beaches from the risk of erosion and strong currents and waves. Meanwhile, the economic value of coral reefs includes providing fishery resources, both food and ornamental fish, a mixture of building materials, jewelry, raw materials for medicines and recreational or tourist attractions (Burke et al, 2012; Netty et al, 2016)

Alternative Coral Reef Ecosystem Management

Management efforts are essentially the process of controlling human behavior so that coral reef ecological resources can be utilized wisely by paying attention to existing sustainability principles (Wibowo et al, 2021). Management efforts are essentially the process of controlling human behavior so that coral reef ecological resources can be utilized wisely by paying attention to existing sustainability principles (Sompotan, 2016). Due to the high economic and ecological value of coral reefs, these ecosystems are often damaged due to anthropogenic causes such as: Water pollution, fishing that exceeds capacity, eutrophication, fishing methods that use environmentally unfriendly or destructive fishing gear, and coral bleaching contribute to climate change (Razak et al, 2022).

Strategic approach to coral reef management according to (Asep et al, 2001) adalah :

1. The Ministry of Maritime Affairs and Fisheries mandates the establishment of Marine Protected Areas (KKL) to protect biodiversity and natural aquatic resources by supporting their sustainable use.
2. Implementing the strategy:

Strategy-1.

Empowerment of coastal communities who depend on coral reef ecosystem management directly or indirectly through the following programs:

a) Development of environmentally friendly alternative technology;

b) Development of alternative livelihoods;

c) Responsibility and awareness of coastal communities and officials regarding the management of natural resources of coral reefs and their surrounding ecosystems;

d) Delegation of rights and obligations and recognition of legal certainty in the management of coral ecosystems in coastal areas;

e) Increasing the participation of non-governmental organizations in coastal area empowerment programs.

Strategy-2.

a) Development of special processing technology adapted to local conditions.
b) Establishment of appropriate assessment systems and criteria to assess the status of coral reefs when preparing

AMDAL documents for development projects that affect coral reef ecosystems directly or indirectly.

c) Increasing voluntary compliance by beneficiaries (Triwibowo, 2023)

In the Decree of the Minister of Maritime Affairs and Fisheries Number 38 of 2004 concerning General Guidelines for Coral Reef Management, namely managing coral reefs based on ecosystem characteristics, potential, regional spatial planning, utilization, legal status and wisdom of coastal communities; formulate and coordinate programs of government agencies, provincial governments, districts/cities, private parties and communities needed for community-based management of coral reef ecosystems as well as creating and strengthening commitment, capacity and capability of parties implementing coral reef ecosystem management (Sembiring et al, 2012)

4. CONCLUSION

The coastal area of Laikang Bay, Jeneponto Regency has a coral reef area of 93.85 hectares, which has the potential of the Acropora formosa type, one of the important types of coral that make up reefs and can be used as an alternative for coastal area management in the coastal area of Laikang Bay, Jeneponto, in a village development plan.

STATEMENT

In the Decree of the Minister of Maritime Affairs and Fisheries Number 38 of 2004 concerning General Guidelines for Coral Reef Management, namely managing coral reefs based on ecosystem characteristics, potential, regional spatial planning, utilization, legal status and wisdom of coastal communities; formulate and coordinate programs of government agencies, provincial governments, districts/cities, private parties and communities needed for community-based management of coral reef ecosystems as well as creating and strengthening commitment, capacity and capability of parties implementing coral reef ecosystem management.

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FINANCIAL LITERACY, FINANCIAL INCLUSION AND FINANCIAL TECHNOLOGY ON FINANCIAL BEHAVIOR IN MSMEs IN BONE REGENCY

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ABSTRACT

This study aims to determine the effect of financial literacy, financial inclusion and financial technology on financial behavior in MSMEs in Bone Regency. This study used primary data, by collecting data through interviews and questionnaires. The sampling technique in this study is using probably sampling with simple random sampling so that the number of samples used is 100. Data analysis techniques using multiple linear regression with SmartPLS software are directed to answer problem formulations or hypotheses that have been formulated, as well as test the relationship between financial literacy, financial inclusion and financial technology variables on financial behavior in MSMEs in Bone Regency. The results showed that financial literacy has a significant positive effect on financial behavior, financial inclusion has a significant positive effect on financial behavior, and financial technology has a significant positive effect on financial behavior.

KEYWORDS

Financial Literacy, Fianancial Inclusion, Financial Technology, Financial Behavior

1. INTRODUCTION

The role of MSMEs in contributing to a country's economy is very large, especially in developing countries. The contribution of MSMEs to a country is related to gross domestic product (GDP) and also has implications for reducing poverty levels. MSMEs absorb a lot of labor that cannot be accommodated by jobs both provided by state institutions and private companies so that MSMEs become a solution in terms of providing jobs. According to data from the Central Statistics Agency (BPS 2023), the number of micro, small and medium enterprises (MSMEs) operating in Indonesia is around 65 million, which contributes 61% to Indonesia's gross domestic product. This data shows that the MSME sector is the main driver of the country's economy and needs special attention to improve competitiveness and business sustainability so that it becomes a solution to poverty eradication and job creation which has been a classic problem that we face.

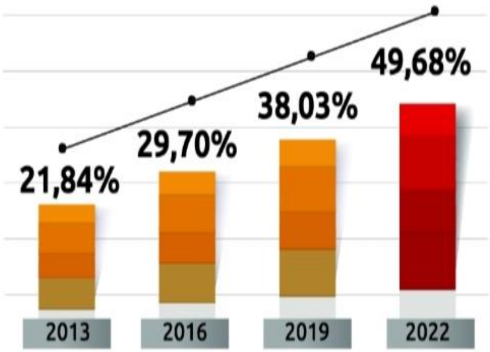
In open economic conditions like today, a lot of foreign capital flows into Indonesia, this is accompanied by the expansion of foreign companies in the economy, this causes anxiety because it can degrade the local economic sector, including MSMEs. This problem can be faced if our MSMEs have good access to finance so that it affects financial behavior that can encourage business sustainability. Financial behavior includes the act of managing money in daily life as it relates to organizing and utilizing available financial resources. Financial behavior also involves responsibility in managing finances effectively.

Financial behavior is an important capital in realizing a stable financial condition. So that financial behavior is a way of treating, managing and utilizing available financial resources (Prasetya, 2023). A person with poor financial behavior can cause financial problems. Financial behavior is needed by MSMEs to make financial decisions and get out of financial problems. Difficulties arise not only because of the decline in income but also because of errors in financial management caused by lack of financial literacy. So financial literacy is needed to overcome these problems.

Financial literacy can be interpreted as the level of public understanding of financial products and services. According to the financial services authority (OJK) 2022, financial literacy is knowledge, skills and beliefs that influence a person's financial attitudes and behaviors to achieve quality decision-making and financial management in order to achieve prosperity. Financial literacy is a must to avoid financial problems because individuals are always faced with trade-of. There are already many financial services available but have not been optimized due to lack of financial literacy. Another problem that arises due to lack of financial literacy is often caught up in the wrong use of finance such as fraud in investment and other economic activities.

The Financial Services Authority (OJK), recorded public losses due to illegal or fraudulent investments reaching Rp.139.67 trillion throughout 2017-2023 and in early 2024 the Financial Services Authority blocked as many as 1,218 fraudulent investment entities, indicating that the number of investment fraud is still very high, so increasing people's financial literacy is something urgent. In the long run, financial literacy is expected to contribute to financial system stability. The importance of MSME actors understanding financial literacy in order to improve financial behavior skills and encourage business sustainability.

National Financial Literacy Index

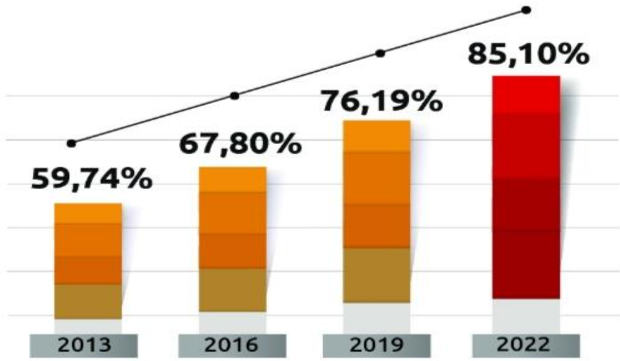


Source: Financial Services Authority, 2022

The data above shows that although every year the national financial literacy index has increased, overall it is still not optimal or still low, so increasing financial literacy is an urgent thing that must be done so that financial behavior can bring individuals or MSMEs to achieve prosperity.

In addition to financial literacy, another factor that has implications for financial behavior is financial inclusion. According to OJK (2022), financial inclusion is the availability of access for the public to utilize financial products and services in formal financial institutions in accordance with the needs and abilities of the community in order to realize welfare. Financial inclusion is important for financial management because based on the relationship between financial inclusion and the theory of planned behavior, individual decision making represents financial inclusion, because financial inclusion relates to the availability of access and individual decision making to access financial products and services. One of the focuses of the United Nations Sustainable Development Goals (SDGS), emphasizes financial inclusion as a key factor to achieve sustainable development internationally.

National Financial Inclusion Index



Source: Financial Services Authority, 2022

The data above shows that the national financial inclusion index has increased every year and must continue to be improved. Because to achieve sustainable financial behavior, financial inclusion is needed, by accessing existing financial products or services will form good financial behavior. Financial inclusion is also a key driver of economic growth and poverty reduction because the ease of access to financial products will increase investment awareness, financial management and opportunities to get investors in order to support the business. So that MSME players who utilize financial products can be used as business support and open up business diversification opportunities to achieve sustainability.

To realize this program, along with the rapid development of information technology that gives birth to technology to facilitate the public in financial affairs known as financial technology (Kumar, J., & Rani, V. 2022). The purpose of financial technology is to make it easier for people to access financial products, conduct financial transactions and increase understanding of financial literacy. Because basically financial technology is an industry that combines technology and finance. The key to implementing the digital economy, in this case financial technology, is adequate internet infrastructure.

According to a survey conducted by the Indonesian Internet Service Providers Association (APJII) 2024, internet users in Indonesia reached 221 million people covering 79.5% of the total population of Indonesia, this is a large enough number and has the potential to support the development of financial technology. The problem is that the majority of the use of financial technology is only in the use of payment transaction services due to low public literacy regarding financial technology products other than payment transactions such as investment products and so on. So it has not yet reached the stage of sustainable financial behavior, because talking about financial technology means talking about efficiency, namely maximizing all financial technology products to achieve good financial behavior, in this case managing finances sustainably.

Research conducted by Sugita, W., & Sinarwati, N. K. (2022), Budiasni, N. W. N., & Ferayani, M. D. (2023), Zulkarnaen, M. H. R. et al., (2023), found that financial literacy has a significant positive effect on financial behavior. In contrast, research conducted by Mustika, R.et al., (2022), Hariyani, R. (2024), shows that financial literacy has no influence on financial behavior. Then research conducted by Sugita, W., & Sinarwati, N. K. (2022), Sufyati, H. S., & Lestari, A. (2022), Jannah, M. et al., (2023), found that financial inclusion has a positive and significant influence on financial behavior. In contrast, research conducted by Anisyah, E. N. et al., (2021), Zulkarnaen, M. H. R. et al., (2023) shows that financial inclusion has no effect on financial behavior. In addition, research conducted by Erlangga, M. Y., & Krisnawati, A. (2020), Noor, M. et al., (2020), Walsh, B., & Lim, H. (2020), Anisyah, E. N. et al., (2021), Zulkarnaen, M. H. R. et al., (2023), found that financial technology has a positive and significant effect on financial behavior. Conversely, research conducted by Wahyudi, W. (2020), Hariyani, R. (2024), shows that financial technology has no influence on financial behavior.

Reported through a survey conducted by the International Financial Corporation (IFC) 2023, the Indonesian economy is one of the countries with the highest density of Micro, Small and Medium Enterprises (MSMEs) in the world. This shows that MSMEs support the country's economy because they are providers of employment, and contribute to Gross Domestic Product.Therefore, MSME actors are important to understand financial literacy and inclusion as well as mastery of financial technology in order to empower MSMEs in terms of funding as well as abilities and skills that will help the sustainability of MSMEs, to make decisions in finding financing and optimize financial structure and also helps to avoid indications of fraud and unhealthy financial markets. With the progress and complexity of the business world in the future, it is possible to cause obstacles in the process of managing financial resources and also severe challenges to realize the welfare and sustainability of MSMEs if they are not equipped with knowledge in the financial sector. Based on the details of the above phenomena and the inconsistencies from the results of previous studies, it is interesting for researchers to analyze literacy, financial inclusion and financial technology on financial behavior in Micro, Small and Medium Enterprises in Bone district.

2. LITERATURE REVIEW

a. Financial Behavior

Financial behavior began to be developed in line with the development of the business and academic world which began to respond to behavioral aspects in the process of making financial and investment decisions. One of the important concepts in financial science is financial behavior. Financial behavior defined by Shefrin (2002) is a science studying how psychological phenomena are able to affect individual financial behavior. Financial behavior also involves responsibility in managing finances effectively. Financial behavior is an important capital in realizing a stable financial condition. So that financial behavior is a way of treating, managing and utilizing available financial resources (Prasetya, 2023). Judging from the concepts that have been explained, financial behavior is a method that explains how a person in activities related to finance, such as investment, debt, and savings is influenced by individual psychological factors.

b. Financial Literacy

According to the financial services authority (OJK) financial literacy is knowledge, skills and beliefs that influence a person's financial attitude and behavior to achieve quality decision-making and financial management in order to achieve prosperity. According to Chen and Volpe (1998), financial literacy is the ability to manage finances so that life can be more prosperous in the future. Not only knowledge to manage finances, but can also be done in the behavior of each individual to improve financial literacy. According to Kaly et al. (2008) financial literacy as the ability to understand financial conditions and financial concepts and to convert that knowledge appropriately into behavior. Lusardi (2011) stated that financial literacy is financial knowledge and the ability to apply it. Financial literacy can be interpreted as knowledge to manage finances. The higher the level of financial literacy a person has will result in wise financial behavior and effective financial management.

c. Financial Inclusion

According to the Financial Services Authority (OJK), financial inclusion is the availability of access for the public to utilize financial products and services in formal financial institutions in accordance with the needs and abilities of the community in order to realize welfare. According to the World Bank (2014: 1) Financial inclusion is the ability of individuals or groups who can have access to financial products and services. The services in question are formal that are useful and affordable, and are able to meet their needs, such as transactions, payments, savings, credit and insurance in a responsible and sustainable manner. Financial Inclusion is a comprehensive study to eliminate various barriers related to the use and utilization of financial institution services by the public (Yanti, 2019). The essence of financial inclusion is not only access. Ozili (2020) mentions two other dimensions, namely availability, and usage. Financial inclusion means that people have access to reach and use financial products according to their needs in a sustainable manner.

d. Financial Technology

Financial Technology is an advancement in the financial industry that utilizes technology to facilitate individuals in managing financial transactions. The development of digital technology is inevitable and unavoidable. The technological revolution always causes changes in the industrial order that affect almost every field including finance. Financial Technology according to The National Digital Research Centre (NDRC) is an innovation in the financial sector as a service innovation in financial institutions that utilize information technology as a tool to reach consumers. According to Bank Indonesia, Financial Technology is the use of technology in the financial system that produces new products, services, technologies, and business models and can have an impact on monetary stability, financial system stability, and payment system efficiency, smoothness, security, and reliability.

3. RESEARCH METHODS

In this study, the research method used is quantitative research method. This study examines the influence of financial literacy, financial inclusion and financial technology on financial behavior in micro, small and medium enterprises (MSMEs) in Bone district. The population in this study is all MSMEs in bone district as many as 13,000. The sampling technique uses probably sampling with simple random sampling, which is random sampling of the population because it is considered homogeneous. And in the determination of the number of samples using the Slovin formula with a precision of 10% as follows:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{13.000}{1 + 13.000(0{,}1)^2}$$

$n = 99$ or rounded to 100

This study used multiple linear regression analysis. Multiple linear regression analysis is measuring the influence of the independent variable on the dependent variable. This analysis is used to determine the direction of the relationship between the independent variable and the dependent variable whether each variable is positively or negatively related. Data processing with SmartTPLS software.

4. RESULTS AND DISCUSSION

Table of Hypothesis Test Results

	Hypotesis	Original Sample (O)	T-statistics (|O/STDEV|)	P-values	Significance Levels (P<10%)
1	Financial Literacy -> Financial Behavior	0.348	3.714	0.000	*S
2	Financial Inclusion -> Financial Behavior	0.569	5.943	0.000	*S
3	*Financial Technology* -> Financial Behavior	0.309	2.743	0.006	*S

Information:

*S = Significant (P<0.1)

NS = Not Significant

a. Financial literacy on financial behavior

Based on hypothesis 1 which states that financial literacy has a significant positive effect on financial behavior is proven. This is in accordance with the hypothesis test which shows that the T-statistics value of 3,714 is greater than 1,984, and the P-values (0.000) < α = 0.1 (10%) means that financial literacy has a positive and significant effect on the financial behavior of Micro, Small and Medium

Enterprises (MSMEs) in Bone district. Financial literacy is the knowledge, skills and beliefs that influence a person's financial attitudes and behaviors to achieve quality decision-making and financial management in order to achieve prosperity. This means that financial literacy has a direct effect on the financial behavior of Micro, Small and Medium Enterprises (MSMEs) in Bone district, the higher the literacy and ability of MSMEs in managing finances, the positive effect on their financial behavior.

This is in line with the theory of financial education, which states that good financial literacy can provide the skills and knowledge needed to manage personal finances. By having adequate knowledge of financial concepts such as financial management, investment and risk management, MSMEs tend to make wise financial decisions. The results of this study are also in line with rational choice theory, which states that individuals or MSMEs make rational decisions based on available information. In the context of financial literacy, individuals or MSMEs who have more comprehensive knowledge and understanding of finance will be able to evaluate financial options and make more effective decisions.

And this research is also supported by the theory of financial behavior, where financial behavior is influenced by psychological and emotional actors. Good financial literacy can help individuals or MSMEs overcome biases and errors of judgment in financial decision making. With an adequate understanding of finances, individuals will be better able to control emotions and make more objective decisions. This is also in line with previous research conducted by Canguende-Valentim, C. F et al., (2024) and Khairunnisa, F. N et al., (2024), which found that financial literacy has a positive and significant effect on financial behavior.

b. Financial Inclusion on Financial Behavior

Based on hypothesis 2 which states that financial inclusion has a significant positive effect on financial behavior is proven. This is in accordance with the hypothesis test which shows that the T-statistics value of 5,943 is greater than 1,984, and the P-values (0.000) < α = 0.1 (10%) means that financial inclusion has a positive and significant effect on the financial behavior of Micro, Small and Medium Enterprises (MSMEs) in Bone district. Financial inclusion is the availability of access for the public to utilize financial products and services in formal financial institutions in accordance with the needs and abilities of the community in order to realize welfare. The higher access of MSMEs to available financial services means higher access to capital and opens up opportunities for business diversification to achieve business sustainability. This means that Micro, Small and Medium Enterprises (MSMEs) with a high level of financial inclusion will form a good influence on their financial behavior.

This is in line with the access ratio theory, which suggests that with increasing access of individuals or MSMEs to financial services such as loans, savings, investment and insurance, they will have more choices and opportunities to manage their finances optimally. The results of this study are also in line with the theory of economic empowerment, which emphasizes the importance of financial inclusion in empowering individuals or MSMEs. Having broad access and use of financial products and services can increase control and fiscal independence. Financial inclusion can help overcome financial limitations, reduce financial risk, and provide opportunities to achieve long-term financial goals.

And this research is also supported by financial behavior theory, which states that financial behavior is influenced by psychological and emotional factors. Financial inclusion can positively influence financial behavior, because with access to financial services, individuals or MSMEs feel more secure and financially stable. This can reduce financial stress and help make more rational and optimal decisions related to financial management. This is in line with previous research conducted by Budiasni, N. W. N. et al., (2023) and Usmayanti, V. et al., (2023), which found that financial inclusion has a positive and significant effect on financial behavior.

c. Financial Technology on financial behavior

Based on hypothesis 3 which states that financial technology has a significant positive effect on financial behavior is proven. This is in accordance with the hypothesis test which shows that the T-statistics value of 2,743 is greater than 1,984, and the P-values (0.006) < α = 0.1 (10%) means that financial technology has a positive and significant effect on the financial behavior of Micro, Small and Medium Enterprises (MSMEs) in Bone district. The development of artificial intelligence and machine learning technology has implications for all fields including economics, especially finance. Because basically financial technology is an industry that combines technology and finance. Financial technology aims to make it easier for people to access financial products, conduct financial transactions and increase understanding of financial literacy. This means that the higher access of Micro, Small and Medium Enterprises (MSMEs) to financial technology will have a positive impact on their financial behavior.

This is in line with ease of use theory, which argues that the use of new technology is influenced by convenience factors and perceived benefits. Fintech is a faster, easier and more efficient transaction and financial service. By adopting fintech will facilitate financial management. Because the use of fintech is easier, so individuals or MSMEs tend to adopt the technology and change their financial behavior. The results of this study are also in line with financial empowerment theory, which suggests that access to financial technology can empower individuals financially. Fintech provides a variety of financial services so that adopting fintech can facilitate financial management and reduce risk. This will help increase financial empowerment and lead to positive financial behavior change.

And the research is also supported by behavior change theory, which emphasizes that technology can influence behavior change through the provision of stimulus, feedback and support. Fintech can provide real-time stimulus and feedback related to the financial habits of individuals or MSMEs. For example, financial apps can provide notifications of expenses and investments. With this support and feedback, fintech users are directed to adopt and maintain better financial behavior. This is also in line with previous research conducted by Farida, M. N et al., (2021) and Zulkarnaen, M. H. R et al., (2021), which found that financial technology has a positive and significant effect on financial behavior.

5. CONCLUSION

a. The results of the research obtained for the influence of financial literacy on financial behavior are financial literacy affects financial behavior. In this case, the effect is positive, which means that the higher financial literacy, it will affect the increase in good financial behavior in MSMEs, and vice versa, the decline in financial literacy will affect the decline in the quality of financial behavior of MSMEs.

b. The results of the research obtained for the effect of financial inclusion on financial behavior are that financial inclusion affects financial behavior. In this case, the effect is positive, which means that the higher the financial inclusion, it will affect the increase in good financial behavior in MSMEs, and vice versa, the decline in financial inclusion will affect the decline in the quality of financial behavior of MSMEs.

c. The results of the research obtained for the influence of financial technology on financial behavior are financial technology affects financial behavior. In this case, the effect is positive, which means that the higher the access to financial technology, it will affect the increase in good financial behavior in MSMEs, and vice versa, the decreasing access to financial technology will affect the decline in the quality of financial behavior of MSMEs

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LITERATURE STUDY: CHARACTER EDUCATION MODEL BASED ON BEHAVIORAL CONTRACTS TO IMPROVE STUDENT DISCIPLINES

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ABSTRACT

This research aims to determine the behavioral contract-based character education model in improving student discipline at SDN 09 Bungku. To find out an overview of the implementation of behavior contracts in improving student discipline and to find out whether behavior contracts can be effective in dealing with discipline in children. This research was motivated by the decline in the disciplinary character of students at SDN 09 Bungku. This research uses literature study or library research with data collection techniques, namely content analysis. The method in this research is to use the literature study method or library research. The sources obtained in this research are from literature that is relevant to the problem being discussed, such as books, journals, scientific articles and other supporting scientific sources. The data collection technique is by using content analysis techniques. This aims to maintain content strengthening and overcome misinformation such as errors due to the author's lack of knowledge. The results of this research show that character education based on behavioral contracts has a big contribution to advancing and improving the discipline of students and the nation's civilization so that it becomes an increasingly leading nation with human resources with knowledge, insight, and character. There is an increase in children's discipline after providing behavior contract techniques and implementing behavior contracts which are carried out by paying attention to the rules of the game by conveying the importance of discipline to children repeatedly and providing reinforcement to children's discipline. Another thing is the coordination of teachers and Parents should always get their children used to doing things on time, be good role models for children, and give appreciation to children when they are disciplined and give warnings or punishments when they violate them. These habits are expected to be able to form a disciplined character in students wherever they are.

KEYWORDS

Character education, behavior contract, student discipline.

1. INTRODUCTION

Improving student discipline is one of the important tasks of a teacher to create a conducive learning environment. Applying discipline strategies, teachers can help students develop self-discipline that will be useful in life, both at school and outside school. The word "Discipline" comes from the Latin "discipline" which means training or education in politeness and spirituality as well as character development. According to the Big Indonesian Dictionary, discipline is order, obedience, or adherence to rules and regulations. Meanwhile, the Ministry of National Education defines discipline as a consistent attitude in doing something. Discipline is a person's willingness to follow the rules that apply in the organization (Dakhi, A. S., 2020). Discipline is any kind of influence that is intended to help what an individual wants to do and what the individual wants from other people to a certain extent and fulfill other people's demands from themselves according to their abilities (Nahrowi et al., 2018).

Discipline encourages people to return to the right and just path, where they are devoted, enterprising, and diligent, obey the rules, and heed justice in the sense of being furious at disbelief (Jeumpa in Novianti & Hunainah, 2020). In other words, every child must be assisted in being disciplined, in the sense of being willing and able to obey or comply with the provisions that apply in the family, community, nation, and state. Furthermore, they are also able to comply with the provisions set by Allah SWT in worship and other provisions which contain fundamental and absolute values (Sudarto et al, 2019). The will and willingness to comply with discipline come from within the person concerned or without coercion from outside, especially the students themselves (Ali, Wahidin & Maulida, 2022). However, if someone does not have the awareness to comply with the rules, which are often felt to be burdensome, or does not know their benefits and uses, then coercive action is needed from outside or from the person responsible for implementing or realizing a disciplinary attitude. Therefore, efforts must be made to improve children's discipline so that they obey the rules, especially in learning. The importance of discipline in the education process means instilling discipline as well as forming good behavior and character in children.

Character education is an effort to help the development of children's souls both physically and mentally, from their natural nature toward a humane and better civilization. For example, recommendations or orders for children to sit well, not shout so as not to disturb other people, clean their bodies, neatly dress, respect their parents, love the young, respect the old, help their friends, and so on. character education process. In this regard, several things must be implemented in character education, namely ngerti-ngroso-nglakoni (realizing, realizing, and doing) (Dewantara in Mulyasa, 2022). One of the government's efforts to improve the quality of education is the launch of the independent curriculum, previously called the prototype curriculum, which is a refinement of the 2013 curriculum. The issuance of the Decree of the Minister of Education, Culture, Research and Technology of the Republic of Indonesia Number 56/M/2022 concerning Guidelines for Implementing Curriculum in the Context of Recovering Learning, Development & Learning in 2022 as a form of full support for improving the curriculum in Indonesia to create an advanced Indonesia that is sovereign, independent and has personality through the creation of Pancasila students who reason critically, are creative, independent, have faith, are devoted to God Almighty, and have noble character, work together and have diversity. globally through the Implementation of the Independent Curriculum. However, in reality, not all students at school are able and successful in realizing the hopes and ideals of national education.

Various factors, both internal (such as personality tips, developmental tasks, lifestyle, attitudes and habits, potential abilities, or emotional turmoil) and external (such as family life, social influences, negative content from social media, life pressure, and so on) that surround Individuals often fail to be managed well by students (Pandang, A. 2019). The problem that has occurred in the educational environment recently is the problem of moral degradation. Research conducted by KPAI found that there was an increase in child cases in 2018 in Indonesia, namely 1.1% from previous years. Meanwhile, based on KPAI data, in 2020, the number of bullying cases added to the record of children's problems (Juliani, A. J., & Bastian, A., 2021). This is caused by a lack of discipline and character education for children from an early age, and a lack of parental supervision in instilling good habits, which makes bad habits become normal things to do.

Based on the results of surveys and interviews with principals and teachers at SD 09 Bungku, namely the lack of discipline of students in carrying out tasks given by teachers without threats or punishment, lack of respect for the principal, teachers, and staff in the school environment, lack of respect for friends and younger siblings. - underclassmen, speaking harsh and inappropriate words, lack of awareness of students in carrying out worship, showing bad behavior in the school environment, as well as lack of student discipline in the rules that have been made by the school. This occurs because of the lack of confirmation in giving sanctions to students which is due to teachers' anxiety and fear in educating and disciplining children, which is one of the factors in the decline of character education in schools. This is due to the demands of parents and children regarding government regulations in human rights and child protection laws. Article 54 of Law Number 35 of 2014 concerning amendments to Law Number 23 of 2002 concerning child protection, which regulates that children are obliged to receive legal protection from acts of physical violence committed by educators and education personnel (Sidik, M., 2021). The provisions in Article 54 mean that teachers' duties cannot be carried out smoothly because parents and students behave inappropriately towards teachers and educators. This also means that the regulations in Article 14 and Article 39 of Law Number 14 of 2005 concerning Teachers and Lecturers, as well as Article 40 and Article 41 of PP Number 74 of 2008 concerning Teachers cannot be of good use. It is explained in the article on teachers and lecturers that teachers are obliged to receive legal protection when carrying out their duties in disciplining and educating students. Therefore, we developed a non-curricular activity in the form of a character education model based on behavioral contracts to improve students' disciplinary behavior at SDN 09 Bungku Tengah.

The school strives to prioritize the learning process and rules as guidelines created to provide a disciplined, diligent, and religious character for each student. However, the rules are not always obeyed by students, sometimes there are actions by students who violate these rules. School control is necessary so that students can understand the rules to form a disciplined character in students, both in terms of academic discipline (not cheating) and character discipline (attitude) (Torro, S. 2022). Research conducted by Rantauwati, H. S. (2020), entitled Collaboration between parents and teachers through kubungortu in forming the character of students, concluded that the role of parents of students in improving the character of discipline and responsibility of students at home is proactive, namely by introducing strategies. , instill and familiarize students with the character of discipline and responsibility by making a study schedule at home and communicating it through kubungortu. The role of teachers in improving the disciplinary character and responsibility of students at school is to provide examples, and rewards and familiarize them through habitual activities that foster discipline and responsibility activities as well as communicating through kubungortu. Collaboration between parents and teachers in improving students' disciplinary character and responsibility, directly and indirectly, is well established. It is said to be well established because it is proven by the active role of students' parents in supporting school programs such as POS (Paguyuban Parents of Students) and parent contact books. This has an impact on increasing the discipline and responsibility character of students.

In line with research conducted by HM, A. S., & Prihatono, Y. (2020), entitled The Control Book as a Media for Implementing the Practice of Pancasila Values and the School Constitution to Strengthen Character Education. This character control book is one of the models in the form of a liaison book between school, community, and family containing character habituation activity instruments whose function is to control the implementation of character cultivation habits. If implemented with shared commitment, it will be beneficial in growing and forming the character of students.

With this control book, it is hoped that character values will be embedded from an early age, Pancasila values in a strong generation of Indonesians facing the era of globalization. From the results of the research above, we hope to provide good results to complete or provide a source of reference for teachers and all education observers, especially in strengthening character education at the elementary school level.

2. METHODOLOGY

The method in this research is to use the literature study method or library research. The sources obtained in this research are from literature that is relevant to the problem being discussed, such as books, journals, scientific articles and other supporting scientific sources (Fahrrurozi et al, 2022). The data collection technique is by using content analysis techniques. This aims to maintain content strengthening and overcome disinformation such as errors due to the author's lack of knowledge.

3. RESULT AND DISCUSSION

Referring to various understandings and definitions of education and character, it can simply be interpreted that character education is a conscious effort made by a person or group of people (educators) to internalize character values in another person (students) as enlightenment so that students know, think and act morally in facing every situation. Character education comes from the two words education and character. According to several experts, the word education has different definitions depending on the point of view, paradigm, methodology, and scientific discipline used. According to D. Rimba (as quoted by Ulfah, 2022), education is "Conscious guidance or coaching by educators towards the physical and spiritual development of students towards the formation of a complete personality. Character education is one of the government programs whose implementation is implemented through educational institutions starting from the lowest level (PAUD) up to the tertiary level, this is to make it easier for the government to build the desired national character according to the nation's expectations, so that through students good character will be achieved. grows because it is used to being carried out and carried out both in the school, family, and community environment (Hartiwisidi et al, 2022).

The main functions of character education according to the Ministry of Education and Culture are (1) building a multicultural national life; (2) building a national civilization that is intelligent, cultured, noble, and capable of contributing to the development of human life, developing basic potential to have a good heart, think well, behave well and set a good example; (3) building exemplary attitudes of citizens who love peace, are creative, independent, and can live side by side with other nations in harmony (Idris, 2022). Likewise, forming a child's character must be carried out continuously and repeatedly. One of the characteristics that can be formed through habituation is the character of discipline. Learning discipline is the discipline of a student when carrying out learning activities that take place at school or home, to create a safe and comfortable learning environment (Nisa in Amelia 2023). Dewi et al (2019) stated that students need to have learning discipline to achieve learning success. Apart from that, Maulana & Nellitawati (2020) also stated that learning discipline can improve learning achievement. From this, it is concluded that learning discipline is important to handle so that it does not have a bad influence on students' learning processes and outcomes (Puspita & Fatchurahman, 2019).

Prasetya & Mudhar (2021) also stated that students' learning discipline has increased through group counseling services using contract techniques. From this research, it was concluded that students' learning discipline can be improved through counseling services using contract techniques. Disciplined character can also be obtained through flag ceremonies on Mondays and commemorations of national holidays. In this ceremony, the character of discipline and nationalism is formed in students (Sobri et al, 2019). In the implementation of learning, the implementation of instilling discipline is less flexible, this is due to several factors, including internal factors including cognitive abilities, interests, talents, psychology, and motivation. However, there are things that teachers can apply to students, namely in the form of discipline habituation practices, one of which is obtained from the system, including 1) time discipline, namely through giving assignments to students and giving deadlines for collecting them, namely by using Google Forms, Google Classroom. and others. 2) Discipline in enforcing rules and regulations, namely by providing rules for discussion, attendance, and collecting assignments, in this case, the teacher must monitor students in carrying out activities following the applicable rules and regulations. 3) Attitude discipline, namely through speech and appearance, when implementing online learning, it is hoped that all students will be able to speak their words and maintain their appearance following applicable rules. 4) Learning discipline, namely when learning takes place it is hoped that all students will follow the learning well. Thus, if this happens gradually, it will be ingrained in the students something good for them to get used to (Ragil Kurniawan & Rianto, 2021).

Instilling discipline in students can also be implemented using a habituation model, namely by getting used to it and a behavioral contract that includes children always carrying out tasks on time and being present on time, getting used to setting an example for children to always behave, dress and speak according to their needs. applicable rules and norms, giving rewards to children who are disciplined and punishing children who violate them. The purpose of giving rewards and punishments is to arouse children's enthusiasm for learning and give them an understanding of the right and wrong of every action they take. A behavior contract is one of the behavioral counseling techniques used to improve behavior. A behavior contract is a process of arranging conditions so that the client displays the behavior they want to achieve based on the contract with the counselor (Gantina in Retno, W. 2023).

A behavioral contract (Behavioral Contracting) is a written agreement between at least two individuals where one or both individuals agree to demonstrate certain behavior, toward a common goal, namely student success (Sweigart, in Pandang. 2024). A behavioral contract is an agreement resulting from an agreement by two or more people (counselor and counselee) which aims to change the counselee's behavior and if the client can change his behavior, then the client will receive a reward." Counselors and counselees can choose realistic behavior that is acceptable to both parties (Yulia, in Marianti, A. (2024). From the opinions above, it can be concluded that a behavior contract is an agreement between two or more people made by a counselor together with a counselee to change unwanted behavior from desired behavior and obtain certain rewards according to a mutually agreed contract (counselor and counselee). Behavioral contracts are based on the view that helping counselees to form certain desired behaviors and obtain rewards) and certain punishments following the agreed contract.

Research regarding the behavioral contract-based character education model to improve discipline, here are some of the main points that the author describes in Behavioral Contract-Based Character Education, namely: 1) implementation of behavioral contracts: Behavioral contracts are written agreements between teachers and students that explain the expected behavior and the consequences that will apply if the rules are violated. This contract involves students in the process of making rules so that they feel responsible for their behavior. 2) Implementation Steps: Behavior Identification, Discussion and Agreement, Contract Writing, and Monitoring and Evaluation. Advantages of the Model: 1) Student participation: By involving students in making contracts, they are more likely to comply with the rules they have agreed to. 2) Personal Responsibility: students learn to be responsible for their actions. 3) Consistency and Clarity: Clear rules and consequences help create a more organized and disciplined learning environment. Impact on student discipline: 1) Research shows a significant increase in student discipline after implementing the behavioral contract-based character education model. 2) Students show improvement in terms of punctuality, compliance with class rules, and active participation in learning activities. Practice Example: A teacher can create a behavior contract that includes rules such as showing up on time, doing assignments on time, and maintaining a polite attitude in class and the contract also includes clear consequences, such as loss of points, extra assignments, or discussions with parents.

The results of this research show that several disciplinary habits can be applied during learning, including time discipline, discipline in enforcing rules and regulations, attitude discipline, and study discipline. Another thing is coordinating with teachers and parents to always get children used to doing things on time, being a good role model for children, and giving appreciation to children when they are disciplined and giving warnings or punishments when they violate.

4. CONCLUSION

A behavioral contract-based character education model can be an effective strategy for improving student discipline. By involving students in the process of creating rules and consequences, they feel responsible for their behavior, thereby creating a more conducive and orderly learning environment. This not only helps in achieving academic goals but also in forming character and social skills that are important for their future lives. Habituation is a process that is carried out continuously and consistently. Discipline is an action that is obedient and follows applicable rules. Parents are the first madrasah who must be good role models for children. One way to make children disciplined is through habits that start at home. There are four habits of discipline at home, including discipline in studying, playing, worshiping, and obeying principles when at home. Behavioral contract-based discipline habits during learning at school can be applied through time discipline, discipline in enforcing rules and regulations, attitude discipline, and learning discipline. Apart from that, teachers and parents must also coordinate to always get children used to doing things on time, be good role models for children, and give appreciation to children when they are disciplined and give warnings or punishments when they disobey. With habituation starting at home and coordination between teachers and parents, children will become disciplined individuals wherever they are.

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EXPOSE THE CHALLENGES OF IMPLEMENTING CSR ACCOUNTING (*Corporate Social Responsibility*)

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ABSTRACT

The research will focus on identifying and overcoming emerging challenges in improving the effective implementation of CSR accounting. The aim of this research is to encourage transparency in CSR reporting and increase stakeholder involvement in the company's CSR activities. The research method is qualitative with a constructivist paradigm approach. The research results refer to a lack of understanding of CSR accounting, a lack of knowledge about measuring and reporting CSR impacts, as well as a lack of necessary resources. In addition, the results of this research also underline the importance of increasing transparency and stakeholder involvement in CSR accounting practices.

KEYWORDS

Keywords: Accounting, Corporate Social Responsibility (CSR), Corporate Social Responsibility (CSR) Accounting, Constructivism.

1. INTRODUCTION

Focusing on financial profits is one of the reasons companies do not or do not implement Corporate Social Responsibility (CSR) accounting effectively (Amri et al, 2022). Companies have a stronger orientation towards short-term financial gain than social and environmental responsibility.

In this case, they ignore or do not prioritize CSR accounting. This is because company management is not fully aware of the importance of CSR accounting or does not understand how to measure and report its impact (Amri & Usman, 2018). In addition, these companies do not carry out structured tracking or reporting regarding the social and environmental impacts of their business activities. This could be caused by a lack of knowledge and resources needed to carry out CSR accounting (Syamsuddin et al, 2022).

As a result, it can hinder a company's ability to present complete and accurate information regarding the impact of their CSR to stakeholders due to a lack of knowledge about how to integrate CSR accounting with financial accounting (Manda et al., 2023). In addition, it can result in inconsistent, non-transparent, or inadequate reporting due to a lack of understanding of CSR reporting frameworks such as the Global Reporting Initiative (GRI) or Social and Environmental Accounting Standards (SASB) (Amri & Laming, 2021). Also, it can result in misinterpretation or manipulation of data to show achievements that are better than actual (greenwashing) thereby damaging public trust and harming the company's reputation due to a lack of understanding of measurement and reporting methods related to the implementation of CSR accounting (Amri et al., 2022).

Reflecting on the many obstacles and challenges that arise in implementing effective CSR accounting, this is something that still needs to be explored personally. Therefore, through qualitative research in general, and the constructivism paradigm in particular which emphasizes the social construction of reality and understanding that is formed through interactions between researchers and participants.

Accounting is the art of recording transaction numbers or nominal amounts that are compiled and calculated in a financial report where the results of this financial report can be used as an art in decision making by interested parties (Amri & Laming, 2021). This means that the values or numbers stated in accounting really determine how the company will fare in the future if the numbers listed are accompanied by real evidence and in accordance with general themed cycles, procedures and standards, namely Financial Accounting Standards (SAK) (Amri et al, 2022).

Corporate Social Responsibility (CSR) refers to the concept and practice of a business or organization taking responsibility for its impact on society and the environment. This is a voluntary initiative taken by a company to go beyond its legal obligations and contribute to the welfare of society (Faridah et al, 2023). Definitions of CSR can vary, but generally involve a company integrating social and environmental considerations into its business operations and interactions with stakeholders. This includes considering the interests of employees, customers, communities and the environment, in addition to seeking profits (Mardjuni et al, 2021).

CSR accounting is an approach used by companies to measure, report and account for the social, environmental and economic impacts of their business activities (Rasyid, 2022). This allows companies to identify and manage risks and opportunities related to the social and environmental aspects of their operations (Amri & Usman, 2018).

The constructivist approach understands how stakeholders, company management and other related actors jointly create and interpret the concept of CSR accounting, as well as face existing obstacles and challenges (Said et al., 2016). In addition, this constructivist approach can also explore a deep understanding of the complexity of issues related to CSR accounting and gain insight into the ways in which actors involved in these practices build understanding and act (Thanwain & Amri, 2022).

2. METHODOLOGY

The research method used in this research is a qualitative descriptive method. Data analysis is inductive/qualitative, and qualitative research results emphasize meaning rather than generalization. In descriptive qualitative research, the data is analyzed not to accept or reject the hypothesis (if any). The results of the analysis are in the form of descriptions of observed phenomena and do not have to be numbers or coefficients between variables (Menne et al, 2022).

The data collection technique in this research uses a library study which is a comprehensive summary of previous research by reviewing journals that are relevant to the research, using books, libraries and library materials that support and are related to the researcher's discussion, then take notes or quote Expert opinions are contained in these sources to strengthen the theoretical basis and analysis (Remmang et al, 2022).

3. RESULT AND DISCUSSION

The research results show various obstacles and challenges in implementing effective CSR accounting, as described in the following table:

No	Challenge	Impact
1	Limitations of technology and reporting systems.	Inhibits the company's ability to carry out CSR accounting efficiently and effectively.
2	Lack of knowledge about how to integrate CSR	Hampers companies' ability to present complete and

	accounting with financial accounting.	accurate information about their CSR impacts to stakeholders.
3	Lack of understanding of CSR reporting frameworks such as the Global Reporting Initiative (GRI) or Social and Environmental Accounting Standards (SASB).	Resulting in inconsistent, non-transparent or inadequate reporting.
4	Lack of effective monitoring.	Inhibits the company's ability to carry out effective monitoring, resulting in inaccurate or incomplete information obtained.
5	Lack of integration with risk management	Resulting in the inability to identify and manage risks related to CSR, such as reputation risk, legal risk, or operational risk.
6	Lack of transparency and accountability.	Inhibits companies from providing adequate and reliable information to stakeholders, such as investors, consumers and the general public.
7	Misreporting and greenwashing.	Resulting in misinterpretation or manipulation of data to show achievements that are better than actual

		(greenwashing), thereby damaging public trust and harming the company's reputation.
8	There is no supply chain monitoring.	Inhibits the company's ability to collect data and information from suppliers, business partners, or contractors involved in the company's operational activities.
9	Lack of development of long-term social and environmental impact measurement methodologies and tools.	Resulting in a focus that is too narrow on short-term achievements, without considering the wider long-term impact.
10	There is no communication and stakeholder participation.	Hampers the company's ability to establish open dialogue with stakeholders and involve them in the decision-making process regarding CSR.
11	Lack of understanding of legal and regulatory aspects.	Resulting in unintentional violations or non-compliance.
12	There is no monitoring and evaluation of performance.	Hampers a company's ability to measure and evaluate the impact of CSR activities.
13	Lack of access to data and information.	Inhibits companies from collecting, processing and analyzing required CSR data.

14	Lack of accurate and complete data.	Reduces the quality of CSR reporting and makes it difficult for companies to identify significant trends or patterns.
15	There is no commitment from management.	Inhibiting management's commitment to CSR accounting.
16	There is no integration with existing management systems.	It hinders companies from integrating and synchronizing these systems, which can result in difficulties in holistic data collection and analysis.
17	There is no understanding of the financial impact.	It hinders companies from implementing CSR accounting effectively because they do not manage or report CSR in a way that is integrated with financial reports.
18	Lack of clear measurements and goals.	Inhibits companies from developing clear measurements and goals for CSR activities.
19	Lack of employee engagement.	Inhibiting companies from involving employees in CSR activities and building awareness of corporate social responsibility.
20	Lack of transparency and internal communication.	Inhibits companies from providing adequate transparency and

		communication to employees about CSR activities.
21	There is no integration with business strategy.	Inhibits companies from connecting CSR with broader business goals.
22	Lack of access to technology and information systems.	Inhibiting companies in adopting and utilizing technology and information systems that are relevant in CSR accounting.

Based on the research results above which are outlined in the table, it is clear that there are several challenges in implementing effective CSR accounting, starting from a lack of understanding of CSR accounting, a lack of knowledge about measuring and reporting CSR impacts, as well as a lack of necessary resources. In addition, it underscores the importance of increasing transparency and stakeholder involvement in CSR accounting practices. For more details, you can see several points below regarding the discussion of the research results above:

1) Lack of understanding of stakeholder needs: CSR accounting can help overcome this problem by strengthening the identification, monitoring and reporting of stakeholder needs. Through a good CSR accounting process, companies can collect information about stakeholder preferences, expectations and interests, and integrate them into a relevant and sustainable CSR strategy.
2) Lack of supply chain monitoring: CSR accounting can help in monitoring and tracking CSR practices in the supply chain. By using an adequate accounting system, companies can identify business partners that comply with CSR standards, manage

social and environmental risks related to the supply chain, and report transparency regarding CSR aspects throughout the supply chain.

3) Lack of long-term impact measurement: CSR accounting can play an important role in measuring and reporting the long-term impact of CSR activities. By using appropriate CSR accounting methods and frameworks, companies can identify, measure and report the long-term social, environmental and economic impacts resulting from their CSR activities. This allows companies to manage and improve their CSR performance over time.
4) Lack of stakeholder communication and participation: CSR accounting can support better communication and participation with stakeholders. By involving stakeholders in the CSR accounting process, companies can gain insight, feedback and a broader perspective. Transparent and open CSR accounting also allows companies to report achievements and challenges in their CSR activities to stakeholders.
5) Lack of understanding of legal and regulatory aspects related to CSR: CSR accounting can help companies ensure their compliance with legal and regulatory aspects related to CSR. By involving skilled accountants and legal experts in the CSR accounting process, companies can ensure that their CSR activities comply with applicable legal and regulatory requirements. In addition, CSR accounting can help companies report their compliance with the legal and regulatory aspects of CSR to the competent authorities.
6) Lack of measurement of business value from CSR: CSR accounting can help companies measure the business value resulting from CSR activities. By using appropriate accounting methods, companies can identify and measure CSR

contributions to the company's long-term success, such as improved brand reputation, higher customer satisfaction, increased employee loyalty, or better operational efficiency. This provides a better understanding of the economic value generated by CSR activities and helps companies make the right strategic decisions.

7) Lack of integration of CSR accounting with the company's management system: It is important for companies to integrate CSR accounting with the company's overall management system. This ensures that information and data related to CSR are integrated with financial reporting systems and other management systems. By carrying out this integration, companies can produce comprehensive and integrated information about financial and non-financial performance, which enables better decision making and effective monitoring of CSR objectives.

8) Lack of monitoring and follow-up on CSR issues: CSR accounting can provide a framework that allows companies to continuously monitor, evaluate and follow-up on emerging CSR issues. By using relevant performance indicators and metrics, companies can identify CSR issues that need to be addressed, track progress in resolving them, and ensure effective action is taken. CSR accounting also allows companies to improve existing processes and policies to avoid similar problems in the future.

9) Lack of transparency and accountability: CSR accounting provides a transparent and accountable framework for companies to report the results of their CSR activities to stakeholders. By using internationally recognized CSR accounting standards, companies can present clear, relevant and reliable information about CSR activities, goals,

achievements and challenges faced. This allows stakeholders to better measure and evaluate a company's CSR performance, as well as increase the company's trustworthiness and legitimacy in their eyes.

4. CONCLUSION

It is important for companies to view CSR accounting as a long-term investment that can improve reputation, strengthen relationships with stakeholders, and create long-term value for the company and society. By implementing and reporting CSR transparently and responsibly, companies can play a more active role in building a sustainable future and providing sustainable social and environmental benefits.

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DETERMINANTS OF INDONESIAN FOREIGN DEBT

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ABSTRACT

Foreign debt is assistance in the form of funds from abroad to cover the lack of financial resources to support development. The government issues this policy to support a country's economy. From 2001 to 2007, Indonesia's foreign debt increased. One of the factors affecting the amount of external debt is the budget deficit and the lack of domestic savings as a source of development funding. The research aims to determine the influence of Indonesian foreign debt from 2006 to 2022. This research uses a quantitative study using a multiple regression analysis approach. The research results reveal that the budget deficit does not affect foreign debt, while investment, GDP, and the exchange rate positively and significantly affect Indonesian debt. In addition, the variable that has the most significant influence on foreign debt is the exchange rate.

KEYWORDS

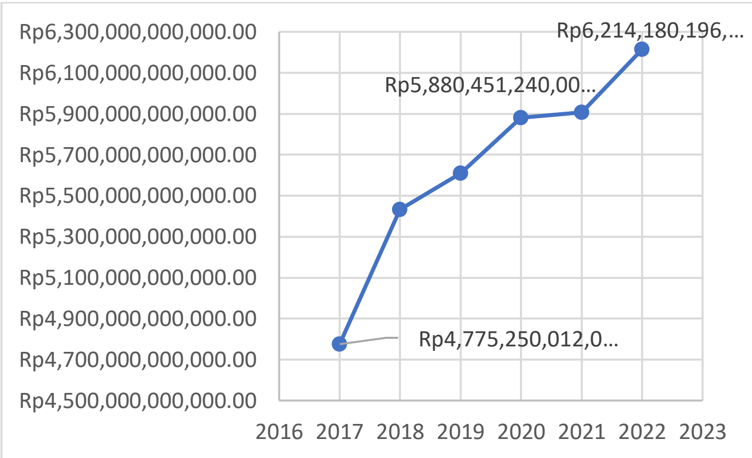
Foreign Debt; Budget Deficit; Gross Domestic Product; Investment; Exchange Rates

INTRODUCTION

Foreign debt refers to financial assistance from various institutions, businesses, or individuals, such as private banks, other governments, and international financial institutions. Namely, the

International Monetary Fund (IMF) and the World Bank (Ulfa and Zulham 2017). Meanwhile, Siddique in (Batubara 2020) eveals that foreign debt is assistance in the form of funds from abroad and aims to cover the lack of financial resources needed to support development. Foreign debt is a government-issued policy that seeks to support a country's economy. Foreign debt is required by developing countries to help the country's development.

Figure 1: Indonesia's External Debt 2017-2022



Source: (Bank Indonesia 2023)

The Harrod-Domar theory explains that the lack of domestic savings causes foreign debt as a source of development funding; therefore, debt is needed to support development. The need for foreign capital and debt is also due to the double gap problem and the foreign exchange gap (Octavianti and Budyanra 2023). Private foreign debt tends to increase every year; this has an impact on economic growth because of the dependence of a country's economy on fluctuations in exchange rates and cash flows, triggering a financial crisis.

Figure 1 illustrates data on Indonesia's foreign debt in the last six years (2017–2022), which tends to increase. In 2022, Indonesia's debt amounted to IDR 6,214,180,196,000,000. The decline in Indonesia's foreign debt is one of the factors due to the increase in national income, which results in high debt repayment. Some of the countries that are the biggest debtors in Indonesia include Singapore, the United States, Japan, China, and Hong Kong.

According to the Indonesian Central Bureau of Statistics and the Directorate General of Fiscal Balance, Indonesia's external debt payments tend to experience small payments each year (Tabel 1). In 2017, external debt payments amounted to 8,807 million USD, the lowest payment in the last five years. Meanwhile, the highest debt payment was in 2021, which amounted to 15,415 million USD. In this case, it can be said that the limitations of the Indonesian state in financing development, which are certainly not small, are the main reasons for making loans.

Table 1: External Debt Payments of the Government and Central Bank of Indonesia (Millions of USD)

External Debt Service of the Government and Central Bank of Indonesia (Million USD)					
Year	2017	2018	2019	2020	2021
Principal Debt	6.049	8.208	10.629	9.496	11.581
Interest Rate	2.758	4.330	4.375	4.120	3.834
Total	**8.807**	**12.538**	**15.004**	**13.616**	**15.415**

Source: (Bank Indonesia 2023)

One factor that influences the amount of external debt is the budget deficit. Rahardja and Manurung budget deficit is a budget planned due to budget constraints, in the sense that there is a lack of domestic income compared to the amount of government spending.

External debt is needed whether economic growth is unstable (AS Neng Dilah Nur 2018). In addition to the budget deficit, investment is also a factor that affects external debt. Investment is the activity of investing in a particular aspect; this can be done in several ways, for example, through the form of shares in the stock market (Ulfa and Zulham 2017). Classical theory explains that investment aims to increase the ability of society to produce. In increasing production, capital accumulation that will be formed can increase investment. The theory put forward by Keynes is that the amount of investment that can be carried out is not bound by the size of the interest rate but by the household's high and low income. The greater the income earned by the household, the greater the investment carried out (Rusli 2017). Nanga (2005) and Lubis and Zulam (2016) revealed that investment is the company's expenditure in carrying out production activities such as buying raw materials, machinery, and other factory equipment.

Table 2 indicates that Indonesia's budget deficit in 2017-2022 faced an increase. In 2017-2018, there was an increase, although in 2019, it tended to decrease by IDR 10,383,980,000. However, in 2020-2021, the budget deficit increased drastically to reach IDR 23,128,620,000, while in 2022, the budget deficit was IDR 6,781,750,000. A high budget deficit indicates that the government must borrow or use financial reserves to make the difference. The table also shows Indonesia's investment in 2017-2022 increased. Investment from 2017-2019 tends to experience a slow increase compared to the year after, amounting to IDR 413,535,500,000. High investment will increase and encourage development in the economic sector.

Table 2: Indonesia's Budget Deficit, FDI, GDP and Exchange Rate 2017-2022

Year	Budget Deficit (Billion)	Domestic Investment (Billion)	GDP (Billion)	Exchange Rate

2017	Rp20,245,470,000	Rp262,350,500,000	Rp9,912,928,100	Rp13,548
2018	Rp17,072,340,000	Rp328,604,900,000	Rp10,425,851,900	Rp14,480
2019	Rp10,383,980,000	Rp 386,498,400,000	Rp10,949,155,400	Rp13,901
2020	Rp-6,467,470,000	Rp 413,535,500,000	Rp10,722,999,300	Rp14,105
2021	Rp23,128,620,000	Rp 447,063,600,000	Rp11,120,077,900	Rp14,269
2022	Rp-6,781,750,000	Rp 552,769,000,000	Rp11,710,397,800	Rp15,731

Source: (Indonesia Central Bureau of Statistics, 2023; and Directorate General of Fiscal Balance, 2023)

GDP also is one of the aspects that affect Indonesia's foreign debt. (Ulfa and Zulham 2017) state that GDP is an economic statistic that is a benchmark in seeing the level of public welfare. Referring to the income approach, GDP is the number of services obtained from production in one year (Fauziana 2014). Furthermore, (Ulfa and Zulham 2017) revealed that the benchmark for national economic growth is national income, which means that the higher the national income, the higher the economic growth will be.

Adam Smith stated that the formation of GDP can determine the prosperity of a country through the amount of Gross Domestic Product and the contribution of its foreign trade. Increased imports can be supported through high income and employment. Increased imports will have positive effects such as increasing investment, application of technology, and so on. The occurrence of this reduces domestic monopoly,and high competition will increase productivity and product efficiency. High productivity and product efficiency lead to lower product prices, with good service quality. So that competitiveness increases, expanding access and high export opportunities (Ningsih and Sapha A.H. 2019).

Table 3 shows the increase in Gross Domestic Product during 2017-2022. The details of the growth are that from 2017 to 2019, there was an increase of Rp10,949,155,400 due to good economic growth supported by the industrial sector. Meanwhile, 2020 experienced a decrease of IDR 10,722,999,300 due to the financial crisis. Then, in 2021, the trend increased again.

Another factor that affects a country's debt is the exchange rate. The exchange rate, the, rupiah exchange rate, compares the price or value of the currency to that of other currencies. Each country has its means of exchange in conducting trade transactions; however, international trade uses a medium of exchange called foreign exchange. The exchange rate is an indicator in the country's economy (As & Sutjipto, 2018) and (Sartika 2017).

Darmadji (2006) stated that there are two approaches to determining the exchange rate: monetary and market. In the monetary approach, the exchange rate is the price of foreign currency traded against the domestic currency related to the demand and supply of money (Sartika, 2017). Foreign debt influences exchange rate stability. Table 3 shows that the exchange rate from 2017 to 2021 has increased due to the demand for interest rates that are not small. It can increase purchasing power, attract foreign investment, and reduce inflation.

The size of the budget deficit, the lack of domestic investment, the drive to increase GDP, and the increase in the exchange rate influence external debt. Table 3, If investment, GDP, and exchange rates face an increase, a country can be said to have good economic growth, which means there is an influence on foreign debt. A country still depends on foreign debt if the budget deficit has increased. Therefore, Indonesia itself is still heavily dependent on foreign debt.

METHODOLOGY

This research is a quantitative research which is an analysis that uses statistical data such as information collected and analyzed by statistical methods. It aims to explain systematically, starting from data collection and data processing, to produce a relationship between variables that become information in determining decisions. This study aims to examine whether using multiple regression analysis of foreign debt influences budget deficits, investment, Gross Domestic Product (GDP) and exchange rates in Indonesia. Then, the EViews software is used to process the data obtained. This study uses time series data for 2006-2023. External debt data was obtained from Bank Indonesia, then budget deficit data was obtained from the Directorate General of Finance (DPJK Kemenkeu). GDP and exchange rates were obtained from the Indonesian Central Bureau of Statistics for investment data. The equation used is in the following form:

$$External\ debt\ (Y) =$$

$$f\ (Budget\ Defisit\ (X_1), Investment\ (X_2), GDP\ (X_3), Exchange\ Rate\ (X_4)$$

.........(1)

The equation used in seeing the relationship between variables is:

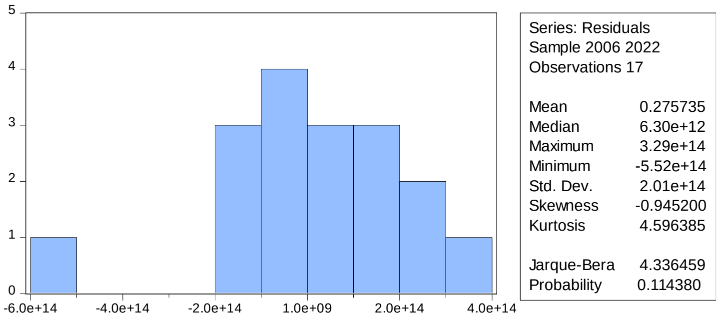
$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \text{......................(2)}$$

The dependent variable used, namely foreign debt, is the value of Indonesia's foreign loans to foreign parties based on the term of origin and borrower group. While the independent variables consist of: (1) Budget Deficit (Y) is the difference between state expenditure and revenue; (2) Investment (X1) is the realized value of Indonesia's domestic investment (3) Gross Domestic Product (GDP) (X_2) is the value of Indonesia's GDP at 2010 constant market prices by industrial origin; and (4) Exchange rate (X_3) is the exchange rate of the rupiah against the US dollar. B_0, β_1, β_2, β_3 are constant and ε is the standard error.

RESULT AND DISCUSSION

After conducting the Jarque-Bera normality test aims to check whether the sample data follows a normal distribution based on skewness and kurtosis. The test helps validate the assumption of normality in parametric statistical analysis in Figure 1:

Figure 2. Normality Test Results



Source: Eviews 10 processed (2023)

Figure 1 shows the results of the Jarque-Bera normality test, where the probability value on the J.B. statistic is 0.114380. This shows that the probability value is greater than the significance 0.05. This means that the data obtained in this study is normally distributed or the normality assumption is met.

The multicollinearity test aims to detect the relationship between independent variables in the regression model using the Variance Inflation Factor (VIF). If VIF> 10, multicollinearity occurs; if VIF < 10, no multicollinearity occurs in Table 4:

Table 3. Multicollinearity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	3.42E+29	108.1611	NA
X1	2904840.	3.265436	1.751074
X2	717388.6	15.26246	6.117127
X3	1.08E+09	23.96053	3.939783
X4	3.31E+21	156.8670	5.401215

Source: Eviews 10 processed (2023)

Table 4 shows that the Centered VIP value of all independent variables in this study is less than ten (<10), so it can be stated that there is no multicollinearity in this study.

The heteroscedasticity test aims to identify non-constant variations in the residuals of the regression model. In this study, the Harvey Test was used. If the p-value > 0.05, then there is no heteroscedasticity.

Table 4. Heteroscedasticity Test Results

Heteroskedasticity Test: Harvey

F-statistic	2.637813	Prob. F(4,12)	0.0864
Obs*R-squared	7.953939	Prob. Chi-Square(4)	0.0933
Scaled explained SS	8.122439	Prob. Chi-Square(4)	0.0872

Source: Eviews 10 processed (2023)

Table 5 shows the results of heteroskedasticity testing using the Harvey test, where the heteroscedasticity test output from the data used in this finding states that the research significance probability Chi-Square is 0.093> 0.05, so it can be said that there is no heteroscedasticity.

The autocorrelation test means recognizing a relationship between the residuals of one observation and the other. This autocorrelation test uses Bruesch Godfrey. By the autocorrelation test rules, if the significance assessment> 0.05, there is no autocorrelation, but if the significance value < 0.05, there is autocorrelation. The best regression form certainly does not have autocorrelation in the research data.

Table 5. Autocorrelation Test Results

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.553535	Prob. F(2,10)	0.5916
Obs*R-squared	1.694434	Prob. Chi-Square(2)	0.4286

Source: Eviews 10 processed (2023)

Table 6 shows the results of the autocorrelation test in this study after conducting the autocorrelation test using the Breusch Godfrey test with the results of the Chi-Square Probability of 0.428 which means> 0.05, so it can be said that this study does not occur autocorrelation.

Multiple Linear Regression Test

Multiple linear regression is a model useful for detecting the relationship between one or more independent variables on the dependent variable. The dependent variable is foreign debt (Y), while the independent variables are budget deficit (X1), investment (X_2), GDP (X_3) and exchange rate (X_4).

Table 7 shows the results of multiple regression tests between budget deficit (X_1), investment (X_2), GDP (X_3) and exchange rate (X_4) on external debt (Y). The regression coefficient value of each independent variable is -72.91027, 4097.532, 129672.3, 3.1780, while the constant value of -2.0167. By looking at the coefficient of determination (R2) test is used to measure the extent to which the independent variable can explain the variation of the dependent variable. The more variation (R^2) explained by the independent variable with the dependent, the higher the coefficient of determination. Table 5 shows that the test count assumption obtained from the effect of budget deficit (X_1), investment (X_2), GDP (X_3) and exchange rate (X_4) on external debt (Y) in Indonesia is 0.987. The contribution of the independent variables to the dependent variable is 98.7%, and the remaining 2.2% is the contribution of other variables that are not included in this study.

Multiple Linear Regression Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.02E+15	5.85E+14	-3.448289	0.0048
X1	-72.91027	1704.359	-0.042779	0.9666
X2	4097.532	846.9879	4.837769	0.0004
X3	129672.3	32922.64	3.938696	0.0020
X4	3.18E+11	5.76E+10	5.521360	0.0001

R-squared	0.987743	Mean dependent var	3.62E+15
Adjusted R-squared	0.983658	S.D. dependent var	1.81E+15
S.E. of regression	2.32E+14	Akaike info criterion	69.23220
Sum squared resid	6.45E+29	Schwarz criterion	69.47726
Log likelihood	-583.4737	Hannan-Quinn criter.	69.25656
F-statistic	241.7662	Durbin-Watson stat	1.381095
Prob(F-statistic)	0.000000		

Source: Eviews 10 processed (2023)

The t statistical test is used to determine whether the hypothesis is acceptable. If the significant value <0.05, then the hypothesis is accepted; this indicates that the independent variable has a significant effect on the dependent variable; otherwise, if the significant value> 0.05, then the hypothesis is rejected; this indicates that the independent variable has no significant effect on the dependent variable. The results of the t test can be seen in Table 5, which shows the results of the t test to see the effect of the independent variable on the dependent variable. It can be said that the budget deficit variable (X_1) on foreign debt (Y) has a probability of 0.9666> 0.05 and $t_{account}$ value of -0.042779 < t_{table} 1.782 hich indicates that the budget deficit has no positive and significant effect on foreign debt so that the hypothesis in this study is rejected. H_1 rejected H_0 accepted. While the investment variable (X_2) on external debt (Y) has a probability of 0.0004 < 0.05 and $t_{account}$ value of 4.837769 > t_{table} 1.782 which indicates that investment has a positive and significant effect on external debt, the hypothesis proposed in this study is accepted. H_1 is accepted, H_0 is rejected. In addition, the GDP variable (X_3) on external debt (Y) has a probability of 0.0020 <0.05 and $t_{account}$ value of 3.938696 > t_{table} 1.782 hich indicates that GDP has a positive and significant effect on external debt, so the hypothesis proposed in this study is accepted. H_1 is accepted, H_0 is rejected. Lastly, the variable exchange rate (X_4) on external debt (Y) has a probability of 0.0001 <0.05 and $t_{account}$ value of 5.521360> t_{table} 1.782 which indicates that the exchange rate has a positive and significant effect on external debt, so the hypothesis proposed in this study is accepted. H_1 is accepted, H_0 is rejected. The influence of the independent variables can be seen simultaneously on the dependent variable carried out in the F test. This test is declared significant <0.05 so that the research hypothesis is accepted. The following F test results can be seen in Table 4 shows the results of data processing simultaneous significant test or F-test, then the F statistical probability value is 0.0000 <0.05 and $F_{account}$> F_{tabel} (33.17> 3.478), the budget deficit variable ($X1_{)}$, investment (X_2), GDP (X_3) and exchange rate (X_4) have a simultaneous influence on foreign debt (Y).

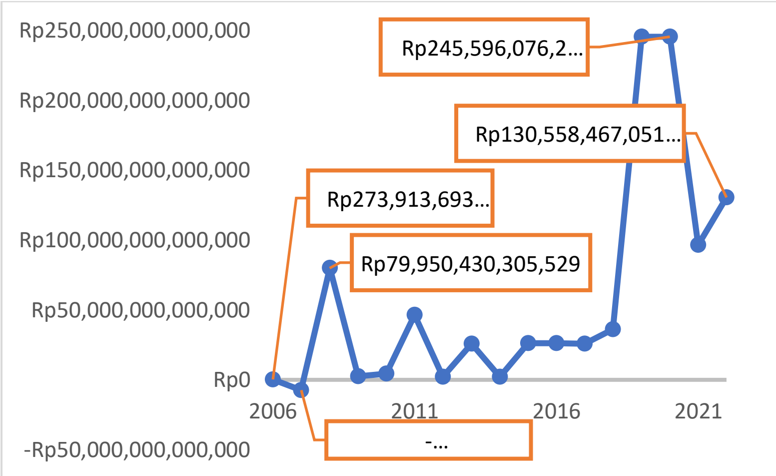
Discussion of Research Results

Effect of Budget Deficit on Foreign Debt

This study found that the budget deficit did not significantly affect foreign debt with a probability value or significant value of 0.9666, with significant results greater than 0.05. The results of this study show that it does not influenceon the budget deficit and foreign debt. Hence, it is inversely proportional to Keynes' theory which says that one of the main reasons the government makes foreign loans is due to the high government budget deficit for development implementation.

The results of this study are in line with research (Lisyafaah, Juliprijanto, and Jalunggono 2021; Arfah 2016; Fauzy and Aimon 2019) which prove that the budget deficit is not significant with foreign debt. The insignificance is due to the efforts of the Indonesian government to increase state revenues every year through increasing tax revenues and making savings on the expenditure side, in this case, reducing subsidies and reducing unproductive and inefficient spending that does not support real sector growth and does not support an increase in tax revenues or does not support an increase in foreign exchange earnings. According to the research results, the budget deficit that occurred in Indonesia can be covered by the remaining budget surplus or Sisa Anggaran Lebih (Silpa), so it can be said that this does not influence the existence of the foreign debt. Table 8 shows how the trend in the remaining budget tends to fluctuate.

Figure 3. Indonesian Remaining Budget Surplus



Source: (Directorate General of Fiscal Balance Treasury, 2023)

The Effect of Investment on Foreign Debt

This study found that investment significantly affects foreign debt with a probability value or significant value of 0.0004, with significant results that are less than 0.05. Investment has a significant and positive effect on foreign debt, so it is in accordance with the hypothesis. Keynes' theory suggests that the amount of investment that can be carried out is not bound by the size of the interest rate but by the household's high and low income. The greater the income earned by the household, the greater the investment carried out. This study's results align with research (Arfah 2016) which stated that investment influences Indonesia's foreign debt. It indicates that an increase or decrease can influence foreign debt in investment. The variable that has a greater impact on foreign debt is investment. In growing the economy, additional capital is needed; this is seen as increasing the ability of an economy to produce a product. With investment, it can support sustainability and a high level of economic growth.

The Effect of Exchange Rate on Foreign Debt

The research revealed that the exchange rate significantly affected foreign debt with a probability value or significant value of 0.0001, with a significant level greater than 0.05. Stating that there is an influence between the exchange rate and foreign debt. The exchange rate has a significant effect on foreign debt, so it is following the hypothesis. This study is in line with the theory that the decline in the exchange rate is the beginning of an economic crisis so that the economy in Indonesia increases. This research is in line with (Wulandari, Sugianto, and Aminda 2022; Cahyaningrum et al. 22; Octavianti and Budyanra 2023) showing that the exchange rate has a positive and significant effect on foreign debt, this is because the exchange rate fluctuates every year so that it has an impact on foreign borrowing.

Effect of GDP on Foreign Debt

This study found that GDP significantly affects foreign debt with a probability value or significant value of 0.0020, with a result of a significant level smaller than 0.05. Stating that GDP and foreign debt are influenced. GDP has a significant and positive effect on foreign debt, so it is under the hypothesis. Adam Smith revealed that GDP can determine the success of a country through the amount of GDP and the role and international trade. According to Adam Smith, the market system can create effective and strong economic activity in economic growth, market expansion, specialization, and technological progress. The research result is the theory that when there is an increase in GDP, it can increase foreign debt, which is used to build infrastructure and stabilize the country's economy. So that it becomes one of the sources of funds used to support a country's economy. Indirectly, the national income in Indonesia cannot meet the needs of the budget needed for development, so we need a budget from outside, in this case, foreign debt. Reviewing from the aspect of business fields, the composition of the manufacturing industry is the highest component compared to trade-hotel-restaurants in the formation of GDP. This research is in line with the research findings of (Cahyaningrum et al. 22; Ningsih and Sapha A.H. 2019; Nurfitriana and Rizki 2023; Sadim 2019) revealing that there is a significant impact of GDP on Indonesia's foreign debt. It is different from the research (Ratag, Kalang, and Mandeij 2018; Octavianti and Budyanra 2023) which states that there is no influence between the exchange rate and foreign debt. The Rupiah exchange rate fluctuates from year to year; thus, foreign borrowing affects stabilizing existing resources and economic growth. After paying attention to the data used in this study shows that the exchange rate and foreign debt have increased accordingly, so it can be said that an increase in the exchange rate can increase a country's debt. With the strengthening of the exchange rate, it will have an impact on stabilizing economic growth. Therefore, the exchange rate will be tied to the foreign investment sector, foreign exchange, which serves as a foundation for the stability and volatility of foreign exchange rates.

CONCLUSION

Based on the results that have been done, the following conclusions are obtained:

The budget deficit had a negative and insignificant effect on Indonesia's foreign debt in 2006-2022. In other words, the amount of government spending compared to revenue can be covered by national income, so there is no relationship with Indonesia's foreign debt. The findings also revealed that investment positively and significantly affected Indonesia's external debt in 2006-2022. The more investment occurs in the country, the more it depends on Indonesia's foreign debt. Moreover, gross domestic product (GDP) positively and significantly affected Indonesia's foreign debt from 2006 to 2022. Therefore, GDP has not been able to meet existing expenditures, so it will depend on Indonesia's foreign debt. Lastly, it found that the exchange rate positively and significantly affected Indonesia's foreign debt in 2006-2022. The higher the exchange rate, the stability of the exchange rate can change at any time; therefore, foreign debt can increase.

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EFFICIENCY OF EDUCATION EXPENDITURES IN SOUTH SULAWESI PROVINCE FOR THE 2010-2021 PERIOD USING DATA ENVELOPMENT ANALYSIS

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Abstract

This study seeks to assess the degree of cost efficiency and system efficiency in South Sulawesi Province from 2010 to 2021, employing Data Envelopment Analysis (DEA) under the assumption of Variable Return to Scale (VRS). The research variables utilized for assessing cost efficiency include government expenditure in the education sector as the input, and the School Per Pupil Ratio (RSM) and Teacher Per Pupil Ratio (RGM) as output variables. The research variables employed to assess system efficiency are the School Ratio per Pupil (RSM) and Teacher Per Pupil Ratio (RGM) as inputs, alongside School Participation Rates and Pure Participation Rates as outputs. Research findings on cost efficiency indicate that the implementation of education at the Elementary School (SD) level in Sulawesi Province was efficient only in the years 2010, 2014, 2019, 2020, and 2021, as evidenced by an efficiency score of 1. Middle School level First (SMP) attained an efficiency score of 1 in the years 2010, 2012, 2014, and 2021. At the Senior High School (SMA) level, only the years 2010, 2013, and 2014 attained an efficiency score of 1. Research findings assessing system efficiency at the Elementary School (SD) level indicate that in 2011, 2016-

2018, and 2021, educational administration demonstrated systemic efficiency, evidenced by an efficiency score of 1. At the Junior High School (SMP) level, the efficiency score was 1 in the years 2010, 2011, 2015-2017, 2019, and 2021. At the Senior High School (SMA) level, data from 2010 and 2017-2021 indicate that the system is efficient, as evidenced by an efficiency score of 1.

Keywords: Efficiency; Cost Efficiency; Educational Expenditure System Efficiency; Data Envelopment Analysis (DEA)

Introduction

Development is a tool used to achieve national goals and economic growth is an indicator used to assess the success of a country's development. Economic development cannot be separated from improving the quality of human resources or the formation of human capital. This is a process to increase the number of people who have the educational skills and experience that are decisive for the economic and political development of a country (Aquariansyah, 2018)

The quality of human capital is knowledge or skills obtained through educational activities such as schools, courses, and training (Nurkholis, 2016). Education is a basic need that improves the quality of human capital and is a national development goal that is based on the 1945 Constitution.

According to Todaro (in Indriati, 2014), education plays an important role in determining the ability of developing countries to absorb modern technology and develop the skills needed to achieve sustainable development growth. This can be achieved by allocating government spending in the public sector so that it can have a positive impact on population productivity.

As regulated in the Education System Law No. 20 of 2003, CHAPTER XIII article 45, the central government and regional governments are responsible for education. Under Article 11 paragraph 2, the central and regional governments are responsible for providing education funds so that education can be provided for every citizen aged 7 to 15 years.

Table 1: South Sulawesi Province School Enrollment Rates for the 2019-2021 Period

Year	Educational level	APS (%)
2019	SD	99,23
	SMP	93,22
	SMA	70,85
2020	SD	99,25
	SMP	93,34
	SMA	70,89
2021	SD	90,29
	SMP	93,55
	SMA	71,21

Source: Central Statistics Agency, 2023

School enrollment rates based on Primary School (SD) level continue to decline. The highest school participation rate was in 2018, reaching 99.07%, and decreased in the following year until 2021, which was only 90.29%. And the school enrollment rate based on Junior High School (SMP) level continues to increase, although it is not yet significant. In 2017 it was 93.09% and in 2021 it was 93.55%. Meanwhile, the school participation rate based on senior high school (SMA) education level has a lower percentage compared to elementary and junior high schools and did not experience a significant increase in 2017-2020. In 2017 it was 70.60% and increased in 2021 to 71.21%. Even though the school participation rate shows high numbers, the illiteracy rate is also still high.

Table 2 Illiteracy Rates for South Sulawesi Province Age 15 Years and Over 2019-2021 Period

Year	Gender	
	Female	Male
2019	5,84	7,55
2020	8,61	6,17
2021	8,81	7,51

Source: Central Statistics Agency, 2023

The illiteracy rate is still a problem in the education sector in South Sulawesi Province, based on the central statistics agency, the percentage of illiterates in the population aged 15 years and over continues to increase every year. In 2019, the percentage of illiteracy according to female gender was 5.84%. This figure continues to increase until 2021, increasing to 8.81%.

The government is not just sitting idly by. The South Sulawesi government pays quite a lot of attention to education, according to the Ministry of Power's DJPK, education spending in 2019 was 3.9 trillion and in 2020 it increased to 4.1 trillion rupiah. The fact that every year the budget for education increases is certainly one of the government's efforts to solve various problems in this field. The government has tried to do many things through various educational program packages. Providing educational facilities and infrastructure, efforts to increase accessibility, and quality of teaching staff are some of the priority programs that will continue to be promoted by the government to improve the quality of education.

According to Rostow & Musgrave, initially, the size of government spending on total national expenditure was relatively high. This is because the government invests in many basic public needs, namely capital-intensive development projects such as education, health, and other public infrastructure (Mandala & Merri, 2019).

The measure of regional government expenditure efficiency is defined as a condition where reallocation of resources is no longer possible to improve community welfare. "If every rupiah spent by the government produces the most optimal social welfare, if these conditions are met, then government spending is efficient" (Ahmad, 2006).

Education is an investment that has implications for the future. Education is capital that is needed for economic growth and national development, the government must provide spending for the education sector, which will be used to build educational facilities and infrastructure as well as develop human resources (human capital) (Mongan, 2019).

Efficient shopping can encourage broader community welfare if its use is economical and right on target, or in other words, it has high efficiency. If the opposite happens, the efficiency will be low. Efficiency can occur because sufficient funds are available to provide optimal services to achieve a good level of society. Therefore, efficient spending is an important issue in public sector policy, especially in the field of education (Rapiuddin & Bahrul, 2016).

Literatur Review

Government Expenditures

Adolf Wagner stated that government spending in an economy tends to increase over time (Ningrum et al., 2020). Wagner's law is "The Law of Expending State Expenditure" which states that in an economy, if income increases relatively, government spending will also increase. This can be caused by the increasing role of the government in managing activities related to society, law, education, recreation, and culture (Nurul, 2016).

According to Sukirno, government spending is part of fiscal policy which is used to purchase goods and services to provide services to the community which can encourage human resource development by improving the quality of human capital from the aspects of education and health (Anantika & Sasana, 2020).

The allocation of government expenditure is to finance government administration and is also allocated for development activities. Some of what the government finances are paying government salaries, costs for the education and health sectors, financing the armed forces, and financing various types of infrastructure that are important in supporting development (Sadono, 2006).

Efficiency Concept

Efficiency refers to the use of inputs in carrying out activities to produce an efficient product. According to (Lena, 2007), the level of efficiency is measured using indicators calculated from the ratio between value added and output value. This means that the level of efficiency depends on the high value of the ratio because the lower the input costs required to produce an output. In general terms, efficiency is often defined as "producing the maximum output but at the smallest cost".

Three indicators influence efficiency, namely, if the amount of output produced is greater with the same input, smaller input produces the same output, and greater input produces greater output. If the concept of efficiency is explained using the meaning of input and output, what is meant by efficiency is the ratio between output and input.

The measure of regional government expenditure efficiency is defined as a condition where reallocation of resources is no longer possible to improve community welfare. "If every rupiah spent by the government produces the most optimal social welfare, if these conditions are met, then government spending is efficient" (Ahmad, 2006)

Methodology

Research Variables

The data in this research consists of secondary data obtained from the DJPK Ministry of Finance and the Central Statistics Agency (BPS), the object of this research is South Sulawesi Province at all levels of education for the 2010-2021 period. This research is a quantitative descriptive research. Descriptive research to explain the technical performance of the education sector in South Sulawesi Province. Meanwhile, quantitatively it is used to determine the level of educational efficiency in the province. The object of this research is the elementary school (SD), junior high school (SMP), and final high school (SMA) levels of education in South Sulawesi Province. The data analysis technique used is Data Envelopment Analysis with the assumption of Variable Return to Scale (VRS). In measuring cost efficiency using an input minimization approach (input-oriented). Meanwhile, in measuring system efficiency, an output maximization approach (output-oriented) is used.

Analysis Model

The analytical method used in this research is Data Envelopment Analysis (DEA). DEA is a "data-oriented" approach that can be used to evaluate the performance of a set of entities called Decision Making Units (DMU), which convert many inputs into many outputs.

According to Charnes, Cooper, and Rhades (Handayani, 2016), Data Envelopment Analysis is a mathematical programming model applied to observational data that provides a new way to obtain estimates of empirical relationships such as production functions or efficient production.

In DEA the Economic Activity Unit (UKE) is measured relative efficiency using input costs and output quantities. If combining input and output cannot be done then the relative efficiency of UKE will be measured by comparing other UKE with a group of UKE. DEA will use the best efficiency as a benchmark to assess efficiency in the UKE group. The Economic Decision Unit (UKE) analyzed in this research is the Realization of Government Expenditures in the Education sector 2010-2021.

The DEA model used in this research is DEA-BCC with variable Return to Scale (VRS) assumptions and input orientation and output orientation. This is based on the consideration that the proportion of changes in input in the education sector does not always produce output in the same proportion.

Result and Discussion

1. Cost Efficiency

The efficiency value of education costs in Sulawesi Province, South Sulawesi was obtained using variable input in the form of the nominal amount of realized education expenditure for South Sulawesi Province in 2010-2021. The output variables used are intermediate output variables in the form of available education indicators, namely the ratio of teachers per student and the ratio of schools per student.

The assumption used in this research is that the large amount of government expenditure input in the education sector is capable of producing an output of educational facilities and services of unequal magnitude.

Cost efficiency calculations use variable Return to Scale (VRS) assumptions with an input orientation. The efficiency score ranges from 0 to 1. The efficient Decision Making Unit (DMU) has an efficiency score of 1.

Table 3 Cost Efficiency Values Based on Education Level

DMU	Efficiency score		
	SD	SMP	SMA
Th-2010	1	1	1
Th-2011	0.83	0.78	0.79
Th-2012	0.75	1	0.7
Th-2013	0.67	0.61	1

Th-2014	1	1	1
Th-2015	0.7	0.36	0.63
Th-2016	0.85	0.55	0.47
Th-2017	0.59	0.23	0.21
Th-2018	0.71	0.26	0.23
Th-2019	1	0.24	0.16
Th-2020	1	0.56	0.19
Th-2021	1	1	0.21

Source: MaxDea Output, 2023

Based on Table 3, shows the results of the technical cost efficiency of all Decision Making Units (DMU) that were measured. The result is that South Sulawesi Province has not succeeded in providing education efficiently. There were only 2 years that showed perfect efficiency scores at all levels of education, namely 2010 and 2014.

In research conducted by Sihaloho, it was found that in 2013-2015 South Sulawesi Province was the only one with the lowest efficiency score in all provinces in Sulawesi. Likewise, with research conducted by Rapiuddin, education in South Sulawesi Province in 2012-2014, in measuring cost efficiency, also experienced conditions of inefficiency, so even though there is a research gap, South Sulawesi Province appears unable to maintain and improve its performance in the education sector. Meanwhile, in 2014, South Sulawesi Province did not experience conditions of inefficiency, although previous research this year showed inefficiency, but based on graph 4.3, it was able to improve its performance as indicated by a score of 1.

Table 3 also shows that the high school level most often experiences conditions of inefficiency at all levels of education. The graph above also shows that the cost efficiency measurement with the lowest efficiency score is at the high school level, namely in 2019 with a score of 0.16.

Furthermore, table 3 also shows that the level of education in certain years which had high and increasing educational costs experienced inefficiency. This is shown at the elementary school level. This means that increasing actual spending in the education sector does not guarantee increased performance in the education sector.

Based on the research results, the school per capita allocation indicators and the Teacher to teacher-to-student ratio (RGM) are factors that cause technical cost inefficiencies. This is of course in line with the opinion of research conducted by Suswandi, three indicators produce efficiency, namely, if with the same input it can provide greater output, if with smaller input it can provide the same output, and if with more input Larger results in greater output as well.

By using the assumption of minimizing input (input orientation), and spending large amounts in this sector, South Sulawesi province should be able to produce efficient conditions in the education sector. However, this is not in line with the educational facilities and services shown by the output variable in cost efficiency measurements. So in general the teacher-student ratio needs to be increased. The greater the number of teachers the higher the student-teacher ratio.

The main problem causing cost inefficiency is an increase in budget allocation that is too large at all levels of education but is not followed by an increase in the output produced. Cost inefficiencies will have an impact on government spending and the education sector itself because every rupiah spent by the government aims to produce the most optimal welfare for society. However, the educational costs incurred do not produce prosperity for students in particular, this can be seen from the low ratio of teachers per student and school ratio per student.

2. System Efficiency

Calculation of system efficiency uses the Return to Scale (VRS) variable assumption with output orientation. The input variables used in this research are the Teacher to Student Ratio (RGM) and the School to Student Ratio (RSM) and the output variables used are the School Enrollment Rate (APS) and Pure Enrollment Rate (APM) at all levels of education. The efficiency score ranges from 0 to 1. The efficient Decision Making Unit (DMU) has an efficiency score of 1.

Table 3 System Efficiency Values Based on Education Level

Year	Efficiency score		
	SD	SMP	SMA
Th-2010	0.99	1	0.76
Th-2011	1	1	1
Th-2012	0.99	0.94	0.9
Th-2013	1	0.96	0.9
Th-2014	0.87	0.97	0.98
Th-2015	0.91	1	0.99
Th-2016	1	1	0.99
Th-2017	1	1	1
Th-2018	1	0.96	1
Th-2019	0.82	1	1

Th-2020	0.85	0.92	1
Th-2021	1	1	1

Source: Output MaxDea, 2023

Based on Table 4, the technical efficiency conditions of the system in all Decision Making Units (DMU) are measured. Showing results for only 3 years, South Sulawesi Province succeeded in providing education efficiently, namely in 2011, 2017, and 2021. Meanwhile, in other years it still experienced conditions of relative inefficiency even though the average system efficiency score was quite high.

Then, if you pay attention, it is the Junior High School (SMP) level that most often experiences conditions of inefficiency. The graphic image above also shows that the lowest efficiency score value from the system efficiency measurement was in 2010.

Overall, the average level of efficiency of the South Sulawesi Province system is almost even, but there is still a need to improve performance for all levels of education. This is in line with research conducted by Rapiuddin which found that in 2012 and 2013 there was also a condition of inefficiency in measuring system efficiency in South Sulawesi. So even though there is a gap, this research shows that South Sulawesi Province has not been able to improve its performance.

Based on the research results, if we look closely, the most striking problems are the causes of the technical inefficiency of the system, namely the teacher-student ratio and the school-student ratio as well as the need to increase the school participation rate and pure enrollment rate variables.

By using output orientation assumptions, South Sulawesi Province should be able to produce higher educational outcomes with the facilities and services available, both in the number of teachers and the number of existing schools. This is because the DMU is not yet efficient, indicating that an increase in the output variable is needed.

The main problem that causes system inefficiency is that the available facilities and services are not capable of producing good quality education. The inefficiency of this system will have an impact on the education sector in particular and development and economic growth in general. Poor quality of education means the quality of human resources is low, while development requires human resources who have educational skills to be able to absorb technology. Apart from that, economic growth is a measure of the success of development. Economic development cannot be separated from the quality of human resources and the formation of human capital.

Conclusion

Based on the results of DEA measurements in South Sulawesi Province per year, on technical cost efficiency, only in 2010 and 2014 achieved an efficiency score of 1. Meanwhile, the results of DEA measurements in South Sulawesi Province per year, on system technical efficiency, only 4 years achieved perfect efficiency score. In 2011, 2014, 2017, and 2021 the efficiency score was 1. The efficiency of educational services and benefits is always in line with the allocation of the education budget if the budget is allocated economically and on target. Meanwhile, government spending in South Sulawesi Province in the education sector is large and continues to increase, but this is not always accompanied by an increase in performance. This shows that there is wasteful use of educational resources.

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LIVELIHOOD VULNERABILITY OF SMALL SCALE FISHERIES TO CLIMATE CHANGE IN BANDAR LAMPUNG CITY

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ABSTRACT

This research aims to analyze the level of socio-ecological vulnerability of the Bagan fishing community in Bandar Lampung City due to the impacts of climate change. The vulnerability analysis carried out in this research is based on a social-ecological systems approach by collecting data through field observations and interviews categorized into upper-level fishermen and lower-level fishermen. This research was held in February-May 2024. This research was supported by livelihood vulnerability index (LVI) analysis to calculate exposure level, sensitivity level and adaptive capacity. The results of the research show various problems of a socio-ecological nature result in high vulnerability including erratic fish catches, extreme weather, high levels of competition between fishermen, difficulty accessing subsidized fuel, fluctuating fish selling prices, fishermen's houses being built on the sea, and increasing operational costs at sea. Those were triggered by climate change impacted to socio-ecological conditions and livelihood patterns of the Bagan fishing community. Based on LVI analysis, it is found that the livelihood of lower level fishing households has a very vulnerable status scores 0.32, while the livelihood of upper layer households with a vulnerable status scores 0.25.

KEYWORDS : Vulnerability, Livelihood, Bagan Fisherman, Climate Change

1. INTRODUCTION

Climate change is a global phenomenon that has a negative impact on human life. Based on the Intergovernmental Panel on Climate Change (IPCC) in 2022, it is reported that climate change could have increasingly severe impacts because there will be an increase in the earth's temperature by 1.1 ºC and in the next two decades, it is estimated that the increase in earth's temperature could reach 1.5 ºC. The impact of global warming due to climate change can cause hydrometeorological hazards such as an increase in the frequency of extreme events and their severity over a long period of time (Rahayu, et al. 2020). The phenomenon of climate change has a negative impact on the ecological environment. There are many endemic species that are very vulnerable to environmental disturbances because most of them are unable to migrate or adapt in response to changing climatic conditions. This affects the productivity of marine and terrestrial ecosystems in the Galapagos Islands which ultimately disrupts natural processes and ecosystem dynamics (Duenas, et al. 2021). Climate change also has a negative impact on the sustainability of the livelihoods of handline tuna fishermen on Buru Island where fishermen face threats to the sustainable status of fish resources, sustainability of profits from fish resources, losses due to disasters and port activities (Laitupa, 2021).

From a socio-economic perspective, climate change threatens human life. The concentration of a large number of the world's population and economic activities such as trade, ports, coastal cities, where there are around 896 million or almost 11% of the world's population are in coastal areas. In fact, this number is predicted to increase to more than 1 billion by 2050.

This condition has the potential to have a negative impact on the survival of humans who live and carry out activities and depend on coastal and marine areas for their livelihoods (Khan, et al. 2023). In Indonesia alone, the impact of climate change also has the potential to impact economic losses of up to 544 trillion in the 2020-2024 period, where the sectors most affected are the maritime and fisheries sectors (BAPPENAS, 2022).

Lampung Province is one of the provinces in Indonesia which has quite large potential for marine fisheries resources. Bandar Lampung City is one of the areas that has fisheries and marine potential in Lampung Province. Even so, the average capture fisheries production of Bandar Lampung Lampung City in the period 2018 to 2020 continues to experience a decline in production. In 2020, capture fisheries production was at its lowest point in the last six years, namely only 5,012 tons (BPS Bandar Lampung City, 2022).

The decline in capture fisheries production in Lampung Province is greatly influenced by the condition of marine waters in the Lampung region. The condition of sea waters in the Lampung region is increasingly unpredictable. This condition is the impact of climate change which ultimately creates uncertainty regarding seasons and weather that hit Lampung waters. The uncertainty of seasons and weather is greatly influenced by the speed of the blowing wind and the level of rainfall. The average wind speed in Lampung Province over the last 3 years shows fluctuations in increasing and decreasing. The latest data shows that the highest average wind speed occurred in 2021, namely 2.24 m/s compared to 2022, namely 2.08 m/s and 2023, namely 1.61 m/s (BMKG, 2024).

Climate changes that hit Lampung's marine waters cause uncertainty about seasons and weather. This uncertainty will result in disruption of fishing operations at sea and lead to a decrease in fishermen's catches on the coast of Lampung, thereby impacting the survival of the small-scale fishing community in Bandar Lampung City.

There are several reasons for the vulnerability of the fishing community in Cungkeng Village to the impacts of climate change. From an ecological (environmental) perspective, Cungkeng Village is very vulnerable to a decline in environmental quality which leads to collapse and is also prone to natural disasters such as earthquakes, floods and tsunamis. Apart from that, the fishing community of Cungkeng Village is also faced with the problem of marine pollution such as plastic waste. The largest sources of waste in residential areas are in the coastal area of Banndar Lampung City with an area of around 40,000 m^2 (Balitbangda Lampung. 2018). Climate change and marine debris are closely related and their interactions can occur differently depending on environmental characteristics and human activities. The negative impacts resulting from this synergistic interaction are threatening coastal and marine ecosystems (Lincoln, et al. 2023). Therefore, with the predicted rise in sea levels and intensification of storms in the coming years due to climate change, the risks to coastal communities are even greater (Hughes and Zhang. 2023).

Meanwhile, from economic and socio-cultural aspects, the fishing community in Cungkeng Village is also vulnerable to economic activity, both in type and degree of economic dynamics which are limited and small scale. The livelihood of the majority of residents in Kota Karang Subdistrict is fishermen, namely 1,039 people and 1,933 workers. Therefore, if fishing activities continue without considering carrying capacity, it will put pressure on marine resources along with the dynamics of economic activities. The last few years in Bandar Lampung City have also shown the phenomenon of climate change. It was noted that natural disasters such as tidal floods often hit Cungkeng Village which resulted in damage to various assets owned by fishermen including fishing gear and settlements that were submerged in water. Apart from that, the tidal flood incident also disrupted the activities of fish processing workers on Pasaran Island, Kotaarang District. The last incident of tidal flooding as high as 1.5 meters occurred in May 2022 in Kotaarang Village due to tidal waves which caused sea water to run off onto land.

In several countries with an archipelagic (maritime) basis, including Indonesia, of course they are directly dealing with the issue of climate change with different levels of risk. Differences in risks posed by the impact of climate change in coastal areas are determined by geographical differences and the development status of a country. Risk indicators for the impacts of climate change such as sea level rise, changes in sea surface temperature, and storms. Therefore, strategies to reduce risk globally need to be adjusted to regional differences in risk (Heck, et al. 2023). To reduce the vulnerability of fishing households, it depends on the adaptation strategies implemented such as job mobility, several elements of social capital and reducing dependence on fisheries resources (Selvaraj, et . al. 2022).

Climate change is felt to vary greatly from one region to another. The impacts of climate change vary according to the geographical context and the impacts are most felt at the local scale so that the demand for solutions to the impacts of climate change is much higher at the local scale to overcome the problems of climate change impacts. The local level plays an important role in climate change adaptation (Braunschweiger and Ingold, 2023).

Referring to the background above, research regarding the vulnerability of the social-ecological system of fishing communities and the impacts of climate change in Bandar Lampung City needs to be carried out. The aim of this research is to assess the vulnerability of the social-ecological system of fishing communities to the impacts of climate change in Bandar Lampung City. It is hoped that the results of this research can make a significant contribution to the development of coastal and marine area management policies in the coastal areas of Bandar Lampung City.

2. METHODOLOGY

2.1. Research Question

The impact of climate change on the fisheries sector is a challenge, especially for the Bagan fishing community in Bandar Lampung City. The majority of the Bagan fishing community lives in Cungkeng Village, where most of the residential areas are built on the sea. This makes the existence of fishing communities very vulnerable to disasters such as rising sea levels due to climate change, as well as other dangers that can threaten at any time.

The coastal area of Bandar Lampung City has an unique characteristics both geographically, socially, economically and culturally, making it very vulnerable to the effects of global warming, including natural disasters that occur more frequently and intensely almost every year, such as tidal floods which cause community activities to stop. Therefore, the research question is about how vulnerable the fishing community households are to the impact of climate change in Bandar Lampung City.

2.2. Research Approach

This research used a qualitative approach; a research procedure that produces data in the form of speech or writing and behavior that can be observed from the people (subjects) themselves (Furchan, 1992). This qualitative research is based on the constructivism paradigm with a case study method. In qualitative research methods, internal validity is often measured through the credibility or authenticity of findings which looks at how the findings resonate with the views, narratives and experiences of participants (Fleury and Schwartz. 2017).

2.3. Unit of Analysis

The unit of analysis in this research consists of research objects and subjects. The selection of research objects was based on the distribution of the small-scale fisheries fishing community, namely bagan fishermen who were mostly found living in Cungkeng Village, Kotakarang Village, East Teluk Betung District, Bandar Lampung City, Lampung Province. In this research, we will focus on the fishing community of bagan by categorizing the upper layer of fishermen; bagan fishermen who have their own fishing rods and the lower layer fishermen; bagan fishermen who work as crew for the skipper (bagan owner).

Informants were obtained through snow-ball sampling and key person (Bungin, 2007). The subjects of this research consisted of 40 people, each consisting of 25 bagan fishermen, 4 government stakeholders, 2 skippers, 4 motorboat captains (konca), 4 motorboat crew (pelimelime), and 1 salter traditional (pelele).

2.4. Data Sources and Data Collection Methods

Data sources were taken based on interviews and discussions with bagan fishermen as well as with several policy and interest stakeholders. Some secondary data was taken through documentation and additional documents which helped to carry out the research process. Qualitative research data that is descriptive means that the data is reported in the form of words or pictures rather than in the form of numbers (Creswell, 2003).

Primary data collection in this research was carried out through participant-observation techniques and in-depth interviews directly with the research subjects. To support the validity of the data collected, a literature study was also carried out, especially on the results of previous research and other related documents.

- **Observation**

Observations were carried out by visiting the research location, namely observing the group's habits and recording the activities carried out by them and also observing other activities. Observe the location of fishing settlements, coastal and marine environments, production facilities and fishing gear as well as the socio-economic conditions of the Bagan fishing community. Apart from that, researchers also visited and observed places that have social value for the fishing community, such as mosques, fishing bases and salted fish processing on Pasaran Island. Observations focused on the impacts of climate change and the vulnerabilities it creates.

- **Indept Interview**

The interviews conducted in this research were individual interviews. In-depth interviews were conducted with research subjects or informants who had been determined using semi-structured and open interview guidelines. In-depth interviews are used to collect data regarding environmental changes that occur. Apart from that, it is also used to trace the history of management and utilization of marine and coastal resources over a certain period of time (Vayda, 1996). Information was collected using in-depth interviews and direct observation at the research locus.

2.5. Data Analysis

Qualitative analysis aims to analyze the process of a social phenomenon in a community and obtain a complete picture of this process and analyze the meaning behind the information, data and processes of a social phenomenon. To further strengthen the analysis in this research, researchers also used a qualitative-verification data analysis strategy. The qualitative-verification data analysis strategy is an inductive analysis effort of research data carried out throughout the research process. This analysis format prioritizes obtaining as much data as possible in the field and then analyzing the theory used. Research subjects were asked to express their knowledge based on their own understanding, knowledge and experience without previously being exposed to information about the research theme (climate change) and the researcher then described the research results as they were to maintain the authenticity of the local context of the research results.

To sharpen the research results, the livelihood vulnerability index (LVI) method was also used. The LVI assessment is based on ten main LVI components including socio-demographic profile, livelihood strategies, social networks, health, food, water, houses and land, natural disasters and climate variability, knowledge and skills and finances (Huong et al. 2019). The vulnerability assessment process is a method for systematically combining interactions between humans, the physical and social environment. According to the IPCC, 2007 defines vulnerability as:

Vulnerability = Function {Exposure (+); Sensitivity (+); Adaptive Capacity (-)}

3. RESULT AND DISCUSSION

Vulnerability is the tendency to be adversely affected. Vulnerability encompasses various concepts and elements including sensitivity or vulnerability to hazards and lack of capacity to cope and adapt (IPCC. 2014). This indicates that vulnerability is not only related to current influence trends but also related to future conditions.

Vulnerability to climate is characterized by three things, namely the level of exposure, the level of sensitivity and adaptive capacity.

The vulnerability that occurs in Lampung Province is the impact of climate change phenomena such as reducing greenhouse gases with a focus on control in five sectors, namely agriculture, forestry, energy, transportation, waste, and marine and coastal (BAPPEDA Provinsi Lampung. 2023).

3.1. Lampung Province's Vulnerability to Climate Change

The vulnerability that occurs in Lampung Province is the impact of the climate change phenomenon, one of which can be referred to the results of the 2024 Lampung Province BAPPEDA study which has created a regional action plan to reduce greenhouse gases with a focus on control in five sectors, namely agriculture, forestry, energy, transportation, waste. , as well as marine and coastal. In 2022, Lampung Province's greenhouse gas emissions reduction achievement will be 12.9 percent from the target of 6.9 percent.

The results of another study by SNV in collaboration with the Bandar Lampung City Government show that Lampung Province is very vulnerable to climate change. Furthermore, previous research by SNV found that the risk of climate disasters occurring in Lampung Province includes the following: 1). Flood; 2). Drought; 3). Sea Level Rise; 4). Avalanche (SNV Indonesia. 2018).

First, it is estimated that 33% of floods that occurred in Lampung Province reached a height of 0.5 m, 18% of floods reached 1 m with a total area affected by flooding of 79 hectares. Second, every year drought occurs for several months in various regions which has a negative impact on the agricultural sector. Third, sea level rise is estimated to reach 10 cm in 2025 and 21 cm in 2050. Fourth, landslides, which are the most vulnerable locations, occur in East Betung Bay and its surroundings.

The city of Bandar Lampung is very vulnerable to natural disasters. The types of natural disasters that hit Bandar Lampung City include floods, landslides, high tides causing tidal waves, tsunamis, earthquakes and drought. Abrasion, erosion and sedimentation also occur in coastal areas. From this study it is revealed that the occurrence of climate disasters (floods and droughts) has the potential to change the order of society's social values. This can be seen from the cooperation of residents or kinship in dealing with problems that occur in society, work relations, production pattern transactions and other social values. Social relations between people during a disaster are still going well. This can be seen from activities to help each other when a disaster occurs. In terms of work relations, the impact of the disaster caused a decline in the 'patron-client' relationship which was previously part of the social life of coastal communities. Disasters can also cause an increase in crime incidents such as theft.

The economic impact of climate disasters can be evaluated from their impact on key jobs, and the prices of some commodities. Disasters reduce work productivity, especially if people's main jobs are vulnerable to the impact of disasters, such as agriculture, fishing and other sectors. Flooding in coastal areas can reduce people working in the fisheries sector. Meanwhile, drought causes losses in agriculture, fisheries and drinking water. This disaster also caused an increase in the prices of several agricultural products such as rice, crops and livestock, but this only happened in the area around the disaster. Based on the economic sector, flood disasters have the greatest impact on the health sector, drinking water sector, housing, fisheries and public works (damage to drainage facilities and other infrastructure). Meanwhile, the sectors most affected by the drought are drinking water, health and agriculture. The problem of drinking water shortages increases during the long dry season or during flood disasters. The impact of disasters on health is an increase in the number of people infected with diseases, especially malaria, and coughs/flu/colds (ACCCRN. 2010).

3.2. Level of Vulnerability of the Bagan Fishing Community

In this research, the vulnerability assessment was formulated through a combination of the perceptions of the small-scale fisheries fishing community with vulnerability theory. First, exposure in this study refers to 3 indicators, namely natural exposure (ecology), social exposure, and economic exposure. Natural exposure (ecology) as we all know is that the livelihood of fishing households is very dependent on coastal and marine resources or the existence of fish stocks in the sea. Therefore, the phenomenon of global climate change has a direct negative impact on the livelihood systems of fishermen's households. Second, social exposure, namely high competition at sea with indicators of increasingly frequent incidents of conflict between fishermen, especially in fighting over fishing grounds. Third, economic exposure depends on the conditions of each fishing household which is synonymous with limited capital. The formula used to assess the vulnerability of small-scale fisheries fishermen's livelihoods is the formula LVI = (Exposure x Sensitivity) – Adaptive Capacity.

The results of the analysis show that the exposure index for upper-class fishermen households is 0.86 and lower-level fishermen is 0.94. Meanwhile, the adaptive capacity of upper-class fishing households is 0.43 higher than that of lower-class fishing households, namely 0.27. Based on these results, it is known that the adaptive capacity of upper-level fishing households is much higher than lower-level fishing households.

Table 1. Values of the LVI-IPCC contributing factors for the downstream fisherman and upstream fisherman of Bandar Lampung City.

Contributing Factor	LVI-IPCC	
	Downstream Fisherman	Upstream Fisherman
Adaptive capacity	0.29	0.43
Sensitivity	0.47	0.52
Exposure	0.98	0.92
Overall	0.32	0.25

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- **Exsposure**

The socio-economic and ecological exposure index value of upper-class fishing households is quite high (0.92). This index value is because upper level fishermen informants experience several problems such as increasing operational costs for fishing, weather conditions that are difficult to predict, fluctuating fish prices, difficulty in getting subsidized fuel and this is further exacerbated by erratic fish catches. This condition is a particular pressure (exposure) for upper class fishermen. Meanwhile, the exposure index for lower level fishermen was also found to be quite high (0.98). This is because apart from the increasing operational costs of going to sea, weather conditions that are difficult to predict, fluctuating fish prices, difficulty in getting subsidized fuel and erratic fish catches, lower level fishermen also face exposure because the majority of lower level fishermen live or live on the sea. or in other words, a residential house is built on the sea. This condition of course threatens the life safety of fishermen's families if at any time there are tidal waves or tidal floods and storms that have the potential to damage and even threaten life safety, which occurs almost every year. Apart from that, lower level fishermen are also under pressure due to high competition between fishermen due to the increasing number of fishermen.

- **Sensitivity**

The level of sensitivity of fisherman households in Bandar Lampung City is quite high. The level of sensitivity is assessed from food needs, health and ownership of fishing gear. Bagan fishermen sell their fresh fish to Pelele as soon as the fishermen lift the net (hauling). This process has been going on for the past 5-6 years aim to ensuring that the fish caught by fishermen remains fresh, so efforts such as picking the ball are carried out by Pelele to maintain the quality of the fish that will be sold to consumers.

Therefore, if the fish caught by fishermen decreased, it would greatly affect the income of bagan fishermen. Apart from that, the level of sensitivityis also influenced by health problems. This caused many bagan fishermen in Bandar Lampung City who do not have access to health services such as BPJS. This resulted when fishermen or one of their family members was sick, sometimes they bought medicine and went to the hospital when their condition gets worse. Another factor is regarding ownership of fishing gear. Regarding the ownership status, bagan is still in "credit" status or still in the repayment period. Therefore, bagan fishermen had credit, tried to continue going to sea even during bad weather conditions because they remember that there are monthly installments that must be paid. Meanwhile, on the other hand, the increasing number of bagan makes it difficult for skippers to find Sawi (bagan member) so that in the end it will increase competition for fishermen when going to sea which will ultimately affect the catch or productivity of fishermen. Based on the results of the LVI analysis, it was found that upper-class fishermen households were 0.52 and lower-class fishermen were 0.47.

- **Adaptive capacity**

The level of adaptive capacity was seen in form of livelihood strategy implemented by fishing households which is assessed from the methods/actions taken in utilizing and managing the livelihood capital they have as their livelihood strategy. The adaptive capacity of upper-level fishermen's households is 0.43 and lower-level fishermen's household is 0.29. Indicators in assessing adaptive capacity include First, human resource capital such as high levels of fishing experience where 83% of upper level fishermen and 62% of lower level fishermen have had fishing experience for more than 20 years. This high level of fishing experience was due to the large number of fishermen who have been fishing since childhood (elementary school). Most of them were of the view that it was more important for them to help the family financially than to go to school. One of the opinions of a bagan fisherman informant during an interview was as follows:

> "I have been at sea since I was 13 years old. So I didn't finish elementary school. At first I just went along. because he joined his parents in catching fish. As a result, I can get money straight away, so until now I have not gone to school anymore, I just work as a fisherman." *(JM, 40 years).*

Second, natural resource capital such as fishing locations that move from place to place, where there were 83% upper level fishermen and 100% lower level fishermen. This indicates that both upper level and lower level fishermen carry out adaptation practices by chasing schools of fish as a strategy to get maximum catches.

Third, financial capital. In this sub-component of financial capital, both upper-class fishermen and lower-class fishermen still have financial constraints, such as 75% of upper-class fishermen still have loans/debts from banks because they have taken out people's business credit (KUR) loans, while 100% of lower-class fisherman informants have various loans, both loans to bosses and close relatives.

Fourth, physical capital which were characterized by one of them being ownership of communication and information facilities such as cellphones, TV and radio. For upper layer fishermen with a score of 100% and lower layer fishermen with a score of 77%. This difference was caused by the informant's ability to purchase these facilities.

Fifth, social capital is characterized by strong social ties between fishermen, for example in mutual cooperation when repairing damaged bagans. For upper level fishermen with a value of 83% and lower level fishermen with a value of 70%.

The research findings show that the vulnerability of bagan fishermen was related to ecological and livelihood aspects where coastal areas were theoretically the areas most vulnerable to climate change. This was in line with the opinion that fishermen are a functionally vulnerable group, meaning rural people who are economically insecure and very sensitive to external changes such as inaccessibility to markets, high transportation costs, low infrastructure provision (roads and communication networks) and poor public services such as health and education (Jazairy et al. 1992; Bene et al. 2011). Apart from that, people who depended on the natural friendliness of the coastal and marine environment for their livelihoods are also the community groups most vulnerable to the impacts of climate change.

From these findings, it was clear that the phenomenon of climate change had had a negative impact on the livelihoods of not only coastal communities, in this case the fishing profession which depends on marine products for its livelihood, but has also penetrated all aspects of life. The climate change that has occurred has had a negative impact on rice farming because the drought has caused a decrease in rice production, thereby increasing the vulnerability of farmers' livelihoods (Arifah, et al. 2023).

Most of the people who live in Bandar Lampung City depend on marine products for their livelihood by pursuing their profession as bagan fishermen, therefore there are changes in the ecological environment caused by climate change such as increasing the intensity of tidal floods and storms, erratic catches, and weather conditions. which is increasingly difficult to predict. Apart from that, climate change also has the impact of social and economic changes, such as increasingly remote fishing locations, limited capital for fishing, difficulty in accessing subsidized fuel, fluctuating selling prices for fish, increasing operational costs for fishing, which sometimes requires them to go into debt. The pressure (exposure) due to socioecological and economic changes then creates vulnerability in the livelihoods of bagan fishermen.

The exposure faced by both upper and lower level fishing households was climate change and weather factors which then have an impact on shifts in the fishing season. When extreme weather or storms occur, many fishermen are found on land to rest or work together with other fishermen to repair damaged bagans. Climate change also causes fishing locations to become more distant and more mobile, requiring bagan fishermen had more effort to the sea. Apart from that, from a socio-demographic perspective, the geographic area where the people which directly adjacent to Lampung Bay, most people live in coastal areas including building houses on the sea got direct exposure to the sea. Then, from an economic perspective, the lives of Bagan fishermen weree faced with fluctuating fish prices, which has a direct impact on the decline in fishermen's income, while on the other hand, it was common for Bagan fishermen to go into debt to get capital for going to sea, which is increasing from time to time.

Currently, many fishermen, especially the upper classes, rely on capital loans from banks to use as capital for going to sea. Usually fishermen will use their fishing gear as collateral. However, the easier it is to borrow from banks, the fishermen are increasingly trapped in debt, thus encouraging them to continue exploiting marine resources continuously in order to cover payments to the banks.

However, Bagan fishermen in Bandar Lampung City has quite high adaptive capacity. This can be seen from the human resource capital which is quite capable, namely the high level of fishing experience so that all forms of conditions and times are easily recognized by Bagan fishermen, including finding schools of fish in the sea, recognizing fishing locations and easily reading natural signs. The social capital that exists between fishermen is also growing rapidly through mutual cooperation movements to repair bagans when they are damaged so that they don't take a long time and can be used immediately to catch fish. Not only on land, cooperative activities are also very close through the dissemination of information. When one of the fishermen gets an abundant catch of fish at a fishing ground location, other fishermen will get information and gather at that fishing ground location. Therefore, a sense of mutual trust (trust) is built, especially among Bagan fishermen who, although informally joining the same motorboat, have high social ties.

In facing the current climate change, bagan fishermen have also begun to adopt technology as a form of renewed understanding of fishing activities. This is a form of adaptive capacity which is carried out by looking at the condition of target fish which are increasingly difficult to find so that using technology such as a fish finder can help fishermen predict groups of target fish in the waters.

This is also in line with research that has been carried out previously that there is a process of knowledge reconstruction carried out by coffee farmers as part of a form of adaptation to climate change. Through understanding this knowledge reconstruction helps coffee farmers in facing climate change and designing appropriate policy strategies to support sustainable coffee farming (Arham, et al. 2023).

Based on the results of LVI data analysis which refers to the LVI formula = (exposure value – adaptive capacity value x sensitivity value), it can be seen that the livelihood of lower-level fishermen households with very vulnerable status 0.32 while livelihood of upper class households with vulnerable status with score 0.25.

5. CONCLUSION

Based on the results of the analysis, the problems faced by Bagan fisherman households which are included in the small-scale fisheries category in Bandar Lampung City are the influence of climate change such as weather and wind have an impact. on the uncertainty of fishermen's catches which directly affects fishermen's income. Therefore, the vulnerability of the livelihoods of the Bagan fishermen as a negative articulation of the climate change phenomenon can so far be reduced through various forms of adaptation carried out so as to increase the household resilience of the bagan fishermen. The level of livelihood vulnerability of lower-level bagan fishermen's households is more vulnerable (0.32) than upper-level fishing households (0.25) calculated based on LVI-IPCC. However, there are strong social ties because there are still values of mutual trust and non-formal institutions that exist through cooperation in motorboat groups as a basis for working together even when faced with the disruption and challenges of climate change. Apart from that, the existence of patronage among bagan fishermen community which is based on moral economy and kinship provides a more secure livelihood for fishermen.

STATEMENT

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