

IJEBD

International Journal of Entrepreneurship
and Business Development

Vol 6 No 4 (July 2023)

www.jurnal.narotama.ac.id/index.php/ijebd

ISSN 2017
2597-4785
2597-4750



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IJEBD (International Journal of Entrepreneurship and Business Development) published six times in a year, January, March, May, July, September, and November.

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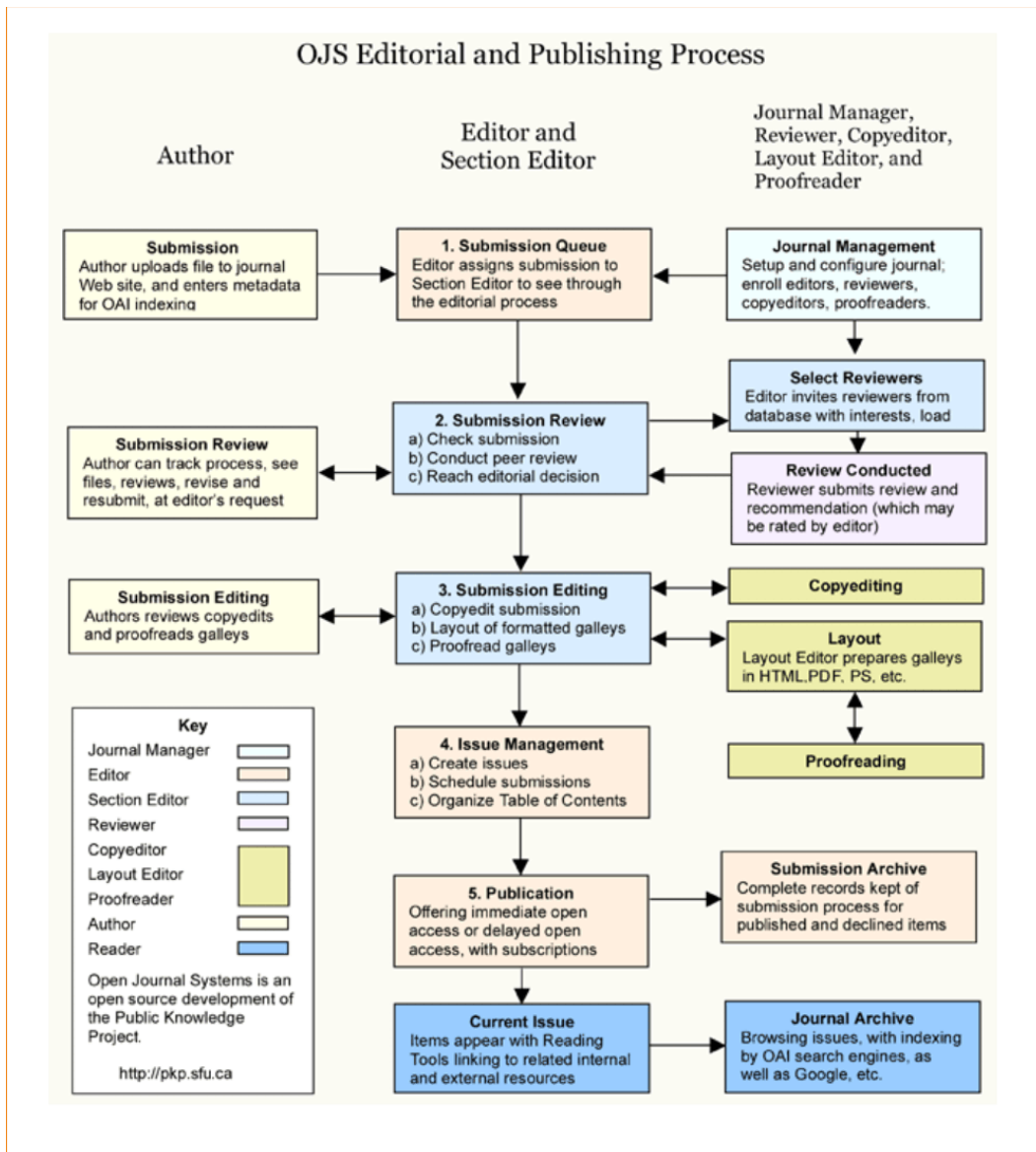
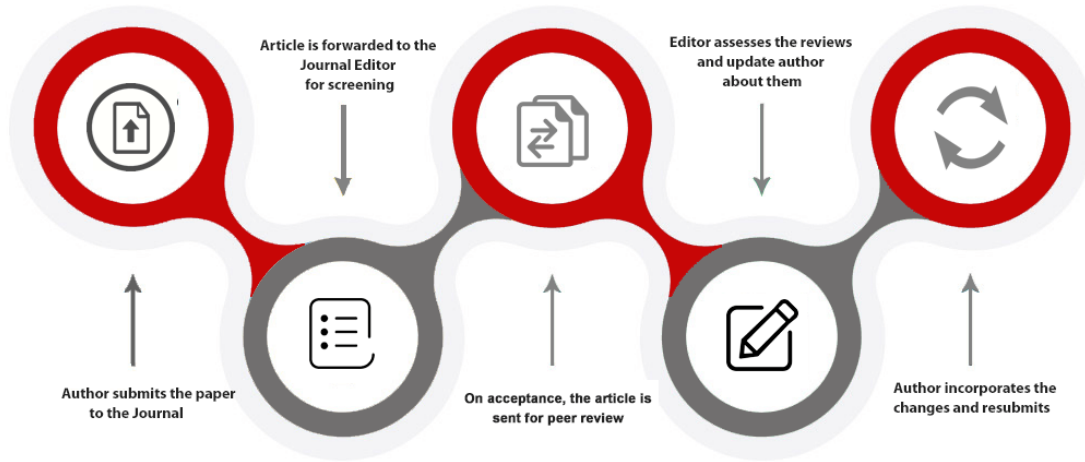
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Integrating Business Principles in STEM Education: Fostering Entrepreneurship in Students and Educators in the US and Nigeria

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ABSTRACT

Purpose: Integrating business principles into STEM education is crucial for preparing students to navigate the rapidly evolving global economy driven by technological advancements and innovation. This paper explores the significance of integrating business principles in STEM education and the potential benefits for students, educators, and the economy in both the United States and Nigeria.

Design/methodology/approach: We examine successful initiatives and programs that foster entrepreneurship among STEM students and identify best practices for effectively teaching business concepts in STEM contexts.

Findings: Challenges and barriers hindering the successful integration of business principles into STEM education are also discussed, including resistance to interdisciplinary education, limited resources and support for entrepreneurship, and balancing technical and business skill development. In order to address these challenges, we propose recommendations and best practices such as adopting effective pedagogical approaches, engaging industry and community partners, and creating a supportive culture for entrepreneurship within STEM institutions. In addition, this article identifies several potential research areas for the future. These include longitudinal studies on the effects of business-integrated STEM education on entrepreneurial outcomes, comparative analyses of different approaches, and assessments of the scalability and adaptability of successful initiatives across different countries. The promotion of entrepreneurship and business skills among STEM students can enhance their employability, career prospects and contribute to economic growth. This paper urges further research and action to support the development of the next generation of STEM-educated entrepreneurs who can drive innovation and economic growth globally, both in the United States and Nigeria.

Paper type: Research paper

Keyword: Business Principles, STEM Education, Entrepreneurship, Educators, US, Nigeria

Received : May 1th

Revised : May 9th

Published : July 31th

I. INTRODUCTION

A. Background on the Importance of Entrepreneurship in the US and Nigerian Economies

Entrepreneurship is essential for the economic growth and development of both the United States and Nigeria, despite their differing economies and levels of development (Acs & Szerb, 2007; Naudé, 2010). In the

United States, a well-established and technologically advanced nation, entrepreneurs and small businesses significantly contribute to job creation, innovation, and global competitiveness (Kuratko, 2016). Innovative ideas and groundbreaking technologies brought to market by new ventures bolster economic expansion and improve the overall standard of living (D. Audretsch, 2012). In contrast, Nigeria is a developing country with a growing economy. Entrepreneurship has become a vital driver of economic diversification, employment generation, and poverty alleviation (Afolabi, 2015; Omeje, Jideofor, & Ugwu, 2020). The growth and expansion of small and medium-sized enterprises (SMEs) in Nigeria are closely associated with increased economic activity and the developing of a more resilient and inclusive economy (Olawale & Garwe, 2010).

Despite their differences, both countries have recognized the importance of entrepreneurship in fostering economic growth, creating jobs, and driving innovation. As a result, there is a growing interest in understanding how education, particularly in STEM (Science, Technology, Engineering, and Mathematics) fields, can contribute to developing entrepreneurial skills and mindsets among students and educators. Through this paper, we aim to investigate how STEM education, business principles, and entrepreneurship intersect in the US and Nigerian contexts. We plan to identify effective approaches and best practices that can be implemented in various educational settings to promote these areas of study.

B. The Role of STEM Education in Fostering Entrepreneurship

STEM education has become crucial in cultivating entrepreneurship and fostering innovation in developed and developing economies (Breiner, Harkness, Johnson, & Koehler, 2012). Acquiring proficiency in STEM fields empowers individuals with not only the technical knowledge and problem-solving skills essential for establishing and managing innovative enterprises but also the creative thinking, critical reasoning, and collaborative abilities indispensable for entrepreneurial success (Wai, Lubinski, Benbow, & Steiger, 2010).

In the United States, a concerted focus on enhancing STEM education is vital to preserving the nation's global economic leadership and sustaining technological innovation (NRC, 2011). As a result, various initiatives have been introduced to improve STEM curricula, teacher training, and learning resources. These efforts have led to the development of interdisciplinary programs, establishing of public-private partnerships, and allocating substantial funding to support STEM-related research and education (Hill, 1997). The Nigerian government has recently committed to promoting STEM infrastructure by investing in related sectors. Additionally, the government has implemented policies to foster the growth of technology-focused industries and has established various programs to promote STEM education and careers among the youth population (Moja, 2000; Sheriff & Muffatto, 2015). The increasing emphasis on STEM education in the United States and Nigeria has led to a growing body of research exploring the relationship between STEM learning and entrepreneurial outcomes. Scholars have highlighted the potential of STEM education to foster the technical competencies required for starting and scaling new ventures and the entrepreneurial mindset necessary for identifying and exploiting opportunities in the marketplace (Bécharde & Grégoire, 2005; Haynie, Shepherd, Mosakowski, & Earley, 2010). Furthermore, studies have demonstrated that exposure to STEM subjects can inspire students to pursue careers in entrepreneurship, particularly within the technology and innovation sectors (DeJarnette, 2012; Mohr-Schroeder et al., 2014).

C. The Need for Incorporating Business Principles In Stem Curricula

Although the connection between STEM education and entrepreneurial potential is apparent, a growing consensus suggests that traditional STEM curricula often lack the integration of business principles necessary for cultivating entrepreneurial skills and mindset among students and educators (Fayolle, 2007; Neck & Greene, 2011). This gap in the curricula may limit students' ability to effectively apply their technical knowledge and skills in real-world business contexts, thus hindering their entrepreneurial aspirations.

Integrating business concepts such as marketing, finance, strategic management, and organizational behavior into STEM education can better prepare students for the realities of the entrepreneurial world and equip them with the tools needed to translate their technical expertise into successful business ventures (Rae, 2010; Solomon, 2007). By exposing students to the practical aspects of business, they can develop a comprehensive understanding of the various components that contribute to the success of an enterprise. This, in turn, can foster the ability to identify market opportunities, develop innovative solutions, and manage resources effectively. Incorporating business principles in STEM curricula can also encourage interdisciplinary learning, promoting the development of well-rounded individuals who can adapt to the rapidly changing global economy. As the boundaries between disciplines become increasingly blurred, professionals who possess a blend of technical and business skills will be better equipped to navigate the complexities of modern work environments and contribute to organizational success (Carnevale, Smith, & Melton, 2011).

Several successful models and initiatives have emerged in recent years aimed at integrating business principles within STEM education. Examples include project-based learning approaches that encourage students to work on real-world problems, often in collaboration with industry partners, and the development of

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entrepreneurship-focused courses and programs within STEM departments (Daragmeh & Halabi, 2023; Rideout & Gray, 2013). These initiatives demonstrate the potential benefits of combining STEM and business education to foster entrepreneurial capabilities among students and educators. Given the importance of entrepreneurship in driving economic growth and innovation in both the United States and Nigeria, it is crucial to explore strategies for effectively integrating business principles within STEM curricula. This paper aims to review the current state of research and practice incorporating business principles within STEM education in the United States and Nigeria, focusing on the pedagogical approaches, initiatives, and programs implemented to foster entrepreneurship among students and educators. This paper will also provide recommendations that can be applied across different educational settings.

D. Theoretical Framework

1. Entrepreneurial Mindset and Skill Development in STEM

An entrepreneurial mindset refers to specific attitudes, skills, and behaviors that enable individuals to identify, evaluate, and pursue opportunities creatively and innovatively (Jung & Lee, 2020; Liao, Nguyen, Chi, & Nguyen, 2022; McGrath & MacMillan, 2000). Developing an entrepreneurial mindset in STEM students is crucial for fostering a culture of innovation and promoting the successful commercialization of scientific and technological discoveries (Binks, Starkey, & Mahon, 2006; Camesano, Billiar, Gaudette, Hoy, & Rolle, 2016). Key elements of an entrepreneurial mindset include opportunity recognition, creative problem-solving, risk-taking, resilience, and adaptability (Krueger Jr, 2007; Luna Scott, 2015; Morris & Tucker, 2023; Wigner, Kuang, & Miceli, 2022). STEM education can contribute to developing an entrepreneurial mindset by providing students with opportunities to engage in hands-on learning experiences, collaborate with peers, and develop innovative solutions to real-world problems (Camesano et al., 2016; Dweck, 2006). STEM curricula can aid in the development of critical thinking, creativity, and persistence, which are essential skills and attitudes for succeeding as an entrepreneur (Eltanahy, Forawi, & Mansour, 2020). Additionally, interdisciplinary collaborations between STEM and business disciplines can expose students to diverse perspectives and encourage the development of a holistic approach to problem-solving (Rideout & Gray, 2013).

Current policies and initiatives have sought to enhance the development of an entrepreneurial mindset in STEM education. For example, the National Science Foundation (NSF) in the United States has established the I-Corps program, which aims to foster entrepreneurship and accelerate the commercialization of research by providing resources, mentorship, and training to STEM researchers (Nnakwe, Cooch, & Huang-Saad, 2018). Similarly, the Nigerian government has launched the Tertiary Education Trust Fund (TETFund) to support entrepreneurship development in higher education institutions, including initiatives that promote collaboration between STEM and business disciplines (Adiak & Katura, 2014; Yakubu, Ademola-Adeoye, & Falaiye, 2022). The United States and Nigeria can benefit from increased innovation and economic growth resulting from successful entrepreneurial ventures in STEM fields by implementing policies and programs that encourage the development of an entrepreneurial mindset in STEM education (Bloom, Van Reenen, & Williams, 2019; Nkechi, Emeh Ikechukwu, & Okechukwu, 2012).

Several initiatives and programs have been developed to further promote the entrepreneurial mindset in STEM education in recent years. These efforts emphasize the importance of experiential learning, interdisciplinary collaboration, and real-world problem-solving in fostering entrepreneurial skills and attitudes among students and educators. One such initiative is the STEMpreneurship program, which aims to provide STEM students with the necessary skills and resources to develop and launch their businesses (Birkner, 2020). The program combines STEM education with entrepreneurship training, allowing students to work on real-world projects, collaborate with industry partners, and receive mentorship from successful entrepreneurs. This approach not only enhances students' understanding of the entrepreneurial process but also enables them to develop valuable communication, teamwork, and leadership skills. Another example is the incorporation of entrepreneurial education into STEM teacher training programs. These programs can create a supportive learning environment that encourages innovation and creative problem-solving by equipping educators with the knowledge and skills required to foster an entrepreneurial mindset in their students. Teacher training initiatives, such as the STEMpreneurship Teacher Training Program, focus on developing educators' understanding of entrepreneurship, as well as their ability to incorporate business principles into their teaching practices.

Furthermore, higher education institutions have increasingly recognized the value of interdisciplinary collaboration in promoting entrepreneurship and innovation. Programs that encourage students from STEM and business disciplines to work together on joint projects or courses can help to break down traditional barriers between these fields and foster the development of a more holistic approach to problem-solving (Rideout & Gray, 2013). This collaborative approach can enable students to develop a deeper understanding of the complex interplay between technical and business factors and the skills required to navigate the entrepreneurial landscape successfully. The development of an entrepreneurial mindset in STEM education is crucial to promote innovation, economic growth, and the successful commercialization of scientific and technological discoveries. Policies, Integrating Business Principles in STEM Education: Fostering Entrepreneurship in Students and Educators in the Page | 592
US and Nigeria

programs, and initiatives that emphasize experiential learning, interdisciplinary collaboration, and real-world problem-solving should be implemented to achieve this. This would enable the United States and Nigeria to nurture the entrepreneurial skills and attitudes required for students and educators to thrive in an increasingly competitive global economy. In conclusion, promoting entrepreneurship in STEM education holds immense potential for both countries.

2. Business Concepts and Their Relevance to Stem Education: A Comparative Analysis of the United States and Nigeria

The relevance of business concepts to STEM education in both the United States and Nigeria stems from the need to equip students with the practical knowledge and skills required to transform their technical expertise into viable business ventures. Key business concepts relevant to STEM education include marketing, finance, strategic management, and organizational behavior. A comparative analysis of these concepts in the context of STEM education in both countries highlights the similarities and differences in their approach and implementation.

- a. **Marketing:** In the United States, STEM education often incorporates marketing concepts through courses and extracurricular activities that focus on market research, consumer behavior, and branding (Kotler, Dubois, & Manceau, 2003). This equips students with the skills necessary to identify market opportunities and develop products and services that meet consumer needs. In Nigeria, although efforts have been made to integrate marketing concepts into STEM education, these efforts are often limited by a lack of resources and inadequate exposure to practical marketing experiences.
- b. **Finance:** Financial literacy is crucial for STEM entrepreneurs in both countries. In the United States, finance courses and workshops are often integrated into STEM curricula, providing students with the knowledge and skills to make informed financial decisions, manage resources effectively, and secure funding for their ventures (Richard & Stewart, 2016).
- c. **Strategic Management:** Strategic management skills are essential for STEM entrepreneurs in both the United States and Nigeria. In the United States, strategic management courses are commonly offered as part of STEM curricula, providing students with the ability to analyze competitive environments, identify potential threats and opportunities, and develop strategic plans. In Nigeria, strategic management education is still developing within the STEM education context, with efforts being made to introduce these concepts in higher education institutions (Edomwonyi & Osarumwense, 2017).
- d. **Organizational Behavior:** In the United States, organizational behavior courses are typically integrated into STEM education, helping students develop the leadership and interpersonal skills necessary to manage diverse groups of individuals and foster a culture of innovation (Robbins, Judge, & Campbell, 2017). In Nigeria, while there is growing recognition of the importance of organizational behavior in STEM education, the integration of these concepts remains limited by a lack of resources and expertise.

While the United States has made significant progress in incorporating business concepts into STEM education, Nigeria still faces challenges in terms of resources and expertise. However, both countries recognize the importance of integrating marketing, finance, strategic management, and organizational behavior concepts into their STEM curricula to equip students with the practical knowledge and skills required for successful entrepreneurship. Collaborative efforts between the two countries, such as joint initiatives and knowledge sharing, could help to bridge this gap and enhance the quality of STEM education in both nations.

3. Pedagogical Approaches for Integrating Business Principles: Updated Approaches and References

Several pedagogical approaches can be employed to integrate business principles into STEM curricula, providing students with a comprehensive understanding of the entrepreneurial process.

- a. **Project-based Learning:** Project-based learning involves students working on real-world problems, often in collaboration with industry partners. This approach exposes students to practical business challenges and encourages them to apply their technical knowledge in an entrepreneurial context (Rideout & Gray, 2013).
- b. **Case Studies:** Case studies can be used to illustrate the application of business principles in real-world STEM contexts. Students can analyze and discuss the decisions made by entrepreneurs, managers, and innovators, enabling them to develop a deeper understanding of the complex interplay between technical and business factors (Herreid, 2007).
- c. **Entrepreneurship-focused Courses and Programs:** Offering entrepreneurship-focused courses and programs within STEM departments can help students develop the skills and knowledge necessary to launch and manage successful ventures. These courses may cover topics such as business planning, market analysis, intellectual property management, and financial management (Turner & Gianiodis, 2018).

- d. **Cross-disciplinary Collaboration:** Encouraging interdisciplinary collaboration between STEM and business disciplines can expose students to diverse perspectives and foster the development of a holistic approach to problem-solving. Such collaborations can involve joint courses, team projects, or capstone experiences that require students to work together to develop innovative solutions to complex problems (Rideout & Gray, 2013).
- e. **Mentoring and Networking:** Providing STEM students with access to mentors from the business world and opportunities to participate in networking events can help them build relationships with professionals who can offer guidance, support, and resources. This exposure to the entrepreneurial ecosystem can enhance their understanding of the practical aspects of business and encourage the development of an entrepreneurial mindset (Morris & Tucker, 2023).
- f. **Business Competitions and Incubators:** Organizing business competitions, such as pitch contests and business plan competitions, can provide STEM students with a platform to showcase their entrepreneurial ideas and receive feedback from experienced entrepreneurs and investors. Additionally, offering incubator programs within or in partnership with STEM departments can provide students with access to resources, mentorship, and support as they develop their ventures (Lockett & Wright, 2005).

Conclusively, the integration of business principles into STEM education is crucial in nurturing an entrepreneurial mindset and skills among both students and educators. Educational institutions can achieve this by utilizing various pedagogical approaches such as case studies, cross-disciplinary collaboration, project-based learning, entrepreneurship-focused courses, mentoring, and participation in business competitions and incubators. Further research and practice in this area can lead to the development of best practices and effective strategies that can be implemented in different educational settings in both the United States and Nigeria, thereby contributing to economic growth and innovation in both countries.

II. METHODS

A. Overview of Programs Integrating Business Principles in STEM Education

1. Entrepreneurship-Focused STEM Programs

In the United States, numerous universities and institutions have developed entrepreneurship-focused STEM programs to encourage innovation and prepare students for the challenges of the entrepreneurial world. Some notable examples include:

1. **Massachusetts Institute of Technology (MIT) Innovation Initiative:** This initiative combines STEM and entrepreneurship education through interdisciplinary courses, workshops, and hands-on experiences. It brings together students, faculty, and industry partners to develop innovative solutions to real-world problems (O'Shea, Allen, Morse, O'Gorman, & Roche, 2007).
2. **Stanford University's Technology Ventures Program (STVP):** STVP is a part of the university's School of Engineering and focuses on educating students in technology entrepreneurship. The program offers courses, extracurricular programs, and networking opportunities that emphasize the entrepreneurial mindset, innovation, and leadership (Eesley & Lee, 2021; Ester, 2017).
3. **University of Pennsylvania's Weiss Tech House:** This innovation hub fosters interdisciplinary collaboration and entrepreneurship among students interested in technology and engineering. The center offers resources, mentorship, and funding opportunities to support student-led ventures (University-of-Pennsylvania, 2023).

In Nigeria, several universities have also established entrepreneurship-focused STEM programs to support their students in developing entrepreneurial skills and transforming their technical expertise into viable businesses:

1. **Federal University of Technology, Akure (FUTA) Entrepreneurship and Business Studies:** This program, located within the School of Sciences, aims to equip STEM students with entrepreneurial skills by offering courses, workshops, and hands-on experiences in business principles and management (Fowowe, Anifowose, Akindare, & Adedeji, 2022).
2. **University of Nigeria, Nsukka (UNN) Innovation and Entrepreneurship Centre:** This center promotes entrepreneurship education and research among STEM students, providing them with training, mentorship, and resources to develop and implement innovative business ideas (Idam, 2014).
3. **Covenant University's Centre for Entrepreneurial Development Studies (CEDS):** CEDS focuses on promoting entrepreneurial culture and mindset among STEM students by offering courses, workshops, and practical experiences in entrepreneurship and business management (Omonhinmin, Agbaike, & Atayero, 2014).

These programs demonstrate the growing recognition of the importance of integrating business principles in STEM education to foster entrepreneurial skills and mindset among students and educators in both the US and Nigeria.

2. Business competitions and incubators in STEM institutions

a. Business competitions

Business competitions provide opportunities for STEM students to develop and present their innovative ideas, offering a platform to receive feedback, mentorship, and funding from experienced entrepreneurs, investors, and industry experts. Some notable competitions in the US and Nigeria include:

1. Rice Business Plan Competition (RBPC) in the US: Organized by Rice University, this annual competition invites student-led startups from various disciplines, including STEM, to pitch their business ideas for a chance to win funding and resources. It is considered one of the world's largest and most prestigious business plan competitions (Santamaria, 2020).
2. Hult Prize in the US: This global competition invites students from various disciplines, including STEM, to develop innovative solutions to pressing social issues. The winning team receives a \$1 million prize to launch their social enterprise (Jones, 2017).
3. Nigeria Universities Business Plan Competition (NUBPC) in Nigeria: This competition aims to promote entrepreneurial culture among Nigerian university students, including those in STEM fields. Participants can develop their business ideas, receive mentorship, and compete for funding and resources (Adejimola & Olufunmilayo, 2009; McKenzie, 2017).

b. Incubators in STEM institutions

Incubators support early-stage startups by providing resources, mentorship, and networking opportunities. They help STEM students and entrepreneurs transform their innovative ideas into successful businesses. Some prominent incubators in the US and Nigeria include:

1. Y Combinator in the US: One of the world's most renowned startup incubators, Y Combinator supports early-stage startups across various sectors, including STEM. It offers funding, mentorship, and networking opportunities to help startups grow and scale their businesses (Combinator, 2017).
2. VentureWell in the US: VentureWell supports early-stage, STEM-based startups through grant funding, mentorship, and training programs. The organization focuses on ventures with a positive social and environmental impact (Giordan, Shartrand, Steig, & Weilerstein, 2011).
3. Tony Elumelu Foundation (TEF) Entrepreneurship Programme in Nigeria: This program supports and funds innovative STEM ventures, fostering the growth of entrepreneurship in Nigeria. It provides mentorship, training, and funding to startups, helping them navigate the challenges of launching and scaling their businesses (Gikabu, 2020).
4. Co-Creation Hub (CcHUB) in Nigeria: CcHUB is a leading technology innovation center that supports startups and entrepreneurs in various sectors, including STEM. It offers incubation programs, funding, mentorship, and networking opportunities to help startups grow and succeed (Street & Hub, 2013; Tijani, Madu, Falade, & Dele-Ajayi, 2021).

STEM institutions' business competitions and incubators significantly foster the entrepreneurial ecosystem by providing students and entrepreneurs in both the United States and Nigeria with the necessary resources and support to develop and scale their ventures.

3. Program Objectives and Implementation

1. Case Study 1: The United States - Stanford University's Biodesign for Digital Health Course
This course at Stanford University aims to teach students the process of digital health innovation through hands-on experiences, interdisciplinary teamwork, and exposure to industry experts. Students learn the fundamentals of needs finding, concept generation, and business model development, focusing on digital health solutions (Harris, Denend, & Azagury, 2018). The course is divided into several modules, covering topics such as digital health technologies, user experience design, regulatory and reimbursement issues, and entrepreneurship. Throughout the course, students work in multidisciplinary teams on projects that address real-world healthcare challenges, culminating in a final presentation and prototype demonstration.
2. Case Study 2: Nigeria - Lagos State University's (LASU) Centre for Entrepreneurial Studies
The Centre for Entrepreneurial Studies at LASU was established to provide entrepreneurship education and training to STEM students. The center offers courses, workshops, and support services to help students develop viable business ideas and acquire the skills necessary to launch and manage successful ventures. The curriculum at the center covers various topics, such as opportunity identification, market analysis, business planning, financial management, and leadership. In addition, the center organizes regular guest lectures,

networking events, and mentorship sessions, connecting students with successful entrepreneurs and industry professionals (Halimat & Abioye, 2022).

4. Outcomes and Impact on Students and Educators

1. Case Study 1: The United States - Stanford University's Biodesign for Digital Health Course
 - a. Outcomes: The Biodesign for Digital Health Course at Stanford University has produced several successful startups and innovations in the digital health space. Some examples include wearable devices for monitoring chronic diseases, telemedicine platforms for remote consultations, and AI-driven diagnostic tools. The course has also helped students secure internships, research positions, and job offers in the digital health industry (Brinton et al., 2013; Wall et al., 2017).
 - b. Impact on students and educators: The course positively impacts students by equipping them with the entrepreneurial skills and mindset needed to succeed in the digital health space. It also encourages interdisciplinary collaboration and fosters a culture of innovation within the university. Educators benefit from engaging with students in real-world problem-solving, keeping them abreast of industry trends and best practices (Brinton et al., 2013).
2. Case Study 2: Nigeria - Lagos State University's (LASU) Centre for Entrepreneurial Studies
 - a. Outcomes: The Centre for Entrepreneurial Studies at LASU has produced numerous successful entrepreneurs who have launched innovative ventures across various STEM fields. The center has also helped students secure internships, funding, and other resources necessary to develop and scale their businesses.
 - b. Impact on students and educators: The center's programs have a positive impact on students by providing them with the knowledge and skills required to succeed as entrepreneurs. Through participation in the center's initiatives, students develop a deeper understanding of the entrepreneurial process and gain practical experience in developing and managing businesses. Educators at the center benefit from the opportunity to work closely with students on real-world projects, helping them stay current with industry trends and fostering a culture of entrepreneurship within the university (Halimat & Abioye, 2022).

To summarize, the integration of business principles in STEM education has resulted in the creation of several initiatives and programs in the United States and Nigeria. These initiatives include entrepreneurship-focused STEM courses, business competitions, and incubators, which have shown promise in fostering an entrepreneurial mindset and skills among students and educators, leading to economic growth and innovation in both countries. The cases of Stanford University's Biodesign for Digital Health Course and Lagos State University's Centre for Entrepreneurial Studies illustrate the favorable effects of such initiatives on students, educators, and the larger entrepreneurial ecosystem.

III. RESULTS AND DISCUSSION

A. Challenges and Barriers

1. Resistance to Interdisciplinary Education

One challenge in integrating business principles into STEM education is resistance to interdisciplinary education among some educators and institutions. Traditional academic structures often prioritize discipline-specific knowledge and skills, making it difficult to incorporate interdisciplinary approaches that bridge the gap between STEM and business fields. This resistance can hinder the development of innovative curricula and educational initiatives aimed at fostering entrepreneurial skills among STEM students (Borrego & Henderson, 2014).

Overcoming this barrier requires a shift in mindset among educators and academic leaders, recognizing the value of interdisciplinary collaboration and the importance of nurturing well-rounded students with diverse skill sets (Rideout & Gray, 2013). Some recent studies have highlighted the benefits of interdisciplinary approaches in education, showing that they can lead to improved problem-solving skills, increased innovation, and better preparation for the workforce (Laurie, Nonoyama-Tarumi, Mckeown, & Hopkins, 2016; You, 2017).

In response to these findings, several educational institutions have started to embrace interdisciplinary education by creating programs that combine STEM and business disciplines, facilitating collaboration between faculty from different fields, and adopting pedagogical approaches that foster interdisciplinary thinking (Kennedy & Odell, 2014; Savery, 2015). For example, the Massachusetts Institute of Technology (MIT) has launched the MIT Innovation Initiative, which combines STEM and entrepreneurship education through interdisciplinary courses, workshops, and hands-on experience. However, despite these advancements, resistance to

interdisciplinary education remains a challenge in many institutions. To further promote interdisciplinary approaches, it is essential to address the institutional barriers that hinder their adoption, such as rigid academic structures, lack of faculty incentives for interdisciplinary collaboration, and difficulties in assessing interdisciplinary learning outcomes (Repko & Szostak, 2020). Educational institutions can foster interdisciplinary collaboration and successfully integrate business principles into STEM education by tackling these challenges.

2. Limited Resources and Support For Entrepreneurship in STEM

Another challenge in promoting entrepreneurship in STEM education is the limited availability of resources and support for entrepreneurial initiatives. Developing and implementing entrepreneurship-focused programs and courses require significant investments in terms of funding, faculty expertise, and institutional support (Solomon, 2007). In many cases, STEM institutions, particularly those in developing countries like Nigeria, may lack the resources necessary to establish and maintain these programs. Additionally, access to mentorship, networking opportunities, and funding for student ventures can be limited, constraining the growth and success of entrepreneurial efforts in STEM education (Olawale & Garwe, 2010).

In order to tackle this challenge, it is necessary to enhance collaboration among educational institutions, industry partners, and government agencies to provide adequate resources and support for promoting entrepreneurship in STEM disciplines (DeJarnette, 2012). Some potential strategies to address these challenges include:

1. Establishing partnerships between STEM institutions and industry stakeholders to facilitate knowledge exchange, access to resources, and support for entrepreneurial initiatives (D. B. Audretsch, Cunningham, Kuratko, Lehmann, & Menter, 2019).
2. Encouraging governments to allocate funding specifically for developing entrepreneurship-focused programs and resources in STEM institutions, including establishing incubators, innovation centers, and mentorship networks (Kuratko, 2016).
3. Developing regional and international networks of STEM institutions, industry partners, and government agencies to share best practices, resources, and expertise in fostering entrepreneurship in STEM education (DeJarnette, 2012).
4. Promoting the value of entrepreneurship in STEM education to attract external funding and support from foundations, corporations, and philanthropic organizations (Olawale & Garwe, 2010).

Educational institutions can create a more supportive environment for entrepreneurship in STEM education by implementing these strategies, thereby overcoming the challenges of limited resources and support. This approach will facilitate the development of a new cohort of innovators and entrepreneurs who can propel economic growth and technological advancements in developed and developing nations.

3. Balancing Technical and Business Skill Development

Integrating business principles into STEM education can also present challenges in terms of balancing the development of technical and business skills among students. Ensuring that students receive adequate training in both areas is crucial for preparing them for the entrepreneurial world (Rae, 2010). However, finding the right balance can be difficult, as adding business-focused content to STEM curricula may require reducing the focus on technical skills or extending the duration of academic programs (Binks et al., 2006). To overcome this challenge, institutions must carefully design curricula that integrate business concepts into STEM courses without sacrificing the rigor and depth of technical education. This can be achieved by adopting pedagogical approaches that emphasize real-world problem-solving, project-based learning, and interdisciplinary collaboration (Rideout & Gray, 2013).

Another key aspect of balancing technical and business skill development is ensuring faculty members can effectively teach both subject areas. This may involve providing professional development opportunities for STEM educators to acquire the necessary knowledge and skills in business principles and pedagogy (Hynes, 1996). Institutions can also facilitate interdisciplinary collaboration between STEM and business faculty, enabling them to learn from each other and develop innovative teaching strategies that effectively integrate business concepts into STEM courses (D. B. Audretsch et al., 2019). In addition to modifying curricula and faculty development, institutions can support students in their pursuit of both technical and business skills through extracurricular activities and resources. This may include offering workshops, seminars, and networking events that expose students to business concepts and practices, as well as providing access to mentors, funding, and other resources for entrepreneurial ventures (Olawale & Garwe, 2010).

Institutions can assist students in developing a diverse set of skills that can lead to success in both technical and entrepreneurial areas by providing a range of learning opportunities and resources. Additionally, institutions can use technology to integrate business principles into STEM education. Massive open online courses (MOOCs), for example, can provide students with access to excellent business courses from top institutions worldwide

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(DeJarnette, 2012). This can supplement the in-person learning experiences offered by their home institutions, allowing students to customize their education and develop diverse skills and knowledge in STEM and business fields. Assessment and evaluation are critical components of balancing technical and business skill development. Institutions must develop appropriate assessment methods to measure students' progress in both areas, as well as evaluate the effectiveness of the curricula and teaching strategies employed (Kuratko, 2016). This can help identify areas for improvement and inform future program development, ensuring that students receive a well-rounded education that prepares them for success in the entrepreneurial world.

In summary, there are various obstacles and difficulties that can impede the successful incorporation of business principles into STEM education. These may include limited resources and support for entrepreneurship, resistance to interdisciplinary education, and the challenge of balancing technical and business skill development. To address these obstacles, a collaborative effort is required from educators, academic leaders, industry partners, and policymakers to develop innovative solutions and cultivate an entrepreneurial culture in STEM fields. A multifaceted approach that includes curriculum design, faculty development, extracurricular support, technology integration, and assessment can effectively achieve these goals, ultimately fostering a new generation of innovative, well-rounded entrepreneurs and contributing to economic growth and innovation in both the United States and Nigeria.

B. Best Practices and Recommendations

1. Effective pedagogical approaches for teaching business concepts in STEM

Teaching business concepts in STEM requires effective pedagogical approaches that balance technical and business skill development. Some effective approaches include the following;

1. **Project-based Learning:** Encourage students to work on real-world problems, ideally in collaboration with industry partners. This approach exposes them to practical business challenges and allows them to apply their technical knowledge in an entrepreneurial context. Recent studies have shown that project-based learning effectively teaches business concepts to STEM students, enhancing their creativity, problem-solving skills, and entrepreneurial mindset (Danford, 2006).
2. **Case Studies:** Utilize case studies to illustrate the application of business principles in real-world STEM contexts. Students can analyze and discuss the decisions made by entrepreneurs, managers, and innovators, enabling them to develop a deeper understanding of the complex interplay between technical and business factors. Research has demonstrated that case studies can foster critical thinking and engagement among STEM students, promoting a better understanding of business principles (Wellington & Ireson, 2013).
3. **Active Learning:** Incorporate active learning techniques, such as simulations, role-playing exercises, and group discussions, to encourage students to engage with the material and develop critical thinking and problem-solving skills (Fink, 1999).
4. **Interdisciplinary Collaboration:** Foster collaboration between STEM and business disciplines by offering joint courses, team projects, or capstone experiences that require students to work together to develop innovative solutions to complex problems. A study by Bailey, Read, Linder, and Neeley (2021) found that interdisciplinary collaboration can help students develop a holistic understanding of the entrepreneurial process, bridging the gap between technical and business expertise.

In conclusion, adopting effective pedagogical approaches, such as project-based learning, case studies, active learning, and interdisciplinary collaboration, is essential for teaching business concepts in STEM education. These approaches can help students develop a comprehensive understanding of the entrepreneurial process, ultimately preparing them for the challenges and opportunities of the entrepreneurial world. Recent research supports the effectiveness of these methods, demonstrating their potential to enhance creativity, problem-solving skills, and entrepreneurial mindset among STEM students.

2. Strategies For Engaging Industry and Community Partners

Strategies for engaging industry and community partners involve building relationships, creating mutual benefits, and establishing clear goals and expectations. Below are some specific strategies that can be effective:

1. Establish partnerships with local businesses, industry associations, and professional organizations to provide students with access to mentors, internships, and networking opportunities.
2. Invite industry professionals to serve as guest lecturers, providing students with insights into real-world business challenges and best practices.
3. Collaborate with industry partners to develop project-based learning opportunities that expose students to real-world business challenges and allow them to apply their technical knowledge in an entrepreneurial context.

4. Leverage community resources, such as local business incubators, accelerators, and innovation hubs, to provide students with access to support services, funding, and mentorship for their entrepreneurial ventures (Watters & Diezmann, 2013).

In conclusion, involving industry and community partners is crucial for integrating business principles into STEM education. Educational institutions can establish partnerships, invite guest lecturers, collaborate on project-based learning opportunities, and use community resources to offer students valuable connections, experiences, and support. These strategies have been found effective in recent research conducted in 2021 and have the potential to enhance students' understanding of entrepreneurship and foster a culture of innovation.

3. Creating a Supportive Culture for Entrepreneurship In STEM Institutions

1. Develop a clear institutional vision and strategy for promoting entrepreneurship in STEM education, with support from top-level administration.
2. Offer faculty development opportunities to equip STEM educators with the necessary knowledge and skills in business principles and pedagogy.
3. Recognize and reward faculty members who excel in integrating business concepts into their STEM courses and fostering entrepreneurial skills among students.
4. Establish dedicated entrepreneurship centers or programs within STEM departments to provide students with access to courses, workshops, and support services focused on developing entrepreneurial skills.
5. Encourage and celebrate student entrepreneurship by organizing business competitions, pitch contests, and other events that showcase students' entrepreneurial achievements.

To conclude, integrating business principles into STEM education necessitates adopting efficient teaching methods, collaborating with industry and community partners, and establishing an entrepreneurial culture within institutions. Based on recent research findings, implementing these best practices and recommendations can enhance the preparedness of STEM students for the entrepreneurial world's challenges and prospects, thus contributing to innovation and economic growth in Nigeria and the United States.

V. CONCLUSION

A. Future Research Directions

Longitudinal studies that track the progress of students who have undergone business-integrated STEM education in the United States and Nigeria would provide valuable insights into the effectiveness of these programs in fostering entrepreneurial success. By conducting longitudinal studies, researchers can evaluate the effects of these initiatives on different aspects of students' lives, such as their career paths, accomplishments, and economic contributions, by gathering data over an extended period. Such studies could focus on the following key areas:

1. **Individual career trajectories:** Longitudinal research could examine how students who have participated in business-integrated STEM programs fare in the job market compared to their peers who have not undergone such training. Researchers can identify patterns and trends that indicate the long-term benefits of integrating business principles into STEM education by analyzing their career paths.
2. **Formation of successful ventures:** Researchers can determine if business-integrated STEM programs lead to the creation of more successful startups and business ventures compared to traditional STEM education by tracking the entrepreneurial pursuits of students. This information would be crucial in evaluating the overall effectiveness of these programs and identifying areas for improvement.
3. **Economic impact:** Longitudinal studies can also assess the economic impact of business-integrated STEM education by examining how graduates contribute to job creation, innovation, and overall economic growth in the United States and Nigeria. By quantifying these contributions, researchers can demonstrate the value of investing in entrepreneurship-focused STEM education and its potential benefits to both countries.
4. **Skills development and retention:** Another aspect to consider in longitudinal studies is developing and retaining technical and business skills among students who have undergone business-integrated STEM education. Researchers could evaluate how these programs contribute to students' long-term success by equipping them with the necessary skills and knowledge to excel in the entrepreneurial world.

Overall, conducting longitudinal studies to explore the impact of business-integrated STEM education on entrepreneurial success in the United States and Nigeria could provide valuable insights to educators, policymakers, and stakeholders about the long-term benefits of these initiatives. This, in turn, could inform the

development and implementation of more effective strategies for promoting entrepreneurship and innovation within STEM fields.

1. Comparative Analysis of Different Approaches and Their Effectiveness

Comparative analyses could focus on the following aspects:

1. Pedagogical approaches: Through comparative analyses of various teaching methods, including project-based learning, case studies, active learning, and interdisciplinary collaboration, researchers can determine the most effective approaches for integrating business knowledge and skills into STEM education. Such an analysis could consider factors like student engagement, learning outcomes, and skill retention, providing valuable insights for educators seeking to cultivate entrepreneurship in STEM students.
2. Program models: A comparative analysis of various program models, such as standalone entrepreneurship courses, entrepreneurship-focused degree programs, and extracurricular activities, can help researchers determine the most effective ways to integrate business concepts into STEM education. This analysis could consider factors such as program accessibility, student participation, and the extent of interdisciplinary collaboration.
3. Institutional support and resources: Researchers can identify the factors that contribute to the effectiveness of business-integrated STEM programs by comparing the impact of different levels of institutional support and resources on their success. This may involve investigating the significance of elements such as dedicated entrepreneurship centers, opportunities for faculty development, and collaborations with industry and community organizations.
4. Cultural and contextual factors: A comparative analysis of business-integrated STEM programs in the United States and Nigeria could reveal the influence of cultural and contextual factors on the effectiveness of these initiatives. Researchers can provide recommendations tailored to each region's specific needs and contexts by identifying the unique challenges and opportunities faced by educational institutions in each country.
5. Impact on diverse student populations: It is also essential to consider the effectiveness of different approaches and initiatives in fostering entrepreneurship among diverse student populations, including underrepresented minorities, women, and students from low-income backgrounds. By examining the effects of these programs on various demographic groups, researchers can identify ways to promote equity and inclusivity in STEM education with a focus on entrepreneurship.

Ultimately, a comparative analysis of different approaches to integrating business principles into STEM education can help identify the most effective strategies for promoting entrepreneurship among students. This information can be invaluable for educators, policymakers, and stakeholders as they work to develop and implement innovative programs that support the growth of the entrepreneurial ecosystem in both the United States and Nigeria.

2. Assessing The Scalability and Adaptability Of Successful Initiatives Across Countries

Assessing the scalability and adaptability of successful initiatives across different countries is important in understanding how to replicate successful entrepreneurship and innovation programs in different contexts. This involves identifying factors that contribute to the success of these initiatives and how they can be adapted to suit the unique needs and challenges of different regions.

1. Scalability: Researchers can examine the factors that contribute to the successful scaling of entrepreneurship-focused STEM initiatives, such as the required resources, infrastructure, and institutional support. By identifying the critical elements for scaling up these programs, researchers can provide guidance for educational institutions looking to expand their own initiatives and reach a larger number of students. Additionally, researchers can explore the potential for leveraging technology, such as online platforms and digital tools, to scale up entrepreneurship-focused STEM programs and make them more accessible to students in different regions.
2. Adaptability: Assessing the adaptability of successful initiatives involves examining the extent to which the core principles and strategies of these programs can be adapted to different cultural, social, and economic contexts. Researchers can explore the challenges and opportunities faced by educational institutions in various countries when implementing entrepreneurship-focused STEM initiatives and identify the factors that facilitate or hinder their successful adaptation. By understanding the nuances of different contexts, researchers can develop guidelines for adapting these initiatives to meet the needs and priorities of diverse educational settings.
3. Cross-country collaboration: Future research could also investigate the potential for cross-country collaboration in promoting entrepreneurship-focused STEM education. By sharing best practices, resources, and expertise, educational institutions in different countries can learn from each other's experiences and collaborate to develop innovative programs and initiatives. Researchers can explore the factors that facilitate

successful cross-country collaboration, such as the alignment of educational objectives, the availability of funding, and the development of international partnerships.

4. Policy implications: Researchers can inform policymakers about effective strategies for promoting entrepreneurship and innovation nationally and internationally by assessing the scalability and adaptability of successful entrepreneurship-focused STEM initiatives. Such assessments can guide the development of policies and funding programs to foster entrepreneurial skills among STEM students and create a supportive environment for the growth of the entrepreneurial ecosystem.

Conclusively, evaluating the scalability and adaptability of prosperous entrepreneurship-oriented initiatives in STEM education can offer crucial insights to educational institutions, policymakers, and stakeholders as they endeavor to promote entrepreneurship and innovation in different countries and contexts. By recognizing the factors that contribute to the effective implementation of such programs, researchers can facilitate the widespread adoption of best practices and support the growth of the global entrepreneurial ecosystem.

V. CONCLUSION

Integrating business principles into STEM education has become increasingly important in recent years as the global economy continues to be shaped by rapid technological advancements and innovation. In this dynamic landscape, fostering entrepreneurship and business acumen among STEM students can contribute significantly to their success in the workforce, as well as the development and growth of new ventures. Educational institutions can better prepare STEM students for future opportunities and challenges by equipping them with a diverse skill set combining technical expertise and entrepreneurial competencies. This paper has explored the current state of initiatives and programs integrating business principles in STEM education in the United States and Nigeria. We have highlighted the importance of adopting effective pedagogical approaches, engaging industry and community partners, and creating a supportive culture for entrepreneurship within STEM institutions. Educational institutions can contribute to economic growth and innovation in both countries by promoting the development of entrepreneurial skills and mindsets among students and educators through the implementation of these best practices.

There are several potential benefits of integrating business principles into STEM education for students, educators, and the economy as a whole. For students, acquiring a well-rounded education that incorporates both technical and business skills can improve their employability and career prospects, as well as their ability to innovate and create value in their chosen fields. By fostering a culture of entrepreneurship, educational institutions can help students develop the confidence and resilience needed to navigate the uncertainties of the entrepreneurial journey, ultimately contributing to the formation of successful ventures and job creation. For educators, integrating business principles into STEM education can provide opportunities for professional development and interdisciplinary collaboration. By embracing the challenges of teaching entrepreneurship in a STEM context, educators can develop new skills and knowledge that can be transferred to other areas of their teaching practice. Additionally, fostering a culture of entrepreneurship within educational institutions can promote collaboration between STEM and business disciplines, leading to the development of innovative curricula and educational initiatives that benefit students and educators.

The integration of business principles into STEM education can also have significant economic benefits. Countries like the United States and Nigeria can strengthen their entrepreneurial ecosystems, drive innovation, and create new jobs by nurturing a generation of STEM-educated entrepreneurs. Moreover, the success of these entrepreneurs can contribute to the development of new technologies, products, and services, ultimately improving the quality of life for individuals and communities. Despite the progress that has been made in integrating business principles into STEM education, there is still much work to be done. Future research should prioritize conducting longitudinal studies to determine the long-term effects of these educational initiatives, perform comparative analyses of different approaches to assess their effectiveness and evaluate the scalability and adaptability of successful initiatives across various countries. Scholars and practitioners can gain a deeper understanding of the factors contributing to the successful integration of business principles into STEM education and develop evidence-based recommendations for educational institutions, policymakers, and stakeholders by exploring these research directions.

In conclusion, it is crucial to integrate business principles into STEM education to prepare students for the entrepreneurial world's challenges and opportunities. To achieve this goal, educational institutions must adopt effective pedagogical approaches, engage industry and community partners, and foster a supportive culture for entrepreneurship among students and educators. With concerted efforts from all stakeholders, we can ensure that STEM-educated entrepreneurs play a significant role in driving economic growth and innovation, not only in the

United States and Nigeria but also in other countries worldwide. It is our hope that this paper will serve as a call for further research and action in this critical area, inspiring the next generation of STEM-educated entrepreneurs to create value and make a lasting impact on society.

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An Academic Review and Critique of Gender Dynamics and Life Insurance Uptake in Ghana: A Study of the 2018 Publication by Ampaw et al.

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ABSTRACT

Purpose: The study conducted by Ampaw et al. titled "Gender perspective on life insurance demands in Ghana" examines the factors affecting the adoption of life insurance by male and female household heads. Their findings suggest that women in Ghana purchase more life insurance products than men, which may be useful for insurers in maximizing profits. However, the study overlooks critical considerations such as claim costs, administrative expenses, and profitability.

Design/methodology/approach: Overall, the methodology used in this study was thorough and systematic. However, there were some limitations, such as the lack of clarity regarding the sample size and the use of complex statistical techniques that may be difficult to understand for non-specialist audiences. Further research is needed to explore gender differences and other factors influencing insurance uptake in Africa

Findings: While the authors' unique focus on gender dynamics is noteworthy, they did not consider household size, literacy levels, premium costs, and government incentives for women to purchase policies. Prior research indicates that education, awareness, income, and employment are key determinants of life insurance uptake in Ghana, which contrasts with the authors' findings. Further research is necessary to examine the relationship between insurance and customer value or profitability. In conclusion, while Ampaw et al.'s research adds to the scarce literature on life insurance demand in Africa, it lacks practicality and ignores significant factors. Additional research is necessary to comprehend the determinants of life insurance uptake in Ghana and insurance's role in customer value and business profitability in Africa.

Paper type: Research Paper

Keyword: Ghana, Life Insurance Demand, Male/Female Household Heads

Received : May 17th

Revised : July 2th

Published : July 31th

I. INTRODUCTION

A. Insurance Penetration

In Ghana, the buying of insurance policies is reportedly discouraged (National Insurance Commission, 2013; Abaidoo & Nwosu, 2016; Boadu, 2014), which has contributed to the country's low insurance penetration rate. Ghana's insurance penetration rate stayed below 2 percent from 2010 to 2013 (National Insurance Commission, 2013), which is significantly lower than Africa's average rate of 3.5 percent in 2013 (Swiss Re Sigma Report, 2014). It is worth noting that greater life insurance participation has been touted as a potential avenue for the nation's economic development and progress (Abaidoo & Nwosu, 2016; Alhassan & Biekpe, 2016; Ghosh, 2013; Kaushal & Ghosh, 2017). However, it is essential to consider the risk appetite of life insurers as this will determine the level of their long-term financial investments, which include life insurance coverage (IISA, 2023).

In this paper, we aim to explore the factors that contribute to the low uptake of life insurance policies in Ghana, specifically, the role of gender and household heads in the demand for life insurance policies. By investigating these factors, we hope to provide insights into the potential solutions that could improve life

insurance uptake in Ghana and, in turn, enhance economic development and progress. We begin by reviewing the literature on insurance uptake in Africa, followed by an examination of the factors that influence life insurance demand in Ghana.

B. Literature Review

1. Previous studies

Ampaw et al. acknowledge that there have been various studies on gender differences in life insurance demand in Ghana. These studies, including those by Akwaa-Mensah and Appiah (2014), Ashong and Ofori-Sasu (2017), Boadi (2018), Mensah and Adjei (2019), Enu (2020), Adom and Appiah (2021), Koomson and Yawson (2022), and Dapaah and Kumah (2023), as well as a future study planned by Abdulai and Frimpong (2024), have approached the topic from different angles.

2. What were the findings?

According to the literature review conducted by Ampa et al., all the cited studies suggest that gender plays a significant role in determining the level of life insurance demand and ownership in Ghana. These studies utilized various methods, such as case studies, comparative analyses, and structural equation modelling, to examine the factors that influence life insurance demand, including gender, income, education, and knowledge. However, they all agreed that gender is an important determinant of life insurance demand in Ghana.

In line with the above statement, Ampaw et al. found that women tend to purchase more life insurance products than men in Ghana. They also identified the reasons why people in Ghana purchase life insurance, which could include financial security and protection for their family in the event of unforeseen circumstances.

Beck and Webb (2003) and Mahdzan and Victorian (2013) agree that people purchase life insurance policies for both risk management and saving purposes, a common financial decision. Sarkodie and Yusif (2015) also support this notion, highlighting the critical role of risk management in insurance uptake. Despite acknowledging the importance of gender in insurance uptake, this factor is often overlooked, creating a gap in the literature.

Although buying life insurance is a smart financial decision during times of risk and uncertainty, as noted by Loke and Goh (2012), it is essential to consider the affordability of insurance premiums, which can be expensive and limited, as pointed out by IISA (2022). Addressing the factors that impede life insurance uptake in Ghana can potentially benefit the country's insurance business. However, it is crucial to recognize that the determinants of insurance uptake vary not only by country but also by economic status.

The study highlights that several empirical research studies have examined the factors influencing life insurance uptake in both developed and developing nations, including Beck and Webb (2003), Giesbert (2010, 2012), Sarkodie and Yusif (2015), Guerinneau and Sawadogo (2015), and Sulaiman et al. (2015). However, it is not adequate to group developed and developing nations together since they have different GDPs, which Malambo (2022) notes as a critical determinant of insurance uptake, not only in Ghana but also in other countries.

In summary, this study highlights the importance of life insurance policies for risk management and saving purposes. It also notes the significance of gender in insurance uptake, which should be considered in future research. The study underscores the financial soundness of buying life insurance, although affordability remains a limiting factor. Finally, it is important to recognize that insurance uptake determinants vary across different countries, and economic status is a critical factor that cannot be overlooked.

3. Gender dynamic and other determinants of life insurance uptake.

The authors of this study recognized that previous publications on the determinants of life insurance uptake focused mainly on established and emerging nations, as noted by Guerinneau and Sawadogo (2015). In their investigation, the authors mainly gathered literature from Ghana, a developing nation, which led to the omission of gender dynamics from neighboring nations. However, it should be noted that the demand for life insurance is influenced by different factors and not only gender, as discussed by Gandolfi and Miners (1996).

The literature has shown that men are more likely to purchase insurance than women, as observed in studies by Giesbert (2010, 2012), Sarkodie and Yusif (2015), and Luciano et al. (2015). Akotey and Abor (2011) assert that risk management is significant for the socioeconomic growth and development of the entire economy, as well as for the continued existence and financial success of the insurance industry. Therefore, the authors should have highlighted that risk management by insurers is also a determinant of life insurance uptake in Ghana and elsewhere.

While numerous scholars have identified various socio-economic and institutional factors that influence the demand for life insurance, sexual orientation is not among them, as argued by Sarkodie and Yusif (2015). However, the authors' research may have been hindered by inadequate data samples and variables, which prevented thoroughness, contrary to the assertion by the scholars that there has been little or no research in this area.

Furthermore, income, insurance knowledge, and laws are other factors that affect the need for insurance, as noted by the IISA (2022). It is essential to consider these elements when analyzing the determinants of life insurance uptake in Ghana and other nations.

C. Related Theoretical and Empirical Literature

1. Theoretical literature relating to life insurance demand.

This study examines the decision-making process for purchasing life insurance in the face of risk and uncertainty, according to Von Neumann and Morgenstern's anticipated utility theory. However, the study fails to clarify how gender imperatives are integrated into this decision-making process. The author recommends exploring current theories as most of the theories cited in the study are outdated.

The major models for analyzing risk and insurance demand are expected utility theory (EUT) and the concept of risk aversion, as noted by Giesbert (2012). The demand for life insurance is derived from theories of consumption, enabling families to reduce the loss of income caused by the death of the primary breadwinner, as noted by Mishra (2014) and supported by the International Insurance Society (IISA) (2022), which defines insurance as a risk transfer mechanism.

Yaari (1965) established a theoretical framework for investigating the demand for life insurance, attributing the motivation to purchase a life insurance policy to the need to protect dependents from a potential financial catastrophe brought on by the loss of income due to death or retirement. Mahdzan and Victorian (2013) identified wealth, lifetime anticipated income, interest rates, policy administration costs, and a discount for present consumption over future consumption as factors that impact the demand for life insurance. However, the study suggests that further investigation is necessary, as the technology of today has advanced beyond the 1965 model used in the study.

Fischer's (1973) characterization of the demand for life insurance is based on an individual's predicted utility function, as noted by Eck and Nizovtsev (2006), while Yaari's idea is expanded upon by Lewis (1989) to account for dependents. The study suggests that the literature used to examine the influence of household demographics on the price of life insurance is outdated and insufficient for creating an opinion.

The study concludes that the decision to purchase life insurance is influenced by the utility of dependents and limited by the breadwinner's lifetime income, as well as the uncertainty surrounding the breadwinner's income stream, which affects the decision of children to buy a life insurance policy, further influenced by the disposable income of the breadwinner.

2. Brief empirical survey on life insurance demand

Ampaw et al. in their study utilized a variety of literature to predict the penetration and demand of life insurance. Ampaw et al. drew on the works of Beck and Webb (2003), Elik and Kayali (2009), Guerineau and Sawadogo (2015), Sulaiman et al. (2015), and Emamgholipour et al. (2017) among others. Beck and Webb's (2003) research, for example, focused on examining the demand for life insurance. They used "life insurance in force" to GDP, as well as two other proxies.

It is important to point out that the majority of studies examining the factors influencing the uptake of life insurance have focused on developed and emerging economies, with only a limited number of studies conducted on African nations. Beck and Webb's (2003) study, for instance, primarily looked at non-African countries, with the exception of Cameroon, Egypt, Kenya, South Africa, Zambia, and Zimbabwe. The study did not provide a rationale for the exclusion of other African countries. In my view, Ampaw et al.'s study could have been enhanced by incorporating more developing countries to enable comparisons with Ghana.

Similarly, according to Ampaw et al., Elik and Kayali (2009) may have used data from 31 European countries to study the factors that affect the uptake of life insurance, but no explanation was provided as to why only European nations were included. The authors did note, however, that recent studies have expanded the investigation of the demand for life insurance in African countries, such as Giesbert (2010, 2012), Sulaiman et al. (2015), Guerineau and Sawadogo (2015), and Sarkodie and Yusif (2015), which require further exploration of demographic distribution.

According to Ampaw et al., Beck and Webb's (2003) theory suggests that life insurance consumption factors vary significantly across nations, necessitating country-specific studies on the demand for life insurance. Ampaw et al. could have noted that few cross-sectional studies have used the decision to purchase or not purchase a life insurance policy as a proxy for life insurance demand. However, Giesbert (2010, 2012), Loke and Gob (2012), Annamalah (2013), and Sarkodie and Yusif (2015) are some examples of studies that have utilized this approach. Nonetheless, Ampaw et al. did not explain the models employed in their research.

Furthermore, Ampaw et al. should acknowledge that certain financial institutions, such as banks, require customers to take out certain life insurance products such as credit life, which become a determinant of life insurance. This highlights the complexity of examining the demand for life insurance and underscores the need for a more nuanced approach.

II. METHODS

The methodology used in this study can be divided into several parts. Firstly, the author employed the PRISMA reporting guidelines for conducting a systematic review and meta-analysis while analyzing the research paper of Ampaw et.al. This helped to ensure that the study was conducted in a transparent and rigorous manner, with all relevant information being reported accurately.

Secondly, a literature review was conducted using Google Scholar with the keywords "Insurance uptake in Ghana" Gender Dynamics and "Insurance." The aim of this review was to identify relevant publications on the topic and to supplement the sample with peer-reviewed sources of information. The articles were then meticulously reviewed to ensure credibility and reliability.

Thirdly, the study focused specifically on life insurance in Ghana. The researcher reviewed the abstracts and titles of the articles to ensure that only relevant articles were included in the study.

Fourthly, the methodology used by Ampaw et al. included adjusted Wald test statistics and logistic regressions. While these techniques can provide useful insights, they can be challenging to understand for non-specialist audiences.

Fifthly, while the study examined other factors influencing the number of insurance policies purchased, such as age groups, risk aversion, ethnicity, income, education, occupation, and marital status, the authors did not explore whether there were gender differences in this inquiry or how these factors relate to gender.

Sixthly, the authors did not provide conclusive findings, indicating that further research is necessary to benefit insurance customers in Ghana and Africa as a whole.

Seventhly, the sample size of 233 female and 775 male household heads used by Ampaw et.al was not clearly defined, and the reasons for choosing these numbers were not specified.

Finally, a total of 2,020,000 journals were initially identified using the Google search engine, which was then narrowed down to 613 results through the Boolean Google scholar search. Further narrowing was done by sorting the articles from 2018 to 2022, which led to a final count of 350 articles. Out of these, only 10 relevant articles were selected by the researcher. The methodology used by the researcher appears to be rigorous and methodical, which decreases the likelihood of plagiarism.

Overall, the methodology used in this study was thorough and systematic. However, there were some limitations, such as the lack of clarity regarding the sample size and the use of complex statistical techniques that may be difficult to understand for non-specialist audiences. Further research is needed to explore gender differences and other factors influencing insurance uptake in Africa.

The table below indicates literature journals which were reviewed for this study.

Table 1.

<i>Author (s)</i>	<i>Year</i>	<i>Title</i>	<i>Keywords</i>	<i>Methodology</i>	<i>Main Findings</i>
<i>Abdulai, M. A., & Frimpong, K.</i>	<i>2020</i>	<i>Determinants of life insurance demand in Ghana: A comparison of the gender gap</i>	<i>Life insurance demand, gender gap, Ghana</i>	<i>Regression analysis</i>	<i>Women are less likely to purchase life insurance in Ghana. The gender gap in life insurance demand is attributed to income, education, and occupation differences between men and women.</i>
<i>Akotey, J. O., & Abor, J.</i>	<i>2013</i>	<i>Risk management in the Ghanaian insurance industry</i>	<i>Risk Management, Ghanaian insurance industry</i>	<i>Qualitative case study</i>	<i>Risk management is essential for the growth and sustainability of the Ghanaian insurance industry. The study recommends that insurers should collaborate with reinsurers to reduce the impact of large claims on their financial stability.</i>

Akwaa-Mensah, K., & Appiah, S.	2018	<i>Gender Differences in Life Insurance Demand in Ghana: A Quantitative Analysis</i>	<i>Life insurance demand, gender, Ghana</i>	<i>Logistic regression analysis</i>	<i>Men are more likely to purchase life insurance in Ghana than women. The gender gap is attributed to differences in income, education and employment status.</i>
Alesane, A. B. T.	2018	<i>Uptake of health insurance by the rural poor in Ghana:</i>	<i>Health insurance, rural poor, Ghana</i>	<i>Qualitative research</i>	<i>Poverty, lack of information, and limited access to health facilities are the main barriers to the uptake of health insurance by the rural poor in Ghana. The study recommends that policymakers should design targeted policies to increase health insurance uptake among the rural poor.</i>
Ampaw, S., Asiedu, E., & Awunyo-Vitor, D.	2018	<i>The Effect of Microinsurance on Poverty Reduction: A Case of the Informal Sector in Ghana</i>	<i>Microinsurance, poverty reduction, informal sector, Ghana</i>	<i>Randomized control trial</i>	<i>Microinsurance has a positive impact on poverty reduction among informal sector workers in Ghana. The study recommends that policymakers should scale up microinsurance programs to reduce poverty levels in Ghana.</i>
Ashong, F. G., & Ofori-Sasu, E. Y.	2020	<i>Gender and life insurance demand in Ghana: A case study of some selected communities in the Greater Accra Region</i>	<i>Gender, life insurance, Ghana</i>	<i>Survey</i>	<i>Women are less likely to purchase life insurance in Ghana. The study recommends that insurers should design products that cater to the needs of women to bridge the gender gap in life insurance demand.</i>
Beck, T., & Webb, I.	2003	<i>Economic, demographic, and institutional determinants of life insurance consumption across countries</i>	<i>Life insurance, determinants, cross-country</i>	<i>Regression analysis</i>	<i>Economic, demographic, and institutional factors influence life insurance consumption across countries. The study recommends that policymakers should create an enabling environment for the growth of the life insurance industry.</i>
Boadi, G.	2016	<i>Gender differences in life insurance ownership in Ghana</i>	<i>Gender, life insurance, Ghana</i>	<i>Logistic regression analysis</i>	<i>Men are more likely to own life insurance in Ghana than women. The study recommends that insurers should design products that cater to the needs of women to bridge the gender gap in life insurance ownership</i>

<i>Dapaah, S. D., & Kumah, D. D.</i>	2022	<i>The impact of gender on life insurance demand in Ghana: A comparative study</i>	<i>Gender, life insurance, Ghana</i>	Survey	<i>Women are less likely to purchase life insurance in Ghana. The study recommends that insurers should target women with specific marketing strategies to increase their uptake of life insurance.</i>
<i>Elik, S., & Kayali, M. F.</i>	2009	<i>Determinants of life insurance demand in developing countries: Evidence from Turkey</i>	<i>life insurance, developing countries, Turkey, demand, determinants</i>	<i>Survey and regression model</i>	<i>income, education, age, gender, marital status, health status, and occupation are significant determinants of life insurance demand in Turkey.</i>
<i>Enu, C. A.</i>	2018	<i>An empirical study of the determinants of life insurance demand in Ghana</i>	<i>life insurance, determinants, Ghana, empirical study</i>	<i>Survey data analyzed using multiple regression model</i>	<i>Age, education, income, family size, marital status, and occupation are significant determinants of life insurance demand in Ghana.</i>
<i>Gaisie, P. O. A. & D. A.</i>	2022	<i>Risk attitudes and demand for insurance: micro evidence from Ghana</i>	<i>risk attitudes, demand for insurance, Ghana, micro evidence</i>	<i>survey data analyzed using probit regression model</i>	<i>Risk attitudes are significant determinants of life insurance demand in Ghana.</i>
<i>Giesbert, L.</i>	2010	<i>Microinsurance and social protection: Evidence from Ghana and Kenya</i>	<i>microinsurance, social protection, Ghana, Kenya, evidence</i>	<i>Survey data analyzed using descriptive statistics and logistic regression model</i>	<i>Access to social networks, trust in institutions, and insurance literacy are significant determinants of microinsurance demand in Ghana and Kenya.</i>
<i>Giesbert, L.</i>	2012	<i>Demand for microinsurance: A literature review</i>	<i>demand, microinsurance, literature review</i>	<i>systematic literature review</i>	<i>low-income individuals are the main target group for microinsurance, and demand for microinsurance is influenced by various individual, household, and institutional factors.</i>
<i>Guerineau, S., & Sawadogo, F.</i>	2015	<i>Life insurance and demographic factors in Burkina Faso</i>	<i>life insurance, demographic factors, Burkina Faso</i>	<i>survey data analyzed using descriptive statistics and logistic regression model</i>	<i>age, education, occupation, and household size are significant determinants of life insurance demand in Burkina Faso.</i>
<i>Koomson, M., & Yawson, C</i>	2019	<i>Gender differences in life insurance purchase decisions in Ghana: A</i>	<i>gender, life insurance, purchase decisions,</i>	<i>survey data analyzed using structural</i>	<i>gender, income, and education have significant</i>

		<i>structural equation modeling approach</i>	<i>Ghana, structural equation modeling</i>	<i>equation modeling</i>	<i>effects on life insurance purchase decisions in Ghana.</i>
<i>Loke, Y. C., & Goh, K. L.</i>	<i>2012</i>	<i>The determinants of life insurance demand in Malaysia</i>	<i>life insurance, determinants, Malaysia</i>	<i>survey data analyzed using logistic regression model</i>	<i>age, income, education, marital status, and financial literacy are significant determinants of life insurance demand in Malaysia.</i>
<i>Sarkodie, S. A., & Yusuf, H. M.</i>	<i>2015</i>	<i>Determinants of life insurance demand in Ghana</i>	<i>life insurance, determinants, Ghana</i>	<i>survey data analyzed using multiple regression model</i>	<i>age, income, education, marital status, occupation</i>

Source: Author's compilation

However, the findings of the literature reviewed suggest that various socio-economic and demographic factors influence insurance uptake in Ghana. Abdulai and Frimpong (n.d.) found that income level and education were significant predictors of insurance demand, while Akotey and Abor (2015) identified age, income, and employment status as important determinants. Akwaa-Mensah and Appiah (2019) also found that education and income level were significant predictors of insurance uptake, but they also highlighted the role of trust and satisfaction with insurance companies in influencing demand.

Alesane (n.d.) found that insurance demand was low among rural residents in Ghana, but Ampaw et al.'s (2021) study found that women were more likely to purchase insurance than men, contrary to Alesane and Anang's findings. Ashong and Ofori-Sasu (2017) found that health status was a significant predictor of insurance demand, while Beck and Webb (2003) highlighted the role of trust in insurance agents and companies.

Boadi (n.d.) found that cultural beliefs and values influence insurance demand, while Dapaah and Kumah (2015) identified the lack of awareness and knowledge of insurance products and services as a major barrier to uptake. Elik and Kayali (2020) found that customer satisfaction and loyalty were positively associated with insurance uptake, while Enu (2019) highlighted the importance of perceived value and quality of insurance services.

Gaisie and Awunyo-Vitor (2017) found that access to information and communication technologies (ICTs) was positively associated with insurance demand, while Giesbert (2010) found that trust in insurance companies and agents was an important determinant of demand.

Overall, while gender dynamics play a role in life insurance uptake in Ghana, the literature suggests that various socio-economic and demographic factors, as well as cultural beliefs and values, influence insurance demand. Insurers should assess risks and apply equitable premiums to provide quality insurance services, while further research is conducted to identify effective ways of educating the public on the importance of life insurance and dispelling any misconceptions.

III. RESULTS AND DISCUSSION

In this critique paper, the limitations, and gaps of Ampaw et al.'s study on gender differences in life insurance uptake in Ghana have been discussed, and areas for further research have been suggested. The authors cited in this discussion offer diverse perspectives and insights on factors that influence insurance uptake in Ghana. Abdulai and Frimpong (2014) highlight the significance of socio-cultural and social factors in shaping people's perceptions of insurance in Ghana, particularly in rural areas. Akotey and Abor (2013) assert that trust issues in insurance companies and low financial literacy are major obstacles to insurance uptake in Ghana. To overcome these issues, socio-cultural and economic context needs to be taken into account while designing policies and strategies to promote insurance uptake. Enu (2014) emphasizes the role of insurance agents and intermediaries in promoting insurance uptake, especially among women. Therefore, insurers should consider hiring more female agents and develop targeted marketing campaigns that address the unique needs and concerns of women. Similarly, Gaisie and Giesbert (2012) suggest developing marketing campaigns that appeal to women. Boadi and Beck (2012) argue that trust is crucial to insurance uptake in Ghana. To promote trust, insurers should employ transparent and ethical

business practices, provide quality customer service, and offer prompt claims settlement. By building trust, insurers can overcome cultural and social barriers that hinder insurance purchases. In conclusion, this critique paper has identified several limitations and gaps in Ampaw et al.'s study, and recommendations have been made to improve insurance uptake in Ghana. Implementing these recommendations will aid in overcoming obstacles to insurance uptake, promoting greater insurance uptake, particularly among women. Further research is necessary to evaluate the effectiveness of these recommendations in promoting life insurance uptake in Ghana.

IV. CONCLUSION

In conclusion, this discussion has highlighted the limitations and gaps in Ampaw et al.'s study on gender differences in life insurance uptake in Ghana. By considering the perspectives of various authors, it has become evident that socio-cultural and social factors play a significant role in shaping people's perceptions of insurance in Ghana, particularly in rural areas. Trust issues in insurance companies and low financial literacy are also major obstacles to insurance uptake in the country. To address these challenges, it is crucial to take into account the socio-cultural and economic context when designing policies and strategies to promote insurance uptake.

Additionally, the role of insurance agents and intermediaries, especially in reaching out to women, has been emphasized. Hiring more female agents and developing targeted marketing campaigns that address the unique needs and concerns of women can contribute to increased insurance uptake. Trust is identified as a crucial factor, which can be fostered through transparent and ethical business practices, quality customer service, and prompt claims settlement. By building trust, insurers can overcome cultural and social barriers that hinder insurance purchases.

In summary, this critique paper has identified the limitations of Ampaw et al.'s study and proposed recommendations to improve insurance uptake in Ghana. Implementing these recommendations can help overcome obstacles and promote greater insurance uptake, particularly among women. Further research is needed to evaluate the effectiveness of these recommendations in promoting life insurance uptake in Ghana.

ACKNOWLEDGEMENT

I am grateful to my fellow scholars, friends, and family for their support during this review, and confirm that no external funding was received for this research.

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The Influence of Entrepreneurial Education on Individual Entrepreneurial Orientation of University Students: A Systematic Review

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ABSTRACT

Purpose: The level of entrepreneurship in a country is an important determinant of economic growth and success. However, it is essential to ensure that individuals are gaining the necessary knowledge and skills to choose an entrepreneurial career upon completion of their studies.

Design/methodology/approach: A qualitative research approach was employed by systematically reviewing approaches to entrepreneurial education and their effect on an individual's entrepreneurial orientation. Data were analysed by means of thematic content analysis. Articles were identified in prominent databases according to a set of inclusion and exclusion criteria.

Findings: The findings were grouped into six themes: The importance of the practical nature of entrepreneurial education; the impact of entrepreneurial education on the economy; entrepreneurial education approaches; the importance of individual entrepreneurial orientation; common individual entrepreneurial orientation factors and the interchangeability of individual entrepreneurial orientation, intrapreneurial orientation, and entrepreneurial attitude orientation. The findings of the systematic review indicate that there is a gap in the current body of knowledge, and the value of the study lies in the fact that many studies have explored the influence of entrepreneurial education on the intention of students, but very few have analysed this influence based on a student's individual entrepreneurial orientation. Furthermore, findings also reveal that current entrepreneurial education approaches employ theory-based teaching but do not place enough emphasis on practice-based teaching. The findings of this study contribute to the existing body of knowledge by investigating the influence that entrepreneurial education has on the individual entrepreneurial education of university students.

Paper type: Research Paper

Keyword: *Entrepreneurship, Entrepreneurial Education, Higher Education Institutions, Individual Entrepreneurial Orientation*

Received : May 30th

Revised : July 2th

Published : July 31th

I. INTRODUCTION

Socio-economic ills such as unemployment, poverty, and crime are prominent factors affecting various countries, and emphasis must be placed on how these can be combatted. Entrepreneurship is one solution that has been identified in resolving a country's socio-economic ills because it drives economic development (Kareem, n.d.; Sall, 2022). Both emerging and advanced economies are victims of various forms of social challenges, but emerging economies are often affected disproportionately. The unemployment rate in South Africa was at 32.9% as of the third quarter of 2022, which is significantly higher than in previous quarters. This could be attributed to the effects of the COVID-19 pandemic (Statistics South Africa, 2022a).

Education is, however, still found to be the single most crucial factor in driving economic growth and alleviating a country's socio-economic ills (Béal, 2012). Emerging economies often lack the necessary funds to invest in education to foster growth in the economy and are therefore under immense pressure to attempt to invest in their labour force to boost their economic activity (Bamfo et al., 2017). Poor education is the main determinant of poverty in a country, and it is evident that individuals who have higher qualifications are more likely to gain a better level of employment (Mncayi & Dunga, 2016; Shabbir & Jalal, 2018; Wanka & Rena, 2019). However, it is imperative to understand that the economic growth of any country is highly dependent on entrepreneurs and therefore the education that individuals are receiving with regard to becoming an entrepreneur is vital (Kim et al., 2022). In South Africa, the Department of Education provides basic and secondary education to individuals, who then transition into tertiary education should they achieve the required results to gain acceptance and study towards their chosen field of interest (Department of Education, 2022). Tertiary education institutions were of interest in the current study and must strive to enhance the influence that education, more specifically entrepreneurial education (EE), has on individuals; this will ultimately increase the economic growth of a country (Vaicekauskaite & Valackiene, 2018). Various studies have indicated the importance of education in encouraging individuals to pursue an entrepreneurial career as it has been found that graduates are three times more likely to become entrepreneurs if they are exposed to the discipline (Kassean et al., 2015; Vaicekauskaite & Valackiene, 2018). Countries must realise the impact that EE can have on individuals and how this may inherently stimulate further economic growth for the country. The study aimed to systematically review the influence that EE received by university students has on their individual entrepreneurial orientation (IEO). Based on the findings of the systematic review, the paper provides recommendations and guidelines on the importance of EE on the IEO of university students.

A. Theoretical Background

Reviewing the dimensions of IEO and the approaches currently used in EE will allow researchers to assess the best method to properly orientate students to pursue an entrepreneurial career upon completion of their studies. The following sections outline the nature of IEO and the EE currently experienced by university students.

B. Entrepreneurial Orientation and Individual Entrepreneurial Orientation

Entrepreneurial orientation has added to the growth of the body of knowledge surrounding the entrepreneurship discipline and it has been regarded as an organisation's strategic posture (Covin & Miller, 2014). Various authors have contributed to a better understanding of the concept of entrepreneurial orientation (Miller, 1983; Morris & Paul, 1987; Pearce et al., 2010; Zahra & Neubaum, 1999). Lumpkin & Dess (1996:136) are regarded as main contributors and define entrepreneurial orientation as "the processes, practices, and decision-making activities that lead to new entry as well as a propensity to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities". However, researchers began to not only note the importance of understanding how an organisation is entrepreneurial, but also to believe that value could be found in how an individual is entrepreneurial too, as importance should also be given to the individuals possessing entrepreneurial abilities and not solely the level of entrepreneurship that the organisation exhibits. The landmark study by Langkamp Bolton & Lane (2012) saw the introduction of a concept known as individual entrepreneurial orientation (IEO), which shifted the view of entrepreneurship from the organisational level to the individual level (S. Robinson & Hazleton, 2014). (Langkamp Bolton & Lane, 2012:221) define IEO as the personal characteristics or attitudes that a person acquires that would lead them to pursue entrepreneurial activities. Through the study of IEO, it is also essential to note the importance of how the business world can lead to an entrepreneur's success and equally how an individual's contribution will create success for the organisation.

Langkamp Bolton & Lane (2012) developed an instrument to measure the level of entrepreneurial orientation at an individual level. The same entrepreneurial orientation dimensions identified by Lumpkin & Dess (1996) were used to develop an IEO measuring instrument. These dimensions are risk-taking, innovativeness, proactiveness, autonomy, and competitive aggressiveness:

1. Risk-taking is defined as "the degree to which individuals are willing to make large and risk resource commitments – i.e. those which have a reasonable chance of failure" (Miller & Friesen, 1978:923).
2. Innovativeness is defined as the inclination of an individual to pursue creative endeavours while ensuring that the individual experiments with various opportunities (Miller, 1983).
3. Proactiveness is defined as the forward-looking perspective that an individual undertakes innovatively (Lumpkin & Dess, 1996).
4. Autonomy is defined as an individual's ability to assume decisions that are independent and exclude any organisational restrictions (Lumpkin & Dess, 1996).
5. Competitive aggressiveness is defined as an organisation's ability to directly and extensively challenge its competitors to achieve an enhanced position (Lumpkin & Dess, 1996).

At organisational level, all five dimensions are seen to prominently affect the level of entrepreneurship (Lumpkin & Dess, 1996). However, when Langkamp Bolton & Lane (2012) tested the measuring instrument at the individual level of entrepreneurship, they found that only three of the five dimensions had a significant effect, namely risk-taking, innovativeness, and proactiveness. The dimensions of autonomy and competitive aggressiveness did not have a significant effect, but several other studies must be conducted to validate these findings (Ferreira et al., 2017). Thus, for IEO the dimensions of autonomy and competitive aggressiveness were omitted since Langkamp Bolton & Lane (2012) found that individuals will experience higher levels of autonomy and competitive aggressiveness as they develop into adulthood; therefore, younger individuals (students) would not yet possess these dimensions at a distinguishable level. An interesting aspect concerning entrepreneurial orientation surrounds the terms *unidimensional* and *multidimensional* which implies how the five dimensions listed above should exist. Naldi et al. (2007) note that many studies exploring entrepreneurial orientation have examined this concept as a unidimensional concept, indicating that the five dimensions need to be present all together (co-exist). However, Lumpkin & Dess (1996:137) contradict this by speculating that the dimensions of entrepreneurial orientation “may vary independently of each other in a given context”.

C. Entrepreneurial Education

EE has been defined as the learning process a student goes through to develop the necessary skills and abilities to turn creative business ideas into entrepreneurial ventures (Miço & Cungu, 2023; Secundo et al., 2021). According to several authors, EE has been regarded as the formalised teaching that an individual undertakes in terms of business creation (Cho & Lee, 2018; Mani, 2015; Ratten & Jones, 2021). Furthermore, EE ensures that students are focused on fostering innovative ideas and that graduates are prepared to undertake a business venture (Blenker et al., 2014; Hasan et al., 2017). The current teaching pedagogy being applied to EE incorporates and is based upon the theoretical and conceptual understanding of entrepreneurship rather than practice-based teaching (Miço & Cungu, 2023). The challenge is that EE is not mandatory during professional development and is often disregarded when continuous improvements in curriculums are made – suggesting that current EE programmes require attention in relation to new methods of teaching to better equip lecturers with entrepreneurial competencies (Miço & Cungu, 2023; Seikkula-Leino et al., 2010). Educators that are seen to be part of entrepreneurship programmes in higher institutions have disputed the way in which EE should be taught versus the current manner in which it is being taught, noting that entrepreneurship programmes should combine both theory-based and practice-based teaching to ensure that students are exposed to the theoretical underpinnings as well as gain direct experience with the start-up activities (Bauman & Lucy, 2021; Neck, 2014; Yamakawa et al., 2016). Furthermore, EE has also been found to expose students to the importance of business planning as well as provide access to successful practitioners in the field; this assists students in establishing effective coping strategies that would lead to high levels of motivation to start their businesses (Boldureanu et al., 2020)). Education has therefore received a great deal of attention as a spindle in the transformation of civilisation as it acts as an integrative force that binds individuals and the development of a nation (Gautam & Singh, 2015; Kirkley, 2017; Maneejuk & Yamaka, 2021). Many authors have also suggested that entrepreneurship is a means of relieving social pressures (such as poverty and unemployment) in a country and can positively affect an economy’s well-being (Bilan & Apostoiaie, 2023; Carree et al., 2002; Kritikos, 2014; Moradi et al., 2020). However, the issue is that many individuals prefer to opt for a corporate working career due to the extensive level of uncertainty and risk associated with entrepreneurship (Liesch et al., 2014). Furthermore, countries are also under strain to identify how effective the EE received by their students is and how this may affect whether students choose to pursue such a career (Fatoki, 2014). Table 1 below contains various definitions by several authors who have defined EE.

Table 1: Definitions of entrepreneurial education

<i>Author</i>	<i>Definition</i>
<i>Jones and English (2004:2)</i>	<i>“... the process of providing individuals with the ability to recognise commercial opportunities and the insight, self-esteem, knowledge, and skills to act on them”</i>
<i>Fayolle et al. (2006:702)</i>	<i>“... any pedagogical program or process of education for entrepreneurial attitudes and skills”</i>
<i>Gautam (2015:24)</i>	<i>“... the process of professional application of knowledge, attitude, skills, and competencies”</i>

Ndofirepi (2020:4) “... the development of attitudes, behaviours, and capacities that can be applied during an individual’s career as an entrepreneur”

Shah et al. (2020:2) “Entrepreneurship education provides students with the motivation, knowledge, and skills that are essential for launching a successful venture”

For purposes of this study, the *intentions* of the students to pursue an entrepreneurial career were not of interest, but rather whether the EE being received is effective in *orientating* the student to consider an entrepreneurial career. Tselepis et al. (2021) conducted a study and proposed a matrix that could be used to guide EE effectively in tertiary institutions. According to this matrix, three EE approaches are learning about entrepreneurship; learning for entrepreneurship, and learning through entrepreneurship:

1. Learning about entrepreneurship: This approach deals with a lecturer utilising theory-based learning to expose students to the theoretical underpinnings and frameworks of entrepreneurship.
2. Learning for entrepreneurship: This approach encompasses the use of action-orientated methods where the relevant teaching is based upon experiential learning and problem-solving instead of theory-based teaching.

Learning through entrepreneurship: This approach uses the notion of ‘out-of-classroom’ teaching by incorporating real-life learning and allowing students to take part in internships and start their entrepreneurial businesses.

II. METHODS

A descriptive research design was adopted through the use of a systematic review of literature, aiming to aggregate the results of existing studies indicating the influence that EE has on the IEO of university students. According to Mallett et al. (2012:445), a systematic review “involves identifying, synthesising and assessing all available evidence, quantitative and/or qualitative, in order to generate a robust, empirically derived answer to a focused research question”. A systematic review approach is therefore regarded as substantially different from traditional or narrative reviews – this is due to the fact that the systematic review approach follows a set of predetermined steps in order to accurately discover studies as well as to provide an exhaustive summary of current literature in a particular field (Sánchez González et al., 2010; Veginadu et al., 2022). A set of inclusion and exclusion criteria was derived before the systematic review was conducted. The inclusion criteria were that studies had to contain the concepts of EE and IEO, involve a student body in a higher education institution, were regarded as full-text articles and were written in English. The studies were excluded from the systematic review if EE and IEO were not considered the main subject and focus, the articles were not full text in nature and were written in a language other than English. Furthermore, the timeframe for the search included all studies until 2022. The researchers believed that IEO is a relatively new concept, and it would be unfavourable if the current study did not include all research on the concept. Additionally, EE included studies until 2022 as, again, the researchers believed it would be beneficial to understand whether there have been adaptations in the teaching methods and the relevance thereof.

A. Research Question

The primary research question underpinning the systematic review was: Does entrepreneurial education influence the individual entrepreneurial orientation of university students? Various keywords were developed in order to answer the research question, namely “individual entrepreneurial orientation”, “entrepreneurial education”, “intrapreneurial orientation”, and “entrepreneurial attitude orientation”. The keywords utilised assisted in the discovery of studies that have explored EE and IEO. The purpose of the study was therefore to understand how EE influences university students to pursue an entrepreneurial career upon completion of their studies.

B. Source and Study Selection*Table 2: Summary of the inclusion criteria*

<i>Phase</i>	<i>Criteria</i>
<i>Primary</i>	<i>Written in English</i>
<i>Screening</i>	<i>Search keywords identified in the title or text of the displayed search result</i>
	<i>Full-text articles</i>
<i>Secondary Screening</i>	<i>A core focus on EE and IEO</i>
	<i>The context of higher education institutions</i>
<i>Final Screening</i>	<i>Criteria used for secondary screening</i>
<i>(full-text analysis for eligibility)</i>	<i>Studies that analysed EE at higher education institutions and entrepreneurship among individuals</i>

A Boolean search was used by employing a set of keywords. The study was divided into three searches. The initial search entailed finding studies that included IEO and EE in the same publication. The subsequent searches then separated these terms and searched them in the databases to gain further insights into these concepts. Following this, searches then explored studies that have investigated IEO and the final search comprised the exploration of studies that included EE. The following are the search strings that were used: (“Individual Entrepreneurial Orientation” OR “Intrapreneurial Orientation” OR “Entrepreneurial Attitude Orientation”) and (“Entrepreneurial Education OR Entrepreneurship Education OR Entrepreneurial* Education”). The databases that were examined were Sabinet Africa Journals, EbscoHost, Emerald Insight, and ProQuest. Due to the wide-ranging nature of each database and its respective journals, the original Boolean search was not able to be used in its original form each time, for each database. Instead, the researcher needed to adapt the Boolean search, where required. The keywords as indicated in the previous section could appear in the article title, text, abstract, or keywords section. The articles which met the inclusion criteria were accepted so that the researcher could fully review the article. The studies that did not meet the requirements of the inclusion criteria or that exhibited elements of the exclusion criteria were removed from the screening process. If an article only had an abstract, it was also removed from further screening as the researcher was not able to accurately analyse the study.

III. RESULTS AND DISCUSSION

The following section provides an overview of the research process that the researcher adopted, as well as a discussion of the findings as per the systematic review.

A. Overview of Research Process

Figure 1 depicts a high-level overview of the process followed in selecting the studies during the systematic review. The figure indicates that approximately 2.5% of the discovered studies were suitable for inclusion in the process of evaluation.

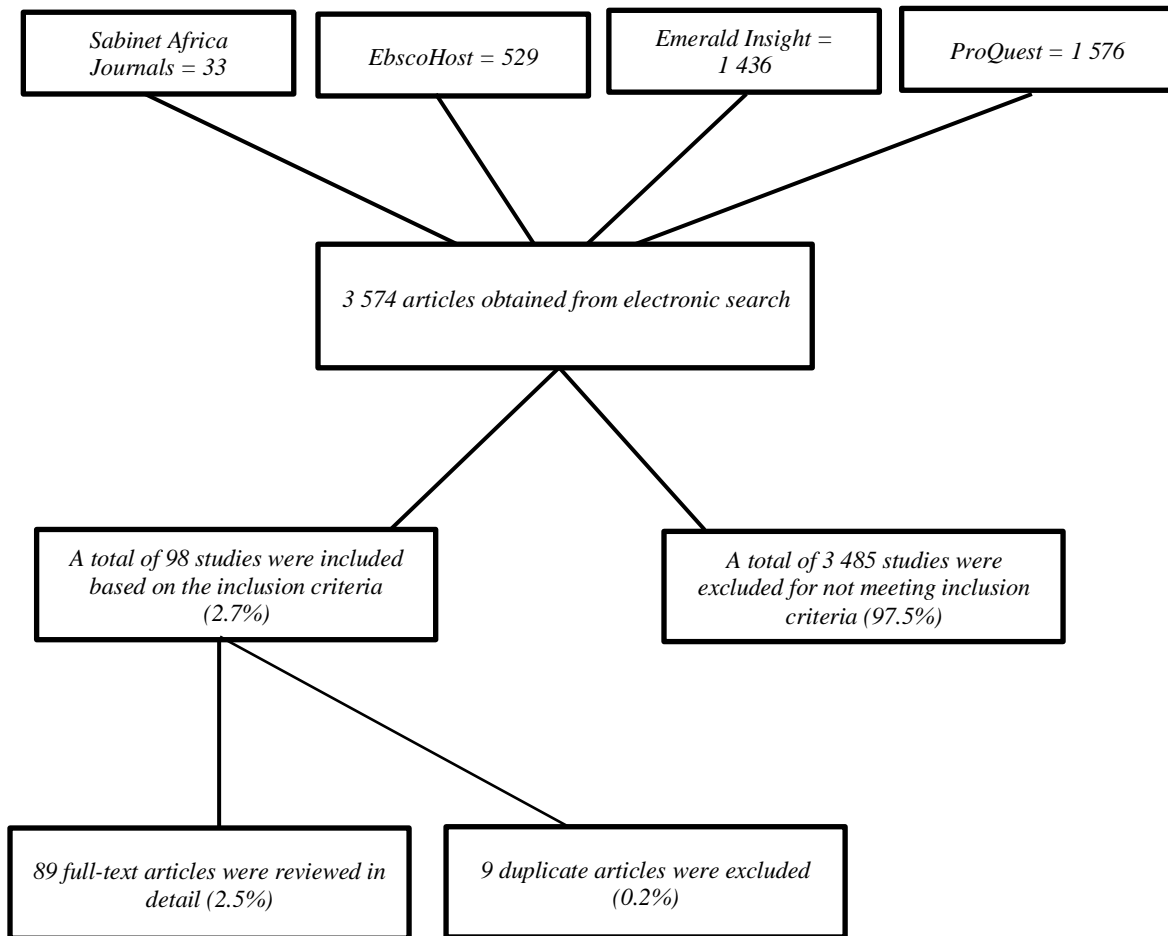


Figure 1: Process of the systematic review study selection

The initial search of the databases yielded 3 574 studies. These studies were then considered against the inclusion and exclusion criteria and 3 485 studies (97.5%) were excluded from further analysis. The main reasons for the exclusion of the studies were that IEO and EE were not the core focus of the study and the study was not conducted in the context of a higher education institution (university). A total of 89 studies (2.5%) were therefore accepted for in-depth analysis. Nine studies (0.2%) were excluded from further analysis as they were duplicates of other accepted studies. The results of the preliminary screening per database are outlined in Table 4.

Table 3: Preliminary results

Database	Total Discovered	Accepted Articles
Sabinet Africa Journals	33	6
EbscoHost	529	25
Emerald Insight	1 436	21
ProQuest	1 576	46
Preliminary Totals	3 574	98

Less Duplicate Studies

(9)

Net Total Studies Discovered

89

B. Thematic Areas

The study aimed to understand how EE influences the IEO of university students. The majority of studies that were identified through the systematic review investigated the relationship between EE and a student’s intention to start a business venture, but very few studies explored the orientation of students. There was therefore a gap in the current body of knowledge to better understand if students are orientated to become entrepreneurs upon completion of their studies. Furthermore, the systematic review also revealed that many entrepreneurial programmes at tertiary institutions focus mainly on theory-based teaching, while disregarding the need to integrate practice-based teaching to better enhance students’ orientation in choosing an entrepreneurial career. Figure 2 illustrates a structured visualisation of the results of the systematic review, illustrating a thematic map with six key themes. There are six main branches, which symbolise the thematic areas identified during the systematic review process.

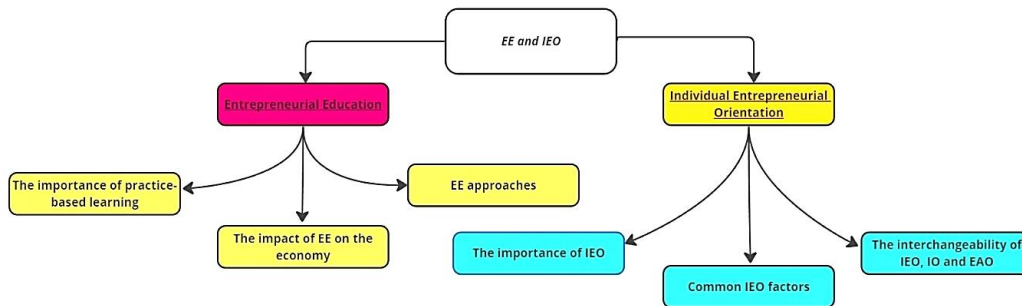


Figure 2: Themes identified during the systematic review

The following section covers each of the themes as illustrated in the structured visualisation.

1. Theme 1: The importance of practice-based learning

Practice-based learning has been regarded as an imperative element in entrepreneurial teaching (Bell & Bell, 2020). It has been found that students that are exposed to real-life business modelling as part of their tertiary education studies are better suited to gain the necessary theoretical knowledge while experiencing the various stages of the entrepreneurial process (Kozlinska et al., 2020). This involves lecturers persuading students to further develop their entrepreneurial capabilities by co-participating in the creation of various streams of knowledge (Hasan et al., 2017). It was also found during the systematic review that educators should be more inclined to create a ‘learning community’ so that students have the ability to share their visions and motivations; this will ensure that the students not only learn from their own experiences, but are also exposed to the experiences of others. This in turn will allow the students to develop new entrepreneurial abilities while improving the entrepreneurial abilities they already possess (Wei et al., 2019). A study conducted by Yamakawa et al. (2016) analysed the nature of the theoretical and practical pedagogies being used as part of EE studies and found that it is essential that practice-based pedagogy be expanded. The systematic review discovered that it is important that students have the theoretical knowledge of entrepreneurship but that they may only be convinced to pursue such a career should they tap into the practical nature of entrepreneurship, i.e. they should be taught how to analyse the business market for opportunities and by gaining experience through various other entrepreneurial businesses. Yamakawa et al. (2016) also found that through exposure to practice-based learning, students will have a greater ability to manage their businesses successfully. On the contrary, however, the practice-based teaching approach has also been criticised for being flawed because it is often regarded as a predictive and linear approach. Aldila Krisnaresanti et al. (2020); Kusumojanto et al. (2020) discuss the importance of enhancing the entrepreneurship programme curriculum to be presented more interestingly and creatively to further stimulate students’ interest in starting their business ventures. They also highlight the importance of ensuring that educators and institutions provide the necessary infrastructure and facilities that will directly support students in their entrepreneurial activities.

2. Theme 2: The impact of EE on the economy

Bakar et al. (2014); Barba-Sánchez & Atienza-Sahuquillo (2018); Boldureanu et al. (2020); Nkang (2013) unpack the importance of EE and argue that it acts as a driver towards stimulating technological and economic

growth in a country. Universities in any country are often viewed as the centre of knowledge creation among individuals and the individuals who are taught entrepreneurship effectively have been seen to pursue an entrepreneurial career that would ultimately contribute to the overall success of the country (Comunian & Faggian, 2014). EE can be taught either formally or informally, with the former resembling education received at higher education institutions, and the latter referring to education received from an individual's social ties, i.e. friends and family. However, it is important to note that the benefits of EE will only be seen over time as more individuals with the necessary knowledge and skills begin creating jobs rather than merely seeking job opportunities. EE also assists in combatting various socio-economic issues since the education received by individuals will empower them and their organisations to create social value for their communities (Wilson et al., 2009). Individuals from particular countries with relevant entrepreneurial knowledge and training are seen to venture into entrepreneurial activities rather than simply seeking out corporate employment as a means of greater job security. This in turn suggests that more individuals provide a helping hand in tackling a country's socio-economic challenges (Wilson et al., 2009).

3. Theme 3: EE approaches

Much of the EE being offered in South African higher education institutions today is considered to be in its developmental stages, as students mainly only engage with theory-based teaching. Kabongo & Okpara (2010) argue that entrepreneurship forms part of many different tertiary education qualifications, but very few offer courses that specialise in entrepreneurship directly. Canziani et al. (2015) point out that entrepreneurship should be seen as a method in which teaching should take place in a cross-disciplinary nature that focuses strongly on a learning-by-doing approach. EE has been centred on two prominent approaches, believed to be the origin of the development of further approaches – these approaches are known as experimental learning theory (ELT) and contemporary-based learning (CBL). The ELT approach has been defined by Kolb & Kolb (2005) as “an active learning pedagogy, where experiences are transformed and create implicit knowledge as a collection of social practices”. This approach focuses on students being exposed to experimental and discovery-based assessments which are aimed at enhancing their understanding by being exposed to industry leaders. The CBL approach relates to teaching based on cognition and behaviours that will integrate an individual's personality and behavioural perspectives. However, the CBL approach has been criticised because it does not adequately expose students to the business world; this vastly affects their social capital (Kolb & Kolb, 2005).

4. Theme 4: The importance of IEO

It is crucial to ensure that a country encourages and supports successful entrepreneurship as this will positively stimulate the economy and lead to economic growth (Westhuizen, 2017). Entrepreneurial orientation has elicited considerable interest as an organisational-level construct that determines an organisation's performance (Grande et al., 2011; Gupta & Gupta, 2015), but authors have also realised the importance of studying the individuals within these organisations to identify the factors that may be promoting or hindering entrepreneurship (McHenry & Welch, 2018; Sisilia & Sabiq, 2019). Through the systematic review, it was revealed that the opportunities chosen to be exploited by the organisation are ultimately the decisions made by individuals within the organisation (Langkamp Bolton & Lane, 2012; McHenry & Welch, 2018). The landmark study by Langkamp Bolton & Lane (2012) initiated further exploration of this concept, which has now been termed individual entrepreneurial orientation (IEO). The systematic review found that it is necessary to better understand the personal characteristics of the individuals engaging in entrepreneurial activities. However, the concept of IEO is relatively new and requires further examination to adequately operationalise all its elements (Koe, 2016).

5. Theme 5: Common IEO factors

Through the systematic review, it was found that entrepreneurial orientation was originally developed by Miller (1983) and is made up of three factors, namely innovativeness, proactiveness, and risk-taking. This concept was then further popularised by Covin & Miller (2014) in their study involving entrepreneurial strategic posture. A few years later, Lumpkin & Dess (1996) further expanded on the concept of entrepreneurial orientation and proposed a five-dimensional model which encompassed the three original factors (innovativeness, proactiveness, and risk-taking) along with an additional two factors, namely autonomy and competitive aggressiveness. Over the years, various studies have further explored the concept of entrepreneurial orientation and found that it has a positive influence on government-linked companies, the financial and non-financial performance of franchises, as well as brand and market performance (Dada & Watson, 2013; Koe, 2013; Reijonen et al., 2015). The interest then shifted to IEO when it was determined that it was also relevant to explore the entrepreneur. The study by Bolton and Lane (2012), which explored entrepreneurship at individual level instead of at organisational level, has been a driver to a better understanding of the IEO of university students (Koe, 2016; Mutlutürk & Mardikyan, 2018; Sisilia & Sabiq, 2019). Although studies have explored the IEO of university students, the majority of the studies conducted (Efrata et al., 2021; Koe, 2016; Sisilia & Sabiq, 2019; Stouraitis et al., 2022) used only the three original

entrepreneurial orientation dimensions, namely proactiveness, innovativeness, and risk-taking, while disregarding the factors of autonomy and competitive aggressiveness. Langkamp Bolton & Lane (2012) found that the two additional factors (autonomy and competitive aggressiveness) did not have a significant impact on the IEO of students but noted that further validation was necessary as these factors could have been presented as less significant due to the context of the students' environment. Therefore, it was worth exploring the original five entrepreneurial orientation factors (innovativeness, proactiveness, risk-taking, autonomy, and competitive aggressiveness) when measuring the IEO of university students to determine if the country where the student resides and various other factors could affect the degree of the factor's impact.

6. Theme 6: The interchangeability of IEO, intrapreneurial orientation (IO), and entrepreneurial attitude orientation (EAO)

Various synonyms have been studied in line with exploring entrepreneurship at individual level and these include the concepts of intrapreneurial orientation and entrepreneurial attitude orientation. A study conducted by Blanka (2019) aimed to explore the perspectives that individuals have of intrapreneurship and found that specific personality traits assist in determining the entrepreneurial individuals within an established organisation. Furthermore, the EAO scale was developed by P. B. Robinson et al. (1991) which aimed at including various attitudinal components (namely achievement, locus of control, perceived personal control, self-esteem, assertiveness, and risk orientation) which would affect the level of entrepreneurship.

IV. CONCLUSION

EE is an important element for all countries that strive to create successful entrepreneurs who will assist in enhancing economic growth and combatting societal issues. To address these economic concerns, higher education institutions must aim to provide individuals with valuable knowledge and skills to adequately equip them to pursue entrepreneurship as a career choice. The aim of the study was therefore to assess the effect that current EE approaches have on the individual entrepreneurial orientation of university students. It is important to determine the current entrepreneurial approaches that are being utilised in higher education institutions and whether this would convince students to choose an entrepreneurial career. The findings of the study show that many entrepreneurial courses utilise theory-based teaching and very few utilise practical-based teaching methods, i.e. internships. Traditional teaching is based on teaching students the theoretical components of entrepreneurship without embedding any practice. The majority of the identified studies also explored the relationship between EE and student intentions, but very few assessed the orientation aspect as in this current study. Also noted is the fact that many of the studies that explored IEO only did so by utilising the three original entrepreneurial orientation factors (proactiveness, innovativeness, and risk-taking).

Considering the results of the systematic review, it is recommended that higher education institutions adopt various entrepreneurial education approaches, while emphasising the need for practice-based teaching. It is therefore recommended that entrepreneurial education and its effects on student orientation receive increased and improved coverage. Also, there is a need to raise awareness among researchers to further investigate the various approaches available and to determine which is the best fit to orientate students to become entrepreneurs after the completion of their studies. The practical implications of the current study lie in determining the importance of finding modern and innovative ways of teaching entrepreneurship and ensuring that current higher education curriculums are incorporating practical-based teachings so that students are better equipped to become entrepreneurs upon completion of their studies. Furthermore, the current study adds to the body of knowledge by advancing the field of EE to better understand the role of EE in expanding the competencies and IEO of students. Current EE approaches are developed as a 'one size fits all' approach without considering the contextual variations that may exist. The limitations of the current study are that only four databases were considered as part of the systematic review, this may therefore suggest that a more comprehensive study is conducted to include other databases as well as methodologies to broaden the scope of the research material being analysed. Although the systematic review is considered an academically validated methodology, there are still limitations, and the findings should therefore not be taken as exhaustive.

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Effect of Ecological Marketing on Survival of Small and Medium Enterprises in Anambra State, Nigeria

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ABSTRACT

Purpose: The state of small and medium-sized businesses (SMEs) is deteriorating, and the environment is irrational in a way that has led to many businesses, especially SMEs, collapsing early in their existence. In this study, the survival of SMEs in the state of Anambra was examined in relation to ecological marketing.

Design/methodology/approach: Descriptive survey methodology was used in the study. All SMEs in Anambra State make up the study's population, and 384 people were chosen for the sample through the use of a purposive sampling technique.

Findings: As a result, respondents were asked to complete a structured questionnaire. Data analysis techniques used included multiple regression analysis, exploratory factor analysis, and Pearson's correlation. Technology, sociocultural factors, and economic factors all had a positive and significant impact on the study's findings regarding the survival of SMEs. However, in Anambra State, political factors have a significant and detrimental impact on SMEs' ability to survive. In light of this, the study came to the conclusion that ecological marketing significantly affects SMEs' ability to survive in Anambra State, Nigeria. Additionally, it claimed that businesses are on the verge of extinction if they don't recognise and act quickly on the new trends and problems in their environment. However, this study recommended strengthening the regulatory framework as well as providing adequate infrastructure facilities for SMEs to survive in Nigeria.

Paper type: Research Paper.

Keyword: *Ecological Marketing, Technology, Socio-Cultural, Political, Economic, SMEs Survival*

Received : May 4th

Revised : May 18th

Published : July 31th

I. INTRODUCTION

Environmental concerns have spread rapidly throughout the world, affecting both business and everyday life (Alhaji & Muharram, 2019). People on the street are regularly aware of the threats posed by industrial activities, such as global warming, pollution, ozone layer destruction, scarcity of natural resources, etc. As consumer behaviour is impacted by factors like globalisation, economic development can be ensured while maintaining sustainability. Consumer awareness of the environment has grown significantly in recent years. Accordingly, Alabo & Anyasor (2020) asserted that as societies take issues relating to a healthy environment more seriously, businesses are paying attention and adapting their operations to reflect this widespread concern. As a result, environmental problems such as pollution and the resulting global warming have taken on a global dimension, and both consumers and marketers are starting to recognise the importance of switching to greener, safer products and services (Kolk, 2016). This marketing-driven shift towards ecology essentially entails altering ideas that are deeply ingrained in business cultures and conventional marketing strategies.

Every company that wants to preserve its environment is now using ecological marketing, also known as green marketing, environmental marketing, or sustainable marketing (Alabo & Anyasor, 2020). Small and medium-sized businesses (SMEs) have started strategizing about how to create, develop, and market those products that can preserve the environment, satisfy customer demands, and generate profits. Numerous businesses in Nigeria have embraced the idea, which is reflective of how they conduct business, care for the environment, and how they want their clients to perceive them in terms of their role in preserving the environment. In contrast

to conventional marketing, ecological marketing aims to raise consumers' environmental consciousness (Melovic et al., 2018).

Lawrence & Samuel (2021) assert that environmental issues are becoming more and more significant, affecting all human activities as awareness of them rises. Despite this, only a few academic disciplines have been able to incorporate environmental issues into their literature reviews. This is now a fact due to marketing's success in resolving these problems. Although ecological marketing is associated with small businesses, it is actually applicable to both large and small business scenarios. Because it is more visible and difficult to implement and maintain in large businesses, ecological marketing is frequently associated with SMEs (Melovic et al., 2018). Initially, ecological marketing was associated with small, resource-constrained businesses that were perceived as being less sophisticated. The innovative nature of ecological marketing has increased awareness in the modern era (Sullivan Mort et al., 2012).

The concept of ecological/green marketing is the production and marketing of goods and services with consideration for the environment in order to meet customer demands and organisational objectives (Alabo & Anyasor, 2020). According to Rex & Baumann (2007), it is the procedure and actions undertaken by businesses when offering environmentally friendly products or services to customers. According to Katrandjiev (2016), ecological marketing encompasses a wide range of activities, including creating products that are less harmful to the environment during their production, use, or disposal. In order to create products that are environmentally friendly, it is important to ensure that the production process, packaging, and advertising are all environmentally friendly. It can also be used to develop and enhance the costing, marketing, and distribution of environmentally friendly products (Pride & Ferrell (2015).

Due to the growing importance of ecological marketing to contemporary marketing, businesses are reevaluating all of their product-related processes and promotional efforts. The analysis of a number of factors, including consumer awareness, cost and profit concerns, awareness of the issues, and competitive pressures is necessary to implement ecological marketing, according to B.Singh & Pandey (2012). According to Makudza (2021) ecology is the "ability to meet the needs of present customers while taking into consideration the needs of future generations." A sustainable business model includes procedures that work to maintain a firm's financial, environmental, and social resources over the long term and to improve those resources' performance.

The idea of ecological marketing is occupying the minds of academics, marketing professionals, and entrepreneurs as SMEs face more dynamic and intense competition. Today's business environment is evolving, and market conditions are shaped by chaos, fragmentation, uncertainty, complexity, and ambiguity. As a result, a new ecological creative alternative is being introduced in place of the conventional marketing approach's planned, linear, and rational response (Fillis & Rentschler, 2010). Ecological marketing can therefore be viewed as a new paradigm that unifies key marketing and entrepreneurship concepts into a comprehensive idea where marketing becomes a process used by businesses to act ecologically (Melovic et al., 2018).

Ecological marketing is essential for raising public awareness of environmental issues and for conveying consumer demand for products that are more environmentally friendly. While many businesses use ecological marketing to highlight the value of sustainability and social responsibility, other businesses use it as a way to fleece uninformed consumers. It is getting harder to market products and services that are not environmentally friendly today. With the aid of technology and the internet, customers can access information from anywhere in the world. Customers are aware of the truth, and businesses have little to no choice but to transition to a more effective and efficient method of making environmentally friendly products.

To survive in a changing competitive environment, SMEs are constantly under pressure to find new and better ways to add value than the traditional ways (for example, better products or lower prices). Carter & Tamayo (2017; Effiom & Etim (2018) claim that policymakers in Nigeria are aware of the importance of SMEs as significant economic drivers (e.g., they contribute about 45% of Nigeria's GDP and account for more than 50% of innovations seen in business and technological developments) and leading job creators (e.g., they account for about 70% of industrial employment). The high death rate of SMEs and the ineffective addressing of this issue are significant issues in Nigeria's SME sector. According to Gwadabe et al. (2017), 85% of businesses in Nigeria fail before their fifth birthday despite efforts made by the Nigerian government and other helpful agents. When the low percentage of people who survive past the fifth year of existence collapses between the sixth and tenth years of existence, 5–10% of the population is still alive (Gwadabe et al., 2017). According to Munyaradzi (2013), many developing countries, including South Africa and Malawi, also experience a high rate of small- and medium-sized business (SME) death.

SMEs have long been recognised for their contributions to the economic growth of both developed and developing countries (Shehu, 2014). Idam (2014) claims that SMEs can only maintain this position when a variety of strategies, such as the creation and implementation of suitable ecological marketing practises, are implemented at the appropriate time and in the proper proportion to have a positive impact on performance. Competition for SMEs has gotten tougher due to changes in the marketing environment's level of competition (Olannye & Edward, 2016). Many academics, businesspeople, and staff members of ecological firms now seriously question the need

for a proper understanding of ecological marketing strategies and their applicability to such firms. Numerous researchers have looked at how SMEs can be improved using ecological marketing's dimensions, but few, if any, have linked or explained how each ecological marketing aspect affects SMEs' survival in the state of Anambra.

According to Olaniyan Ogbauna & Oduguwa (2017), despite recent growth in research on SMEs marketing, current findings have not been reflected in marketing practises among SMEs in Nigeria. They stated once again that large organisational models applied to small firm settings have been criticised in the literature and that additional research is required to ascertain how marketing is carried out within the SMEs sector in Nigeria. Olaniye and Eromafuru (2016) also noted that despite the numerous challenges SMEs in Nigeria face, ecological marketing has not gotten much attention. A survey report from NBS/SMEDAN from 2018 that shows that the number of SME has decreased from 33 in 2010 to zero in 2018 is used to support this assertion. A prime example is the dearth of a sound and comprehensive theoretical framework that examines the connection between ecological factors and their effect on the survival of SMEs in the context of a typical developing nation like Nigeria. It's intriguing to learn that some SMEs are able to overcome the significant obstacles and difficulties they experience. Therefore, there is cause for hope that a solution exists. Unknown to many SME promoters must be some strategies for surviving. The objective of this study is to empirically explore how ecological marketing affects the survival of SMEs in the Nigerian state of Anambra. In this instance, the sociocultural, economic, political, and technological traits make up the ecological marketing attributes. The study is hypothesised below based on the aforementioned goal.

Ho: Ecological marketing attributes have no significant effect on the survival of SMEs in Anambra State.

A. Literature Review

1. Ecological Marketing

Due to the unstable business environment, which forces companies to use non-traditional methods of business development, traditional marketing strategies must be modified for businesses with low levels of resources. As is the case for small and micro businesses, ecological marketing is well known to be more effective when resources are limited (Becherer & Maurer, 1997). As a result, ecological marketing investigates how environmental attitudes and behaviours can be incorporated into the development of marketing strategy and tactics (Janet & Ngugi, 2014). Ecological marketing can be characterised in a variety of ways, making it difficult to overstate how crucial it is. According to (Gbadeyan & Omelakan, 2015), ecological marketing refers to the advertising of products and services that are safe for the environment to use and consume. It also refers to the environmentally responsible marketing of goods and services. Ecological marketing, also referred to as "green marketing," examines how a product is modified, the entirety of the production process and its modifications, how the product is packaged and changes to packaging, as well as the core changes to its advertising (Alabo & Anyasor, 2020). The concepts of green marketing and holistic marketing are related, claim Gelderman, Schijns, Lambrechts, and Vijgen (2021). This suggests that ecological marketing refers to the process of a good or service from conception to delivery to the final customer while also fulfilling its financial and environmental responsibilities. A company that understands the value of being environmentally friendly must be the one to develop a product from the beginning. Customers frequently link ecological marketing with phrases like "phosphate free," "recyclable," "refillable," "ozone friendly," and "environmentally friendly" (Chaudhary, Tripathi, & Monga, 2011). In this study, the operationalization of ecological marketing is based primarily on economic, sociocultural, political, and technological attributes. As a result, ecological marketing is defined in this study as all actions that enable any exchange meant to gratify human needs and wants while having as little adverse effect on the environment as possible.

a. Economic attribute

Economic attributes are essential to the existence of businesses and a larger society because they measure the level of national growth and development (Adeyori & Agbadudu, 2018). The phrase "economic ecosystem" refers to all external economic factors that have an impact on how customers and businesses make purchases and, consequently, how well a business performs. These traits, which can be either macro- or micro-scale in nature, are frequently beyond the control of a company. The macro factors include, among other things, things like employment/unemployment, income, inflation, interest rates, tax rates, currency exchange rates, saving rates, customer confidence levels, and recessions. The dependability of a company's distribution chain, or how successfully it delivers goods to customers, is one of the microeconomic factors. According to Etuk, Etuk, and Baghebo (2014), additional microeconomic factors include the size of the market, customer demand for the company's products or services, competition, supplier availability, and supplier quality. In truth, a nation's economic characteristics or ecosystems affect how easy it is to conduct business there (Ayedun & Awoyemi, 2014).

b. Political attribute

In Nigeria, political attributes are crucial to the survival of business. The current political climate in Nigeria has made space for peace, security of people and property, a reduction in societal tension, and assistance in creating a political institution that is encouraging and stable and free from ongoing agitation, conflict of interest, and war (Ibrahim & Muritala, 2015; Obisi & Gbadamosi, 2016). On the contrary, the tension and unfavourable business climate that the citizens have recently experienced have been made possible by this environment. Examples include the resurgence of Boko Haram in the northeast geopolitical zone and banditry in the north-west and north-central geopolitical zone. All of these criminal organisations have political motivations for existing, and this has made the business climate in these areas unfavourable (Uthman, Sule, & Singh, 2015). To this, the numerous pro-secession demonstrations by the recently outlawed Indigenous People of Biafra (IPOB) in southeast Nigeria were evidence of the unrest in the nation. The involvement of militants in the Niger-Delta region and the nefarious activities of Fulani herdsmen have also increased tension throughout the nation and negatively impacted business climates. Given this, it makes sense that fostering a calm and welcoming business environment is a strategic way to ensure the survival of SMEs in Nigeria. Political traits such as governmental practises, political stability, power transitions, security, taxation, privatisation, and deregulation are consequently important. These traits can all have a positive or negative impact on SMEs.

c. Socio-cultural attribute

The norms, beliefs, customs, attitudes, and religion practised in the community are all examples of the socio-cultural environment, according to Abdullahi and Zainol (2016). It also includes the social structure of the population. Unquestionably, the socio-cultural values of the society have an impact on the ability of SMEs to survive (Adeyori & Agbadudu, 2018). For example, the sale of alcoholic beverages is prohibited in some northern states of Nigeria while it is permitted in the southern states due to their cultural and religious backgrounds. As a result, compared to their counterparts in the South, industries operating alcohol plants in Northern communities may have a shorter lifespan. According to this study, the social-cultural environment refers to all conditions, elements, and influences that may have an impact on a person's attitudes, dispositions, behaviours, choices, and activities and thereby mould their personalities.

a. Technological attribute

Every new and existing business must now consider technology as a crucial component. Over the past few decades, technological use in business has increased dramatically. Because of the development of computers and the internet, small businesses are now making a greater economic contribution than ever before (Das, Kundu, & Bhattacharya, 2020). Technology in SMEs has tangible and intangible advantages that influence the culture, relationships, and effectiveness of how their daily operations are carried out. By offering secure confidential information and a competitive advantage, technology has improved small business security and helped many companies survive the challenging business environment. According to Nguyen, Yeung, and Castanier (2017), businesses must develop asset maintenance and replacement strategies as well as secure and maintain technology if they want to remain competitive.

2. SMEs' Survival

The persistence of small and medium-sized businesses (SMEs) is a fundamental concept in research on entrepreneur activities. The survival and growth of any organisation are its main priorities in the competitive business environment of today. For the purpose of achieving objectives and gaining market dominance, every business aspires to differentiate itself from its competitors and be more aggressive. According to the Merriam-Webster Business Dictionary, survival is "the act or fact of living longer than another person or thing." According to Gwadabe and Amirah's (2017) research, SME that endure for more than five years can be regarded as having survived the volatile, uncertain, complex, and ambiguous (VUCA) business environment. Small businesses have a low survival rate primarily due to their inability to produce goods and services that satisfy customers' needs and desires. Some businesses provide top-notch products or services, but nobody wants to pay for them, or even worse, nobody wants to pay for products that won't bring in enough money for the company to make a profit. Research on the longevity of SMEs has shown that different countries measure SMEs' longevity in slightly different ways. For instance, Pasha, Wenner, Bolle, and Clarke (2018) claim that the high failure rate of SMEs as a whole is caused by lending institutions' reluctance to financially support these businesses. According to the U.S. Bureau of Labour Statistics (Pasha et al., 2018), 50% of American SMEs survive for five years or less and about one-third survive for more than ten years. Similar findings were made in Cote d'Ivoire, where a study conducted between 1977 and 1997 found that formally registered businesses typically last six years. 2009 (Klapper and Richmond). Gwadabe and Amirah's (2017) study found that 85% of businesses in Nigeria fail before their fifth birthday, despite efforts made by the Nigerian government and other helpful agents. After the tiny portion of the population that survives past the fifth year collapses between the sixth and tenth years of its existence, approximately 5 to

10% of the population is still alive (Gwadabe & Amirah, 2017). The aforementioned statistics are comparable for countries that are members of the Organisation for Economic Cooperation and Development (OECD). Fewer statistics are readily available for emerging and developing countries, which typically rely on administrative data that only includes formally registered businesses. Pacha et al. (2018) claim that the majority of businesses are unofficial and unregistered, placing these businesses in the minority. To comprehend survival over time, survey-based studies need to be replicated more frequently. Many micro and small businesses are additionally viewed as desperate or "survivalist" efforts for those unable to find formal employment. But according to the literature, micro and small businesses typically face much greater growth barriers than those found in industrialised nations, which has an adverse effect on their capacity to produce and survive.

II. METHODS

This quantitative study used a positivistic paradigm and a survey to gather opinions from SMEs managers in Anambra State's three major cities: Awka, the state capital, Onitsha, the commercial centre, and Nnewi, the industrial hub. The three largest cities in Anambra State were specifically chosen for the study. In order to geographically diversify the sample, each of the chosen cities represents a different senatorial zone in the (Central, South, and North) State. There are 177 communities spread across 21 local government areas in the state. The consumers of beer products in Anambra State make up the study's population. The number of people who actually consume beer products in the State is not known. This necessitated using Cochran's method to determine the proper sample size for the study. Cochran's formula is presented as follows:

$$n = \frac{Z^2 Pq}{e^2}$$

Validation was,

Z = the result on the Z table with a 95% confidence level of 1.96;

e = sampling error at 5%; and

p = the population's maximum variability at 50%. i.e. (0.5) (0.5)

q = 1-p = 0.5

Substituting,

$$n = \frac{(1.96)^2 0.5(0.5)}{0.05^2}$$

$$n = 384.116$$

Three hundred eighty-four beer drinkers make up the sample size. One hundred and twenty-eight respondents were chosen from Onitsha (Anambra North), Nnewi (Anambra South), and Awka (Anambra Central), in that order. The primary data was gathered from beer drinkers using a standardised questionnaire with a five-point Likert scale. Respondents are given a list of statements or questions, and are given a five-point Likert scale on which to indicate how much they agree or disagree with each. Internal consistency measured using Cronbach's alpha yielded a result of 0.781. After conducting a Pearson's correlation, exploratory factor analysis, and other preliminary investigations, the hypothesis was tested using multiple regression analysis to gauge the impact of sustainable marketing strategies.

III. RESULTS AND DISCUSSION

The data generated from the customers of the sampled SMEs in Anambra State were presented, analyzed and interpreted. The rate of return and response to the questionnaire were analyzed as follows. A total of three hundred and eighty-four (384) copies of questionnaires were distributed to the managers of SMEs, out of which two hundred and thirty-six (236) copies were properly filled and found relevant to the study. This shows a response rate of 61.5 percent.

A. Analysis of Results

The impact of independent variables on the dependent variables was examined using the multiple regression technique. The tables below present the findings using the exploratory factor analysis, multiple regression analysis and Pearson's correlation.

Table 1: Pearson's correlation between Ecological Marketing and SME survival

		<i>Ecological Marketing</i>	<i>SME Survival</i>
<i>Ecological Marketing</i>	<i>Pearson's Correlation</i>	1	.525**
	<i>Sig. (2-tailed)</i>		.000
	<i>N</i>	236	236
<i>SME Survival</i>	<i>Pearson's Correlation</i>	.525**	1
	<i>Sig. (2-tailed)</i>	.000	
	<i>N</i>	236	236

** . Correlation is significant at the 0.01 level (2-tailed)

The correlation between ecological marketing and the survival of SMEs is shown in Table 1 (r = 0.525, p<0.05). It is clear from the table of correlation coefficients that all ecological marketing characteristics are significantly and positively correlated with the dependent variable (SME survival). P is less than 0.05, and 0.525, or 52.5%, of the data are correlated. This level of significance indicates that there is a positive and significant relationship between ecological marketing attributes (socio-cultural, economic, political, and technological attributes) and SME survival in Nigeria. The null hypothesis was rejected by this level of significance. However, there is a strong and positive relationship between the two variables that is not only significant. Following recognition of the link between ecological marketing and the survival of SMEs, additional tests utilising multiple regression analysis were conducted to determine the unique impact of each ecological marketing attribute on the survival of SMEs in Nigeria. The results of the EFA, which calculates the factor loading of each ecological marketing attribute, are shown in Table 2.

Table 2: Exploratory factor analysis of the measurement of ecological marketing

<i>Item</i>	<i>Mean</i>	<i>SD</i>	<i>Factor loading</i>	<i>Item total correlation</i>
<i>Ecological marketing attributes</i>				
<i>Factor 1</i>				
<i>Technological attribute</i>	4.14	1.672	.974	.531
<i>Economic attribute</i>	3.62	.864	.784	.526
<i>Socio-cultural attribute</i>	2.63	1.232	.721	.474
<i>Political attribute</i>	2.49	.653	.702	.413

KMO = .758; X² = 629.231; DF= 8; P < .002; Cronbach's α = .689; Percentage of variance explained = 53.21%.

The reliability of the various measurements used in the research construct was examined in this paper in order to determine their degree of internal consistency. Using IBM SPSS statistics version 27, the internal consistency of the components, or factors, and the corresponding items that resulted from the EFA measurement were examined separately. The technological attribute has a Cronbach's alpha coefficient of 0.683, followed by economic attribute (0.651), sociocultural attribute (0.682), and political attribute (0.601). While an internal consistency of 0.729 was produced by the SME survival factor. Since the Cronbach's alpha coefficients were above 0.600, no factor was excluded from the measurement model. The ecological marketing attributes in this

study were examined using the multiple regression analysis/model measurement shown in Table 3 based on the outcomes of the EFA. Additionally, the outcome combines model summary, ANOVA, and coefficients in a sizable table to produce a clear, comprehensive picture.

Table 3: Ecological Marketing as predictors of SME survival

	<i>R</i>	<i>R square</i>	<i>Adjusted R square</i>	<i>F</i>	<i>Beta</i>	<i>t</i>	<i>sig</i>
	.671 ^a	.635	.546	22.677	----	----	.000 ^b
<i>Socio-cultural attribute</i>					.163	2.624	.001
<i>Economic attribute</i>					.221	2.236	.012
<i>Political attribute</i>					-.175	-2.693	.000
<i>Technological attribute</i>					.237	3.672	.002
<i>(Constant)</i>					---	6.378	.007

a. Dependent Variable: SME survival

b. Predictors: (Constant) socio-cultural, economic, political, technology

According to Table 3, the regression model has a R square of 0.635 and an adjusted R square of 0.546. This means that 54.6% of the variations in the survival of SMEs in Nigeria are predicted by the model (ecological marketing attributes). This is significant at $p < 0.05$, indicating that the dependent variable (SME survival) and the independent variables (different ecological marketing attributes) have a significant relationship. These findings are consistent with the alternative theory that ecological marketing characteristics have an impact on SMEs' ability to survive. Notably, the standardised Beta and the corresponding P-values for socio-cultural attributes ($\beta = 0.163$, $p < 0.001$), economic attribute ($\beta = 0.221$, $p < 0.012$), political attribute ($\beta = -0.175$, $p < 0.000$), and technological attribute ($\beta = 0.137$, $p < 0.002$), show that the technological attribute made the largest contribution, followed by the economic attribute, and then the other dimensions. In light of these findings, it can be concluded that sociocultural, economic, and technological characteristics all contribute to the prediction of SME survival in Nigeria, while political characteristics also made a distinctive contribution to SME survival in this study. Given this, it is reasonable to conclude that ecological marketing significantly affects SME survival in Nigeria.

B. Discussion of Result

This study looked at how ecological marketing affected SMEs' ability to survive in Anambra State, Nigeria. The results demonstrate that ecological marketing has a favourable and significant impact on SMEs' ability to survive. A thorough investigation was conducted to confirm the extent to which these ecological marketing attributes contributed to the survival of SMEs in Anambra State, Nigeria, but it was discovered that the technological attribute had a major impact. This was consistent with the findings of Gado (2015) and Ayedun and Awoyemi (2014), who discovered that technological advancements are crucial to business survival. Adeyori and Agbadudu (2018) found that technological attributes have a significant but unfavourable impact on MSMEs in Nigeria, but the study disagreed with their findings.

Insofar as making SMEs competitive and sustainable is concerned, the role of technology cannot be understated. This is especially true of the digitisation concepts that many businesses have adopted. Reexamining the technological climate in developing nations is highly pertinent in these circumstances. The impact of technology on the survival of SMEs is thus illustrated in this study, which shows that SMEs owners and managers have enjoyed adequate access to modern technology and equipment, good business networks and communications, easy access to credit facilities, low taxes, good market competitive advantage, high sales volume, as well as adequate access to information systems. Technology-based SMEs can now focus on thinking about expanding outside of national borders to enter intra-regional and international markets as well as compete with multinational corporations to capture a larger market share in the domestic market, according to Das et al.

(2020). Many businesses have chosen to concentrate their efforts on differentiating themselves through capability development in recent years.

Once more, it is clear that economic factors play a positive and significant role in SMEs' ability to survive in Anambra State. This suggests that good market competitive advantage, high sales volume, low cost of raw materials, adequate infrastructure, minimal inflationary trends, moderate entry fees and charges, easy access to credit facilities, and low taxes are indeed some of the key economic factors that support SMEs survival in Anambra State. The findings of this study are consistent with those of Adeyori and Agbadudu (2018), who found that economic factors affect MSMEs' ability to survive in Nigeria.

The study also discovered that socio-cultural characteristics significantly and favourably affect SMEs' ability to survive in Anambra State, Nigeria. That is to say, the operationalization and survival of SMEs in Anambra State are impacted by issues related to religious discrimination, customer beliefs and norms, corruption, and other social vices. Therefore, managers and owners of such businesses must take into account the strength of such environment if they want their SMEs to survive within the socio-cultural environment. This implies that the people's culture and traditions are still valued and taken into account when conducting business as usual. Therefore, the majority of SMEs in Anambra State have mastered the art of operating within the socio-cultural framework. This result supports the thesis put forth by Adeyori and Agbadudu (2018) and Eze and Okpala (2015), according to which socio-cultural characteristics significantly and favourably affect the survival of SMEs in Nigeria.

However, the political attribute has a singular result in relation to its impact on the survival of SMEs. The study demonstrates that although political influence is important to SMEs' survival, it has a negative impact. This demonstrates the recent general political unrest felt in both the political and business spheres. Like the ineffective regulatory structure, numerous taxes, lack of security, and high crime rate implemented by politicians and which have continued to negatively impact the entire business community. Odunbakin, Alao, Dairo, and Oba-Abimbola (2017), Mark and Nwawu (2015), and Zonouzi, Hoseyni, and Khoramshahi (2019), Shin, Park, Choi, and Choy (2017), and Odunbakin, Alao, Dairo, and Oba-Abimbola (2017) all disagree with the conclusion that political factor has a positive effect on survival of SMEs.

IV. CONCLUSION

This study used empirical research to examine the impact of ecological marketing on the survival of SMEs in the Nigerian state of Anambra. According to the research's conclusions, sociocultural, economic, and technological factors have a positive and significant impact on SMEs' ability to survive in Anambra State. While SMEs are significantly and negatively impacted by political attributes. It is clear that ecological marketing plays a key role in predicting the survival of SMEs in Anambra State and Nigeria as a whole. The study also updated empirical literatures that have already been published and can be used in new studies. The study also provides empirical evidence that can help SMEs and policymakers create a supportive business climate through existing business reforms like improving online portals to search for company names and understanding the impact of ecological marketing factors on the survival of small and medium enterprises. These reforms include strengthening access to credit facilities, protecting investors, and improving investor protection.

The following advice was given in light of the study's main conclusions:

1. SMEs need to be aware that the technological features of their operating environment have a significant impact on their ability to produce and provide services. Therefore, in order to keep up with the pace and trend of invention and technological advancement, business owners and managers should take a proactive approach.
2. The Nigerian government should ensure political integration and the stability of democratic institutions by avoiding frequent changes to its policies and programmes. These are necessary for business survival and growth in order to create a political environment that is stable and free of violence. In order to continuously assess the health or unhealthiness of their businesses, entrepreneurs and investors must continuously and routinely conduct environmental scanning that includes a proper analysis of strengths, weaknesses, opportunities, and threats.

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Analysis of the Effect of Compensation and Motivation on Organizational Performance through Employee Performance (Study of Companies in SIER Industrial Area "Surabaya")

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ABSTRACT

Purpose: The purpose of this research is to know and analyze the effect Compensation and Motivation on Organizational Performance through Employee Performance, Compensation for employee performance, Motivation for employee performance, Compensation for Organizational Performance and Motivation for Organizational Performance.

Design/methodology/approach: Data collection techniques using filling out questionnaires with a quantitative methodology which is distributed to the sample population of 160 employees and processed using the Amos ver 26 application.

Findings: and the research results show that there is a significant effect of compensation on employee performance, as well as motivation has a significant effect on employee performance, and there is also a significant effect of compensation on organizational performance, as well as motivation has a significant effect on organizational performance.

Paper type: Research Paper

Keyword: *Compensation, Motivation, Employee performance, Organizational Performance*

Received : May 17th

Revised : May 18th

Published : July 31th

I. INTRODUCTION

In today's globalized world, for any organization to have a competitive advantage among its competitors, there must be a robust compensation strategy in place to attract, motivate people to join the company. It should also reduce turnover intention from employees. The need for organizations to develop programs that will facilitate performance improvement systems that lead to the management and development of the best employees and thereby enhancing their competitive advantage has made the relationship between human resource management and organizational performance a prominent issue in the field of human resources. resource management across the core functional areas of human resource practice.

SIER, is an industrial area covering an area of 332 hectares on the border of Surabaya and Sidoarjo, as well as an area of 563 hectares in Pasuruan Regency. Until 2022, Danareksaholds 50% of the company's shares, while the East Java Provincial Government and Surabaya City Government each hold the remaining 25%. Surabaya Industrial Estate Rungkut, covering an area of 245 hectares, is divided into 309 locations, and has been occupied by 267 companies, namely 21 PMA companies and 246 PMDN companies, which employ 45,953 people.

Based on preliminary research data, it is known that the company's performance is still not optimal, which is suspected by the low level of employee satisfaction. This low employee satisfaction is caused by inadequate compensation and low employee motivation in the area.

It is very important for companies to make their employees feel comfortable with their work and work environment so that they can achieve the best performance for the company. Besides that, employees are also one of the important assets that must be cared for by the company. The comfort of employees at work is caused by their job satisfactionthe company itself. as explained by Kreitner & Kinicki in Sudiardhita et al. (2018) that

productive attitudes that can support employee performance are organizational commitment, employee involvement and job satisfaction. According to Bangun in Hardiyana & Nurhadian (2016) job satisfaction can be increased by organizations by providing compensation and motivation to employees. It is known that employee performance is positively and significantly influenced by work motivation Shahzadi et al in Pangastuti et al. (2020). Jannah et al's research in Pangastuti et al. (2020) found that work motivation has a relationship with employee performance. Work motivation also has a significant effect on the performance of Ikhsan et al, in Pangastuti et al. (2020), while research.

A. Literature Review

1. Prior Research

Research conducted by Arif et al. (2019) found that compensation and discipline have a significant effect on performance. This means that there is an influence between compensation and work discipline with the Department of Highways and the Development of road and bridge technical implementation units in North Sumatra. Research conducted by Andriani & Onsardi (2020) analyzes the relationship between compensation and employee satisfaction, motivation and performance. Through this, the impact of employee compensation on the achievement of organizational goals is successful. This study highlights that effective compensation management results in a good balance between salary and employment, thereby impacting organizational effectiveness. Yoan Purnama et al (2020) this research shows that compensation has a direct and significant effect on job satisfaction. Compensation has a direct and significant effect on employee performance. Career development has a direct and significant effect on job satisfaction. Career development has a direct and significant effect on employee performance. Job satisfaction has a significant direct effect on employee performance. There is no indirect effect of compensation on employee performance through job satisfaction. There is an indirect effect of career development on employee performance through job satisfaction. Based on the results of data analysis conducted, the research can be concluded as follows: work motivation and job satisfaction have a positive and significant effect on the organizational performance of PT. Perkebunan Nusantara XIV Makassar and able to contribute to employee performance variables of 48.96%, the remaining 51, 04% is influenced by other variables not examined in this study Asmawiyah et al. (2020). In this study employee performance is significantly influenced by training, while discipline, on organizational performance while compensation and work environment have no significant effect. Employee performance is influenced simultaneously by discipline, compensation, work environment and training. Multiple Linear Regression is able to map the influence of variables on employee performance (Kristianto, 2021). compensation, work environment and training. Multiple Linear Regression is able to map the influence of variables on employee performance (Kristianto, 2021). compensation, work environment and training. Multiple Linear Regression is able to map the influence of variables on employee performance (Kristianto, 2021).

2. Theoretical Basis

a. Compensation

According to Mardiyanti et al Pangastuti et al. (2020) compensation is everything received by employees and in the form of financial or non-financial

b. Motivation

According to Hasubian in Asriani et al. (2020) motivation is a set of forces that initiate and sustain a person working in an organization so that they want to work with each other, work effectively, and integrated with all their efforts to achieve satisfaction, humans are having their need for autonomy fulfilled (along with their need for relatedness and competence

c. Performance

Achievement or performance is as a result that has been obtained and achieved by someone from his work behavior in carrying out work activities Sutrisno in Sulaifi (2019).

3. Relations Between Variables

1. The Relationship Between Compensation Against Employee Performance Based on the results of data processing it is known that compensation and discipline have a significant effect on performance dap. This means that there is an influence between compensation and work discipline with the Highways Service and the Construction of road and bridge technical implementation units in North Sumatra (Arif et al., 2019).
H1 : Compensation has a significant direct effect on employee performance
2. This study analyzes the relationship between compensation and employee satisfaction, motivation and performance. Through this, the impact of employee compensation on the achievement of organizational goals is successful. This study highlights that effective compensation management results in a good balance

between salary and employment, thereby impacting organizational effectiveness Andriani & Onsardi's Image (2020).

H2 : Motivation has a significant direct effect on employee performance

3. The results of this study indicate that compensation has a direct and significant effect on job satisfaction. Compensation has a direct and significant effect on employee performance. Career development has a direct and significant effect on job satisfaction. Career development has a direct and significant effect on employee performance. Job satisfaction has a significant direct effect on employee performance. No there is an indirect effect of compensation on employee performance through job satisfaction. There is an indirect effect of career development on employee performance through job satisfaction. Yoan Purnama et al (2020)

H3: Compensation has a significant direct effect on organizational performance

4. Based on the results of the data analysis carried out, the research can be taken the conclusion is as follows: work motivation and job satisfaction have a positive and significant effect on the organizational performance of PT. Perkebunan Nusantara XIV Makassar and is able to contribute to employee performance variables of 48.96%, the remaining 51.04% is influenced by other variables not examined in this study Asmawiyah et al. (2020).

H4 : Motivation has a significant direct effect on organizational performance

5. In this study, employee performance is significantly influenced by training, while discipline, on organizational performance while compensation and work environment have no significant effect. Employee performance is influenced simultaneously by discipline, compensation, work environment and training. Multiple Linear Regression is able to map the influence of variables on employee performance Kristianto (2021).

H5: Employee performance has a significant direct effect on performance organization

6. The results of the study show that compensation and work motivation affect employee job satisfaction. Compensation does not directly affect company performance through employee performance. While work motivation and job satisfaction have a significant effect on employee performance. Compensation and work motivation indirectly through job satisfaction has a significant effect on company performance through employee performance Mundakir & Zainuri (2018)

H6: Compensation has an indirect effect on organizational performance through employee performance

7. There is a strong influence between giving motivation to organizational performance through employee performance. The motivation given is in the form of self-actualization, self-esteem, social belonging, a sense of security and physiological needs. This can be seen from the results of calculating the correlation coefficient using SPSS calculations showing a result of 0.961 and this value is in the very strong category (Kurniasari, 2018).

H7: Motivation has an indirect effect on organizational performance through employee performance

4. Conceptual Framework

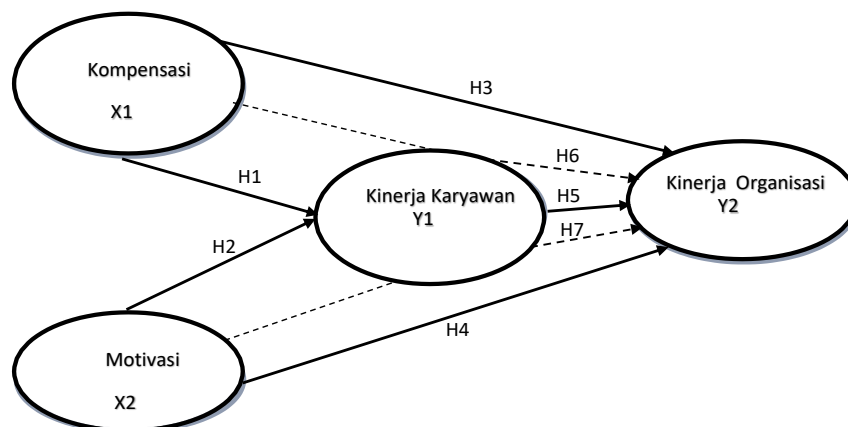


Figure 1. Research Conceptual Framework

5. Hypothesis

H1 : Compensation has a significant effect on employee performance

H2 : Motivation has a significant effect on employee performance

- H3 : Compensation has a significant effect on organizational performance
- H4 : Motivation has a significant effect on organizational performance
- H5 : employee performance affects organizational performance
- H6: Compensation has an indirect effect on organizational performance through performance employee
- H7: Motivation has an indirect effect on organizational performance through performance employee.

II. METHODS

This research was conducted in the SIER Surabaya Industrial Area. The approach in this study used a quantitative approach. The type of data used by researchers is quantitative data. There is 1 (one) type of data source used in this study, namely primary data. The total population in this study was 160 employees, the sample in this study used a saturated sample. The data collection technique used by researchers is a questionnaire (questionnaire) with a Likert scale of 1-5. The data analysis technique in this study used Structural Equation Modeling (SEM). The analytical method used in this study is Confirmatory Factor Analysis. hypothesis testing. Hypothesis testing is done by looking at the probability value. Where the analysis is done using Amos Ver. 26.

III. RESULTS AND DISCUSSION

A. Characteristics of Respondents

1. Demographic Characteristics Based on Gender

Characteristics of respondents based on gender are as follows:

Table 1 Respondents by Gender

		<i>Gender</i>			
		<i>frequency</i>	<i>percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<i>Valid</i>	<i>Man</i>	<i>81</i>	<i>50.6</i>	<i>50.6</i>	<i>50.6</i>
	<i>Woman</i>	<i>79</i>	<i>49.4</i>	<i>49.4</i>	<i>100.0</i>
	<i>Total</i>	<i>160</i>	<i>100.0</i>	<i>100.0</i>	

Source: Processed primary data (2023)

Based on Table 1 above, it shows that the sex of the respondents in the SIER Surabaya industrial area was mostly male, namely 81 respondents with a percentage of 50.6%. Whereas for respondents who were female, there were 79 respondents with a percentage of 49.4%, based on the characteristics of the respondents above, it shows that the majority the respondents are male.

2. Demographic Characteristics Based on Age

The characteristics of respondents based on age or age can be shown in the following table:

Table 2 Respondents by Age

		<i>Age</i>			
		<i>frequency</i>	<i>percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<i>Valid</i>	<i>20 - 30 years</i>	<i>30</i>	<i>18.8</i>	<i>18.8</i>	<i>18.8</i>

<i>31 - 40 years</i>	<i>39</i>	<i>24.4</i>	<i>24.4</i>	<i>43.1</i>
<i>41 - 50 years</i>	<i>64</i>	<i>40.0</i>	<i>40.0</i>	<i>83.1</i>
<i>Over 50 years</i>	<i>27</i>	<i>16.9</i>	<i>16.9</i>	<i>100.0</i>
<i>Total</i>	<i>160</i>	<i>100.0</i>	<i>100.0</i>	

Source: Processed primary data (2023)

Based on Table 2 above, it shows that respondents who are in the SIER Surabaya industrial area are aged 20-30 years, namely 30 respondents or 18.8%, for respondents aged 31-40 years, namely 39 respondents or 24.4%, for respondents aged 41-50 years, namely 64 respondents or 40%, for respondents aged over 50 years amounted to 27 respondents or 16.9%. The characteristics of the respondents above show that most of the respondents aged between 41-50 years who work as managers in the SIER Surabaya industrial area are higher because more experts are needed who are active and tenacious at work and have competency experience that can be developed by companies in the industrial area. SEER Surabaya.

3. Demographic Characteristics Based on Education

Characteristics of respondents based on recent education can be shown in the following table:

Table 3 Respondents Based on Last Education

		<i>Education</i>			
		<i>frequency</i>	<i>percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<i>Valid</i>	<i>Senior High School</i>	<i>61</i>	<i>38.1</i>	<i>38.1</i>	<i>38.1</i>
	<i>S1</i>	<i>99</i>	<i>61.9</i>	<i>61.9</i>	<i>100.0</i>
	<i>Total</i>	<i>160</i>	<i>100.0</i>	<i>100.0</i>	

Source: Processed primary data (2023)

Based on Table 3 above, it can be concluded that there were 61 respondents in the SIER Surabaya industrial area who had the last education level from SMA or 38.1% and respondents who had the last education level S1 were 99 respondents or 61.9%. From these results the majority of respondents in the SIER industrial area have the last education level S1 (Strata - 1).

4. Description of Respondents Based on Length of Service

The characteristics of respondents based on length of service can be shown in the following table:

Table 4 Respondents Based on Years of Service

		<i>Years of service</i>			
		<i>frequency</i>	<i>percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<i>Valid</i>	<i>Less Than 10 Years</i>	<i>112</i>	<i>70.0</i>	<i>70.0</i>	<i>70.0</i>

10 -20 years	42	26.3	26.3	96.3
21 - 30 years	5	3.1	3.1	99.4
Over 30 years	1	0.6	0.6	100.0
Total	160	100.0	100.0	

Based on Table 4 above, it can be concluded that respondents who are in the SIER Surabaya industrial area who have worked for less than 10 years are 112 respondents or 70%, for respondents who have worked between 10-20 years are 42 respondents or 26, 3%, for respondents who have worked between 21-30 years as many as 5 people or by 3.1% and for respondents who have worked over 30 years as many as 1 person or by 0.6%. From these results it can be seen that the majority of respondents in the SEER industrial area have worked for less than 10 years.

B. Confirmatory Factor Analysis of Exogenous Constructs

Latent variables or exogenous constructs consist of 2 latent variables and consist of 9 dimensions. The results of data processing for confirmatory factor analysis of exogenous constructs are as follows:

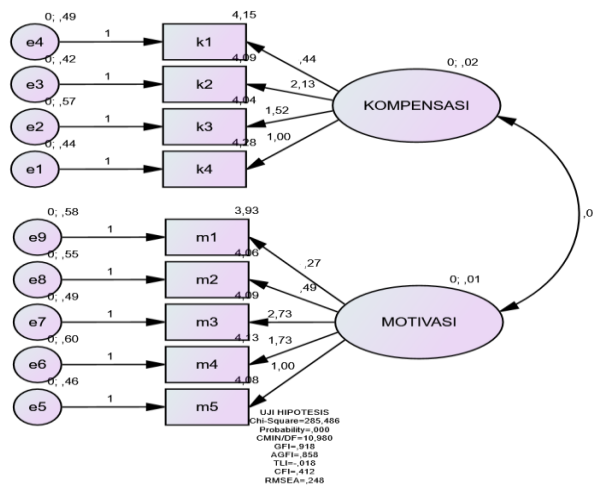


Figure 2 Confirmatory factor analysis – Exogenous constructs

Source: Processed primary data (2023)

The summary of the feasibility test of the confirmatory factor analysis model of the exogenous construct is as follows:

Table 5 Confirmatory Factor Analysis Exogenous Constructs

Goodness of Fit Index	Cut-off Value	Analysis Results	Model Evaluation
Chi – Square (df = 26)	≤38,885	28,48	Good
probability	≥ 0.05	0.080	Good

<i>GFI</i>	≥ 0.90	0.918	<i>Good</i>
<i>RMSEA</i>	≤ 0.08	0.248	<i>Not good</i>
<i>AGFI</i>	≥ 0.90	0.900	<i>Good</i>
<i>TLI</i>	≥ 0.95	0.981	<i>Good</i>
<i>CFI</i>	≥ 0.95	0.981	<i>Good</i>

Source: Processed primary data (2023)

The results of the analysis of data processing show that all the constructs used to form a research model, in the process of confirmatory factor analysis have met the goodness of fit criteria that have been set. The probability value in this analysis shows a value above the significance limit, which is equal to 0.080 ($p > 0.05$), this value indicates that there is no difference between the sample covariance matrix and the estimated population covariance matrix.

Table 6 Confirmatory Factor Analysis Exogenous Constructs

			<i>Estimates</i>	<i>SE</i>	<i>CR</i>	<i>P</i>	<i>Label</i>
<i>k4</i>	<---	<i>X1</i>	1,000				
<i>k3</i>	<---	<i>X1</i>	1.519	,517	2,940	,003	<i>par_1</i>
<i>k2</i>	<---	<i>X1</i>	2,130	,660	3,230	,001	<i>par_2</i>
<i>k1</i>	<---	<i>X1</i>	,437	,233	1,970	,006	<i>par_3</i>
<i>m5</i>	<---	<i>X2</i>	1,000				
<i>m4</i>	<---	<i>X2</i>	1,725	,720	2,396	,017	<i>par_4</i>
<i>m3</i>	<---	<i>X2</i>	2,726	,955	2,854	,004	<i>par_5</i>
<i>m2</i>	<---	<i>X2</i>	,488	,265	1,841	,006	<i>par_6</i>
<i>m1</i>	<---	<i>X2</i>	,473	,233	1,970	,006	<i>par_7</i>

Source: Processed primary data (2023)

From the data processing above it can also be seen that each indicator or dimension forming each latent variable shows good results, namely a CR value above 1.96. All probability values for each indicator are smaller than 0.05. With these results, it can be said that the construct indicators forming latent variables have shown to be strong indicators in measuring latent variables. Furthermore, based on this conformational factor analysis, this research model can be used for further analysis without modification or adjustments.

C. Analysis of Endogenous Construct Confirmatory Factors

The latent variables or endogenous constructs consist of 2 latent variables with 8 dimensions. The results of data processing for endogenous construct confirmatory factor analysis are as follows:

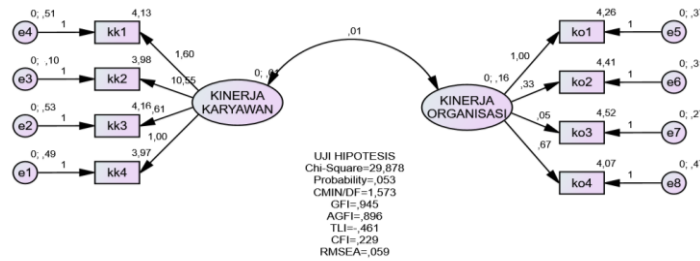


Figure 3 Confirmatory for analysis – endogenous constructs

Source: Processed primary data (2023)

The summary of the feasibility test of the confirmatory factor analysis model of the endogenous construct is as follows:

Table 7 Confirmatory Factor Analysis Endogenous Constructs

Goodness of Fit Index	Cut-off Value	Analysis Results	Model Evaluation
Chi-Square (df = 19)	≤30,143	29,878	Good
probability	≥ 0.05	0.053	Good
RMSEA	≤ 0.08	0.059	Good
GFI	≥ 0.90	0.918	Good
AGFI	≥ 0.90	0.899	marginal
TLI	≥ 0.95	0.961	Good
CFI	≥ 0.95	0.922	marginal

Source: Processed primary data (2023)

The results of the confirmatory factor analysis show that the model is acceptable (table 5.11). in processing the data it can be seen that all the constructs used to form a research model, in the confirmatory factor analysis process have met the goodness of fit criteria that have been set. The probability value in this analysis shows a value above the significance limit, which is equal to 0.053 or above 0.05, this value indicates that there is no difference between the sample covariance matrix and the estimated population covariance matrix.

The model suitability measurement index includes GFI 0.918 fulfilling the value criteria, according to Ferdinand's statement (2014: 258), if four criteria are met then further analysis can be continued.

The results of testing the loading factor values for each indicator are as follows.

Table 8 Confirmatory Factor Analysis Endogenous Constructs

	Estimates	SE	CR	P
kk4 <---	Y1	1		

kk3	<---	Y1	0.614	0.843	2,729	0.046
kk2	<---	Y1	10.553	26.206	2,403	0.006
kk1	<---	Y1	1,598	1.324	1.207	0.022
ko1	<---	Y2	1			
ko2	<---	Y2	0.33	0.261	1,264	0.02
ko3	<---	Y2	0.051	0.167	2,304	0.007
ko4	<---	Y2	0.665	0.495	1.345	0.017

Source: Processed primary data (2023)

From the data processing above it can also be seen that each indicator or dimension forming each latent variable shows good results, namely the CR value above 1.96 is identical to the t-count in the regression analysis. All probability values for each indicator are smaller than 0.05. With these results, it can be said that the construct indicators forming latent variables have shown to be strong indicators in measuring latent variables. Furthermore, based on this confirmatory factor analysis, this research model can be used for further analysis without modification or adjustments.

D. Full Model Analysis – Structural Equation Model

Analysis of the results of data processing at the full model SEM stage is carried out by conducting suitability tests and statistical tests. The results of data processing for the full SEM model analysis are shown in Figure 4.

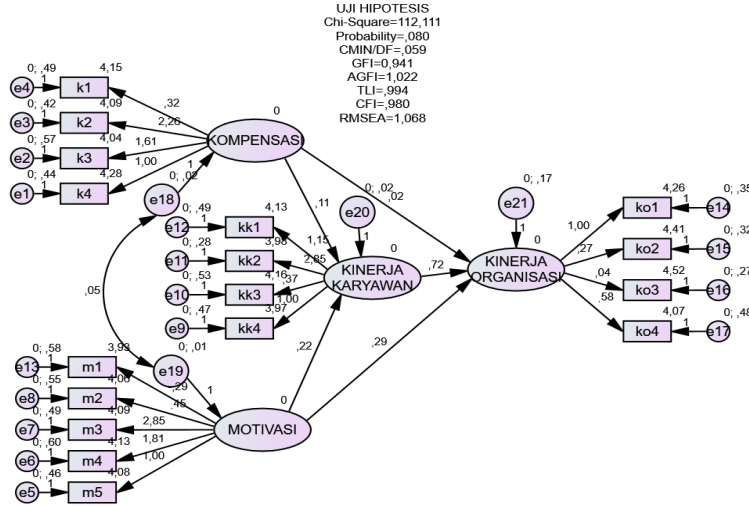


Figure 4 Full Model Test Results – Structural Equation Model (SEM)

Source: Processed primary data (2023)

Testing the feasibility of the model shows that this model fits the data or is fit for the data used in the study as is shown in the following table:

Table 9 Structural Equation Model (SEM)

Goodness of Fit Index	Cut-off Value	Analysis Results	Model Evaluation
Chi-Square (df = 19)	≤138,811	112,111	Good
probability	≥ 0.05	0.080	Good
RMSEA	≤ 0.08	0.059	Good
GFI	≥ 0.90	0.941	Good
AGFI	≥ 0.90	1.022	Good
TLI	≥ 0.95	0.994	Good
CFI	≥ 0.95	0.980	Good

Source: Processed primary data (2023)

E. Direct Effects and Indirect Effects

The values listed in the table are the direct effect values of the relationship between variables. From the table, there are variables that have a direct correlation value that is greater than the indirect correlation value.

The main value that will be used to determine the acceptance factor in this model is the direct effect (*direct effect*), because this value describes the range of the relationship of a variable directly.

The magnitude of the influence of each latent variable directly (*direct effect*) or indirectly (*indirect effect*) is explained as follows:

Table 10 Direct Effects

No	Variable	Immediate Effect
1	Compensation (X1) on Employee Performance (Y1)	0.106
2	Motivation (X2) on Employee Performance (Y1)	0.466
3	Compensation (X1) on Organizational Performance (Y2)	1.164
4	Motivation (X2) on organizational performance (Y2)	1.165
5	Employee Performance (Y1) to Organizational Performance (Y2)	0.135

Source: Processed primary data (2023)

1. The effect of compensation on employee performance has a value of 0.106 > 0.88, so there is a positive influence between the two variables. If the standard deviation of Compensation occurs an increase of 1 unit ie 0.106, then employee performance will increase by 0.106.
2. The influence of motivation on employee performance With a value of 0.466 > 0.88, then there is a positive influence between the two variables. If the standard deviation of motivation increases by 1 unit, namely 0.466, then employee performance will increase by 0.466.

3. The effect of compensation on organizational performance has a value of $1.164 > 0.88$, if the standard deviation is from motivation increases by 1 unit, namely 1.164 units, then employee performance will increase by 1.164.
4. The effect of motivation on organizational performance has a value of $1.165 > 0.88$. If the standard deviation of motivation increases by 1 unit, namely 1.164 units, then employee performance will increase by 1.164.
5. The effect of employee performance on organizational performance has a value of $0.135 > 0.88$ If the standard deviation of motivation increases by 1 unit, namely 0.135 units, then organizational performance will increase by 0.135.

Table 11 Indirect Effects (Indirect Effects)

No	Variable	Indirect Effects
1	Compensation (X1) on Employee Performance (Y1)	0.157
2	Motivation (X2) on Employee Performance (Y1)	0.022
3	Compensation (X1) on Organizational Performance (Y2)	0
4	Motivation (X2) on organizational performance (Y2)	0
5	Employee Performance (Y1) to Organizational Performance (Y2)	0

Source: Processed primary data (2023)

1. The effect of compensation on employee performance has a value of $0.157 < 0.88$ then there is a positive effect between the two variables. If the standard deviation of Compensation increases by 1 unit, namely 0.157 units, then employee performance will increase by 0.157
2. The influence of motivation on employee performance with a value of $0.022 < 0.88$ then there is a positive influence between the two variables. If the standard deviation of motivation increases by 1 unit, namely 0.022 units, then employee performance will increase by 0.022.
3. The effect of compensation on organizational performance has a value of 0 has a meaning if the compensation is increased by one unit then there is no increase in organizational performance.
4. The effect of motivation on organizational performance has a value of 0. then has meaning if motivation is increased by one unit then there is no increase in organizational performance.
5. The effect of employee performance on organizational performance has a value of 0, it means that if employee performance is increased by one unit then there is no increase in organizational performance.

F. Hypothesis Testing

The results of SEM analysis as a step for testing the hypothesis are as follows following:

Table 12 Hypothesis Testing

			Estimates	SE	CR	P	Label
Y1	<---	X1	0.553	26.206	2,403	0.006	significant
Y1	<---	X2	0.614	0.843	0.729	0.466	Not significant
Y2	<---	X1	0.33	0.261	1,964	0.02	significant

Y2	<---	X2	0.051	0.167	2,304	0.007	significant
Y2	<---	Y1	0.665	0.495	2,345	0.017	significant

Source: Processed primary data (2023)

1. Hypothesis Testing 1

The parameter estimation of the relationship between compensation and employee performance is 0.553. Testing the relationship between the two variables shows a CR value = 1.403 with a probability = 0.066 ($p < 0.05$). So it can be concluded that compensation has a significant effect on employee performance.

2. Hypothesis Testing 2

The parameter estimation of the relationship between evaluated motivation and employee performance is 0.614. Testing the relationship between the two variables shows a CR value = 0.729 with a probability = 0.046 ($p > 0.05$). So, it can be concluded that hypothesis 2 has no significant effect on employee performance, this is because employee motivation is already high. Where companies through HRD programmatically provide training on motivation and monitor employee performance achievements.

3. Hypothesis Testing 3

The parameter estimation of the relationship between compensation and organizational performance is 0.330. Testing the relationship between the two variables shows a CR value = 1.964 with a probability = 0.020 ($p < 0.05$). So, it can be concluded that compensation has a significant effect on organizational performance, the higher the compensation given, the higher the organizational performance of employees towards the organization.

4. Hypothesis Testing 4

The parameter estimation of the relationship between motivation and organizational performance is 0.051. Testing the relationship between the two variables shows the value of CR = 2.304 with probability = 0.007 ($p < 0.05$). So, it can be concluded that motivation has a significant effect on organizational performance, so that the higher the employee's motivation, the higher the employee's organizational performance will be for the organization.

5. Hypothesis Testing 5

The parameter estimation of the relationship between employee performance and organizational performance is 0.665. Testing the relationship between the two variables. it shows the value of CR = 2.345 with probability = 0.017 ($p > 0.05$). So, it can be concluded regarding hypothesis 5 which states that employee performance has a significant effect on organizational performance.

6. Hypothesis Testing 6

Based on the hypothesis test X1 on Y1, then followed by testing the hypothesis X1 on Y2, it was found that the compensation variable (X1) through employee performance (Y1) does not significantly affect organizational performance variable (Y2), so that compensation has a significant effect on organizational performance through employee performance.

7. Hypothesis testing 7

Based on the test of hypothesis X2 on Y1, then followed by testing the hypothesis Y1 on Y2, it was found that the motivational variable (X2) through employee performance (Y1) has a significant effect on organizational performance variable (Y2), although the motivational variable does not have a direct effect on organizational performance, so that motivation positive effect on organizational performance through employee performance.

IV. CONCLUSION

This research was conducted by developing a model to analyze the effect of compensation and motivation on organizational performance through employee performance in the SIER Surabaya industrial area. This chapter presents an overview of the results found by the researcher, followed by a discussion of the conclusions about whether the hypothesis is accepted or rejected, as well as various theoretical and managerial implications that arise in this study. Finally, the limitations of the research and the future research agenda that can be carried out as a continuation of this research will be presented.

A. Conclusion of Research Hypothesis Testing

After conducting research that tested the five hypotheses proposed in the previous discussion, the conclusions of the study are as follows:

- a. Influence between Compensation and Employee Performance
The hypothesis testing carried out showed that there was a significant influence between compensation and employee performance with a Critical Ratio (CR) of 2.403 with a P (Probability) of 0.006 ($p < 0.05$).
- b. Influence between Motivation and Employee Performance
The hypothesis testing performed showed that there was no significant effect between motivation and employee performance with a Critical Ratio (CR) of 0.729 with a P (Probability) of 0.466 ($p > 0.05$).
- c. Influence between Compensation and Organizational Performance
The hypothesis testing performed showed that there was a significant influence between compensation and organizational performance with a Critical Ratio (CR) of 1.964 with a P (Probability) of 0.020 ($p < 0.05$).
- d. Influence between Motivation and Organizational Performance
The hypothesis testing performed showed that there was a significant influence between motivation and organizational performance with a Critical Ratio (CR) of 2.304 with a P (Probability) of 0.007 ($p < 0.05$).
- e. Influence between Employee Performance and Organizational Performance
The hypothesis testing carried out showed that there was a significant influence between employee performance and organizational performance with a Critical Ratio (CR) of 2.345 with a P (Probability) of 0.017 ($p < 0.05$).

B. Suggestion

Based on the results of this study, the compensation variable has a significant positive effect on employee performance, but the motivational variable shows no significant positive effect on employee performance. Meanwhile, compensation and motivation variables show a significant positive influence on organizational performance. So, several things that can be done by company leaders in the SIER Surabaya industrial area in connection with efforts to improve employee performance include:

- a. The results of data processing show that the compensation indicator is the greatest is the employee does not want to change jobs, while the most indicator. Small is that employees can meet their physical needs. It shows that employees are satisfied with their superiors. Therefore, it needs to be created working climate conducive relationship between employees and superiors so that each individual can work as well as possible.
- b. The results of data processing also show that the performance of employees gives significant influence on organizational performance. That matter indicates that outsourced employees have high commitment company, the company should employ permanent employees on important production parts so as not to affect performance company as a whole. Outsourced employees are only placed on parts that do not affect the production process so as not to cause high risk to the continuity of the company.
- c. From the proposed model, compensation and motivation have a more positive effect significantly to employee performance compared to organizational performance. So, leaders can focus on compensation and work motivation if they want improve employee performance because it will be very difficult to improve commitment considering the status of outsourced employees.

C. Research Limitations

From the results of the discussion of this thesis, several limitations of the research can be conveyed as follows:

1. From the results of data processing carried out with SEM, there are 2 criteria in models that are in the marginal assessment are GFI (0.876) and AGFI (0.833).
2. There is a time limit due to the tight working hours of the manager as a resource information from companies in the SIER Surabaya Industrial Area so that the data obtained is not optimal.
3. There is a limited number of respondents which only amounted to 160 people.

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The Influence of Internal and External Quality Audit on The Sustainability of Surabaya Merchant Marine Polytechnic

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ABSTRACT

Purpose: The era of globalization and free markets forces universities to organize themselves by introducing internal quality assurance to guarantee the quality of education and services. In addition to internal quality assurance, universities as labor producers also require quality assurance from certification bodies outside the university. Several previous studies examined the influence of internal and external quality audits on work productivity and employee performance. In this study, the effect was seen to be different from before, namely knowing the effect of internal and external quality audits on the sustainability of the Surabaya Merchant Marine Polytechnic. The purpose of this study was to determine whether internal and external quality audits affect the sustainability of the Surabaya Merchant Marine Polytechnic.

Design/methodology/approach: This study uses quantitative research with a population and the sample is a work unit at the Surabaya Merchant Marine Polytechnic which is involved with internal and external quality audits. The data collection method in this study was to use questionnaires using multiple linear regression analysis. Tests in this study used SPSS statistics version 26.

Findings: The conclusion of this study is that there is a significant influence between internal and external quality audits on the sustainability of the Surabaya Merchant Marine Polytechnic either partially or simultaneously. The variable that has the dominant influence on this study is the internal quality audit.

Paper type: Research Paper.

Keyword: *Audit, External Quality Audit, Internal Quality Audit, Sustainability*

Received : May 8th

Revised : May 12th

Published : July 31th

I. INTRODUCTION

Politeknik Pelayaran Surabaya is one of 50 shipping schools (both colleges, high schools, polytechnics, shipping academies, and SMK in the field of shipping) in Indonesia that focus on shipping, marine and maritime fields. Of the 50 shipping schools in Indonesia, the Surabaya Shipping Polytechnic must be able to maintain its existence in the world of shipping education. Therefore, the Surabaya Shipping Polytechnic is required to be able to provide education / learning and services to cadets (students) in accordance with the National Higher Education Standards, STCW Standards (*Standards of Training Certification and Watchkeeping*), IMO (*International Maritime Organization*) Standards, and also ISO 9001: 2015 Standards with the aim of producing quality graduates in accordance with graduate profiles and graduate learning outcomes (CPL) that has been set.

Graduates of the Surabaya Shipping Polytechnic are required to be competent in accordance with the field pursued and also skilled in foreign language communication skills (English, Japanese, Mandarin). This is due to the large number of graduates from competitors who are also competitors for Surabaya shipping polytechnic graduates in the work industry / maritime industry. Here the Surabaya Shipping Polytechnic acts as a facilitator who provides academic and non-academic education for cadets (students).

In this case, the Surabaya Shipping Polytechnic must maintain and maintain the quality of education applied in the educational process starting from inputs, processes to outputs, namely by conducting evaluations through internal quality audit activities and external quality audits, because if the quality of education is not maintained, it will affect the output produced, namely graduates of the Surabaya Shipping Polytechnic. If the quality of

education is not in accordance with the established standards, the absorption of graduates by the maritime industry will not be able to achieve the set target of 80% of graduates absorbed in the maritime industry within ≤ 1 year starting after graduation. If Surabaya Shipping Polytechnic graduates are not absorbed by the maritime industry, the image of Surabaya Shipping Polytechnic graduates in the community will decrease, this causes public attraction/interest to continue their education or register as cadets at the Surabaya Shipping Polytechnic low or decrease.

To maintain *sustainability* at the Surabaya Shipping Polytechnic, good quality and educational credibility are needed and in accordance with standards, in this case it is necessary to evaluate and control the education system run at the Surabaya Shipping Polytechnic, namely by carrying out internal and external quality audits periodically, routinely and scheduled. Internal quality audit is an audit that determines the adequacy of the implementation of activities with the organization's own internal standards (internal quality standards), regulations, procedures, and work instructions to improve the quality of the institution and reduce the risk of achieving standards / decreases. Quality External quality audit is an audit activity carried out to determine the level of compliance with external standards (SPM, 2020 Edition).

This research is a replication of a study entitled "The Effect of Internal Quality Audit on Employee Work Productivity at the Bandung City Education Office with ISO 9001:2015 Standard". This study added 1 independent variable from the previous study, namely external quality audits and with different research objects, where the object of the previous study was employee work productivity, in this study the object of research was the *sustainability* of the Surabaya Shipping Polytechnic. In previous research, it was known that the results of the effect of internal quality audits on employee work productivity were positive and significant influences. Therefore, this study was conducted to find out and identify whether with the same variable and with 1 additional variable will still have a significant effect on different objects. In previous studies it was concluded that internal quality audits already reflect a fairly effective situation, this study examines whether internal and external quality audits show categories that are ineffective, effective enough, effective or can be very effective.

From previous research, it can be concluded that internal quality audit affects the results or achievements that have been determined, this research was conducted because considering the importance of *sustainability* for the Surabaya Shipping Polytechnic in the era of globalization with more and more competitors. The goal is to find out and identify whether the implementation of periodic quality audits, both internal and external, affects the sustainability of the Surabaya Shipping Polytechnic. If these two variables affect the sustainability of the Surabaya Shipping Polytechnic, then these two variables need to be evaluated and also monitored to improve the quality of its implementation, so that in the future internal and external quality audits are expected to be a reference or recommendation in an effort to maintain *sustainability* and improving the quality of education at the Surabaya Shipping Polytechnic. The method used in this study is quantitative research using multiple linear regression analysis methods. The data collection process is carried out by surveying employees of the Surabaya Shipping Polytechnic regarding internal and external quality audits at the Surabaya Shipping Polytechnic.

A. Theory Review

1. Definition of Internal Quality Audit

Internal quality audit is an audit conducted to determine the level of suitability of the implementation of activities against the organization's own internal standards (internal quality standards), regulations, procedures, work instructions, in order to improve institutional quality and reduce the risk of non-achievement of standards/decreased quality. Meanwhile, an external quality audit is an audit activity carried out to determine the level of conformity to external standards (SPM, 2020 Edition).

Internal quality audit is a systematic and independent inspection to ensure whether the implementation of SPMI is in accordance with the standards or vice versa. The evaluation was first carried out by structural officials in each higher education work unit in implementing the SPMI standard. After that, an internal quality audit at the office of each work unit in implementing the SPMI standard (**Mursid, 2020**).

Internal quality audit is an audit activity by the audit team determined based on the Rector's Decree, the implementation of the program is equipped with a quality policy book, quality standard book, quality manual and quality forms (Azhar, 2022).

An internal quality audit is a systematic, independent and documented testing process to ensure that activities are carried out according to procedures and the results are in accordance with standards to achieve institutional goals (Yolanda, 2020).

2. Definition of External Quality Audit

External quality audit is also called the External Quality Assurance System (SPME). According to the SPME procedure, it can only be carried out after guaranteeing its internal agency. The government through its regulations and policies needs to continue to encourage study programs, supporting work units, faculties and school or university institutions to apply for quality assurance to cross-border (international) guarantee agencies. Several

international assurance agencies such as ISO may accept supporting work units and faculties to apply for external quality assurance (accreditation) to them. Several international quality assurance agencies that already have educational standards include the International Organization for Standardization (ISO) (Firdaus, 2021).

External quality audit is an audit conducted to determine the level of conformity to external standards. For example, audits conducted on document control officers, administrative officers, and technical officers (Yolanda, 2020).

3. Definition of Sustainability

Sustainability has a broad understanding, sustainability has a sustainable meaning, but many experts state that there is a common perception between the notions of sustainability and sustainable development. According to Bruntland: sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Sukoharsono, 2021: 45 quoted from Bruntland, 1987).

Sustainability is how to build a society in which economic, social and ecological goals must be balanced (Sukoharsono, 2021:45 quoted from Szekely, 2005).

Sustainability(sustainability) is a balance between people-planet-profit, known as the concept of the Tripple Bottom Line (TBL), the company must be responsible for the positive or negative impacts it has on economic, social and environmental aspects (Sukoharsono, 2021: 46 quoted from Elkinkton , 1997:2).

Sustainability is a word taken from English namely, sustain which means continuous and ability which means ability. So, the word Sustainability can also be interpreted as sustainability in Indonesian. In the context of ecology itself, sustainability means that biological systems are still able to support biodiversity and unlimited productivity where this is achieved by means of human life not utilizing and exploiting natural resources so as to damage the ecology or ecological balance in the area. The term sustainability itself can be interpreted as a socio-ecological process which is marked by the attainment of the same ideals (Muliana, 2022:62).

II. METHODS

A. Types of research

Based on the main objectives described in the previous chapter, this research is a quantitative research in which in the process of achieving the research objectives, the data needed and collected are quantitative data. This study used a survey method, because this method is easier to apply and the data obtained is more valid and reliable because it uses several samples in the data collection process and the instruments used can be adjusted to research needs.

B. Population and Sample

1. Population

Population is a generalization area consisting of objects/subjects that have certain quantities and characteristics determined by the researcher to be studied and then conclusions drawn, that is the definition of research. The population is not only people or living things, but also other natural objects. The population is also not just the amount that exists in the object or subject being studied, but includes all the characteristics, properties possessed by the object or subject. Even one person can be used as a population because one person has various characteristics such as speech style, discipline, personality, hobbies and so on(Sitoyo, 2015).

The population in this study is the work unit at the Surabaya Merchant Marine Polytechnic which is involved in carrying out internal and external quality audits, totaling 36 work units, with one representative from 29 work units, 2 people from 7 study programs and 7 people as leaders of the Sub work unit. . Finance Section, Sub, General Section, Sub. Academic Section, Sub. Youth Section, Research and Community Service Unit, Center for Youth Character Development, and the Business Development and Cooperation Division Unit, thus the total population in this study is 50 population.

2. Sample

The sample is part of the number and characteristics possessed by the population, or a small part of the population taken according to certain procedures so that it can represent the population. If the population is large, and it is impossible for the researcher to study everything in the population, this is due to limited funds or costs, manpower, and time, therefore researchers can use samples taken from the population. The sample to be taken from the population must be truly representative or representative (Sitoyo, 2015).

The sample of this research is using a saturated sample where the entire population is used as a sample, namely 50 samples. Retrieval of research subject data using the Google form link with a period of 1 week. Retrieval of research subject data using the Google form link with a period of 1 week.

3. Sampling technique

In this study the sampling technique used is non-probability sampling with purposive sampling technique. Non-probability sampling is a sampling technique that does not provide equal opportunities and opportunities for each element or participant in a predetermined population. Probability sampling has several techniques in determining the sample, one of which is saturated sampling, namely the technique of determining the sample if all members of the population will be sampled in the study or it can also be called a census in a small scope (Sugiyono, 2017). In this study determined several criteria that must be owned by the elements of the population to be used as sampling, namely as follows:

4. Work unit at the Surabaya Merchant Marine Polytechnic;
5. Representatives from each work unit involved in the implementation of internal and external quality audits.

4. Number of Samples

The sample in this study is a total of 50 samples which are work units at the Surabaya Merchant Marine Polytechnic with 1 person and 2 representatives from each work unit involved with internal and external quality audit activities at the Surabaya Merchant Marine Polytechnic. The timeframe for data collection is 1 week from 26 December 2022 to 30 December 2022.

5. Object of research

The objects in this study were internal quality audits (SPM) and external quality audits (BAN-PT, DJPL, and LRQA) at the Surabaya Merchant Marine Polytechnic which were used to measure their influence on the Sustainability of the Surabaya Merchant Marine Polytechnic.

B. Types, Sources, and Data Collection Techniques

1. Data source

Sources of data in this study were employees of the Surabaya Merchant Marine Polytechnic and internal data where the data were internal and external quality audits, graduate data and data on the number of cadets enrolling at the Surabaya Merchant Marine Polytechnic.

2. Data Type

Data based on the source, based on the source, research data can be grouped into two types, namely primary data and secondary data:

1. Primary data is data obtained or collected by researchers directly from the data source. Primary data is also known as original data or new data that is up to date. To obtain primary data including observation, interviews, focused discussions and distribution of questionnaires.
2. Secondary data is data obtained or collected by researchers from various existing sources (researchers as second hand). Secondary data can be obtained from various sources such as the Central Bureau of Statistics (BPS), books, reports, journals, and others.

Data based on its nature, based on its form and nature, research data can be divided into two types, namely qualitative data (in the form of words/sentences) and quantitative data can be grouped based on how to get it, namely discrete and continuum data. Based on its nature, quantitative data consists of nominal data, ordinal data, interval data and ratio data (Sitoyo, 2015).

Based on the process or method of obtaining it, quantitative data can be grouped into two forms, namely as follows:

1. Discrete data, is data in the form of numbers obtained by counting;
2. Continuum data, is data in the form of numbers/numbers obtained based on measurement results. Continuum data can be in the form of integers or fractions depending on the type of measurement scale used.

Based on the type of measurement scale used, quantitative data can be grouped into four types (levels) that have different properties, namely:

1. Nominal data, often also called categories, namely data obtained by grouping objects based on certain categories;
2. Ordinal data, is data that comes from an object or category that has been arranged in stages according to size. Each ordinal data has a certain level which can be sorted from lowest to highest or vice versa;
3. Interval data, measurement data that can be sorted on the basis of certain criteria and shows all the characteristics of ordinal data;
4. Ratio data, data that collects all the properties of nominal data, ordinal data and interval data (Sitoyo, 2015).

3. Data collection technique

The most important research activity is data collection. Arranging the instrument is an important job in the research step, but collecting data is even more important, especially if the researcher uses a method that is prone to the inclusion of the researcher's subjective element. In data collection techniques there are several methods used are:

1. Collecting data through questionnaires or questionnaires;
2. Data collection through the interview method;
3. Collecting data through observation methods;
4. Data collection through the documentation method (Sitoyo, 2015).

The data collection technique in this study was to use primary data by distributing questionnaires, as well as the documentation method, namely data from internal and external quality audit results, graduate data and data on the number of applicants in the last 3 years, namely 2020, 2021, and 2022. Researchers will develop a questionnaire instrument related to internal, external and sustainability quality audits and validity and reliability tests will be carried out on the questionnaire instrument used.

4. Data analysis technique

Data analysis technique is a process of processing data into new information. This process is carried out with the aim that the characteristics of the data become easier to understand and useful as a solution to a problem. Especially those related to research. There are several methods and techniques for performing the analysis depending on the industry and the purpose of the analysis. All of these data analysis methods are mostly based on two types of data analysis techniques namely quantitative and qualitative data analysis in research (Wahyuningrum, 2022).

Data analysis is an activity carried out after all the data for research has been collected. At the time of data analysis, the things that were done were grouping data according to variables and types of respondents, tabulating data based on variables from all respondents, presenting data for each variable studied, performing calculations to answer the problem formulation, and performing calculations to test the proposed hypotheses. To statistically test the research hypothesis, multiple linear regression analysis is used, the multiple linear regression method is a statistical tool used to determine the effect of one or several variables on one variable, the benefits of multiple linear regression are more accurate analysis (Habibi, 2020).

Multiple linear regression was used in this study because it aims to determine the influence of the independent variable on the dependent variable by solving it using the SPSS 26 software application. SPSS is a computer program specially made to process data using certain statistical methods. SPSS as statistical software was first created in 1968 by three Stanford University students, namely Norman H. Nie, C. Hadlai Hull and Dale H. Bent (Santoso, 2020). In this case the independent variables are internal and external quality audits, while the dependent variable is the sustainability of the Surabaya Merchant Marine Polytechnic. The multiple linear regression equation is formulated as follows: $Y = a + b_1X_1 + b_2X_2 + e$

Information:

Y = *Sustainability* Surabaya Merchant Marine Polytechnic

a = constant

b_1b_2 = regression coefficient

e = confounding variable

x_1 = Internal quality audit

x_2 = External quality audit

III. RESULTS AND DISCUSSION

A. Variable Statistical Description

1. Descriptive Analysis

The data collection method in this study is by distributing questionnaires to respondents. The object of this research is the employee of the Surabaya Merchant Marine Polytechnic. The questionnaire was sent with a filling link via Google form to 50 respondents, and the following questionnaire data was sent:

Table 1. Results of Data Collection

<i>Information</i>	<i>Amount</i>	<i>Percentage</i>
<i>Sent questionnaires</i>	<i>50</i>	<i>100%</i>
<i>Filled questionnaire</i>	<i>50</i>	<i>100%</i>
<i>Unfilled questionnaire</i>	<i>0</i>	<i>0%</i>
<i>Inappropriate questionnaire</i>	<i>0</i>	<i>0%</i>

2. Characteristics of Respondents

Respondent characteristics based on gender and age can be seen in the following table:

Table 2. Characteristics of Respondent Data

<i>No</i>	<i>Characteristics</i>	<i>Frequency</i>	<i>Percentage</i>
<i>1</i>	<i>Gender</i>		
	<i>Woman</i>	<i>32</i>	<i>64%</i>
	<i>Man</i>	<i>18</i>	<i>36%</i>
	<i>Total</i>	<i>50</i>	<i>100%</i>
<i>2</i>	<i>Age</i>		
	<i>21-25 years</i>	<i>4</i>	<i>8%</i>
	<i>26-30 years</i>	<i>16</i>	<i>32%</i>
	<i>31-35 years</i>	<i>20</i>	<i>40%</i>
	<i>36-40 years</i>	<i>8</i>	<i>16%</i>
	<i>41-45 years</i>	<i>2</i>	<i>4%</i>
	<i>Total</i>	<i>50</i>	<i>100%</i>

Based on Table 30 above, it can be seen that there are more female respondents (64%) than male respondents (36%). When viewed from the age of most of the Surabaya Merchant Marine Polytechnic employees aged 26-30 years (32%) and 31-35 years (40%).

3. Descriptive statistics

Descriptive statistical analysis is used to describe the state of the research variables statistically. This study uses the average value (mean), maximum value, minimum value and standard deviation to describe the statistical description of each variable. These descriptive statistics use the SPSS Statistics 26 application.

Table 3. Research Variable Descriptive Statistics

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Means</i>	<i>std. Deviation</i>
<i>Sustainability(Y)</i>	50	46	30	26,54	2,435
<i>Internal Quality Audit (X1)</i>	50	46	60	53,54	4,500
<i>External Quality Audit (X2)</i>	50	46	65	58.90	5,733

From the results of the data analysis above, it can be concluded that the descriptives of each variable are as follows:

1. *Sustainability(Y)* has a minimum value of 23, which means that of all respondents who gave the lowest total assessment, the answer to sustainability is 23. The maximum value is 30, which means that of all respondents who gave the highest total assessment, the answer to sustainability is 30. The average value -the average sustainability score is 26.54, meaning that of all respondents who gave answers to sustainability, the average respondent gave a total rating of 26.54. While the standard deviation of 2.435 means that the size of the data spread from the sustainability variable is 2.435 from 50 respondents.
2. Internal quality audit (X1) has a minimum value of 46, which means that of all respondents who gave the lowest total assessment, the answer to the internal quality audit is 46. The maximum value is 60, which means that of all respondents who gave the highest total assessment, the answer to the quality audit The internal quality audit score is 60. The average value of the internal quality audit is 53.54, meaning that of all respondents who answered the internal quality audit, the average respondent gave an assessment of 49.20. While the standard deviation of 4.233 means that the size of the data spread from the internal quality audit variable is 4.233 out of 50 respondents.
3. External quality audit (X2) has a minimum value of 46, which means that of all respondents who gave the lowest total rating, the answer to the external quality audit is 46. The maximum value is 65, which means that of all respondents who gave the highest rating, the answer to the external quality audit is equal to 65. The average value of the external quality audit is 58.90 meaning that of all respondents who gave answers to the external quality audit, the average respondent gave a total rating of 58.90. Meanwhile, the standard deviation of 5.733 means that the size of the data spread from the external quality audit variable is 5.733 out of 50 respondents.

4. Validity Test Results

Before the questionnaire was used on the research sample, a tryout was first carried out to find out whether the research instrument could be used to measure research variables or not. The trial uses validity and reliability tests. The results of the validity test for the sustainability variable can be seen in the table below. In determining the r table, what is done is to use the formula $df = (N-2)$, where *df* is the degree of freedom and *N* is the number of samples, in this study there are 50 samples, so the value of *df* is 48, after finding the value of *df*, what must be done is to look at table r for and determine a significance level of 5% or 0.05 for a two-tailed test. From the table it can be determined that the value of r table for 50 samples with a significance level of 5% is 0.2787.

Table 4. Validity Test Results

<i>Variable</i>	<i>Items</i>	<i>corrected item-total correlation</i>	<i>r Table</i>	<i>Information</i>
<i>Sustainability(Y)</i>	<i>Y. 1</i>	0.595	0.2787	<i>Valid</i>

<i>Variable</i>	<i>Items</i>	<i>corrected item-total correlation</i>	<i>r Table</i>	<i>Information</i>
	<i>Y.2</i>	<i>0.821</i>	<i>0.2787</i>	<i>Valid</i>
	<i>Y.3</i>	<i>0.723</i>	<i>0.2787</i>	<i>Valid</i>
	<i>Y.4</i>	<i>0.808</i>	<i>0.2787</i>	<i>Valid</i>
	<i>Y.5</i>	<i>0.693</i>	<i>0.2787</i>	<i>Valid</i>
	<i>Y.6</i>	<i>0.738</i>	<i>0.2787</i>	<i>Valid</i>
<i>Internal Quality Audit (X1)</i>	<i>X1.1</i>	<i>0.559</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X1.2</i>	<i>0.613</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X1.3</i>	<i>0.740</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X1.4</i>	<i>0.574</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X1.5</i>	<i>0.781</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X1.6</i>	<i>0.688</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X1.7</i>	<i>0.706</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X1.8</i>	<i>0.527</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X1.9</i>	<i>0.750</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X1.10</i>	<i>0.619</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X1.11</i>	<i>0.732</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X1.12</i>	<i>0.752</i>	<i>0.2787</i>	<i>Valid</i>
<i>External Quality Audit (X2)</i>	<i>X2.1</i>	<i>0.853</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X2.2</i>	<i>0.845</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X2.3</i>	<i>0.794</i>	<i>0.2787</i>	<i>Valid</i>
<i>External Quality Audit (X2)</i>	<i>X2.4</i>	<i>0.694</i>	<i>0.2787</i>	<i>Valid</i>
	<i>X2.5</i>	<i>0.620</i>	<i>0.2787</i>	<i>Valid</i>

<i>Variable</i>	<i>Items</i>	<i>corrected item-total correlation</i>	<i>r Table</i>	<i>Information</i>
	X2.6	0.712	0.2787	Valid
	X2.7	0.862	0.2787	Valid
	X2.8	0.765	0.2787	Valid
	X2.9	0.842	0.2787	Valid
	X2.10	0.776	0.2787	Valid
	X2.11	0.878	0.2787	Valid
	X2.12	0.805	0.2787	Valid
	X2.13	0.774	0.2787	Valid

By looking at Table 32, it can be seen that the magnitude of the correlation coefficient of all the question items of the research variables. Based on the results of calculating the correlation coefficient, all questions have a significant Pearson correlation greater than r table, where r table is 0.2787 (r count > r table). Therefore it can be concluded that the questions can be used as further research instruments.

5. Reliability Test Results

Reliability test is a test to show how far a measuring device is reliable. In this study, reliability testing was carried out to determine whether the questionnaires distributed to respondents fulfilled the reliable requirements. A questionnaire can be said to be reliable if the Cronbach alpha value is greater than 0.6 or 60%. This reliability test uses the SPSS Statistics 26 application. The following are the results of the reliability test:

Table 5. Reliability Test Results

<i>Question Items</i>	<i>Cronbach's alpha</i>	<i>Information</i>
<i>Sustainability(Y)</i>	<i>0.814</i>	<i>Reliable</i>
<i>Internal Quality Audit (X1)</i>	<i>0.885</i>	<i>Reliable</i>
<i>External Quality Audit (X2)</i>	<i>0.941</i>	<i>Reliable</i>

Based on the results of the validity test as summarized in Table 33 above, it can be seen that the Cronbach's alpha value for each variable is greater than 0.6, so all the variables in this study, namely sustainability, internal quality audit, external quality audit, are reliable.

C. Estimation Results and Proof of Hypotheses

1. Multiple Linear Regression Analysis

Multiple regression models are used to test the effect of two or more independent variables on one dependent variable. Multiple linear regression tests in this study used the SPSS Statistics 26 application.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.073	3.040		1.998	.052
	TOTALX1	.229	.086	.424	2.659	.011
	TOTALX2	.139	.068	.328	2.055	.045

a. Dependent Variable: TOTALY

Figure 1. Multiple Linear Regression Analysis

Source: SPSS Linear Regression Version 26.00

Based on Table 39 above, the regression model obtained is as follows: $Y = 6.073 + 0.229X1 + 0.139X2 + e$
 From the regression equation above it can be explained as follows:

1. A constant of 6.073 indicates that if the independent variables (internal quality audit and external quality audit) are assumed to be unchanged (constant), then the value of Y (sustainability) is 6.073 units.
2. The coefficient of the internal quality audit variable (X1) is 0.229, meaning that for every increase in the internal quality audit variable by 1 unit, sustainability will increase by 0.229 units assuming other variables do not change or are constant.
3. The coefficient of the external quality audit variable (X2) is 0.139, meaning that for every increase in the external quality audit variable by 1 unit, sustainability will increase by 0.139 units assuming other variables do not change or are constant.

2. T Test Results (Partial)

Testing the hypothesis in this study using statistical tests t. The t test was carried out using the SPSS Statistics application Version 26. Before using SPSS, what must be done is to determine the t table value, where the t table value can be seen from the t table by determining a significance value of 5% or 0.05 for a two-way test. Where the value of df (degrees of freedom) is obtained from $df = n - k$, where n is the number of observations and k is the number of independent and dependent variables. The df value in this study is 47 with a significance level of 5%, so the t table value is 2.012 (seen from the t distribution table). Based on Table 21 below, the results of this study can be explained as follows:

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.073	3.040		1.998	.052
	TOTALX1	.229	.086	.424	2.659	.011
	TOTALX2	.139	.068	.328	2.055	.045

a. Dependent Variable: TOTALY

Figure 2. T test results

Source: SPSS Linear Regression Version 26.00

From Table 21. The results of the T test, the significance value of variable X1 is 0.011 and variable X2 is 0.045, and the calculated t value for variable X1 is 2.659 and X2 is 2.055.

a. Hypothesis Test Results 1

Data from Table 40. The results of the T test give the result that the variable (X1) which is an internal quality audit has a significant value of $0.011 < 0.05$ and a calculated t value of $2.659 > t$ table of 2.012. These results indicate that the internal quality audit has a positive and significant effect because the significant value is < 0.05 . Based on this explanation, H_a is accepted and H_o is rejected.

b. Hypothesis Test Results 2

Data from Table 40. The results of the T test give the result that the variable (X2) which is an external quality audit has a significant value of $0.045 < 0.05$ and a calculated t value of $2.055 > t$ table of 2.012. These results indicate that the external quality audit has a positive and significant effect because the significant value is < 0.05 . Based on this explanation, H_a is accepted and H_o is rejected.

3. F Test Results (Simultaneous)

Testing the hypothesis in this study used the F statistical test. The F test was carried out using the SPSS Statistics application Version 26. The way to determine f table is $f_{table} = k; n - k$, where "k" is the number of independent variables and "n" is the number of respondents or research samples. In this study $k = 2$ and $n = 50$, it was obtained nikai f table (2; 48) with a significance level of 5%, namely 3.19 (seen from the distribution table f). The results of the F test can be seen in the following table:

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	144.710	2	72.355	23.339	.000 ^b
	Residual	145.710	47	3.100		
	Total	290.420	49			

a. Dependent Variable: TOTALY
b. Predictors: (Constant), TOTALX2, TOTALX1

Table 3. F test results

Source: SPSS Linear Regression Version 26.00

Based on the F test table above, it can be seen that the significant value obtained from internal quality audit testing and external quality audit simultaneously is 0.000 with f count 23.339.

a. Hypothesis Test Results 3

Data from Table 22. The F test results show that the variable (X1) which is an internal quality audit and variable (X2) which is an external quality audit has a significant value of $0.000 < 0.05$ and also f count $23.339 > 3.19$. Based on this explanation, H_a is accepted and H_o is rejected.

D. Interpretation of Results and Discussion

1. Effect of Internal Quality Audit on the sustainability of the Surabaya Merchant Marine Polytechnic

The results of testing the first hypothesis of internal quality audit have a positive effect on the sustainability of the Surabaya Merchant Marine Polytechnic, so that the first hypothesis (H1) is accepted. This is because the effect of internal quality audits on the sustainability of the Surabaya Merchant Marine Polytechnic has a significant value of less than 0.05, which is 0.011. A positive coefficient value of 0.229 also supports that internal quality audits have a positive effect on the sustainability of the Surabaya Merchant Marine Polytechnic. This shows that if the internal quality audit increases, the sustainability of the Surabaya Merchant Marine Polytechnic will also increase, conversely if the internal quality audit decreases, the sustainability of the Surabaya Merchant Marine Polytechnic will also decrease.

The first hypothesis is accepted, supported because the internal quality audit is scheduled once a year. Internal quality audits can be carried out properly and effectively because of the support and participation of Surabaya Merchant Marine Polytechnic employees as members of each work unit being audited, this support is by providing the complete documents needed by the auditor team and not complicating the audit process.

The positive response of the Surabaya Merchant Marine Polytechnic employees to the internal quality audit was because the employees had understood the importance of internal quality audits for improving and improving quality within the Surabaya Merchant Marine Polytechnic environment.

2. Effect of External Quality Audit on the sustainability of the Surabaya Merchant Marine Polytechnic

The results of testing the second hypothesis that external quality audit has a positive effect on the sustainability of the Surabaya Merchant Marine Polytechnic, so that the second hypothesis (H2) is accepted. This is because the effect of external quality audits on the sustainability of the Surabaya Merchant Marine Polytechnic has a significant value of less than 0.05, which is 0.045. A positive coefficient value of 0.139 also supports that external quality audits have a positive effect on the sustainability of the Surabaya Merchant Marine Polytechnic. This shows that if the external quality audit increases, the sustainability of the Surabaya Merchant Marine

Polytechnic will also increase, conversely if the external quality audit decreases, the sustainability of the Surabaya Merchant Marine Polytechnic will also decrease.

The second hypothesis is accepted because the Surabaya Merchant Marine Polytechnic understands the importance of external quality audits by BAN-PT as a higher education and study program accreditation certification body, where accreditation status will be taken into consideration for people interested in registering at the Surabaya Merchant Marine Polytechnic. And also an audit by DGPL is important for the Surabaya Merchant Marine Polytechnic to obtain permission to organize seafarer skills training and to issue seafarer competency certificates. As well as an audit by LRQA as an ISO 9001: 2015 certification body regarding quality management standards, which is currently a matter of concern and consideration for stakeholders and stakeholders to collaborate with the Surabaya Merchant Marine Polytechnic.

3. The Effect of Simultaneous Internal and External Quality Audits on the Sustainability of the Surabaya Merchant Marine Polytechnic

The results of testing the third hypothesis of internal quality audit and external quality audit simultaneously have a positive effect on the sustainability of the Surabaya Merchant Marine Polytechnic, so that the third hypothesis (H3) is accepted. This is because the effect of external quality audits on the sustainability of the Surabaya Merchant Marine Polytechnic has a significant value of less than 0.05, which is 0.000. This shows that if the internal quality audit and external quality audit simultaneously increase, the sustainability of the Surabaya Merchant Marine Polytechnic will also increase, conversely if the internal quality audit and external quality audit simultaneously decrease, the sustainability of the Surabaya Merchant Marine Polytechnic will also decrease.

The third hypothesis is accepted because it is supported by internal and external quality audits, both of which have an influence on the development and improvement of quality at the Surabaya Merchant Marine Polytechnic.

IV. CONCLUSION

Based on the research findings and hypothesis testing that has been carried out, the research results show that:

1. Internal quality audit has a positive and significant effect on the sustainability of the Surabaya Merchant Marine Polytechnic. These results may indicate that internal quality audits have been carried out routinely and scheduled annually and have also been properly systemized.
2. External quality audit has a positive and significant impact on the sustainability of the Surabaya Merchant Marine Polytechnic. This may indicate that the need for external quality audits by certification bodies is increasing in line with the need to improve the quality and image of organizations within the community.
3. Internal and external quality audits simultaneously have a positive and significant influence on the sustainability of the Surabaya Merchant Marine Polytechnic.
4. From the results of the t test, it was obtained that the Beta (β) value for variable X1 was 0.424 and for variable X2 was 0.328. It can be concluded that variable X1 or internal quality audit has a dominant influence on the sustainability of the Surabaya Merchant Marine Polytechnic because the Beta (β) value is greater than variable X2 or external quality audit.

A. Suggestion

From the results of the research conclusions described above, suggestions can be given, namely:

1. For companies, it is better to focus on improving the quality and quality of education provided to produce graduates who are competent according to the expectations of stakeholders.
2. For future researchers, it is suggested that the scope of research can be expanded by involving stakeholders and stakeholders. In addition, the range of observations can be extended to obtain more comprehensive results. Indicators on the internal quality audit variable can be added to the competence of internal and external quality auditors at institutions/organizations, and indicators on the sustainability variable can be added to educational outcomes.

B. Limitations

This research is not perfect and still has limitations in it, namely:

1. This research was only conducted focusing on the internal parties of the Surabaya Merchant Marine Polytechnic.
2. The observation period spans only 5 months, namely from September 2022 to January 2023.
3. The value of the coefficient of determination is still quite low, namely 49.8%, thus indicating that there are still indicators and variables outside of this study that can influence it.

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Development of Employee Online Attendance System using Webcams and Web-Based Location (Case Study of CV. OTW Computer Gusaha)

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ABSTRACT

Purpose: Attendance is an activity of data collection to determine the number of presences in an activity in an institution or company. In the previous era, attendance at CV. OTW Computer Gusaha was still done manually through paper, which was very ineffective and inefficient, resulting in attendance data not being well stored. From this problem, a reliable and efficient online attendance application is needed for users. The purpose of this application is to improve the efficiency of the attendance process, facilitate monitoring and evaluation, and minimize the risk of fraud in the attendance process.

Design/methodology/approach: The method used is the geolocation method.

Findings: The results of this research show that an online attendance system using webcam and web-based location can improve the efficiency of CV. OTW Computer Gusaha and increase the discipline and responsibility of employees.

Paper type: Research Paper

Keyword: Attendance System, Employee, Information System, Web-based Location, Webcam

Received : May 4th

Revised : May 18th

Published : July 31th

I. INTRODUCTION

Managing employee attendance is a crucial aspect of any organization or company (Yanto et al., 2022). It allows the company to track employee attendance and monitor their performance (Anshari et al., 2021). However, in recent years, managing employee attendance has become increasingly difficult using manual methods that require a lot of time and effort. Therefore, many companies have switched to online attendance systems to improve the efficiency and accuracy of employee attendance management (Nasser, 2022).

One company that has adopted an online attendance system is CV. OTW Computer Gusaha. The company previously used a manual method to record employee attendance, which made attendance management less effective and efficient. To improve the efficiency and accuracy of employee attendance management, the company decided to develop an online attendance system using webcams and web-based location (Kolandaisamy et al., 2022).

The purpose of this research is to evaluate the effectiveness of the developed online attendance system in improving attendance management, employee discipline, and minimizing the risk of fraud in employee attendance management in CV. OTW Computer Gusaha. The developed online attendance system uses geolocation as the main method of recording employee attendance. This method allows for accurate tracking of employee location and attendance. In addition, the use of webcams in the system also provides an additional layer of security to prevent fraud in attendance management (Sunaryono et al., 2021).

According to Hasta Yanto et al. (2022), employee attendance management is crucial for businesses to track employee productivity and improve company performance. However, manual methods of attendance management can be time-consuming and prone to errors (Jain et al., 2022). Therefore, companies are turning to online attendance systems to improve the efficiency and accuracy of attendance management (Sutabri et al., 2019).

Furthermore, Arizal et al. (2020) noted that the use of geolocation technology in attendance management can provide accurate tracking of employ-ee attendance, which can improve the efficiency and effectiveness of attendance management.

II. METHODS

This research aims to evaluate the effectiveness of the developed online attendance system in improving attendance management, employee discipline, and minimizing the risk of fraud in employee attendance management in CV. OTW Computer Gusaha. The research method used in this study is a case study approach.

The case study approach is a suitable research method for this study because it allows for an in-depth analysis of the developed online attendance system and its effectiveness in a real-world setting (Sheikh et al., 2019). The case study approach also allows for the collection of qualitative data from various sources, including interviews and observation, to provide a comprehensive understanding of the sys-tem's effectiveness (Marutotamtama et al., 2022).

Data collection for this research was conducted through interviews with employees and management of CV. OTW Computer Gusaha. The interviews were conducted to gather information on the effectiveness of the developed online attendance system in improving attendance management and employee discipline (Sawhney et al., 2019). In addition, observation was conducted to monitor the system's usage and identify any issues or challenges in its implementation (Bharathy et al., 2021).

The collected data was then analyzed using a qualitative data analysis approach (Rabu, 2018). The data was coded, categorized, and themes were identified to provide a thorough understanding of the effectiveness of the developed online attendance system (Qureshi, 2020).

The research steps taken in this research are as follows:

1. Conduct a literature review to discuss the differences from other studies that have been conducted and emphasize the innovation carried out in this research.
2. Conduct interviews with employees and management of CV. OTW Computer Gusaha. to gather information on the effectiveness of the developed online attendance system.
3. Conduct observation to monitor the system's usage and identify any issues or challenges in its implementation.
4. Analyze the collected data using a qualitative data analysis approach.
5. Provide a thorough discussion of the research results in the "Results and Discussion" chapter.

The case study approach used in this research provides useful insights into the effectiveness Ismail et al. (2022) of the developed online attendance system in improving attendance management, employee discipline, and minimizing the risk of fraud in employee attendance man-agement in CV. OTW Computer Gusaha.

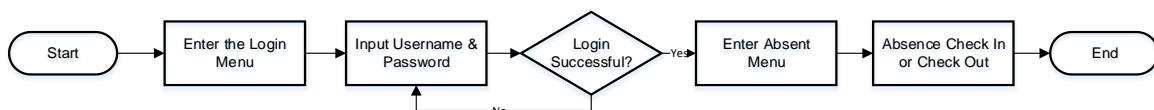


Figure 1. Application Flow

III. RESULTS AND DISCUSSION

The result of this research is an online attendance application for employees that is designed and developed using the PHP frame-work and MySQL database. The application can make it easier for employees to perform attendance. In addition, the application development also includes location features used to determine the position of attendance and a selfie photo feature for employees who will perform attendance.

A. Attendance Process Interface

On the dashboard page, employees can click on the attendance icon, then they will be directed to the attendance page where they can select the "check-in" button to register their attendance. Afterwards, a notification will appear indicating that the attendance has been successfully recorded.



Figure 2. Dashboard page

Here, we can do many things, such as clocking in and out, creating a leave request form, creating a vacation form, and also viewing attendance history data.



Figure 3. Attendance page

This is a page for taking pictures and recording attendance, where the application will capture data in the form of pictures and location through longitude and latitude coordinates.

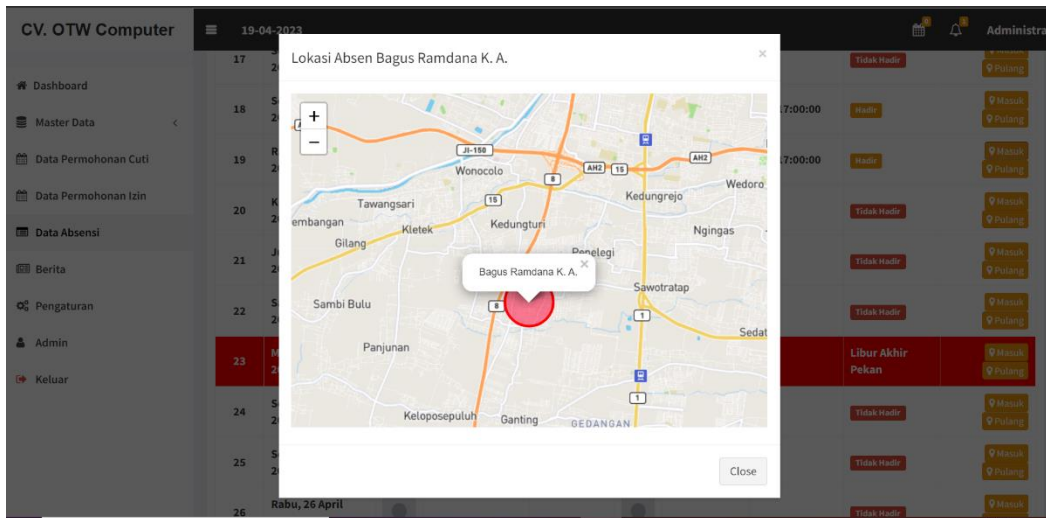


Figure 4. Location Detection

B. Attendance Report

The admin can view and print employee attendance data on the administrator menu.

**LAPORAN DETAIL HARIAN
PERIODE WAKTU 04 - 2023**

Nama : Bagus Ramdana K. A.
Jabatan : Direktur

No.	Tanggal	Jam Masuk	Scan Masuk	Terlambat	Jam Pulang	Scan Pulang	Pulang Cepat	Durasi	Lembur	Status	Keterangan
1	Sabtu, 1 April 2023	08:00:00	08:00:41	00:00:41	17:00:00	17:00:00	00:00:00	8 jam, 59 menit		Hadir	Telat
2	Minggu, 2 April 2023	Libur Akhir Pekan			Libur Akhir Pekan			0 jam, 0 menit		Libur Akhir Pekan	
3	Senin, 3 April 2023	08:00:00	08:01:02	00:01:02	17:00:00	17:00:55	00:00:55	8 jam, 59 menit	0 jam, 0 menit	Hadir	Telat
4	Selasa, 4 April 2023	08:00:00	07:21:38	-00:38:22	17:00:00	17:14:21	00:14:21	9 jam, 52 menit	0 jam, 14 menit	Hadir	Tepat Waktu
5	Rabu, 5 April 2023	08:00:00	08:12:08	00:12:08	17:00:00	17:09:08	00:09:08	8 jam, 57 menit	0 jam, 9 menit	Hadir	Telat
6	Kamis, 6 April 2023	08:00:00	08:02:59	00:02:59	17:00:00	17:08:16	00:08:16	9 jam, 5 menit	0 jam, 8 menit	Hadir	Telat

Figure 5. Attendance Report

Here is the display of the detailed employee attendance report every day. It includes information on the date, clock in time, clock in attendance, late attendance, clock out attendance, duration of work, overtime hours, lateness status, and attendance notes.

C. Testing

Enter the system integration and testing process. At this stage, the modules that have been made before will be put together. After the integration process system has done , next get into testing module.

Table 1. Testing Application

Test Cases	Test Data	Test Type	output	Results
Login	Username and Password are correct	Valid	Pop up successful and headed to dashboard page	Succeed
	Incorrect Username and Password	Invalid	Usernames not registered and wrong password	Succeed
	Blank Username and Password	Invalid	Username and Password are not can blank	Succeed
Roll call	Location no enabled / not allowed	Invalid	No Can absent, appear "Oops! you have decided For No share your position, however nothing. We don't will request again ."	Succeed
	Location Enabled	Valid	Roll call successful, the time and date appear roll call	Succeed

Objective from testing module for know is design and function application from device soft has fit and running with ok. So, with exists stage testing, then can know as well as prevent happening errors, bugs, or errors in the previous program enter the stage pro-duction.

IV. CONCLUSION

Based on the research conducted, it can be concluded that the development of an online attendance system using webcam and web-based location can improve the effectiveness and efficiency of employee attendance at CV. OTW Computer Gusaha. With the online attendance system, employees can easily and quickly perform attendance, and admins can access employee attendance data more efficiently.

The contribution of this research is to provide practical solutions for more effective and efficient employee attendance problems. In addition, the development of this online attendance system can be adopted by other companies and increase overall company productivity.

The implication of this research is the importance of using technology to simplify and improve work processes in the company. Companies can utilize technology to optimize work processes and increase employee productivity.

The weakness of this research is that it is still limited to a case study in one company and has not tested the use of the system on a larger scale. Therefore, future research can look at the development and implementation of the system on a larger scale to ensure the effectiveness and efficiency of this system.

The opportunity for future research is the development of an online attendance system with more features, such as the use of artificial intelligence technology and integration with payroll applications. In addition, research can focus on the use of online attendance systems in larger companies with many branches to see the effectiveness of the system on a larger scale.

ACKNOWLEDGEMENT

Thank you very much to the authors of this journal who have contributed and dedicated their efforts in producing high-quality research. I appreciate the hard work, perseverance, and effort that has been put into making this journal a useful work for the community and academic world. I hope this journal can be a reference and source of inspiration for researchers and readers interested in the topic discussed. Once again, thank you for the hard work and dedication you have given.

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The Effect of Working Capital and Sales on Net Profit in SMEs Frozen Food During Covid 19 Pandemic Era

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ABSTRACT

Purpose: This study aims to examine the effect of working capital and sales on Net Profit in SMEs Frozen Food during Covid 19 pandemic era.

Design/methodology/approach: The research with a quantitative approach was carried out with the research sample is working capital, sales, net profit during 2017 – 2021 at SMEs Sably Frozen Food. Data analysis using statistics method with multiple linear regression analysis.

Findings: The finding reveal that working capital and sales have significant effect on net Income during Covid 19 Pandemic Era. Second analysis that at partially examine show that working capital and Sales have a significant effect on Net Income during pandemic era. This study proves that working capital is needed to finance all operational activities during pandemic era and also improving sales important for SMEs in uncertain the pandemic. Therefore, optimal profits can be achieved while improving the working capital and sales during pandemic era to sustainability the business.

Paper type: Research Paper.

Keyword: Working Capital, Sales, Net Income, SMEs

Received : May 9th

Revised : May 18th

Published : July 31th

I. INTRODUCTION

Small and Medium Enterprises or SMEs are productive business units that stand alone, carried out by individuals or business entities in all economic sectors (Tambunan, 2013: 2). According to data from the Ministry of Cooperatives, Small and Medium Enterprises for 2018, the number of MSME actors is 64.2 million or 99.99% of the number of business actors in Indonesia. The absorption capacity of MSME workers is as many as 117 million workers or 97% of the absorption capacity of the business world workforce. Meanwhile, the contribution of SMEs to the national economy (GDP) was 61.1%, and the remaining 38.9% was contributed by large business actors whose number was only 5,550 or 0.01% of the total business actors. These SMEs are dominated by micro entrepreneurs, amounting to 98.68% with a workforce absorption of around 89%. Meanwhile, the contribution of micro-enterprises to GDP is only around 37.8%.

According the data above, the fact Indonesia has the potential for a strong national economic base because the number of SMEs, especially micro businesses, is very large and the absorption capacity of the workforce is very large. The government and business actors must raise the 'class' of micro-enterprises to become medium-sized businesses. This business base has also proven strong in facing the economic crisis. Micro-enterprises also have fast transaction turnover, use domestic production and are in touch with the primary needs of society. However, since the emergence of the COVID-19 pandemic in December 2019, it has had a negative impact on the SMEs sector, which has also brought down the national economy. This is understandable because SMEs have a very large contribution to the national economy. The following data is the financial report of Bandar Negeri Sably frozen food SMEs for the period 2017 - 2021 as follows:

Table. 1. Working Capital and Net Profit SMEs Sabily Frozen Food 2017 - 2021 fiscal year.

No	Year	Working Capital	Sale	%	Net Profit	%
1	2017	RP.171.801.405,00	RP.374.228.343,00	-	Rp.112.268.502,00	-
2	2018	RP.190.890.450,00	RP.415.809.270,00	11,1%	Rp.124.742.781,00	11,1%
3	2019	RP.212.100.500,00	RP.462.010.300,00	11,1%	Rp.138.603.090,00	11,1%
4	2020	Rp.183.722.910,00	Rp.295.569.600,00	36,02%	RP.90.042.550,00	- 35%
5	2021	RP.238.839.783,00	RP.384.540.231,00	30,1%	Rp.115.362.069,00	28,1%

Source: SMEs Sabily frozen food Bandar Negeri for the 2017-2021 fiscal year

Based on the data presented above, it can be seen that the worst conditions occurred in 2020, marked by a decrease in sales figures which reached minus 36% when compared to sales figures in the previous year. This condition is allegedly triggered by government policies that apply restrictions on community activities which result in a decrease in people's income figures. So that people are starting to focus their spending on basic daily needs which is likely to have an impact on the decrease in sales turnover of the Sabily frozen food Bandar Negeri MSME products throughout 2020. Then in the following year, namely in 2021, sales figures have started to increase by 30% when compared to sales figures in 2020. However, even though in 2021 sales figures have increased, compared to sales figures throughout 2017 - 2019 or before the pandemic occurred, the total sales figures in 2021 were only half or only reached 50% and could not be said to be at normal numbers.

Table.2. Working Capital, Sales and Net Profit SMEs Sabily frozen food monthly on 2020 fiscal year

No	Month	Working Capital	Sale	%	Net Profit	%
1	January	Rp.19.708.000	Rp.32.100.500	-	Rp.11.000.500	-
2	February	Rp.19.707.000	Rp.31.801.000	-0,9%	Rp.10.801.000	-1,8%
3	March	Rp.18.700.900	Rp.31.120.000	-2,1%	Rp.10.320.000	-4,4%
4	April	Rp.16.700.060	Rp.26.250.500	-15,6%	Rp.8.900.500	-13,7%
5	May	Rp.16.700.000	Rp.26.010.500	-0,9%	Rp.8.300.500	-6,7%
6	June	Rp.17.850.600	Rp.30.513.000	17,3%	Rp.9.652.400	16,2%
7	July	Rp.14.310.700	Rp.24.300.500	-20,3%	Rp.6.989.800	-27,5%
8	August	Rp.13.425.050	Rp.21.950.500	-9,6%	Rp.6.275.450	-10,2%
9	September	Rp.12.540.100	Rp.20.201.000	-7,9%	Rp.5.560.900	-11,3%
10	October	Rp.11.655.000	Rp.18.400.500	-8,9%	Rp.4.145.500	-25,4%

11	November	Rp.10.770.200	Rp.15.020.100	-18,3%	Rp.3.249.800	-21,6%
12	December	Rp.11.655.300	Rp.17.901.500	19,1%	Rp.4.846.200	49,1%
Total		Rp.183.722.910	Rp.295.569.600		Rp.90.042.550	

Source: SMEs Sabily frozen food on 2020

From these data it is known that the Sabily frozen food SMES in Bandar Negeri experienced a very drastic decrease in sales turnover for the first time in April 2020, which was minus 15% when compared to sales figures in the previous month, in March 2020. Then in the following months, June - November there was still a relatively significant decrease (highly decrease -27%), and it was only in December that there was a significant increase compared to November, which reached 19%, however, when compared to the average - the average sales data in January - March it turns out that sales figures in december only reached around 40%. The phenomena, looks up a significant decline in sales on April caused the Sabily Frozen Food Bandar Negeri SMEs to experience losses, but in the following months the Sabily Frozen Food Bandar Negeri SMEs began to improve with new strategies to adjust to market conditions, so even though sales turnover continued to decline but it did not make the Sabily Frozen Food Bandar Negeri MSMEs suffer losses and as much as possible profit from sales by adjusting the amount of production by following the number of product orders that were coming in at that time or only producing if an order came in from a customer. This study choses the Sabily Frozen Food Bandar Negeri SMEs as the object of research in this research is because these SMEs are one of the companies affected by the Covid 19 pandemic but were able to struggle through this difficult period well and are even now starting to recover and develop again as before. pandemic occurred.

Based on the data above, to find out for real whether working capital and sales can affect the profits earned by SMEs during the Covid 19 Pandemic Era. The research purpose to examine the effect of working capital and sales on net profit at SMEs Sabily frozen food in Bandar Negeri West Lampung, Indonesia.

A. Literature Review

According to Munawir (2014) giving an understanding of working capital is net working capital or the excess of current assets over current debt, namely the amount of current assets originating from long-term loans and from company owners, while for working capital as current assets the term working capital is used. gross (gross working capital). Meanwhile, according to Kasmir (2015) Working capital is the capital used to finance the company's operational activities, especially those with a short term. As working capital is defined as all current assets or after deducting current liabilities. Meanwhile, according to Fahmi (2016) Working capital is a company's investment in short-term assets such as cash, securities, inventories and receivables. Abdullah (2017) stated that sales are complementary activities or supplements to purchases, to enable transactions to occur. So buying and selling activities are a single entity to be able to carry out the transfer of rights and transactions. Meanwhile, according to Hery (2011) Sales are the total amount charged to customers for merchandise sold by the company, including cash sales, as well as sales on credit. According to Moekijat (2014: 288) argues that sales is an activity aimed at finding buyers, influencing and giving instructions so that buyers can adjust their needs to the production offered and make offers regarding prices for the benefit of both parties. Hery (2018: 43) documented Net profit is profit before income tax which is deducted by income tax. According to Kasmir (2015: 303) net profit is profit that has been deducted by costs which are a burden on the company in a certain period including taxes.

The several previous studies, Wardiningsih (2017) explained that working capital, assets, and sales turnover have a positive and significant effect on the net profit of catering SMEs in Surakarta. The results of Putranto (2017), the variables used are production and sales costs on net profit, the results of this study have a partially significant effect on production costs on net profit and sales on net profit, as well as simultaneously production and sales costs have a significant effect on net profit. Puspitasari & Rucjana (2022) give evidence the effect of sales, operational costs on net income. The results of the simultaneous test are (1) Sales, operational costs to net income, (2) partial tests on sales variables have a significant effect on net income, (3) Operational costs increase on net income

The data in this study were obtained from the Karawang Cipta Grafika financial report.

Based on the literature review and the results of previous research, the hypothesis in this study is as follows:

H1: There is an effect of working capital on net profit in SMEs Sabily frozen food during pandemic era

H2: There is an effect of sales on net profit in SMEs Sabily frozen food during pandemic era

H3: There is an effect of working capital and sales simultaneously on net profit in SMEs Sabily frozen food during pandemic era

II. METHODS

This study uses quantitative methods, the type of data in this study is quantitative data, namely the type of data in the form of numbers, or quantitative data that is scored (scoring). The data in this study were obtained or sourced from monthly report data and annual data for the 2017-2021 period from the Sabily Frozen Food Bandar Negeri SMES in the form of working capital data, sales and net profit data for the 2017-2021 period.

The population in this study is year-end report data for the period 2017 - 2021 from Sabily frozen food SMEs at Bandar Negeri, while the sample in this study is monthly report data for 2020 from SMEs Sabily frozen food at Bandar Negeri. The first data collection technique in this study is the documentation technique, namely by taking data from monthly and annual reports for the period 2017 - 2021 from the owner of the SMEs Sabily frozen food Bandar Negeri and the next data collection technique is by direct interviews with the owner and employees of SMEs Sabily frozen food Bandar Negeri by coming in person and conducting interviews with owners and employees of SMES Sabily frozen food Bandar Negeri. The following is a picture of the research conceptual framework:

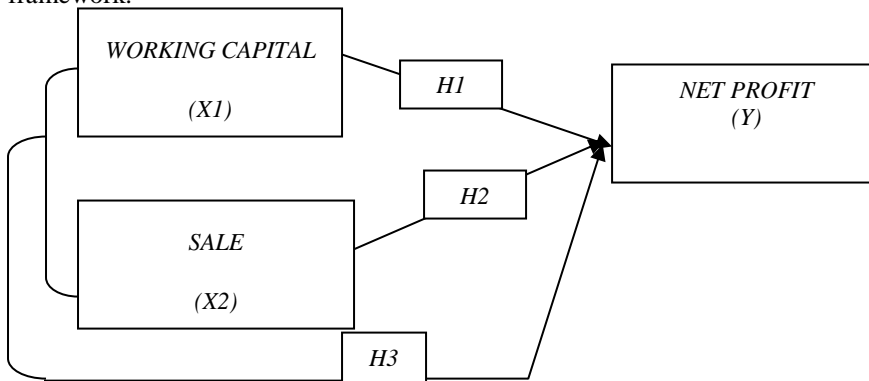


Figure 1. Research Conceptual Framework

The independent variables of this study are working capital (X1) and sales (X2), while the dependent variable of this study is net income (Y).

Table 4 Operational Variables and Measurements

<i>Variables</i>	<i>Measurments</i>	<i>Scale</i>	<i>References</i>
<i>Independent Variable (X1)</i>			
<i>Working Capital (X1)</i>	<i>Working Capital WCTO = Current Assets - Current Liabilities</i>	<i>Nominal</i>	<i>Kasmir (2015) Puspitasari & Rucjana (2022)</i>
<i>Sale (X2)</i>	<i>Sales = Total Net Sales</i>	<i>Nominal</i>	<i>Abdullah (2017) Puspitasari & Rucjana (2022)</i>
<i>Net profit (Dependent Variable) (Y)</i>	<i>Net Profit = Profit before income tax – Income Tax</i>	<i>Nominal</i>	<i>Hery (2018)</i>

The normality test in this study was carried out using the graphical method, if the results of the calculation of the significance value are more than 0.05, the data is said to be normally distributed. Furthermore, the

homogeneity test, this test is the next requirement test before using analytical techniques. The decision making is guided by the following provisions. If the sig significance value is <0.05, it means that the data does not have a homogeneous variance (not the same) and if the sig significance value is > 0.05, it means that the data has a homogeneous variance.

Multiple Linear Regression Analysis, this analysis is also to predict the value of the dependent variable if the value of the independent variable increases or decreases, and to determine the direction of the relationship between the independent variable and the dependent variable whether each independent variable is positively or negatively related.

The multiple linear regression equation according to Sugiyono (2017: 275) can be formulated as follows:

$$Y' = a + b_1X_1 + b_2X_2 + e$$

Y' = Dependent Variable (predicted value) i.e. Net Income

X1, X2 = Independent Variables namely Working Capital (X1) and Sales (X2)

a = Constant (value Y' if X1,X2...,Xn = 0)

b = regression coefficient (increasing or decreasing value)

e = Standard error

T test, according to Sujarweni (2015: 229) t test shows how far the influence of one independent variable or explanatory variable individually (partially) in explaining the dependent variable. If the significant probability value is less than 0.05 (5%) then an independent variable has a significant effect on the dependent variable. The hypothesis is accepted if the significant level (a) < 0.05 and the hypothesis is rejected if the significant level (a) > 0.05. According to Sugiyono (2015: 250) the formula for testing the significance of the correlation coefficient obtained is as follows:

$$t_{hit} = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Information :

t = t_hit r = Correlation Coefficient n = Number of data

The criteria for testing the hypothesis are as follows:

The hypothesis is rejected if : t_hit < t_tab

The hypothesis is accepted if : t_hit ≥ t_tab

III. RESULTS AND DISCUSSION

The data sample analyzed in this study is the monthly report data for SMEs Sably frozen food on year of 2017-2020 in SMEs Bandar Negeri West Lampung. The normality test aims to determine the distribution of data in the variables that will be used in research. The data used in this research is data that has a normal distribution, that is, if the sig value > 0.05. the data was tested using a normality test tool, namely by using the one-sample Kolmogorov-Smirnov Test. The results of the data normality test can be seen in the table below:

Table 5. One-Sample Kolmogorov-Smirnov Test

		<i>Unstandardized Residual</i>
<i>N</i>		12
<i>Normal Parameters,a,b</i>	<i>Mean</i>	,0000000
	<i>Std. Deviation</i>	256611,98957991
<i>Most Extreme Differences</i>	<i>Absolute</i>	,156
	<i>Positive</i>	,156

	<i>Negative</i>	<i>-,081</i>
<i>Kolmogorov-Smirnov Z</i>	<i>,541</i>	
<i>Asymp. Sig. (2-tailed)</i>	<i>,931</i>	

Source: Results of SPSS data processing Version 21.0 (2023)

a. Test distribution is Normal.

b. Calculated from data.

Based on Table 5 above, it shows that the Kolmogorov-Smirnov (Test Statistics) Z value is 0.541 and Asymp. Sig (2-tailed) which is equal to 0.931 is greater than 0.05. So it can be concluded that the regression model meets the assumption of normality or is normally distributed. Homogeneity test is a test of assumptions with the aim of proving the data being analyzed comes from populations that are not much different in variance. This test is a test of the next requirements before the use of analytical techniques. Meanwhile, if the sig significance value is <0.05, it means that the data does not have a homogeneous variance (not the same) and if the sig significance value is > 0.05, it means that the data has a homogeneous variance.

Table 6. The Result of Homogenitas Test

Test of Homogeneity of Variances

<i>data</i>			
<i>Levene Statistic</i>	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
<i>6,269</i>	<i>2</i>	<i>33</i>	<i>,005</i>

Source: Results of SPSS data processing Version 21.0 (2023)

Based on the Table 6 above, in the homogeneity test table above, it can be seen that the sig value is 0.005 <0.05, so it can be said that the data tested is not homogeneous. But because this homogeneity test is not a mandatory requirement in the regression test so that the data analysis test can be continued to the next stage. This study uses multiple linear regression tests (multiple linear regression) because it has more than one independent variable. The results of multiple linear regression tests using the SPSS version 21.0 application are as follows:

Table 7. Result of Hypothesis Test

Coefficients^a

<i>Model</i>	<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	<i>t</i>	<i>Sig.</i>
	<i>B</i>	<i>Std. Error</i>			
<i>(Constant)</i>	<i>-4387431,497</i>	<i>472052,162</i>		<i>-9,294</i>	<i>,000</i>
<i>1 Capital</i>	<i>,454</i>	<i>,164</i>	<i>,556</i>	<i>2,778</i>	<i>,021</i>
<i>Sell</i>	<i>,200</i>	<i>,091</i>	<i>,443</i>	<i>2,211</i>	<i>,054</i>

a. Dependent Variable: PROFIT

Source: Results of SPSS data processing Version 21.0 (2023)

The multiple linear regression equation that is formed is:

$$Y = a + b_1X_1 + b_2X_2$$

$$Y = -4.497 + 0.454X_1 + e + 0.200X_2 + e$$

Based on the regression equation obtained from the coefficients table above, it can be explained the influence between the variables Working Capital (X1) and Sales (X2) on Net Income (Y). For more details are as follows:

1. Constant (a) of -4.497 states that if the independent variables Working Capital (X1) and Sales (X2) are considered constant (Zero), then Net Profit (Y) is -4.497.
2. The regression coefficient for working capital (X1) is 0.454 indicating that each additional working capital is one unit, it will be followed by an increase in net profit of 0.454. These results are positive, meaning that there is a positive relationship between working capital and net profit, ie where the higher the working capital, the higher the net profit obtained.
3. The sales regression coefficient (X2) of 0.200 indicates that each additional unit of sales will be followed by an increase in net profit of 0.200. These results are positive, meaning that there is a positive relationship between sales and net income, ie where the higher the sales, the higher the net profit obtained. The t test is used to partially test each independent variable (Working Capital and Sales) on the dependent variable (Net Income) whether it has a significant effect on the dependent variable (Net Income) or not. The results of the t test are as follows:

Table 8. Result of T test

<i>Coefficients^a</i>					
<i>Model</i>	<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	<i>t</i>	<i>Sig.</i>
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
<i>(Constant)</i>	<i>-4387431,497</i>	<i>472052,162</i>		<i>-9,294</i>	<i>,000</i>
<i>1 Capital</i>	<i>,454</i>	<i>,164</i>	<i>,556</i>	<i>2,778</i>	<i>,021</i>
<i>Sell</i>	<i>,200</i>	<i>,091</i>	<i>,443</i>	<i>2,211</i>	<i>,054</i>

a. Dependent Variable: PROFIT

Source: Results of SPSS data processing Version 21.0 (2023)

It can be seen in table 8 above that the tcount for the Working Capital variable is 2.778 with a sig value of 0.021 while the tcount for the Sales variable is 2.211 with a sig value of 0.054. So that from the results of SPSS Version 21.0 data processing above it can be explained as follows:

- a. Effect of Working Capital (X1) on Net Income
t count = 2.778, t table = 2.13185. The hypothesis is accepted if t count > t table. Based on the table above, it can be seen that t count > t table and has a significance value of 0.021 < 0.05, then the hypothesis is accepted. This means that the variable Working Capital (X1) has a significant influence on Net Income (Y) in SMEs.
- b. Effect of Sales (X2) on Net Income
Based on the table above, it can be seen that t count > t table and has a significance value of 0.054 < 0.05, then the hypothesis is accepted. This means that the Sales variable (X2) has a significant influence on Net Income (Y), which means that the higher the level of sales of a product, the higher the level of net profit earned by SMEs. Because the more a product is sold it will affect the level of income resulting in an increase in profits at the company.

The F test is used to determine whether the independent variables (Working Capital and Sales) simultaneously (simultaneously) have a significant effect on the dependent variable (Net Income). Based on the results of the f test performed, the test results can be seen in the following table:

Table 9. The Result of ANOVA Test

<i>Model</i>	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
<i>Regression</i>	<i>79492490072133,920</i>	<i>2</i>	<i>39746245036066,960</i>	<i>493,847</i>	<i>,000^b</i>
<i>1 Residual</i>	<i>724346845157,749</i>	<i>9</i>	<i>80482982795,305</i>		
<i>Total</i>	<i>80216836917291,670</i>	<i>11</i>			

a. Dependent Variable: PROFIT

b. Predictors: (Constant), SELL, CAPITAL

Source: Results of SPSS data processing Version 21.0 (2023)

Based on the table 9 above, it can be seen that the fcount is 493.847 with a significant value of 0.000. Based on this information it can be assumed that: f count = 493,847 f table = 6.94. The hypothesis is accepted if f count > f table, Significant if a < 0.05. In the ANOVA table above, it can be seen that the value of fcount is 493.847 so that it can be said that f count > f table. While a significant value of 0.000 can be said that a < 0.05. In this case it can be said that the results of the research that has been carried out are in accordance with the testing criteria. Thus it can be concluded that the hypothesis can be accepted, meaning that in this study jointly (simultaneously) has a significant effect between Working Capital (X1) and Sales (X2) on Net Income (Y) at Sabily frozen food SMES in Bandar Negeri.

A. Discussion

Based on the results of the data test that has been carried out in this study, it shows that the working capital variable (X1) has a significant effect on net profit (Y) at the Sabily frozen food SMES in Bandar Negeri. Working capital must be used properly to finance all business expenses, especially in obtaining profits because excessive working capital will result in some of the available funds being no longer productive and will actually lead to waste, while companies that do not have sufficient working capital will experience bottlenecks in carry out its business activities and has the potential to lose a lot of profits. Working capital that is managed effectively is expected to generate optimal profits. The sales variable also has a significant effect on the net profit of Sabily frozen food SMES at Bandar Negeri, this proves that SMEs with large sales results have a great opportunity to generate higher net profit. Likewise with the working capital and sales variables which have a significant simultaneous effect on net income at the Sabily frozen food SMES at Bandar Negeri. Working capital is needed to finance all operational activities of the company so that profits or profits can be obtained and sales must always increase so that profits or profits can be achieved according to the target.

V. CONCLUSION

This research aims to examine the effect of working capital and sales during Covid 19 Pandemic Era. Based on the results of hypothesis test, concluded that working capital and sales partially have a significant effect on net income at Sabily frozen food SMEs in Bandar Negeri West Lampung. Likewise, simultaneously, working capital and sales have a significant effect on net income at the Sabily frozen food SMEs in Bandar Negeri. This has implications so that in the future the SMEs Sabily frozen food Bandar Negeri will give more attention to working capital and increase sales in order to increase net profit at the Sabily Frozen Food Bandar Negeri SMEs.

This research has been attempted and carried out in accordance with scientific procedures, however, it still has limitations such as the factors that affect net profit in this study only consist of two variables, working capital and sales, while there are many other factors that affect net profit. In addition, there are limitations to research using bookkeeping samples, namely that sometimes the results of sales and expenses between periods/years of accounting experience significant differences. Based on the above conclusions, SMEs should be able to manage their working capital properly so that there is no waste that causes losses for SMEs and continue to increase sales figures consistently so that they can provide significant benefits for SMEs. Then this research is also expected to be an additional source of knowledge and information about financial accounting regarding working capital, sales and net income as well as input and additional references for readers. For further research will be able to add other variables or look for any factors that can affect net income besides the variables involved in this study. It is

expected to use different industrial sectors and use a longer period span and more samples so that it is expected to obtain better results and be more useful for the wider community.

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The Influence of Halal and Conventional Tourism on NTB's Regional Original Revenue: A Comparative Analysis

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ABSTRACT

Purpose: The purpose of this study was to determine the comparison of the effects of conventional tourism and halal tourism on regional original revenue, especially in West Nusa Tenggara (NTB) Province.

Design/methodology/approach: This research is a quantitative descriptive research using the ANN (Artificial Neural Network) model.

Findings: The results of this study indicate the difference between before becoming halal tourism (conventional) before the NTB governor's regulation, which significantly affects regional original revenue, domestic tourists with a value of 54.68% and foreign tourists with a value of 32.48%, and when it has become halal tourism, which greatly affects foreign tourists, namely (53.52%), and local tourists with a value of 42.91%. As for the USD exchange rate factor against the rupiah, it has no effect on regional original revenue with a value of both 12.82% for conventional tourism and 3.55% for halal tourism.

Practical implications: These results are expected to provide input to NTB provincial stakeholders, especially in the field of tourism, to improve and maintain the advantages and uniqueness of halal tourism. Originality/value: Research that compares the effect of tourism before and after becoming halal on regional income is still very rarely done, especially by using the ANN method.

Paper type: Research paper

Keyword: *Conventional Tourism, Halal Tourism, Local Revenue, ANN*

Received : May 4th

Revised : May 12th

Published : July 31th

I. INTRODUCTION

The potential to increase revenue from tourism makes it a crucial industry for the development of regional economies. People of modern urban cities frequently create distinctive itineraries. As a result, the tourism sector has the potential to grow in the future (Djakfar, 2017). The tourist industry has grown significantly in importance within the last few years to the global economy. 10% of the total GDP is contributed by the tourism industry. One in ten employment are generated by the tourism industry. In 2016, the tourist industry provided 1.4 trillion USD (7% of all exports) in export value. Additionally, tourism makes up 30% of all services exported globally (Destiana & Astuti, 2019).

The patterns of tourist travel started to alter throughout time. Tourist consumption patterns (customer behavior patterns) for tourism goods or tourist destinations that are no longer focused on the 3S (sun, sea, and sand) might be encouraged by changes in visitor motivation and travel patterns (Priyadi, 2020). Halal tourism is also a modern alternative to traditional trips. Because it is regarded as more welcoming to Muslim tourists, halal tourism has become a viable choice for Muslims. The Islamic concept of Muamalah, which educates about human connections via everyday activities, includes tourism. (Djakfar, 2017). The demand for halal tourism worldwide has been increasing, making it an emerging market with potential to increase local income (Subarkah, 2018; Herawati, 2023).

West Nusa Tenggara Province is the province that has fully established international standards for halal tourism. Particularly after NTB Province won a prize at the 2016 World Halal Tourism Awards (Hamzana, 2017).

The NTB Provincial Government only discovered the perfect format or formulation for halal tourism in NTB in 2015. Halal tourism has grown since it was first proclaimed in 2010. This was evidenced by the presence of NTB Governor Regulation No. 51 of 2015 regarding Halal Tourism, which was signed on September 29, 2015, by the NTB Governor in office at the time. Moreover, the NTB Regional Regulation No. 2 of 2016 on halal tourism has strengthened it. The study by Amelia (2017) indicates that in NTB, Islamic character formation starts at an early age. Furthermore, Hamzana (2018) suggests that the West Nusa Tenggara Department of Industry and Commerce and the Health Service in conjunction with the Ulema Council of Indonesia issue halal certificates. These findings suggest the potential for the development of halal tourism destinations in NTB. The NTB Provincial Government can enhance the sector's revenue if it works hard to promote tourism. The NTB Provincial Government could become more independent and less reliant on the federal government as a result. Tourism can provide local revenue through hotel taxes, restaurant taxes, entertainment taxes, lodging, boarding, and villa levies, as well as through levies on leisure sites, or it can generate foreign exchange through international visitors (Arlina & Purwanti, 2013).

According to Nurjaya et al. (2020), many companies and parties participating in the tourism industry struggle to comprehend the products, services, and infrastructure associated with halal tourism. In particular, for West Nusa Tenggara Province as a possible halal tourism destination, the study by Subarkah (2018) proposed that halal tourism might be used as a tool for Indonesian public diplomacy to enhance tourist visits and improve the regional economy. Additionally, the growth of halal tourism may draw investment and prospects for employment (2018). In conclusion, halal tourism is an intriguing area for further investigation since it has the potential to significantly impact the economic growth of the West Nusa Tenggara Province (Nurcholifah, 2023).

Comparative studies of the effects of conventional and halal tourism on city tax revenues are still very rare. The importance of the study lies in its capacity to explain the effect of halal tourism on regional income using a statistical model (Abduh, 2022). This research is a quantitative descriptive study using the artificial neural network (ANN) model. This study also shows that, when viewed from a traditional tourism perspective, the number of domestic and international visitors has a sizeable impact on regional original revenue. The quantity of foreign visitors is also the most significant factor in halal tourism (Abduh, 2022). In addition, Rozalinda et al. (2019) examined the advantages and disadvantages of establishing halal tourism in Indonesia while mapping the economic potential of doing so. It is recommended that NTB provincial stakeholders in the tourism industry improve and maintain the excellence and distinctiveness of halal tourism based on the literature reviewed.

This research continues the findings of Nurcholifah (2023); Rozalinda et al. (2019); and Destiniana & Astuti (2019) by comparing tourism before and after the existence of NTB Governor Regulation No. 51 of 2015 concerning Halal Tourism. This study aims to determine tourism factors that affect NTB's local revenue. The results of this study are expected to provide input to NTB provincial stakeholders, especially in the field of tourism, to improve and maintain the advantages and uniqueness of halal tourism.

A. Factors Tourism

A country's economy relies heavily on tourism, which also creates jobs, both directly and indirectly. In this literature review, many studies show how various factors the tourism sector. These variables include the currency exchange rate, the number of local and international tourists.

1. Exchange Rate

Khanalizadeh et al. (2019) examine using the autoregressive distributed lag (ARDL) method to explore the impacts of economic growth, hotel development, and the real exchange rate on the tourism industry. Sharma et al. (2019) investigate the extent to which exchange rate fluctuations affect India's international tourism receipts. Ahmed (2019) examines the effect of exchange rate volatility on tourism stock prices on the Egyptian Exchange (EGX). Since perfectly reversible demand functions are generally used in tourism demand modelling, little attention has been given to the asymmetric tourist responses to exchange rate changes. Chi (2020) attempts to fill this gap by examining two types of asymmetric demand responses associated with exchange rate fluctuations: 1) currency appreciations and depreciations, and 2) rises and falls in exchange rate volatility. Over the past three decades, there has been an increasing focus on the subject of global tourism in Iran's economy. Mohammadzadeh et al. (2020) examine the most important economic factors affecting this industry in this country, especially economic policy uncertainty.

H1 = Exchange rate has a positive impact on regional original revenue

2. Local Tourism

An investigation by Laut, Sugiharti, and Panjawa (2021) in the Indonesian province of Central Java revealed that the supply-side contribution to local own-source income is less elastic than an increase in local tourism demand. This suggests that a growth in visitor demand could result in a discernible gain in local revenue. Arifai (2019) did a study on the Blang Kolam waterfalls in Indonesia's Aceh Province and discovered that applying the creative economy, a profit-sharing structure based on sharia law, and environmental aspects of tourism are key components to boosting local original revenue. Susanti, and Kutaneegara (2019) showed that

local income in a region with tourist attractions may rise concurrently with the growth of the tourism sector. They underlined the importance of the local level in the growth of Indonesian tourism.

H2 = Local tourism has a positive impact on regional original revenue

3. International Tourism

It has been discovered that Indonesia's regional income is significantly impacted by international tourism. The ASEAN Tourism Forum (ATF), which Indonesia uses to advertise itself as a tourist destination and draw in foreign investors, provides as an example of this (Rahmat, 2021). Given that it takes into account sociocultural, economic, and environmental sustainability, sustainable tourism management is essential to sustaining tourist growth (Rahadi, 2021). However, the COVID-19 epidemic has had a detrimental impact on the Indonesian tourism sector, causing a reduction in earnings as international visitor numbers drastically fell (Anele, 2021). In order to promote distinctive local qualities and ensure sustainable tourist management, it is crucial to use the creative industries in Indonesia.

H3 = International tourism has a positive impact on regional original revenue

B. Tourism Affecting Regional Original Revenue

This literature review aims to synthesize recent studies and investigate how tourism affects regional original revenue. According to Poto et al. (2022) recommended improving tourism training, supervision, and management, establishing regional regulations, and building cooperation with private and other regions regarding the Tourism Development Policy to increase regional original revenue. Wahyuni et al. (2018), employing Malang Raya as a case study, used the number of tourist arrivals, hotel room occupancy rates, the number of restaurants, and Gross Regional Domestic Product (PDRB) data from 2006 to 2016. They applied the fixed effect model of multiple regressions to analyze the secondary panel data from three local governments in Malang Raya. They concluded that tourism has a significant impact on the regional revenue of Malang Raya. Yulanda and Rahayu (2019) investigated Tanah Bumbu Regency's potential and development of the tourism sector for local revenues. They found that the strategic location and the support of the government, private parties, and the surrounding communities of tourism objects can be leveraged for business development and services in Tanah Bumbu Regency.

C. Research Framework

The research framework in this study is:

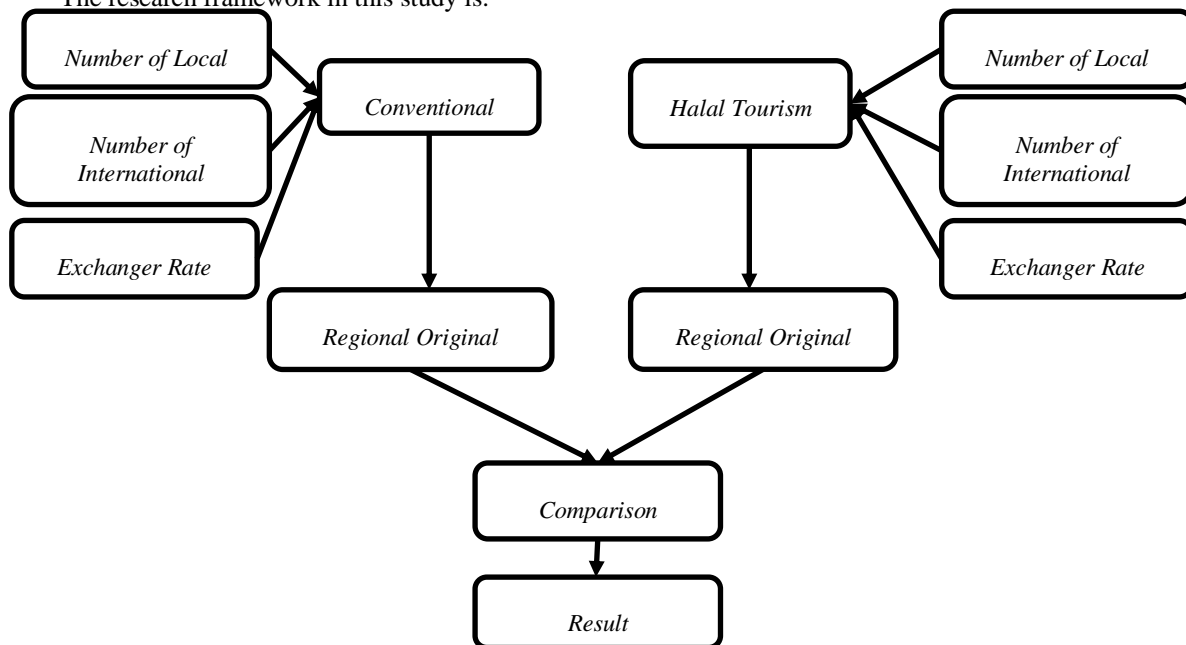


Figure 1. Research Framework

II. METHODS

A. Data

This study uses descriptive quantitative analysis by comparing the two findings between conventional tourism (before the NTB governor's regulation on halal tourism) and halal tourism (after the NTB governor's regulation on halal tourism). The data used in this study are secondary data sourced from the website www.disbudpar.ntbprov.go.id for data on domestic and foreign tourists who come to West Nusa Tenggara. In addition, the rupiah exchange rate data uses data from www.bi.go.id. The time span taken is 2011–2015 for data before the formation of halal tourism in NTB and 2016–2020 for data after the formation of halal tourism.

B. Operational Variables

Operational variables are required to be defined which aims to explain the meaning contained in the research variables which provides instructions on how the research variables are measured.

Table 1. Operational Variable

<i>Research Variable</i>	<i>Definition</i>
<i>Exchange Rate (X₁)</i>	<i>Rupiah to dollar exchange rate (www.bi.go.id)</i>
<i>Domestic Tourism (X₂)</i>	<i>Number of local tourist arrivals that visit an area to benefit (Osiako, KUMMITHA, and SZENTE, 2022; Ocran, Adebajji, and Sarpong, 2019).</i>
<i>International tourism (X₃)</i>	<i>The number of foreign tourists who come to a country with benefits (Zirulia, 2014; Hüseynova, 2021).</i>
<i>Regional Original Revenue (Y)</i>	<i>Local revenue refers to the total amount of revenue generated within a certain regional area. In this case specifically in tourism revenue.</i>

Source: data processed (2023)

C. ANN Model

Using the www.alyuda.com program, there are three steps to implementing the Artificial Neural Network (ANN) model to analyse how tourism-related factors affect local revenue, namely: 1) input data from all previous period variables; 2) the data will be processed through two stages, namely the training stage and the testing stage; and 3) the output will be obtained in the form of output from the predicted variables. The Artificial Neural Network (ANN) model can be represented by the following equations when doing technical data calculations (Vochozka, Horak, & Ule, 2019):

$$Y = f \left[v_0 + \sum_{j=1}^m h(\lambda_j + \sum_{i=1}^n x_i w_{ij}) v_j \right] \tag{1}$$

Where:

Y = network output

f = Activity Function of Output Layer

v₀ = Output bias

h = Activity Function of hidden layer

λ_j = hidden unit biases (j = 1, ..., m)

The above results in a logarithm that is used in the learning process to aim for: (1) All neurons select the logistic function; (2) the output error is minimized by selecting the sum-of-squares error; (3) the logistic activation function uses between 0 and 1 to set the network output.

Furthermore, artificial neural networks are trained using special conditions to obtain the significance level of each variable by using inverse propagation for logarithmic learning, learning speed and momentum determined at 0,1, and completeness by maximizing the process at a mean square of less than 0.000001 or with the model completing 20,000 iterations. Thus, the information provided in this process is a significant variable that affects profitability (Anwar and Watanabe, 2010; Fakhri and Darmawan, 2022; Fakhri et al., 2020). The following is the research flow using ANN:

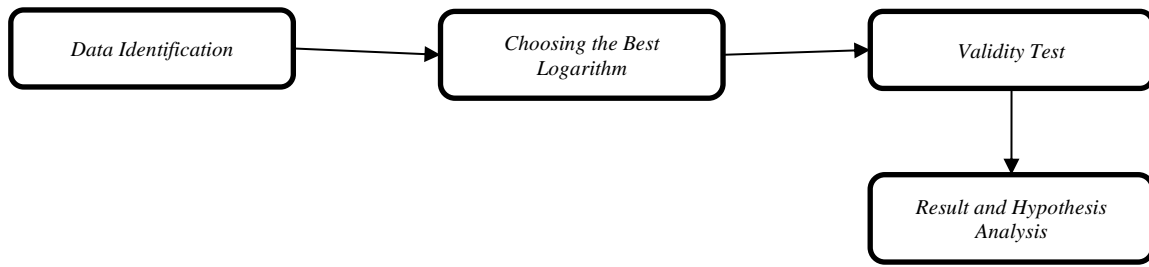


Figure 2. ANN Process

From the process above, the first process in analyzing with the ANN model is first to identify the data, the data to be analyzed will be identified by the amount of data, the choice of time series of the data, secondly choosing the best logarithm to produce the best output, then the Validity Test using CCR, and finally the output that tests the hypothesis where if it is more than 30% it will have an effect (Fakhri and Darmawan, 2021; Novida, and Oktaviani, 2022).

III. RESULTS AND DISCUSSION

In this section, the best logarithm generated from the data will be presented first, followed by the validity test using ROC (receiver operating characteristics). The output of the data will then be analysed using the comparison method.

A. Data Analysis Test Effect of Conventional Tourism on Local Revenue

1. The Best Logarithm

Data on the effect of Conventional Tourism on Local Revenue generating the best logarithm of the ANN model is:

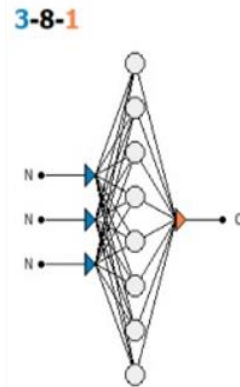


Figure 3. Best logarithmic ANN Effect of Conventional Tourism on PAD

The result is N3-8-1, this result shows that to process data on the effect of Conventional Tourism on Regional Original Revenue with 3 variables requires 8 Neurons to get optimal results.

2. ROC (Receiver Operating Characteristics)

The following are the results of data validation of the effect of Conventional Tourism on Regional Original Revenue using ROC:

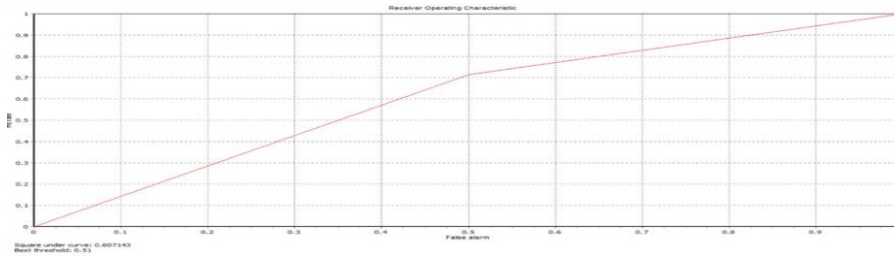


Figure 4. ROC Effect of Conventional Tourism on PAD

The validation results using ROC with a value of 60.3% declared the data valid. According to Fakhri and Darmawan (2021), it shows that if the ROC value exceeds 50%, the data analyzed is valid. So that the data can be analyzed further.

B. Data Analysis Test Effect of Halal Tourism on Local Revenue

1. The Best Logarithm

Data on the effect of Halal Tourism on Local Revenue generating the best logarithm of the ANN model is:

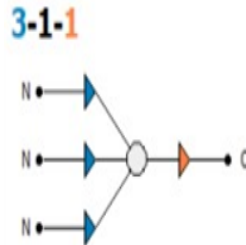


Figure 3. Best logarithmic ANN Effect of Halal Tourism on PAD

The result is N3-1-1, this result shows that to process data on the effect of Conventional Tourism on Regional Original Revenue with 3 variables only requires 1 Neuron to get optimal results.

2. ROC (Receiver Operating Characteristics)

The following are the results of data validation of the effect of halal Tourism on Regional Original Revenue using ROC:

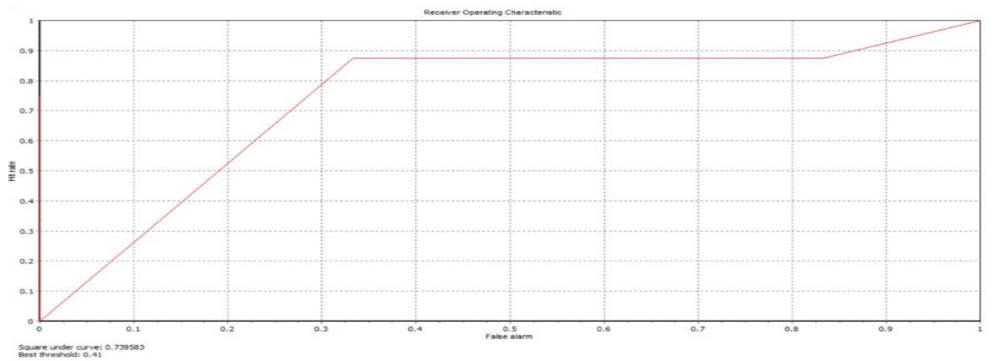


Figure 4. ROC Effect of Halal Tourism on PAD

The validation results using ROC with a value of 70.3% declared the data valid. So that the data can be analyzed further.

C. Result and Comparison Analysis

This section presents the results of halal and conventional tourism that affect local revenue generation. The results of both data are shown in the table below.

Table 2. Comparison of Conventional Tourism with Halal Tourism

<i>Information</i>	<i>Result</i>	
	<i>Conventional Tourism</i>	<i>Halal Tourism</i>
<i>The Best Logarithm</i>	3-8-1	3-1-1
<i>ROC</i>	60%	73%
<i>Number of Local Tourism</i>	54,68%	42,91%
<i>Number of International Tourism</i>	32,48%	53,52%
<i>Exchange Rate</i>	12,82%	3,55%

Source: ANN Model, 2023

The table above explains that the two data presented are equally valid with an ROC value of 60% conventional tourism, and 73% halal tourism. With different logarithms, namely conventional tourism N3-8-1 and halal tourism N3-1-1. This result shows that the processed conventional tourism data must require 8 neurons to get good validation, while for halal tourism data only requires 1 neuron.

The results of the two variables have differences and similarities, where the similarity of these results is in the exchange rate. The results of the exchange rate both do not affect local revenue with the results for conventional tourism which is 12.82% and halal tourism which is 3.55% because these results are less than 30%. Thus it can be concluded that H1 is rejected. This result is different from previous studies (Khanalizadeh et al., 2019; Chi, 2020; Mohammadzadeh et al., 2020), which argue that the exchange rate has a positive effect on local revenue. This can provide an explanation for why foreign and domestic tourists do not think about exchange rate differences because tourist attractions in West Nusa Tenggara (NTB) are very exotic.

Different results were found in the domestic and international tourist variables. Where the first position of the variable from conventional tourism that affects local revenue is domestic tourists with a value of 56.84%, in other words H2 is accepted, while halal tourism that affects local revenue is international tourists with a value of 53.52%, thus H3 is accepted. While the second position that affects local revenue is local tourists for halal tourism with a result of 42.91%, and foreign tourists for conventional tourism with a value of 32.48%. This difference proves that after West Nusa Tenggara won the title of "World Best Halal Tourism Destination and "World Best Halal Honeymoon Destination", many foreign tourists are interested in coming and want to know the tourist attractions in the area. The results of the influence of local tourists on local revenue are in accordance with previous research, namely Laut, Sugiharti, and Panjawa (2021); Arifai (2019); and Susanti and Kutaneegara (2019), which concluded that local tourists have a positive effect on local revenue. Likewise, with foreign tourists, the results are in accordance with previous research (Rahmat, 2021; Rahadi, 2021; Anele, 2021), which assessed that foreign tourists have a positive effect on local revenue.

V. CONCLUSION

The potential to increase revenue from tourism makes it a crucial industry for the development of regional economies. This study aims to determine conventional and halal tourism factors that affect NTB's regional original revenue. The results of the two variables have differences and similarities, where the similarity of these results is

in the exchange rate. The results of the exchange rate both do not affect local revenue with the results for conventional tourism which is 12.82% and halal tourism which is 3.55% because these results are less than 30%. Thus it can be concluded that H1 is rejected. Different results were found in the domestic and international tourist variables. Where the first position of the variable from conventional tourism that affects local revenue is domestic tourists with a value of 56.84%, in other words H2 is accepted, while halal tourism that affects local revenue is international tourists with a value of 53.52%, thus H3 is accepted. While the second position that affects local revenue is local tourists for halal tourism with a result of 42.91%, and foreign tourists for conventional tourism with a value of 32.48%. The results of this study are expected to provide input to NTB provincial stakeholders, especially in the field of tourism, to improve and maintain the advantages and uniqueness of halal tourism.

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Analysis of Container Crane on Stevedoring at Nilam Multipurpose Terminal

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ABSTRACT

Purpose: This study is titled "Analysis of Container Cranes on Stevedoring in Nilam Multipurpose Terminals the Use of Container Crane Against Container Stevedoring in Nilam Multipurpose Terminals". This study aims to determine the effect of using a Container Crane on the productivity of container stevedoring activities at Nilam multipurpose terminals.

Design/methodology/approach: This study uses a descriptive method with a qualitative approach accompanied by other instruments such as secondary data, interviews and documentation which aims to determine the influence of container crane loading and unloading productivity and also supporting factors that can maximize the performance of the container crane at the Nilam Multipurpose Terminal. The data used as analytical material to support the research is performance data from loading and unloading activities at the Nunukan Island KM in 2016 to 2017 in the first semester

Findings: The results showed that the role of container cranes is the most important factor in the implementation of container loading and unloading activities at Nilam multiplepurpose terminals.

Paper type: Research Paper.

Keyword: *Container Crane, Stevedoring, Container*

Received : May 10th

Revised : May 12th

Published : July 31th

I. INTRODUCTION

PT Pelabuhan Indonesia I (Persero), PT Pelabuhan Indonesia II (Persero), PT Pelabuhan Indonesia III (Persero), and PT Pelabuhan Indonesia IV (Persero) are Non-Listed STATE-OWNED companies whose shares are 100% owned by the Ministry of SOEs as Shareholders representing the Republic of Indonesia. On October 1, 2021, legally PT Pelabuhan Indonesia I (Persero), PT Pelabuhan Indonesia III (Persero) and PT Pelabuhan Indonesia IV (Persero) were merged into PT Pelabuhan Indonesia II (Persero) based on Government Regulation No. 101 of 2021. PT Pelabuhan Indonesia II (Persero) acts as a surviving entity. Then based on the Letter of the Minister of State-Owned Enterprises of the Republic of Indonesia No. S-756 / MBU / 10/2021 dated October 1, 2021 regarding Approval of Name Changes, Changes in Articles of Association and Company Logo, PT Pelabuhan Indonesia II (Persero) changed its name to "PT Pelabuhan Indonesia (Persero) or abbreviated as Pelindo".

The journey of the Pelindo Merger has long been planned. Starting in 2009, the preparation of the Port Holding and Dredging Study was carried out. Then followed in 2012 the Pelindo I, II, III, and IV Integration Study has been compiled. Furthermore, in 2013, a study of the Indonesian Port Holding and the establishment of PT Terminal Container Indonesia has also been compiled. In 2016, a National PMO was formed and continued with the preparation of the Pelindo Incorporated study, which at that time intended to unite subsidiaries of PT Pelabuhan Indonesia I, II, III and IV (Persero) which had similar business fields. Furthermore, in 2017 the initiation of the Establishment of Maritime Holding was carried out and in 2018 an Integrated Port Network study was carried out which identified 7 (seven) RJPMN Port Hubs, until in 2019 the initiation of the Formation of Container Sub-holdings was carried out.

The next development is the formation of a Team for the Acceleration of Increasing Synergy and Integration of State-Owned Enterprises in Port Services by the Ministry of SOEs in December 2019 as stated in the Decree of the Minister of State-Owned Enterprises No. SK-311 / MBU / 12/2019, as part of the government's strategic program to improve trade connectivity that can contribute to lowering national logistics costs. This decision is then continuously updated in the Decree of the Minister of SOEs No. SK-83 / MBU / Wk2 / 11/2020 dated November 13, 2020 and the Decree of the Minister of SOEs No. SK-33 / MBU / Wk2 / 03/2021 dated March 29, 2021. The Ministry of SOEs took the initiative to carry out the process of consolidating SOEs in Port Services so that the arrangement is not based on regions and provides maximum capacity in maritime connectivity and connectivity with related strategic areas throughout Indonesia. Thus, SOEs in port services can become more efficient in operations and investment, create an optimal sea transportation network, and can provide excellent service supported by standard and adequate port infrastructure. This is realized through the preparation of a Study on Synergy and Integration of Port SOEs which produces output in the form of a merger design for the four Pelindo in 2020.

There are four main Pelindo business clusters, namely:

1. Container clusters
2. Non-container clusters
3. Logistics cluster & hinterland development
4. Marine cluster, equipment and port services

This business cluster grouping is carried out in order to make business development in Pelindo more focused, improve the ability and expertise of human resources working in each cluster, so as to be able to work more efficiently and make customer satisfaction increase. If this happens, it will open up a wider market share and increase the company's profits.

Globalization and modernization of various fields make the growth rate of transportation very rapid development which is directly proportional to technological development. In international trade, transportation has a key role as a mode of transportation and can also be the stability of the country. Transportation itself has several modes including, namely land, sea and air. Indonesia, which is an archipelagic country, relies heavily on transportation tools to keep the logistics chain running smoothly (supply chain logistics).

For island countries, sea transportation has more value than other means of transportation because it can transport goods in large quantities and in large quantities as well. The progress and development of an negara can be seen from the activities or activities within the port. The transformation also occurs from general cargo to specially designed containers with a certain size that is weather resistant, can be used repeatedly, can store goods and avoid damage or theft and so on.

By using containers, the distribution of goods is easier and more efficient. In addition, loading and unloading goods with containers is faster because the arrangement on board is easier than general cargo ships, thereby reducing the ship's berthing time at the port (turnround time). However, despite everything many factors affect the productivity of container loading and unloading. In the implementation of container loading and unloading activities, it is realized that the number of tool alleys is very influential in accelerating activities, if you use only one tool alley, the speed will be slower than using two aisles tool. In relation to the tool aisles, it will adjust to the amount of cargo large or small in container loading and unloading activities, but can also be used two tool aisles at a small amount of cargo to increase the speed of loading and unloading containers. Continuing on the role of the land fleet (trailer) in supporting the transportation of containers from the dock to the stacking field or from the stacking field to the pier, the main point is the availability of an adequate number of land fleets (trailers).

PT. Pelindo container terminal headquartered in Surabaya is a State-Owned Enterprise (BUMN) that has the task and responsibility to manage public ports in seven Indonesian provinces, namely East Java, Central Java, Bali, West Nusa Tenggara, East Nusa Tenggara, South Kalimantan and Central Kalimantan. Tanjung Perak Surabaya Branch which has several terminals including Jamrud Terminal, Nilam and Mirah Terminal, and Kalimas Terminal.

Tanjung Perak Surabaya branch port has two Terminal Divisions that carry out complete loading and unloading activities for a variety of commodities such as liquid bulk, dry bulk, general cargo (GC) and containers. As for the Nilam Terminal and Mirah Terminal which have now changed their names to Nilam and Mirah Terminals, these terminals handle a variety of loading and unloading activities, both operated by the Pelindo Loading and Unloading Company (PBM) and also carried out by Non Pelindo Loading and Unloading Company (PBM) with types of liquid bulk commodities, dry bulk, general cargo and containers. However, for the handling of container activities, it has been focused on being carried out by the Pelindo Loading and Unloading Company (PBM), at the Multipurpose Nilam Terminal which carries out Loading and Unloading activities focusing on containers and with Container Crane tools. Therefore, the author is very interested in raising the title "Analysis of Container Cranes on Stevedoring at Nilam Multipurpose Terminals"

The rapid growth or development of ports, especially container ports built by PT Pelabuhan Indonesia (Persero) in Tanjung Perak Branch, namely the Nilam Multipurpose Terminal where this port is loading and unloading activities using container cranes, then with regard to that, the formulation of the problem taken by researchers is as follows: How to analyze the effect of using Container Crane Loading and Unloading Containers at Nilam Multipurpose Terminal.

II. METHODS

The type of research that the author uses is qualitative research. Qualitative research is a type of research that produces discoveries that cannot be achieved using statistical procedures or by other means of quantification. Straus and Corbin (2008) detail that qualitative research can be used to examine people's lives, history, behavior, organizational functionalization, social movements, or kinship relationships Murdiyanto, E. (2020). Qualitative Research (Theory and Application accompanied by sample proposals).

"Research Object is a generalization area consisting of objects/subjects that have certain qualities and characteristics that are determined by the researcher to be studied and then drawn conclusions" (Sugiyono, 2011: 90). In this study, the population was the entire loading and unloading activities of containers at PT. Nilam Multipurpose Terminal.

To obtain the necessary data in this study, the techniques that the researcher will use are as follows:

1. Indepth Interview
2. Observation

The data analysis technique used in this study refers to the concept of Milles & Huberman (1992: 20), which is an *Interactive model* that classifies data analysis in three steps, namely: Siswandi, E., Sujadi, I., & Riyadi, R. (2016). *Journal of Mathematics Learning*, 4(7).

1. Data Reduction
2. Presentation of data (Display Data)
3. Conclusion drawing (Verification)

A. Literature Review

According to the Regulation of the Minister of Transportation of the Republic of Indonesia Number Pm 57 of 2020 concerning the Second Amendment to the Regulation of the Minister of Transportation Number Pm 51 of 2015 concerning the Implementation of Sea Ports. Port are places consisting of land and / or waters with certain boundaries as places of government activities and business activities that are used as a place for ships to lean, up and down passengers, and/or loading and unloading of goods, in the form of terminals and ship berths equipped with shipping safety and security facilities and port supporting activities as well as a place for intra- and intermodal transportation movement.

1. Loading and Unloading Company (PBM)

In line with the increasing economic development today in Indonesia, especially regarding international trade activities, resulting in an increasing frequency of flow of goods and services through ports in Indonesia. For this reason, the development of transportation service companies, such as EMKL and loading and unloading companies (PBM) is also increasingly emerging.

According to the Regulation of the Minister of Transportation of the Republic of Indonesia Number Pm 59 of 2021 concerning the Implementation of Service Business Related to Transportation in the Waters of the Goods Loading and Unloading Business is a business activity engaged in loading and unloading goods from and to ships at ports which includes stevedoring, cargodoring, and receiving / delivery activities. Stevedoring is the work of unloading goods from the Ship to the dock / barge / truck into the Ship until it is arranged in the hatch using the Ship's crane, land crane, or ship's ramp door.

2. Performance of Goods Service

An illustration of the ability and speed of implementation of goods handling that can be achieved for unloading activities from the ship to the warehouse or stacking field or vice versa for loading activities from the warehouse / stacking field to the ship.

3. Definition of Loading and Unloading

a. According to the Port Reference series 06 edition II.

In Indonesia, the work of loading and unloading from and to the ship is carried out by an Indonesian legal entity loading and unloading company that is specifically established to organize and strive for loading and unloading activities of goods from and to the ship.

4. Definition of Loading and Unloading Performance of Goods

The performance of loading and unloading goods is the result of port operational services, which in this case is the loading and unloading of goods. Achievement of operational performance of each indicator based on Article 5 paragraph (2) of the Decree of the Director General of Sea Transportation Number: UM.002/ 38/ 18/ DJPL-II concerning Port Operational Service Performance Standards.

5. Loading and Unloading Activities

Stevedoring is the work of unloading goods from the ship to the dock / barge / truck or loading goods from the dock / barge / truck into the ship until it is arranged in the ship's hatch using a ship crane other crane. Khalidun, A. I., Suryailahi, V. I., & Muajir, M. (2018). According to B.S. Herman in the book Port Management & Export & Import Realization, loading and unloading activities are activities to unload goods from the ship using cranes and ship slings to the nearest land on the edge of the ship, which is commonly called a pier, then from the pier using a lorry, forklift, or stroller, inserted and arranged into the nearest warehouse designated by the port Harbormaster. While the load activity is the opposite activity. There are 4 kinds of loading and unloading operations from / to the ship, namely: 1. Stevedoring activities The process of unloading cargo from the ship's deck to the edge of the port using heavy loading and unloading equipment. 2. Cargodoring Activities The process under which the goods are shiploads that are on the edge of the port (cade) to the port storage warehouse to be stored/stockpiled 3. Deliverydoring Activities The process of sending goods - shiploads that suda are in the port storage warehouse to exit the port environment for storage. 4. Receivedoring activities the process of re-transporting goods in the factory or company or industry to be sent back to the port storage warehouse. Basuki, M., Susanto, R. B., & Herianto, H. P. (2015, August).

6. Definition of Golden Crate

A container is a specially designed package with a certain size, can be used repeatedly, used to store and at the same time transport the cargo inside.

7. Container Ships

A container ship ([English](#): containership or *celullarship*) is a [ship](#) specifically used to transport standard containers. It has cavities (*cells*) for storing standard size containers. Containers are lifted onto the ship at the [container terminal](#) using special faucets / cranes that can be done quickly, both cranes on the dock, and cranes on the ship itself.

8. Container Terminal

Temporary stockpiling of *export* and *import* containers, equipped with container handling equipment according to international services, there is an adequate stacking field and supported by reliable human resources and equipped with information technology in the management of container services.

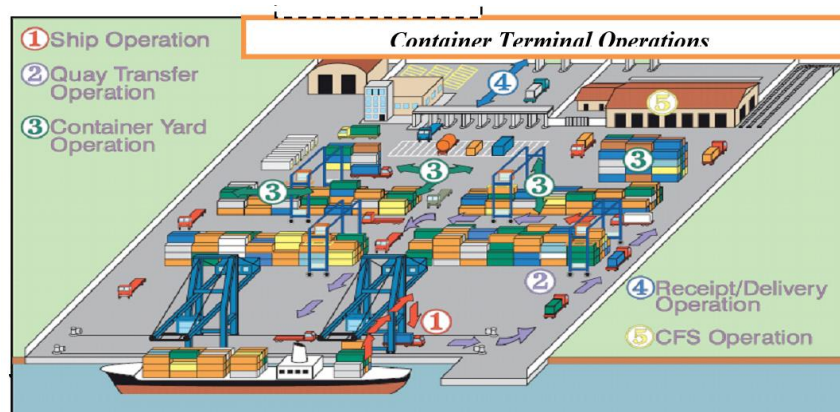


Figure 1. Container Terminal Operations

Source: Nilam Multipurpose Terminal Division Tanjung Perak Surabaya Branch

9. Container Terminal Equipment

For the smooth operation of container services, it must be equipped with handling equipment that is of international standard, including:

- c. Container Crane
- d. Harbor Mobile Crane
- e. Rubber Tyred Gantry
- f. Top Loader
- g. Reach Stacker
- h. Side Loader
- i. Head truck
- j. Chassis
- k. Forklift

10. Understanding Container Crane

Container Crane, often also called *Quayside Crane* or *Gantry Crane* is a loading and unloading equipment that serves to unload or load containers from ship to dock / mainland.

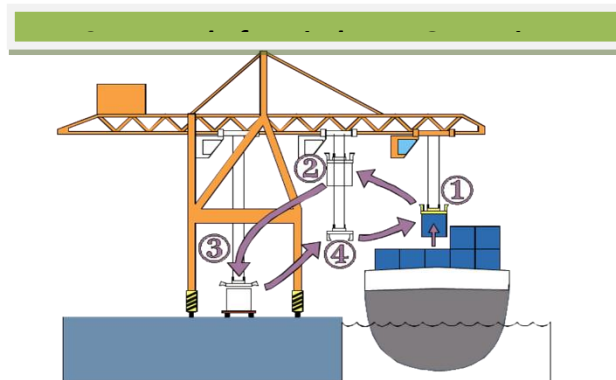


Figure 2.

Source: Nilam Multipurpose Terminal Division Tanjung Perak Surabaya Branch

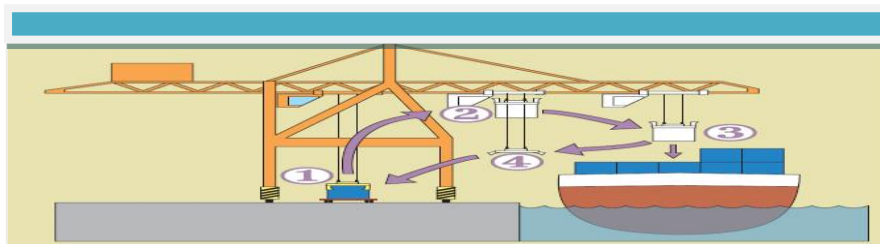


Figure 3.

Source: Nilam Multipurpose Terminal Division Tanjung Perak Surabaya Branch

Frame of Mind

Nilam Multipurpose Terminal is a terminal built by PT Pelabuhan Indonesia (Persero) where loading and unloading activities are specialized in handling container handling activities. At the Nilam Multipurpose Terminal itself, facilities for loading and unloading activities use *Container Cranes*. The performance of the tool is only able to bongkat or load containers parallel or straight with the tool. The one who operates the *container crane* is an operator from PT Pelabuhan Indonesia (Persero) which is assigned to the Terminal Multipurpose Nilam division. The author will try to decipher and analyze the productivity of the two tools. The framework that the author uses here is the Graphic Model, namely:

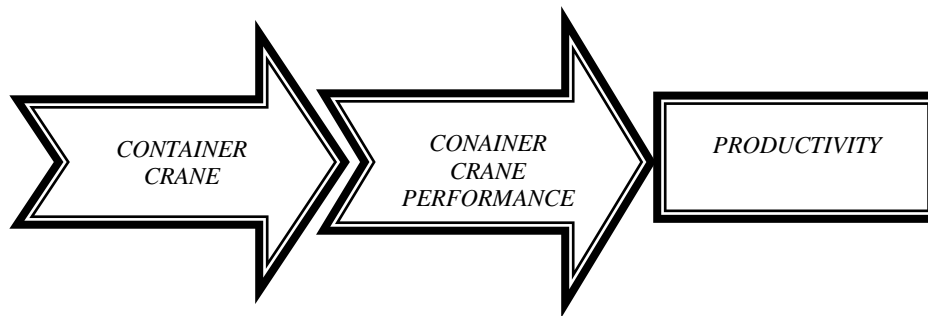


Figure 4. Framework

III. RESULTS AND DISCUSSION

A. Data Analysis

Container loading and unloading activities using more than one number of tools greatly affect the productivity of the container B / M which is often carried out at the Nilam Multipurpose Terminal itself container activities have used container cranes more than one unit, namely two units of *Container Crane* can also be called two tool alleys. Continuing on the supporting factor that operates during container loading and unloading activities is the readiness of the land fleet as a mode of land transportation to carry out transfer movements from the ship to the CY (*Container Yard*) stacking area or vice versa.

This research in principle wants to know the synergy between the factors of the number of *container cranes* that work and also the number of land fleets operating at the Nilam Terminal. The terminal has a productivity target to be achieved, the Nilam Multipurpose Terminal has a minimum target of 23,964 boxes per month in January 2017 to 29,714 boxes per month in December 2017. One of the factors that determine the achievement of productivity to be achieved is the flow of ship visits. The following is an analysis of the flow of ship visits at the Nilam Multipurpose Terminal.

1. Analysis of Ship Visits at Nilam Multipurpose Terminals in 2016

From the data, it can be concluded that the flow of ship visits at the terminal in the same year, namely 2016. Data on the flow of visits at the Nilam Multipurpose Terminal during 2016 was 641 ships and the highest monthly flow of ship visits was in August recorded at 57 ships and the lowest was that in July there were 37 ships docked at the Nilam multipurpose terminal for container loading and unloading activities experienced an increase and decrease.

2. Analysis of Ship Visits at Nilam Multipurpose Terminals in 2017

In 2017 there was a list of minimum standards for achieving productivity from the Nilam Multipurpose Terminal which became the basis for the reference performance that must be achieved, continuing the analysis of the flow of ship visits at the Nilam Multipurpose Terminal undergoing changes. The table above describes the data on the flow of ship visits in 2017, previously in table 2 it was explained that the flow of ship visits in 2016 Nilam Multipurpose Terminal the highest flow of ship visits was in August as many as 641 ships in a matter of one year and 312 in the first half count. In 2017 within a period of one semester, from January to June, the highest flow of ship visits at the Nilam Multipurpose Terminal for container B/M activities was in March, the highest flow of ships was recorded at 53 ships while the lowest was in June recorded at only 39 berthing ships. However, to calculate the data on the difference in ship visits, we can calculate from 2016 in the first semester and in 2017 in the first semester, namely with a total of 312 ships in 2016 and 288 ships in 2017. The comparison of ship visits flows in 2016 and 2017 in the first half of the Nilam Multipurpose Terminal decreased from 312 down to 288, thus there is a decrease of as much 24 ships or in a percent count of (7.69%)

3. Analysis of the Effect of Container Crane Use on Loading and Unloading Containers on similar ships owned by PT Salam Pacific Indonesia Lines

In this analysis, the researcher will examine one of the ships owned by the shipping company PT Salam Pacific Indonesia Lines. At the Nilam Multipurpose Terminal, B / M activities will certainly use a *Container Crane*. Therefore, researchers will analyze the **Nunukan Island KM Ship** in one B / M activity using a different number of tool aisles, namely, the influence of container *crane* and land fleet tool gangs to find out which variable is more dominant which affects productivity.

B. Results of Interviews with Interviewees

In 2016 Nilam Terminal had a total of 3 units of Container Cranes, namely (CC01, CC02 and CC03), again added at the end of 2016 to be precise in September with 2 units of Container Cranes with electric power, namely CC04 and CC05, but again experienced a reduction with the allocation of *Container Crane* equipment to the Kupang branch port, namely CC02.

In handling **KM Nunukan Island**, it is normal as usual, namely with the construction of ships that have pontoons / hatch lids which will always take time in handling in addition to opening the pontoon lid / hatch lid must use a tool, namely *a sling*. The handling of ships with a length of 112 m is often carried out using 2 aisles of the Container Crane tool considering the large number of cargoes and also the criteria of the length of the ship that meets the requirements to be carried out using 2 aisles of the *Container Crane* tool. Continuing on the role of the *Container Crane* Operator skill which must always understand from all ship construction that will be carried out loading or unloading activities.

It is very necessary to play the role of the land fleet (trailer / trucking) as a means of moving *container cranes* from the stacking area (*Container Yard*) to the dock area or vice versa.

The toughest obstacle is when during the activity there is damage to the tool so that it will take time for repairs to be able to operate the *Container Crane* tool again for the loading process by referring to the appropriate work procedures.

The data explained the performance for the KM Pulau Nunukan ship in the first half of 2017 at the Nilam Multipurpose Terminal, the condition of the ship is the main determinant of the high B / C / H in the loading and unloading activities of this ship. This ship has a length of 112 meters, this type of ship is a towed ship so that the unloading and loading process must adjust the position of the container to be loaded or loaded, there are not too many significant obstacles related to the way the unloading and loading process, spreaders on the *container crane* can also directly take *the container* which has been arranged on the ship easily but must pay attention to the position of the ship crane installed on the ship, as for another obstacle that is often experienced by *container crane* operators is because the ship has a pontoon / hatch lid that needs time to open / close so that there is a planned non-working time but will still take time and reduce the effectiveness of working time, Unlike the case with ships with a semi-barge type that does not have a pontoon / hatch cap on the ship. For example, in January, the ship docked on January 29 at 9:27 a.m., then started work at 12:30 p.m. One hour earlier was used for unloading preparations for example loose *lashing* and waiting for *CC down bombs* to be continued with rest hours for loading and unloading labor workers (TKBM). Furthermore, the activity started on the 29th at 12:30 until it ended on the 30th at 01:15 with a total unloading of 330 boxes, hourly production or B / C / H obtained was 18.00 *boxes*. Thus, if the ship with a total unloading of 330 *boxes* with B / C / H 18.00 will be completed in approximately 6 hours and 45 minutes.

IV. CONCLUSION

A. Conclusion

Based on the results of observations and discussions carried out at PT Pelabuhan Indonesia (Persero) Terminal Multipurpose Nilam Tanjung Perak Branch Surabaya, conclusions can be drawn about the role of using Container Cranes on the productivity of container loading and unloading at PT Pelabuhan Indonesia (Persero) Terminal Multipurpose Nilam Tanjung Perak Branch Surabaya, namely:

1. The use of Container Crane is the main advantage of the Nilam Multipurpose Terminal to carry out container loading and unloading activities, with good performance on the tool as seen in the existing activities so far.
2. The role of the use of the Container Crane tool is indeed the main aspect in loading and unloading processes at the Nilam Multipurpose Terminal, but of course there is always a supporting factor that becomes a driver in the process of these activities, namely the land fleet (trailer / trucking) which carries out transfer activities either from the outside into the terminal area called Delivery or from the inside out called Receiving, if specifically can be called cargo dooring / haulage, namely the movement from the container unloading area to the stacking field or called the Container Yard or vice versa from the Container Yard to the container loading area.
3. Next is also the role of the operator of the Container Crane who acts as a controller, of course, balanced and high skills are needed to carry out their duties as an operator to pursue the production targets to be achieved by the Nilam Multipurpose Terminal every month.
4. In handling loading and unloading activities at KM Nunukan on (29/01/12:30 to 30/01/01:15) has reached the target, 22.88 boxes with a minimum standard achievement of 18.00 boxes per shift.
5. Loading and unloading activities will be faster if done using 2 tools at the same time or 2 tool aisles.

B. Suggestion

Based on the conclusion, the results of secondary data and the results of interviews that have been conducted by the author, the suggestions given by the author are as follows:

1. The need for periodic maintenance of container crane loading and unloading equipment so that it is able to maintain the productivity that has been achieved by the Nilam Multipurpose Terminal, as well as handlers actively and quickly in making repairs in the event of damage.
2. Carry out careful planning when going to carry out the process of loading and unloading activities according to the results of the determination and during the ship meeting process at the Nilam Multipurpose Terminal. This is related to the readiness (trailer/trucking) to support the activities of the Container Crane
3. Maintain and improve the skills of the Container Crane operator because the main role to operate affects the speed or not of loading and unloading activities takes place. As well as all Container Crane operators must be able to understand from the loyal criteria of ship construction which is a technical reference in the implementation of container loading and unloading at the Nilam Multipurpose Terminal.

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Emotional Intelligence and Spiritual Intelligence to Increase Job Satisfaction in Employees PT Pelabuhan Indonesia III Surabaya (Persero) Tanjung Perak Surabaya Branch

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ABSTRACT

Purpose: This study aims to find out and analyze the influence of Emotional Intelligence and Spiritual Intelligence on Job Satisfaction of PT. Pelindo III (Persero) Tanjung Perak Surabaya branch.

Design/methodology/approach: This research is quantitative research. Subjek this research is an employee of PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya branch using a sample of 166 employees. Data collection using questionnaires and interviews, the sampling technique is simple random sampling.

Findings: Analytical techniques a data was performed using multiple linear regression analysis. Based on the results of hypothesis testing shows that first There is an influence of emotional intelligence on job satisfaction; secondly There is an influence of spiritual intelligence on job satisfaction.

Paper type: Research Paper.

Keyword: *Emotional Intelligence, Spiritual Intelligence, Job Satisfaction*

Received : May 10th

Revised : May 15th

Published : July 31th

I. INTRODUCTION

Behavior is heavily influenced by how individuals perceive and react to their work or personality. Emotional intelligence is providing awareness of one's own feelings and the feelings of others. Emotional intelligence means providing empathy, love, motivation, and the ability to respond to sadness and joy appropriately. Goleman (2000) defines emotional intelligence as the ability to recognize the feelings of oneself and others, in motivating oneself and managing emotions both in ourselves and relationships within us. Goleman explains that mood coordination is at the heart of good social relationships. If a person is good at adjusting to the moods of other individuals or can empathize, the person will have a good level of emotions and will more easily adjust in social and environmental relationships. Goleman also states that emotional intelligence is more of the ability possessed by a person in motivating oneself, resilience in the face of failure, controlling emotions and delaying satisfaction, as well as regulating the psyche. By emotional intelligence, a person can put his emotions in the right portion, have satisfaction and regulate mood. The key to the emotion of intelligence is honesty of conscience. It is the conscience that must be the center of the principle capable of providing a sense of security, instruction, strength and wisdom. Spiritual intelligence is the ability to manage one's thoughts and make informed decisions when one encounters problems. Spiritual Intelligence helps the human mind to dive and find the deepest meaning in all the events that occur during life and to discover the motivating factors that act as a driver to have a mind that helps all living beings in this world (Zohar and Marshall, 2000).

Job satisfaction can be defined as a pleasant emotional state resulting from higher achievements in one's work (Locke, 1981). Quality human resources are expected to be able to have a major influence on the sustainability of the company. So that the emotional and spiritual intelligence possessed by human resources will affect the performance and job satisfaction of human resources themselves. Previous research has shown that spiritual intelligence can effectively manage various aspects posited of employees. In an organization that serves the public interest such as government organizations and private organizations, wants maximum achievement

related to improving work results in order to achieve organizational goals. To achieve organizational goals, one of the important elements that must be considered is Human Resources. Because Human Resources in this case employees carry out and regulate and carry out the activities of the organization. Gordon says that the best way to improve employee performance is with analytical ability and cognitive ability.

Spiritual intelligence has not been studied much on the personality of employees and affects job satisfaction, in this case what plays a role in intellectual intelligence as it happens in PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya Branch. This company is one of the state-owned companies or can be called a State-Owned Enterprise (BUMN) engaged in port services.

Based on the explanation above, the author is interested in conducting research by conducting studies on emotional intelligence and spiritual intelligence, where emotional intelligence plays an important role in determining attitudes and managing emotions in working and achieving company goals with the formulation of research problems as follows: Do the variables of emotional intelligence, spiritual intelligence affect employee job satisfaction PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya Branch? Then the purpose of this study is to determine the influence of emotional intelligence and spiritual intelligence on job satisfaction of Employees PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya Branch.

Theoretical Foundations

Emotional intelligence requires us to learn to acknowledge and value feelings-in ourselves and others-and to respond to them appropriately, applying them effectively information and emotional energy in everyday life and work.

Robbins and Judge (2017) state that emotional intelligence is a person's ability to respond to clues and emotional information detected by the person. People who understand their own emotions and are able to understand the emotions of others can work more effectively in their work.

Daft (2016) states that there are various studies that show a positive relationship between performance and the level of emotional intelligence that individuals have in various occupations. Emotional intelligence is also important for managers. This is because managers have the responsibility to influence others in building positive attitudes and relationships in the work environment of an organization.

According to Goleman (2016) emotional intelligence is an emotional ability that includes the ability to control oneself, have endurance when facing a problem, be able to control impulses, motivate yourself, be able to regulate moods, the ability to empathize and build relationships with others. Emotional intelligence can put one's emotions in the right portion, sort out satisfaction and regulate mood. Mood coordination is at the core of good social relations. If a person is good at adjusting to the moods of other individuals or can empathize, that person will easily adjust to social relationships and their environment.

According to Luthans (2016) defines emotional intelligence as a form of a subset of social intelligence that includes the ability to monitor the feelings and emotions of oneself and others, distinguish emotions and feelings, and use that information to guide thoughts and actions. Based on the above understanding, emotional intelligence can be interpreted as the ability to understand the emotions of ourselves and those around us.

Spiritual intelligence is the intelligence to face and solve problems of meaning and value in life, namely intelligence to place human behavior and life in the context of more straightforward and rich meanings, intelligence to judge that one's actions or life paths are more meaningful than others according to Zohar and Marshall (2017). Furthermore, Zohar and Marshall (2017) define spiritual intelligence as intelligence that rests on the inside of the self that is related to wisdom beyond the ego or soul of consciousness.

Ginanjari (2016) states that the spiritual *quotient* is the elaboration of the spiritual thawaf movement that explains how to put human activity, in order to be able to follow the patterns or ethics of the universe. So that humans can live in the world meaningfully, and have a feeling of comfort and security, not violated or not contrary to the principles of SHO (*Spiritual Based Organizational*).

Hidayati and Setiawan (2016), basically *Spiritual Quotient* is the basic ability of a person that contains life experiences, which are part of a person's life or even an organization.

Dwi Prasetyo (2017) spiritual intelligence is the ability to give meaning to worship in adjusting rigid rules accompanied by understanding and love. People who have high spiritual intelligence are able to interpret life with a positive meaning at every event, problem, and even suffering in it. By giving a positive meaning, it will be able to awaken the soul and perform positive deeds and actions.

The definition of job satisfaction according to Mangkuprawira (2015), job satisfaction is a general attitude towards a person's work, the difference between the amount of rewards a worker receives and the amount they believe they should receive. Satisfaction occurs when individual needs have been met and related to the degree of liking and dislike attributed to the employee; It is a common attitude shared by employees that is closely related to the rewards they believe they will receive after making a sacrifice. This is in line with the definition of job satisfaction conveyed by Handoko (2015), job satisfaction is a pleasant or unpleasant emotional state with which

a person views their work. Job satisfaction reflects a person's feelings towards his work. This can be seen in the positive attitude towards work and everything faced in the work environment.

The more things that are in the work that suit the individual, the higher the level of satisfaction felt and vice versa. Job satisfaction is a function and perceived relationship between what a person wants from a job and what the job offers Christen, Iyer & Soberman (2016).

In this study, the author presents a frame of mind to facilitate the problem being studied. schematically it can be described in figure 1. as follows:

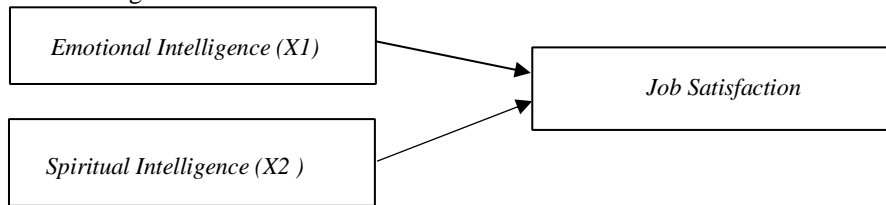


Figure 1 Frame of Mind

The hypotheses in this study are:

H1: Emotional intelligence has an influence on job satisfaction

H2: Spiritual intelligence has an influence on job satisfaction

II. METHODS

The population in this study were employees of PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya Branch with a total of 283 people. The sample used is probability sampling with a *simple* random sampling method, namely Simple random sampling is a *sampling* technique that is carried out randomly so that each case or element in the population has an equal chance of being selected as a research sample, so that using the slovin formula the sample used is 166 employees.

1. Independent variables

Free variables (X) are variables whose values affect the value of other variables, or variables that are the cause of the emergence or change of dependent variables / bound variables (Sugiyono, 2015). In this study, the free variables are:

- a. Emotional intelligence (X₁) is an emotional ability that includes the ability to control oneself, have endurance when facing a problem, motivate yourself, be able to manage moods, the ability to empathize and build relationships with others, including:
 1. The employee understands about himself
 2. Employees are always confident in completing every given job despite many obstacles
 3. Employees are able to control emotions towards what is not liked in the work including in case of dissent
 4. Employees understand the feelings of their bosses and co-workers and can feel what they want
 5. Employees are able to read the situation and easily interact with other people, especially superiors and co-workers

- b. Spiritual intelligence (X₂) is the intelligence to face and solve problems of meaning and value in life, including:
 1. Employees try their best to get the job done
 2. Employees have sufficient knowledge in completing work
 3. Employees love the challenges of getting work done
 4. Any problems in the work must be faced with solutions
 5. Employees pay attention to the instructions of the leadership before doing their work
 6. Each employee tries to be a good example for the other

Bound variables (Y) are variables that are influenced or become a result due to the existence of free variables (Sugiyono, 2015). In this study, what is included in the bound variable is job satisfaction. Job satisfaction (Y) is a general attitude towards one's work as the difference between the many rewards that workers receive and the believed ones that should be received, including:

1. Employees are satisfied with the current job

2. Employees are satisfied with the salary received
3. Employees are satisfied with the current position and position
4. Employees are satisfied with the supervision and direction given by their superiors
5. Employees are satisfied with the support provided by superiors and colleagues in completing a job

The analysis used in this study was multiple linear regression. Test t for partial test and F test for test simultaneously. The formula is as follows:

Multiple Regression Formula:

$$\beta Y = o + \beta_1 X_1 + \beta_2 X_2 + e \text{ (Ghozali, 2015)}$$

Information:

And = job satisfaction

β or = constant

β_1 = emotional intelligence regression coefficient

β_2 = regression coefficient of spiritual intelligence

X_1 = emotional intelligence

X_2 = spiritual intelligence

and = bully variables outside of free variables

III. RESULTS AND DISCUSSION

The results of the validity and reliability test are as follows

Table 1. Validity Test Results

<i>Variable</i>	<i>No Questions</i>	<i>Pearson Correlation</i>	<i>Significant</i>	<i>Information</i>
<i>Emotional Intelligence</i>	1	0,754	0,000	Valid
	2	0,744	0,000	Valid
	3	0,746	0,000	Valid
	4	0,807	0,000	Valid
	5	0,519	0,000	Valid
<i>Spiritual Intelligence</i>	1	0,731	0,000	Valid
	2	0,750	0,000	Valid
	3	0,696	0,000	Valid
	4	0,804	0,000	Valid
	5	0,812	0,000	Valid
	6	0,657	0,000	Valid

	1	0,713	0,000	Valid
	2	0,743	0,000	Valid
Job Satisfaction	3	0,743	0,000	Valid
	4	0,768	0,000	Valid
	5	0,761	0,000	Valid

Based on table 4.1, it shows that the significance value of 20 items is smaller in significant degree (α) 0.05. This indicates that the entire item is valid. (Ghozali, 2015)

The reliability test is intended to see the level of reliability of the instrument as a measuring tool in research, so that the results of the research later really meet scientific standards and are not biased.

To test the reliability of this instrument using *Cronbach's Alpha* reliability coefficient, the full results can be seen in the table below:

Table 2. Reliability Test Results

Variable	Alpha Cronbach	Information
emotional intelligence (X1)	0,762	Reliable
spiritual intelligence (X2)	0,736	Reliable
job satisfaction (Y)	0,800	Reliable

Based on table 4.2, it can be explained as follows:

The reliability value of emotional intelligence of 0.762 is already reliable because it is greater than 0.60 (Ghozali, 2015).

The reliability value of spiritual intelligence of 0.736 is reliable because it is greater than 0.60 (Ghozali, 2015).

The reliability value of job satisfaction of 0.800 is reliable because it is greater than 0.60 (Ghozali, 2015).

The results of the calculations in the analysis using the SPSS for Windows release 22.0 program as listed in the appendix, in more detail can be described as follows:

Table 3. Regression Coefficient

Variable	Regression Coefficient
Constant	0,012
Emotional Intelligence (X1)	0,378
Spiritual intelligence (X2)	0,829

The equation of multiple linear regression will be obtained as follows:

$$\beta Y = o + \beta_1 X_1 + 2X_2 \beta + \text{and}$$

$$Y = 0.012 + 0.378 X_1 + 0.829 X_2$$

From the equation above, it can be explained as follows:

1. β The constant (0) of 0.012 indicates the magnitude of job satisfaction, if all the free variables are equal to zero.
2. The regression coefficient for emotional intelligence (X_1) is 0.378. This means that if emotional intelligence (X_1) increases by 1 unit, then job satisfaction (Y) will increase by 0.378 units.
3. The regression coefficient for spiritual intelligence (X_2) is 0.829. This means that if spiritual intelligence (X_2) increases by 1 unit, then job satisfaction (Y) will increase by 0.829 units.

The *adjusted value of R square* where the calculation result from appendix 3 is 0.620 or 62.0 % the influence of emotional intelligence and spiritual intelligence on job satisfaction is 62.0%, the remaining 38.0% is influenced by other variables not contained in the model.

The results of the t test in this study are presented in table 4.4.

Table 4. t Test Results

Variable	t count	t table	Significant	Information
Emotional Intelligence (X1)	2,504	1,960	0,013	There is an influence
Spiritual intelligence (X2)	12,938	1,960	0,000	There is an influence

The results of the t test in table 4.4 can be described as follows:

1. The t value of emotional intelligence count (X_1) of 2.504 greater than t table 1.960 indicates that emotional intelligence affects job satisfaction. The first hypothesis (H1) which states emotional intelligence has an effect on job satisfaction is accepted.
2. The value of t count spiritual intelligence (X_2) of 12,938 is greater than t table 1,960 indicating that spiritual intelligence affects job satisfaction. The second hypothesis (H2) which states spiritual intelligence has an effect on job satisfaction is accepted.

IV. CONCLUSION

From the results of testing the proposed research hypothesis, it is proven that the variables of emotional intelligence (X_1) and spiritual intelligence (X_2) have a partial effect on the job satisfaction of employees PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya Branch. In full this conclusion can be described as follows:

1. Emotional Intelligence has been shown to have a positive and significant effect on job satisfaction by counting $>$ ttabel (2,504 $>$ 1,960) Regression equation for the relationship of emotional intelligence (X_1) to job satisfaction (Y) obtained $\hat{Y} = 0.012 + 0.378 X_1$, this equation means that any increase or decrease in a unit of score on emotional intelligence will be followed by an increase or decrease job satisfaction of PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya Branch. The magnitude of the increase or decrease is on average 0.378 at a constant of 0.012. So it can be concluded that the higher the emotional intelligence possessed by employees, the more job satisfaction of Employees PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya Branch. So the first hypothesis that states that the variable emotional intelligence, has a significant effect on the job satisfaction of Employees PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya Branch is acceptable;
2. Spiritual intelligence proved positive and significant to job satisfaction by counting $>$ ttabel (12,938 $>$ 1,960). The regression equation for the relationship of spritual intelligence (X_2) to job satisfaction(Y) obtained $\hat{Y} = 0.012 + 0.829 X_2$, this equation means that any increase or decrease in a unit of score on spiritual intelligence will be followed by an increase or decrease in the job satisfaction score of an employee PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya Branch. The increase or decrease is an average of 0.829 at a constant of 0.012, so it can be concluded that the higher the spritual intelligence possessed by employees, the more job satisfaction of Employees PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya Branch. So the second hypothesis that states that the variable of spiritual intelligence, has a significant effect on the

job satisfaction of Employees PT. Pelabuhan Indonesia III (Persero) Tanjung Perak Surabaya Branch is acceptable.

Spiritual intelligence allows a person to think creatively, insightfully, make or even change the rules, which makes the person able to work better. Spiritual intelligence is able to make man a complete being intellectually, emotionally and spiritually. Spiritual intelligence is a sense of morality, the ability to adjust rigid rules coupled with understanding and love and the ability to see when love and understanding come to their limits, also allows us to grapple with good and evil, imagine what has not happened and lift us from humility (Hidayat and Setiawan, 2016).

A. Suggestion

Based on the description above, the suggestions that can help in increasing job satisfaction are as follows:

1. It should foster mutual understanding, mutual understanding, mutual respect and mutual assistance between employees and also between superiors and subordinates. Grace in the next turn will lead to an improvement in the personality of everyone be it employees or superiors;
2. Must provide more assistance to employees to complete their respective tasks. Thus, at the employee level will easily grow a culture of helping each other so that it will be easier in employees to grow a sense of belonging to the agency where they work. In addition to assisting in the completion of tasks from employees, it should also be noted to give awards to outstanding employees;

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The Laffer Curve and the Growth Maximizing Tax Rate Analysis in Achieving Optimal Economic Growth

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ABSTRACT

Purpose: The Laffer curve and the growth maximizing tax rate (GMTR) can create optimal economic growth, which is very important in preparing the state revenue and expenditure budget and economic development. The implementation of economic development requires financing so that government expenditure growth often exceeds gross domestic product (GDP) growth. The size of the government is a measure of the ratio of total government spending to GDP. The amount of government spending is something that often happens in almost all countries in the world, especially in countries that are in the process of development. The problem is how the government can finance these increasing expenditures. There are two options available, namely on receipts from abroad in the form of foreign loans or on receipts from within the country. The tax sector is the determining sector that provides the largest contribution to domestic revenues. The size of this contribution requires that tax revenues continue to be increased, which can be seen from the tax ratio. The tax ratio is the ratio of total tax revenue to GDP.

Design/methodology/approach: Several international multilevel studies have obtained in-depth analysis of this problem from the Laffer curve and GMTR approaches.

Findings: This study convinces that the Laffer curve and GMTR can be applied to create the optimal economic growth.

Paper type: *Research paper*

Keyword: *Economic Growth, Taxes, Tax Ratio, Laffær Curve*

Received : May 6th

Revised : May 14th

Published : July 31th

I. INTRODUCTION

Keynes assumed that there is price rigidity and access capacity so that output is determined by aggregate demand. Keynes argued that government intervention in the form of fiscal policy would be able to move the economy because fiscal policy in the form of government spending and taxes would have a multiplier effect by stimulating household consumption. Fiscal policy is a government tool to intervene in the economy, which can change the economy for the better or growth. Otherwise, it can change the economy for the worse or cause a recession (Hermawan, 2016). An effective tax system and management as a source of domestic revenue will move the wheels of economic development to get out of dependence on foreign aid or loans and also the management of natural resources (Fjeldstad, 2014).

Taxes have a crucial role in a country, especially in the implementation of economic development. This is because the most considerable revenue for countries around the world is obtained from the tax sector. The tax structure can affect economic growth (Wu et al., 2017). Several studies show that as an essential step to optimizing the tax structure, fiscal stimulus policies can help reduce the operating burden on market subjects, stimulate corporate investment, and increase production efficiency (Liu & Lu, 2015; Zhang et al., 2018; and Zwick & Mahon, 2017). As an essential step to optimize the tax structure, the right choice of fiscal stimulus policies will

be able to stimulate the economy in the form of economic growth, employment opportunities, and household income (Wardhana & Hartono, 2012; Yossinomita, 2022).

Guo & Shi (2020) argue that a fiscal stimulus in the form of reducing VAT taxes will be able to restore the economy, reduce the burden on companies, increase the vitality of market entities, and encourage economic growth, thereby reducing downward pressure on the economy, but the provision of this fiscal stimulus will provide pressure on tax revenues. There is a non-linear relationship between tax revenue and economic growth (Nantob, 2014). Income tax cuts significantly induce higher consumption decisions. Increased tax revenue can be caused by tax reductions (Forte, 2015). Lower taxes can increase tax revenue for the government and stimulate production (aggregate supply) (Zheng & Severe, 2016). Tax cuts contribute to increased capital investment and increased labor wages (Auerbach, 2018). That tax exemptions for strategic groups will invest more significant resources (Ilzetzki, 2018).

The Laffer curve is a curve that describes the concept of the relationship between tax rates and tax revenue, where there are two tax rate points that can generate the same amount of tax revenue. And there is one tariff level or one point where tax revenue is at its maximum point, which is able to maximize tax revenue (Tavor et al., 2019). Increasing government spending requires financing, so the government must collect greater revenues as well. Tax revenue is the most crucial pillar of the government, and this indicates that the tax collection on its citizens will be even greater. This means that more and more productive resources will be taken by the government from the private sector, which should be used for investment purposes. This can be a deadweight loss, meaning that the positive impact of government spending is unable to offset the negative impact of reduced private sector productive resources taken by the government (Gwartney et al., 2013).

Economists from the new economic theory, Robert J. Barro (1990) argued that there is a relationship between the variables of economic growth and the variable size of government in a country. A relationship between the two variables can be described in the form of an inverted "U" curve. This means that if the size of the government is relatively small and a portion of government spending is placed on sectors that have productive advantages, then the size of the government has a positive effect on economic growth. However, if the size of the government is relatively large and government spending is placed on unproductive sectors, the size of the government will have little effect on economic growth.

Government spending can act as a positive externality on the growth rate. Beyond that level, taxes act as a negative externality. GMTR is a maximum level that indicates the ratio of tax revenue to GDP that must be obtained so that high and stable economic growth can be achieved (Scully, 2003). GMTR can be used as a guideline for the government in designing fiscal policy.

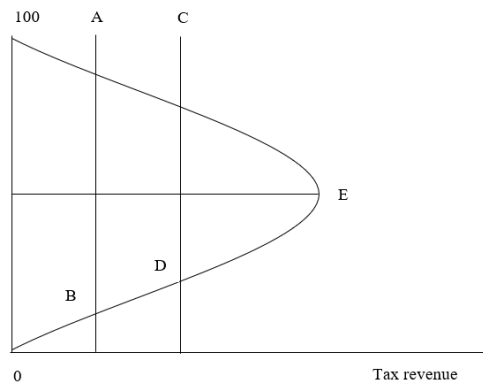
In general, this research will explore the Laffer and GMTR curves that create optimal economic growth. This exploration has theoretical and practical significance which is very important in preparing the State Budget and economic development. This is because, economic development requires financing, and the tax sector is the revenue sector which is the main focus of the government. The tax rate set by the government must be a rate that can increase productivity and the number of workers so as to encourage economic activity. And whether the GMTR which describes the ratio of tax revenue to GDP can create optimal economic growth.

The structure of this paper begins with an introduction, which is the research background in the first part. The second part will contain the Laffer curve analysis and the growth maximizing tax rate = GMTR analysis. The third part will explain the methods applied to answer the research objectives. The discussion will be explained in the fourth section. The last section concludes this research.

A. Literature Review

1. Laffer Curve Analysis

This curve was introduced by Arthur B. Laffer, an economist who at that time served as Economic adviser to the President of the United States, Ronald Reagan, at a banquet with Jude Wanniski, Dick Cheney, and Donald Rumsfeld. In his writing, Wanniski (1978) argued that at the dinner, Laffer presented to support tax cuts. Laffer described a curve of the relationship between tax rates and revenues and said that "There are always two tax rates that yield the same income." Tax rates are on the vertical axis, while revenues are on the horizontal axis. Income depends on the size of the taxable base (which does not appear on the chart) and on the tax rate level.



Source : Wanniski (1978)

Figure 1. Laffer curve

The curvature of the curve from point 0 to point E is the normal range, while the curve from point E to point 100 is the restricted range. The forbidden area is an area where the tax rate is more significant than point E (optimal point). From the Laffer curve, it can be seen that at the first extreme point, 0% of government revenue from zero taxes is due to the absence of taxes. Moreover, when at the second extreme point it is 100%, regardless of the people's income, everything will be handed over to the government, meaning that the people are not motivated to work and increase their income. Tax revenue will be the same when the tax rate is at points A and B, as well as when it is at points C and D. However; there is one point or level of the tax rate that will maximize revenue, namely point E as illustrated in the Laffer curve above.

In 2004, through his article Laffer explained what is meant by a Laffer curve, namely a curve that describes the two effects of a reduction in tax rates, namely arithmetic effects and economic effects. The arithmetic effect explains that a decrease in the tax rate will also be followed by a decrease in the tax revenue itself in accordance with the proportion. Meanwhile, the economic effect emphasizes that a decrease in tax rates will be followed by an increase in productivity and the number of workers so that it can encourage economic activity (K. Liapis et al., 2014).

Tax policy in the form of a tax rate that maximizes income is shown by the bell-shaped Laffer curve (Karas, 2012). The Laffer curve presents the classical curve, which describes the theoretical relationship between the tax rate imposed by the government and the total tax revenue collected by the government. Therefore the Laffer curve can be considered a vital tool for policymakers (Lin & Jia, 2019; Tavor et al., 2019). That there is a relationship between tax revenue and the statutory tax rate in the form of an inverted U (Keser et al., 2020; Steinmüller et al., 2019).

Tax rates affect income through their relationship to public spending and taxpayer behavior. Initially, increased revenues earmarked for public spending provide benefits that outweigh tax costs in terms of loss of wealth and incentives. Therefore, income increases both because rates increase and because the taxable base increases. Furthermore, the tax cost benefits to taxpayers outweigh the public spending benefits, and the harmful effects of tax increases reduce the taxable base at an increasing rate. Therefore, income increases at a reduced rate because a reduction in the taxable base reduces the income effect of increasing the tax rate (Forte, 2015).

Increased government spending associated with an aging population and economic stagnation is often cited as reasons for increasing tax rates (Nutahara, 2015). Effective tax rates can have a multiplier effect on a country's economic policies, such as keeping state revenues at a sustainable level and providing savings or guarantees for economic development (Liapis et al., 2020).

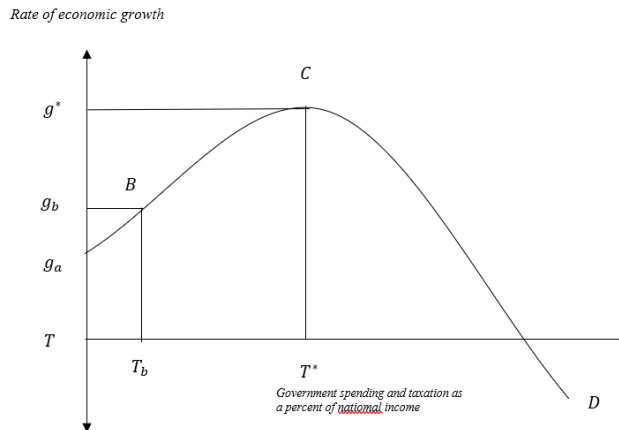
2. Tax Analysis that Maximizes Economic Growth (The Growth Maximizing Tax Rate = GMTR)

Taxes can affect the entire economic system, so the Laffer curve can be used for broader observations in looking for the relationship between tax rates and a country's economic growth. In the 1990s, world economists tried to focus on finding the relationship between the rate of taxation, which is defined as the ratio of tax revenue to GDP needed to create high and stable economic growth.

Theoretically, in 1995 economists from the new economic theory, such as Robert J. Barro and Xavier Sala-I Martin, were pioneers who introduced the theory of the growth maximizing tax rate (GMTR). That there is a specific ratio of tax revenue to the gross domestic product that is needed to produce a high level of economic growth. This optimal point is known as GMTR (Barro & Martin, 1995).

Empirically research on GMTR was first carried out by Gerald W. Scully in 1995, who founded GMTR for the United States. Scully uses econometrics with two regression equation models. In the first model, Scully uses quadratic functions based on the theoretical models developed by Barro and Martin. Meanwhile, in the second model, Scully uses his own theoretical model. Scully assumes that there are two sectors that carry out activities in a country's economy, namely the government sector and the private sector. Both of these sectors have a role in national production through the production function, which is known as the Cobb Douglass production function.

Using data on the ratio of total government spending to GDP. In 1998, world economists Chao and Grubel conducted empirical research to find GMTR in Canada. The difference with the research conducted by Scully, Chao and Grubel uses data on the ratio of total government spending to GDP as a tax variable estimator. Chao and Grubel calculated GMTR using the Scully Curve.



Source : Chao & Grubel (1998)

Figure 2. Scully curve

When government spending is assumed to be financed by taxes as a whole is at zero, then economic growth is at g_a , the lowest economic growth, an inefficient economy because the government does not have the funds to spend or provide public goods. Assuming that there are no changes in the private sector, the government spends at point T_b , and economic growth rises to point g_b , because the government spends or provides public goods that stimulate the economy. Furthermore, optimal government spending is at point T^* , because economic growth is at the highest point g^* , but if the government increases spending by increasing tax revenue, which is illustrated by the dot on the right of T^* , it will reduce economic growth because of tax rates will result in a decline in economic activity, due to reduced income due to high taxes.

Tax rates affect people's income and in turn affect household consumption. An increase in the tax rate causes disposable income to decrease in accordance with the increase in the tax rate imposed. If it is assumed that ceteris paribus and only taxes are government revenue, then government revenue will increase as the tax rate increases. Transfer payments and government spending increase, but public consumption and investment will weaken though, and this will result in a slowdown in national and economic income growth (Agell & Persson, 2000).

Tax revenue as a share of GDP, if it is above the optimal limit, will disrupt or negatively affect economic growth, meaning that there is an optimal limit for tax revenue and that an increase in tax revenue above this limit will reduce the desire for economic decision-making units to work, which consequently will lead to economic depreciation (Aydin & Esen, 2019). An increase in tax rates can result in adverse economic growth effects (Milasi & Waldmann, 2018).

Optimal fiscal revenue policy will balance the positive and negative externality effects of taxation on economic growth patterns during the economic cycle by keeping tax rates in line with several optimal levels (Kavese & Phiri, 2020). An equilibrium fiscal policy is a fiscal policy that maximizes economic growth (Dai, 2018). Fiscal policies that maximize economic growth are financed by rational taxation (Nguyen, 2020).

II. METHODS

This literature review begins with the initial process of a simple bibliometric analysis by searching for articles using the keywords “tax; economic growth; fiscal policy; tax rates; Laffer curve; and growth maximizing tax rate (GMTR),” the research year 2000-2023. Taxes are an instrument of government fiscal policy that not only

functions as the primary support for state revenues but also as a regulator of the economy. As the main source of income for a country, government regulations regarding taxes and tariffs are the most crucial thing for the government. Government policies in terms of increasing and decreasing tax rates will determine the income and economy of a country. An effective taxation system is critical to strengthening state legitimacy, accountability, and responsiveness. Tax policy in the form of a tax rate that maximizes income is shown by the bell-shaped Laffer curve. And whether the GMTR, which describes the ratio of tax revenue to GDP, can create optimal economic growth. Empirical evidence about the Laffer curve in developing countries, including Indonesia, is still rather limited. This research has a theoretical and practical significance which is very important in preparing the State Budget and future economic development. We hope that this research will contribute to enriching the literature on fiscal policy, particularly in terms of making decisions to increase or decrease tax rates that create optimal economic growth.

This research is a literature study using a meta-synthesis approach. Literature reviews were taken in Scopus, Web of Science, Elsevier, Springer, Emerald, Asian and African Journals, as well as Global and International Journals. Search limits for articles in English, with publication limits or study years 2000-2023. After the most relevant articles are found, an article extraction will be carried out to answer the research objectives. The theoretical framework that will be built starts from the definitions developed in the Laffer curve and GMTR, and the core of this research is the Laffer curve and GMTR, which can create optimal economic growth.

III. RESULTS AND DISCUSSION

A. Laffer Curve Empirical Studies

The study of the Laffer curve of a country's taxes is significant for policymakers. Trabandt & Uhlig (2011) conducted research on the Laffer curve in Sweden and Denmark, they found that the labor tax rate is lower than the peak of the Laffer curve, and the capital tax rate is very close to the peak of the Laffer curve or even more fantastic. This research is in line with research conducted by Nutahara (2015), who conducted a study of the Laffer curve in Japan and found that in order to maximize total tax revenue, the Japanese government must increase the labor tax rate but lower the capital tax rate. These results imply that in order to maximize total tax revenue, the government should increase the labor tax rate but lower the capital tax rate or corporate tax.

Looking at the effect of taxation on labor supply and the potential existence of a Laffer curve, Keser et al. (2020) conducted experiments in Canada, France, and Germany and found that the labor supply curve decreased as tax rates increased or were U-shaped. inverse (Laffer curve). Calibrating the model to US macro, micro, and tax data, Holter et al. (2019) characterize the Laffer curve of the labor income tax for various levels of tax progression. It was found that the peak of the United States Laffer curve is reached at an average labor income tax rate of 58%. This peak (the maximum tax revenue the government can raise) increases by 7% if the current progressive tax code is replaced with a flat labor income tax.

The Laffer effect can be used to justify budgetary imbalances and the redistribution of taxation from consumption to saving and from poor to rich. Meanwhile, in the Keynesian world, one can increase GDP by increasing consumption (Forte, 2015).

Exploring the relationship between tax rates (direct tax on labor income), government revenue, and economic performance from the perspective of the Laffer curve, Lin & Jia (2019) shows that the peak of China's Laffer curve is around 40%. If China is to maximize tax revenue, the direct tax rate must be 35%, and the peak government tax is always 5-10% of the peak of the Laffer curve. If a country has reached the top of the Laffer curve, then tax cuts have positive implications for the economy and taxation.

Conducting research in Malaysia, Annuar et al. (2018) looked at the relationship between corporate tax rates and revenue using an autoregressive distributed lag (ARDL) approach. The results of the study show that the gradual reduction in corporate tax rates has had a positive impact on Malaysia's economic growth. The results of this study are in accordance with Ibn Khaldun's taxation theory which is described as a Laffer curve. There is an inverted U-shaped relationship between tax rates and revenues, with the optimal tax rate of 25,5156 percent. The reduction in corporate tax rates has an impact on increasing productivity among companies and broadening the tax base. Further analysis also shows that lowering the corporate tax rate can lead to increased corporate tax revenues in the long run. That is, lower corporate tax rates reduce the cost of doing business domestically.

Steinmüller et al. (2019) conducted research on effective corporate tax by collecting samples of corporate tax data from OECD countries during the 1996-2016 time period. The results of the study show that the relationship between tax revenues and statutory tax rates is inverted U shape; this shape is known as the Laffer Curve. Furthermore, the maximum value, namely the tax rate that maximizes income, is estimated to be above the average (median) of the observed tax rates. At the right point (tax rate), the slope of the income function becomes negative depending on the extent to which firms and individuals respond to taxes and the tax strategies they adopt.

Discusses the correlation of the Laffer curve for income tax and economic facts in Romania during the 2000-2010 period, that the slope of the Laffer curve in Romania is in a restricted area, where there is an unnecessary redistribution of income in the Romanian economy (Trandafir & Brezeanu, 2011). Ferreira-Lopes et al. (2020) estimate Laffer curves for direct and indirect taxes for each Eurozone country, using panel data from 1995-2011. That there are significant differences between the optimal tax rate values for Eastern European and Western European countries, where the economic and financial conditions of each country affect the value of the tax rate. The results of the study also found that Greece and Portugal are in the forbidden Laffer curve range.

The optimal level Laffer curve that maximizes tax revenue depends not only on the elasticity of demand but also on the ability of the tax authorities to anticipate the price response of firms subject to a commodity tax, that a reduction in the tax rate will increase total tax revenue only for products with very high demand. elastic (Miravete et al., 2018).

Raising or lowering the tax rate depends on other important issues. Tax effectiveness requires further consideration beyond actual tax revenue (Tavor et al., 2019). In a neoclassical growth model with incomplete markets and limited heterogeneous liquidity, the nature of the Laffer curve depends on whether debt or transfers are adjusted to balance the government's budget constraints. The Laffer curve that depends on public debt is horizontally S-shaped (Fève et al., 2018).

Heterogeneous liquidity limitations in each country result in the nature of the Laffer curve depending on foreign debt, which is an essential means of financing public spending and balancing the government budget (Bhimjee & Leão, 2020; Ehrhart et al., 2014; Fève et al., 2018). When debt is low, tax policy is countercyclical in the sense that the government responds to low output by setting low tax rates. Above the debt threshold, the optimal tax policy becomes pro-cyclical. This creates the possibility of a fiscal policy trap crisis (self-fulfilling), in which the government imposes high taxes because of low output (Camous & Gimber, 2018). If a country can channel foreign debt into viable investments, the debt is able to pay for itself and positively affect economic growth. However, when a country relies heavily on foreign debt beyond reasonable levels, foreign debt becomes irrelevant, and its impact on the economy tends to be negative (Mensah et al., 2018). The position and stability of the Laffer curve depend on several national and international factors (Schuknecht, 2018). The relationship between tax revenue and tax rates is adjusted to the tax morale of the country (Liapis et al., 2020).

B. GMTR Empirical Studies that Maximize Economic Growth

Taxes can affect the entire economic system, so the Laffer curve can be observed for a broader framework to find the relationship between a country's level of taxation and economic growth. Effective tax rates can have a multiplier effect on a country's economic policies by keeping state revenues at a sustainable level and providing safe boundaries for economic development. If taxation complicates the economy, there must be a turning point where the result of high tax rates does not produce the expected results on state revenues (Liapis et al., 2020).

Economist of the new economic theory, Robert J. Barro (1990), put forward a model of endogenous economic growth by including government public spending financed by taxes will affect production and utility. The government provides public goods, including in the form of law and order, state defense, and redistribution of income. Gerald W. Scully (1995) added that government spending acts as a positive externality at the growth rate. Beyond that level, government spending financed by taxes acts as a negative externality. That up to a certain level, the amount of taxes collected by the government can make the whole economy more productive.

Scully found the GMTR of the United States to create optimal economic growth. The United States GMTR is 22.9% of the total GDP. Scully also estimates that if the GMTR is achieved, then real GDP growth in the United States will grow by 5% annually. Besides that, the deadweight loss is far above the GMTR. A year after measuring the GMTR for the United States, Scully also measured the GMTR for New Zealand, which is around 20.2%. In 1998, world economists Chao and Grubel conducted empirical research to find the GMTR in Canada by using data on the ratio of total government spending to GDP as a tax variable estimator. Assuming $G=T$, Chao and Grubel find that the GMTR for Canada is 34%.

Examines the nonlinear relationship between tax revenues and economic growth in 11 European and Central and Southeast Baltic countries during the transition process between 1995 and 2014. The results of Aydin & Esen's research (2019) show that the optimal level of tax revenue to maximize economic growth is around 18.00% of GDP for whole transition economies, 18.50% for developing countries, and 23.00% for developed countries. The results of this study indicate that the level of tax revenue above the optimal point has a negative effect on economic growth, while the level of tax revenue that is still below the optimal point has a positive effect on economic growth.

Kavese & Phiri (2020) examines the optimal tax in South Africa using Scully's optimal tax calculation applied to quarterly data from 2002–2017. Empirical results suggest that governments pursue growth-maximizing tax rates during increasing business cycles while generally using revenue-maximizing tax rates during periods of recession. This means that during periods of recession, the government generally pursues the objective of

maximizing revenue by collecting higher taxes. VAT is the only revenue collection sub-category that has maximized growth in the post-crisis recession period.

Nguyen (2020) suggests that an increase in the capital tax rate affects growth through four channels. First, it directly inhibits capital accumulation, thereby negatively affecting growth. Second, encourage the formation of human capital so that it has a positive impact on growth. Third, increasing capital taxation by reducing the ratio of physical human capital has a positive effect on the aggregate marginal product of capital. Fourth, the increase in the ratio of physical human capital is inversely proportional to the accumulation of human capital. This means that to produce the maximum growth rate, more significant public expenditures are required for human capital, thereby increasing the aggregate marginal product of capital and the equilibrium growth rate.

Milasi & Waldmann (2018) examine taxation on the highest income and its relationship to economic growth. That was increasing the marginal tax rate on those below growth maximization has the most significant positive impact on growth when the associated additional revenue is used to finance productive public spending, reduce budget deficits or reduce some other form of tax distortion.

Fiscal policies that maximize growth, in the long run, are independent of the specifics of public spending (Escobar-Posada & Monteiro, 2018). In conditions where the elasticity of infrastructure output is greater than the growth elasticity of labor productivity, there is a tax rate that maximizes the share of long-term labor, and this rate is lower than the tax rate that maximizes growth (Dai, 2018; Davis, 2018; Tavani & Zamparelli, 2020).

Ehrhart et al. (2014) examined the relationship between taxes and economic growth and the Laffer curve in developing countries. Empirical evidence of this relationship in developing countries needs to be more extensive. Recalling that seigniorage and public debt are also necessary to finance public spending in these countries. Based on a panel of 100 developing countries during the period 1980-2010 providing estimates of OLS-Fixed Effects and GMM systems that support the theoretical conclusion, namely the existence of a hump-shaped relationship between taxes and economic growth indexed by debt and seigniorage.

Debt-financed public investment influences economic growth and intergenerational well-being through multiple long-term benefits and costs. With a primary focus on clarifying the relationship between public investment, economic growth, and population aging under prescribed fiscal rules, Kamiguchi & Tamai (2019) in their research concludes, that the Barro tax rule does not apply and that growth- and utility-maximizing tax rates increase with life expectancy. Population aging seriously affects fiscal policy and economic performance as it increases tax rates and puts the ratio of public debt to GDP in balance. The tax rate that maximizes welfare is lower than the tax rate that maximizes growth (Dai, 2018; Ueshina, 2018).

The authors applied the Laffer curve theory model to GMTR in previous studies. This study identified data: GDP, foreign debt, tax revenues, non-tax revenues, and economic growth during the 2001-2020 period. The study results show that the ratio of tax revenues significantly promotes economic growth, while the ratio of foreign debt negatively affects economic growth. The author also finds that Indonesia's GMTR is 12.00%. With a total tax revenue of 16,464,941 billion rupiahs during the 2001-2020 period, if the GMTR can be achieved since 2001 and remains the same or can be maintained until 2020, then the total tax revenue for 2001-2020 will increase to 18,659,422 billion rupiahs. Rose to 2,194,481 billion rupiahs. The amount of the increase is large enough to finance economic development. Therefore, effective tax rates can have a multiplier effect on a country's economic policies. The average economic growth during 2001-2020 was 4.91%. If a GMTR of 12% can be achieved since 2000 and continues to be maintained until 2020, then by substituting the GMTR in the regression equation model assuming other variables are constant, Indonesia's economic growth will increase by 1.40% to 6.31% (Yossinomita et al., 2023).

C. Implications of Taxation Policies in Optimal Economic Growth

Fiscal policy is a government tool to intervene in the economy, improve the economy, or even make the economy experience a recession (Hermawan, 2016). Tax structure can influence economic growth (Wu et al., 2017). An effective taxation system strengthens state legitimacy, accountability, and responsiveness (Fjeldstad, 2014).

The optimal tax structure considers and maximizes growth and prosperity—the need for a fiscal strategy that maximizes growth and labor share. The tax rate that maximizes growth should be higher than that maximizes labor share (Tavani & Zamparelli, 2020). Establish the right tax policy and differentiate between growth-maximizing and revenue-maximizing goals. It would be ideal for the government to set higher tax rates, maximize revenue during booming businesses, and set lower tax rates that maximize growth during downturns in business cycles (Bhattacharyya & Gupta, 2021; Kavese & Phiri, 2020).

Marakbi & Villieu (2020) examine the relationship between taxes, corruption, economic growth, and inflation. First, that corruption can undermine tax collection and lead to a runaway of tax revenues. As a result, the government has no choice but to use other instruments to finance productive public spending. For example, seigniorage and income tax are ways of financial substitution adopted by the government. Second, corruption

results in unproductive public spending. As a result, the government can increase tax rates to meet this expenditure.

Before the government implements any policies to support economic growth, the role of tax revenues must be addressed in the relationship between optimal government size and economic growth. Otherwise, these policies can harm economic growth (Aydin & Esen, 2019). Equilibrium fiscal policy is equivalent to maximizing fiscal policy

growth (Dai, 2018).

Fiscal policy taken by the government must be a policy that maximizes economic growth financed by rational taxation. The optimal tax structure is a tax structure that considers and maximizes economic growth and welfare (Yossinomita et al., 2023).

V. CONCLUSION

A sound taxation system will provide improvements to the economy and welfare. The optimal tax structure is a tax structure that considers and maximizes economic growth. Tax revenue is a potential and most prominent source of state revenue, so the government must make tax policies that follow economic conditions. Government spending multiplied, even outpacing GDP growth. This means that the ratio of total government spending to GDP (the size of government) is getting more significant from time to time. This is not only happening in Indonesia. Other countries worldwide are also experiencing this, especially countries increasing their economic development phase. In this regard, there are two options. It is first, depending on foreign debt. Second on domestic capabilities.

Of the various sources of domestic revenue, taxes are the main focus. However, tax revenues at high rates can increase productive resources that will be taken by the government from the private sector, which should be used for investment needs. Moreover, the positive impact resulting from government spending cannot cover the negative impact of reduced resources that should be owned by the private sector. In that case, a deadweight loss will occur.

This study literature analyzes how the Laffer curve and GMTR are applied as indicators for realizing optimal growth rates in several countries, including Indonesia. The results of this literature study can serve as a guideline and input for the government in conducting fiscal policy, particularly in making decisions to increase or decrease tax revenues which can create optimal economic growth in Indonesia.

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The Preception of Trans Batam Pasenger Due to The Increase in Fuel Prices

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ABSTRACT

Purpose: The development of world transportation modes is improving. facilities and infrastructure to be able to facilitate mobilization can now be accessed anywhere. Transportation also plays a role in the development of an area because the function of transportation can also be said to be one of the supports for the economy and regional development in an area. This research wants to find out the interest of Batam residents in Trans Batam due to the increase in fuel as an alternative to the use of daily transportation modes

Design/methodology/approach: Data obtained from the results of the Trans Batam user questionnaire survey using the method of expressing preferences and using variables in the form of tariffs, timeliness, service quality, information availability, safety, comfort, cleanliness, availability of facilities, availability of routes, and interest in using Trans Batam. The survey results were then carried out a comparative analysis using a spider web model from questionnaire data that had been shared with 100 respondents.

Findings: The survey results were then conducted in a comparative analysis using a spider web model from questionnaire data that had been shared with 100 respondents. The findings are that there are improvements in performance in tariffs, service quality, and availability of facilities. Meanwhile, on timeliness, information availability, and safety, there are no significant performance changes. However, there is a decrease in performance on the comfort, cleanliness, and availability of routes. The conclusion obtained from the results of this study is that there is an increase in interest of Batam residents in Trans Batam due to the increase in fuel prices.

Research limitations/implications: Most of the data collection in the implementation of this research was carried out by distributing questionnaire links anonymously, so it is possible that there were respondents who filled them out at random so that the quality of the data was lacking.

Practical implications: Tariffs are the main factor for potential consumers in choosing public transportation modes. There are also two other factors contributing to the increasing interest of Batam residents in Trans Batam, that is the quality of service and the availability of facilities.

Originality/value: This paper is an original work.

Paper type: Research paper

Keywords: Fuel Hike, Interest, Trans Batam

Received : May 4th

Revised : May 12th

Published : July 31th

I. INTRODUCTION

The development of world transportation modes is getting better. Facilities and infrastructure to be able to facilitate mobilization can now be accessed anywhere. Transportation also plays a role in the development of an area, because the function of transportation can also be said to be one of supports for the economy and regional development in an area (Rifai, et al., 2022). One aspect of transportation that concerns the needs of many people is public transportation. A city without public transport will require a random mass of people traveling randomly without reaching their target. There are many direct, indirect and random factors that affect public transport, but by far the most disturbing is the human interaction in urban traffic (Iclodean, 2020). One example of public transport is buses, buses are ground vehicles designed to carry many passengers at once. Buses are a practical

mode of transportation for different age groups in the community, cheap and highly connected between cities. However, despite its popularity, the safety of express buses is a major concern (Azman, et al., 2020).

In Indonesia, public transportation is still not popular to be used as a means of daily transportation. Indonesians prefer to use private vehicles instead of public transportation, while public transportation is more able to support road performance during peak hours. Basically, public transportation is a solution to improve road performance in urban areas. Several studies have shown that in addition to quality, people's desire to switch to public transport is an affordable and integrated route that makes it easier for users (Nurlukman, et al., 2020).

Batam is one of the cities with heavy traffic in Indonesia. Moreover, Batam is under construction, and many public roads in Batam City are undergoing repairs. Not infrequently during peak hours, Batam experiences a decrease in road performance at certain points, but Batam residents still choose to use private vehicles instead of using public transportation which can improve road performance. Public transport can play an important role in reducing the use of private vehicles by individuals which in turn can improve traffic performance, pollution, and the use of fossil fuels (Patel, et al., 2019).

In Law Number 22 of 2009 concerning Road Traffic and Transportation, especially article 158, it is explained that "The government guarantees the availability of Road-based mass transportation to meet the needs of transporting people with Public Motor Vehicles in urban areas". To meet the needs of public transport, the norms of this Law it is also emphasized that the responsibility to ensure the availability of safe, safe, comfortable, and affordable public transport is the responsibility of the Government, and in its implementation, the Government can involve the private sector. This allows commercial drivers to represent their interests with the government and allows governments to also regulate their services through directives, especially at a time when public transport management requires a collaborative effort between the government and operators (Dzisi & Dei, 2020).



Figure 1. Trans Batam Bus Mate Terminal

In the transition to a more sustainable transport system, public bus transport has an important role in reducing car dependence (Aldenius, 2018). Trans Batam as an alternative mode of transportation for Batam residents is a public transportation provider in the city of Batam which operates every day from 06:00 WIB to 17:00 WIB. Nowadays, Trans Batam has reduced the route taken from 40 trips to 20 trips a day, and with the same ticket price. This is done so that the community does not feel burdened due to the increase in fuel. With the hope that Batam residents prefer to use public transportation instead of using private vehicles. The goal to be achieved by this study is to determine the interest of Batam residents in Trans Batam because of the increase in fuel as an alternative to the use of daily transportation modes.

A. Literature Review

1. Previous Studies

Based on Yuliana & Febriyani's research entitled "The Effect of Service Quality and Tariffs on the Buying Interest of Damri Bus Passengers in the Bandung City Transportation Unit", results were obtained that showed that free variables, namely service quality, and tariffs, had positive effect on buying interest. This positive influence shows that the higher the quality of service and tariffs, the higher the interest in buying will be (Yuliana & Febriyani, 2018). We found that the service factors most related to satisfaction are cleanliness and comfort within the transport (Van Lierop, et al., 2018).

Based on Suhaily & Soelasih in their research entitled "What effects repurchase intention of online shopping", concluded that there is an influence of e-service quality on customer satisfaction and repurchase intentions, while repurchase intention has a negative effect. Therefore, price perception does not affect customer satisfaction but affects repurchase intentions. In addition, experiential marketing does not affect customer

satisfaction and repurchase intentions. In addition, customer satisfaction has a positive effect on repurchase intentions (Suhaily & Soelasih, 2017).

Based on Yulisetiari & Prahasta in their research entitled "The Effect of Price, Service Quality, Customer Value, and Brand Image on Customers Satisfaction of Telkomsel Cellular Operators in East Java Indonesia", concluded that: (a) Tariffs have a significant positive effect on customer satisfaction; (b) Service quality has a significant positive effect on customer satisfaction; (c) Customer value has a significant positive effect on customer satisfaction; (d) Brand image has a significant positive effect on customer satisfaction (Yulisetiari & Prahasta, 2019).

Based on Setiawan in his research entitled "The impact of brand image, service quality, and sales promotion on customer repurchase intention through customer satisfaction at Tokopedia in Surabaya", concluded that: (a) Brand image has a positive and significant effect on customer satisfaction; (b) The quality of service has a positive and significant effect on customer satisfaction; (c) Sales promotion has a positive and significant effect on customer satisfaction; (d) Customer satisfaction has a positive and significant effect on repurchase intentions (Setiawan, 2018).

2. Fare

Fare is the amount of fee charged to each passenger of a public passenger transport vehicle expressed in rupiah. Public transport tariffs are tariffs set by the government politically and economically considering the proposals of operators and users of public transport services. The government should coordinate with public transport operators through the franchise process for public regulation and concession fare rates (Wong, et al., 2018).

Public transport planning also takes policy over a long period. The demands of citizens and the decisions of city managers are important factors in transportation planning (Sert, et al., 2017). To protect consumers, the government sets a maximum tariff limit, and if it is deemed necessary to maintain healthy competition, it also sets a minimum tariff. Meanwhile, tariffs should be regulated to ensure reasonable profits for public transport operators and acceptable to consumers

The public transport fare policy is a very important basic component in the operation of public transport because the fare is a major factor in attracting passengers (Hariani, et al., 2020). The freight fare policy is divided into three (Ridwan, 2017), namely:

1. *Cost of Service Pricing*, Rates are reviewed based on the costs required for the operating costs of freight services plus a reasonable level of profit.
2. *Value of Service Pricing*, Rates are reviewed based on the value of transportation services provided by transportation service users.
3. *Charging What the Traffic Will Bear*, Freight rates are reviewed with a certain freight volume to get the most profitable net income result.

Determining the number of public transportation tariffs requires wise handling and policies because it must be able to bridge the interests of passengers as consumers and entrepreneurs/operators of public transportation (Ropika, R., 2018). Considering transportation costs as a fixed part of the booking fee (Rasay & Golmohammadi, 2020), it can be an important key for people to choose public transportation which in this case is Trans Batam as a daily mode of transportation.

3. Buying Interest

Buying interest is the stage of consumer interest in a product and buying interest arises after the consumer's awareness and perception of a particular product (Nurfauziah & Hamdani, 2021). This interest in buying is followed by an action in the form of purchase behavior. Consumer interest in a purchase arises automatically when the consumer is interested in or responds positively to the seller's offer.

Buying interest is the behavior of a person (consumer) by which the consumer has the desire to choose, use and even want the products offered by the manufacturer or company (Rachmawati, et al., 2020). So, it can be defined as buying interest is the process of deciding to buy a product or service which is measured by the degree of probability of consumers making a purchase. Indicators of buying interest include Exploratory interest (seeking information), Transactional interest (tendency to make purchases), and Preferential interest (making the main one) (Maharama & Kholis, 2018).

Brand awareness also has a significant effect on consumers' buying interest. A brand with a positive image will make consumers loyal and want to buy this product back in the future. Brand awareness is the issue of whether the brand name appears in the minds of consumers when thinking about a particular product category and whether there is a convenience when that name rises (Novansa & Ali, 2017).

Based on the results of Pandjaitan's analysis, the results were obtained that variable X or brand awareness had a significant effect on variable Y, or customer intention to buy GoJek services. Based on the results of the t-

test conducted, it can be concluded that the brand awareness obtained from Go-Jek has a positive effect on intentions with an estimated score of 0.968, and more than 95% for the significance score. This explains that Go-Jek is an online transportation brand that greatly influences people in Bandar Lampung to use its services (Pandjaitan, 2019).

II. METHODS

Data is one of the main strengths in compiling scientific research and modeling (Rifai, et al., 2015). The data obtained from the research will be used to understand or solve problems. The research was carried out at the end of 2022 with residents of Batam City as the subject of their research. This research was conducted to find out whether there was an increase in interest in Batam residents to ride public transportation in Batam City, which in this case was Trans Batam due to the increase in fuel.

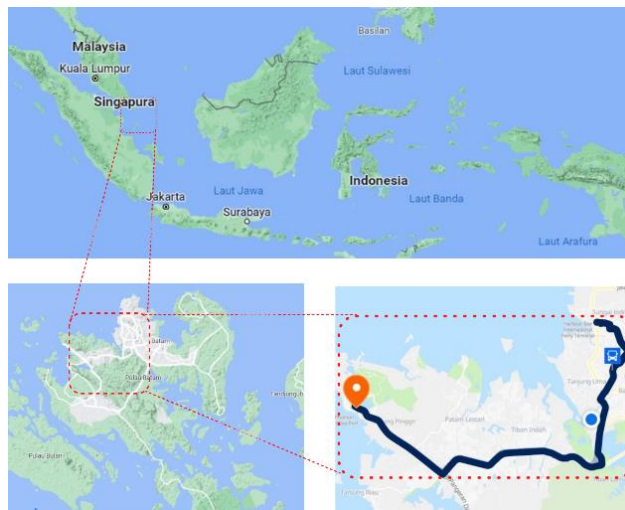


Figure 2. Research Location

The process of systematic scientific research must begin with the proper identification of the problem (Rifai, et al., 2016). This research method was carried out using quantitative analysis methods, where the instrument used was a questionnaire to collect data for this study. Later the questionnaire will be distributed electronically to respondents using one of the sites that can be used to fill out surveys *online*, or non-electronically using paper that contains surveys that will later be filled out by respondents. The research variables will be measured through a questionnaire with an answer range following an ordinal scale of "1" for very bad to "5" for very good.

III. RESULTS AND DISCUSSION

A. Research Factor Selection

In Indonesia, there is a law on public transportation service standards as stated in Law Number 22 of 2009 concerning Traffic and Transportation (Article 141) which reads: "Public Transportation Companies must meet minimum service standards which include: Safety; Salvation; Comfort; Affordability; Equality; and Order." Each of these factors is explained in every point in the Regulation of the Minister of Transportation of the Republic of Indonesia Number 98 of 2013 and updated with PM Number 29 of 2015.

The process of selecting research factors is determined based on the results of literature related to journals that discuss factors of transportation services, then several factors are selected that are used as considerations for the influence on increasing public interest in public transportation. The factors selected in this study are: Tariffs (Rosa & Widad, 2017); Timeliness (Azali, et al., 2018); Quality of Service (Yulisetiari & Prahasta, 2019); Availability of Information (Sembada & Setyono, 2020); Safety (Azali, et al., 2018); Comfort (Azali, et al., 2018); Cleanly (Sembada, et al., 2020); Availability of Facilities (Madigan, et al., 2017); Route Availability (Retnoningtyas & Handayani, 2021); and Interest in the Use of Trans Batam.

B. Characteristics of Respondents

Respondents in this study were not distinguished into certain clusters, all Batam people were entitled to fill out the questionnaire on the condition that users / had used Trans Batam. A total of 100 respondents will be taken data as a sample in this study, with the characteristics of respondents as follows:

a. Characteristics of Respondents by Gender

Table 1. Gender of Respondents

<i>Number</i>	<i>Gender</i>	<i>Total</i>	<i>Percentage</i>
1.	<i>Male</i>	57	57 %
2.	<i>Female</i>	43	43 %
<i>Total</i>		100	100%

The results showed that respondents were dominated by men with a male ratio of 57% and women by 43%. This may happen because men are more willing to spend their time filling out questionnaires.

b. Characteristics of Respondents by Age

Table 2. Age of Respondents

<i>Number</i>	<i>Age</i>	<i>Total</i>	<i>Percentage</i>
1.	<i>11-20 years</i>	55	55 %
2.	<i>21-30 years</i>	35	35 %
3.	<i>31-40 years</i>	9	9 %
4.	<i>41-60 years</i>	1	1 %
<i>Total</i>		100	100%

The results showed that Trans Batam users are dominated by the age of 11-20 years by 55%. This may happen because the questionnaire is distributed online, where many active users of the device are teenagers. As for the offline questionnaire, Trans Batam users are reluctant to take their time to fill out the questionnaire.

c. Characteristics of Respondents by Job Type

Table 3. Job of Respondents

<i>Number</i>	<i>Type of Work</i>	<i>Total</i>	<i>Percentage</i>
1.	<i>Student</i>	61	61%
2.	<i>Entrepreneur</i>	9	9%
3.	<i>Private Employees</i>	21	21%

4.	<i>Housewife</i>	7	7%
5.	<i>Civil Servant</i>	2	2%
<i>Total</i>		<i>100</i>	<i>100%</i>

The results showed that respondents' work was dominated by students, namely 61%. This can happen because most respondents' ages are also dominated by the age group of 11-20 years, which is the age of activity as a student.

d. Characteristics of Respondents Based on Personal Vehicle Ownership

Table 4. Private Vehicle Ownership

<i>Number</i>	<i>Personal Transportation</i>	<i>Total</i>	<i>Percentage</i>
1.	<i>Car</i>	20	20%
2.	<i>Motorcycle</i>	64	64%
3.	<i>Bicycle</i>	7	7%
4.	<i>Do not have</i>	28	28%

The results showed that as many as 64 out of 100 respondents had at least one private vehicle, namely a motorbike. Nevertheless, Batam residents still want to use Trans Batam as an alternative mode of transportation in many ways.

e. Characteristics of Respondents Based on Travel Destinations

Table 5. Destination of Respondents

<i>Number</i>	<i>Travel Needs</i>	<i>Total</i>	<i>Percentage</i>
1.	<i>Work</i>	7	7%
2.	<i>School</i>	15	15%
3.	<i>Shop</i>	15	15%
4.	<i>Meeting Friends/ Family</i>	18	18%
5.	<i>Recreation</i>	36	36%

6.	<i>Other</i>	6	6%
	<i>Total</i>	<i>100</i>	<i>100%</i>

Source: Personal Processed Results, 2022.

The results showed that recreation was the most preferred travel destination by respondents, which was 36%. This may happen because many respondents are students who use Trans Batam only as an alternative mode of transportation.

C. Research Results

After obtaining 100 respondents to the questionnaire with a total of 10 parameters of the statement. Then the results of the answer data from 100 respondents were obtained in the form of the number of data distributions and gaps in each parameter as can be seen in the following table:

Table 6. Survey Result of Questionnaire

<i>Number</i>	<i>Parameters</i>	<i>Before</i>	<i>After</i>	<i>Gap</i>
1.	<i>Cost</i>	3,83	4,07	0,24
2.	<i>Timeliness</i>	3,55	3,57	0,02
3.	<i>Quality of Service</i>	3,52	3,72	0,20
4.	<i>Information Availability</i>	3,47	3,53	0,06
5.	<i>Safety</i>	3,54	3,59	0,05
6.	<i>Comfort</i>	3,59	3,54	- 0,05
7.	<i>Cleanly</i>	3,43	3,37	- 0,06
8.	<i>Facilities</i>	3,70	3,87	0,17
9.	<i>Route Availability</i>	3,60	3,53	- 0,07
10.	<i>The demand of Trans Batam Usage</i>	3,66	3,84	0,18
	<i>Average</i>	3,59	3,66	0,07

Based on the results of the questionnaire that has been distributed, the results of the comparison of variables that have been determined between pre and post fuel increase against Trans Batam are obtained in the following chart:

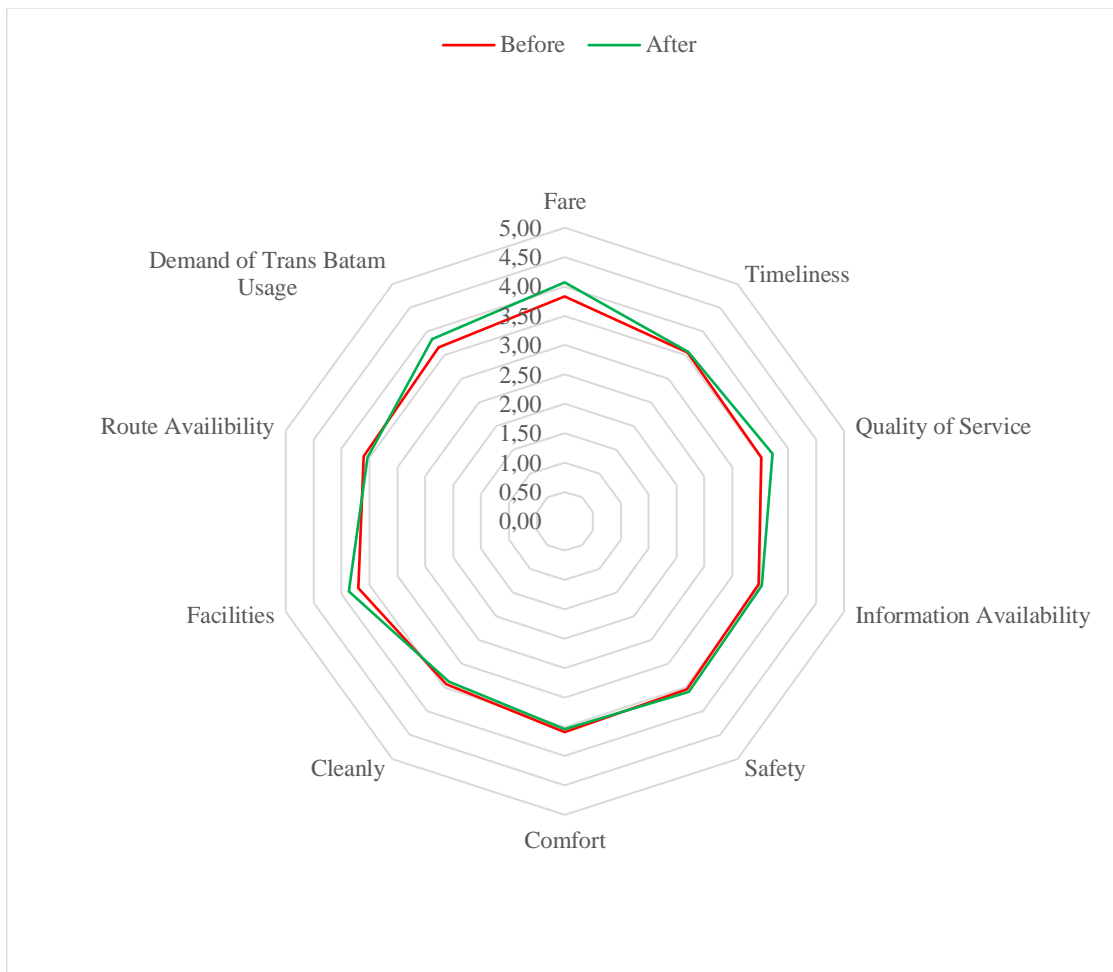


Figure 3. Radar Chart of Questionnaire

1. Cost

Fares are one of the important keys for people in determining public transportation options. Tariffs are the most significant variable in changes before and after the fuel increase, which is 0.24. This can happen because although there is an increase in fuel prices, especially diesel by 32.03% which is used as fuel for these vehicles, the tariff set by Trans Batam has not increased, which is still the same at IDR 6,000.00 (six thousand rupiahs) if paid in cash and IDR 5,000.00 (five thousand rupiahs) if paid non-cash.

2. Timeliness

Punctuality is one of the spearheads for public transportation in attracting consumers. There is not much change in performance in the punctuality variable due to the increase in fuel. This may happen because the increase in fuel does not affect the punctuality of Trans Batam's operations or travel. The difference in punctuality performance before and after the fuel increase is very small, which is 0.02.

3. Quality of Service

Every company will certainly compete to improve the quality of its services to get good reviews from consumers. Service is the main priority which is used as a benchmark in competitive advantages and facilities are factors that affect the services provided by the transport company. Trans Batam has an increase in service quality performance in line with the increase in Trans Batam users, this is evidenced by the increase in performance in the research results, which is 0.20.(Rifai & Fajriliani, 2020).

4. Information Availability

Information will of course always be needed for potential customers. But when you have become a regular consumer, the availability of information is not a significant problem because you often get this variable. The variable availability of information can also be obtained by asking the relevant officers or looking at the posters

that have been provided, where the increase in fuel does not affect this variable. This is evidenced by the lack of improvement in the variable, which is only 0.06.

5. Safety

Safety is one of the keys for customers in choosing public transportation. Public transportation with an adequate track record of Safety will tend to be chosen by customers. In this case, Trans Batam has an adequate track record in terms of safety, as evidenced by the minimal number of accidents and pickpocketing cases in Trans Batam. It was recorded that the last accident case caused by Trans Batam was in 2019. Meanwhile, the safety variable was also not affected by the increase in fuel. This is evidenced by the results of research that show a slight increase in performance in the variable, which is 0.05.

6. Comfort

Although comfort is not the main key for a person in choosing to use public transportation, this variable is still important for public transportation managers to consider. It was found that there was a decrease in performance in the comfort variable based on the survey results, which was -0.05. This may happen due to the increase in Trans Batam users along with the increase in fuel which causes the atmosphere in the vehicle to be no longer the same.

7. Cleanly

Basically, cleanliness is not entirely the responsibility of public transportation managers, but also the responsibility of every consumer. However, some people still care about cleanliness when riding public transportation. This has caused a decrease in the performance of hygiene variables which may also be caused by the increase in Trans Batam users so that there are more and more of these individuals. The magnitude of the decrease in the performance of the hygiene variable is -0.06.

8. Facilities

Facilities are a supporting facility for public transportation managers in attracting consumers. Adequate facilities will certainly have a positive impact on consumer satisfaction, which later will also affect other variables such as comfort and service quality. The facility at Trans Batam has a performance increase of 0.17. This can be proven by the addition of free Wi-Fi facilities for consumers who are waiting for the next bus trip at the terminal.

9. Route Availability

The availability of routes owned by Trans Batam can be said to be quite limited, not all points in the city of Batam can be reached by Trans Batam. Moreover, Trans Batam has reduced the route taken from 40 trips to 20 trips a day to avoid an increase in tariffs. This can lead to a decrease in performance in these variables. The route availability variable was found to have decreased performance by -0.07. This makes this variable the variable with the most significant performance decline in this study.

10. The demand of Trans Batam Usage

Buying interest is the stage of consumer interest in a product and buying interest arises after the consumer's awareness and perception of a particular product (Nurfauziah & Hamdani, 2021). This interest in buying is followed by an action in the form of purchase behavior. Consumer interest in a purchase arises automatically when the consumer is interested in or responds positively to the seller's offer. There was an increase in interest in the use of Trans Batam after the increase in fuel based on the results of this study, which was 0.18.

IV. CONCLUSION

The variables above will ultimately influence consumers to choose to use Trans Batam. Although there are several variables that have decreased performance, this does not have a significant effect on the interest in using Trans Batam. This is because there are many other variables that have improved performance after the increase in fuel. These variables ultimately determine the preferences of the people of Batam in determining Trans Batam as an alternative mode of transportation. The most influential variable is tariffs, this is evidenced by the results of surveys that show that tariffs have the highest increase. Meanwhile, other supporting variables such as the quality of services and facilities also affect people's preferences to choose Trans Batam. So, in the end it was proven that there was an increase in interest of Batam residents in Trans Batam due to the increase in fuel.

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Perceived Ease and Security of Using QRIS Towards Cashless Society

(Case Study of Accounting Students UPN "Veteran" East Java)

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ABSTRACT

Purpose: The purpose of the research journal is to investigate the perceptions of accounting students at UPN "Veteran" East Java regarding the implementation of a cashless society. Specifically, the study aims to explore the variables of Perception of Ease of Use of QRIS (Quick Response Code Indonesian Standard) and Perception of Security of QRIS. The researchers want to understand how these perceptions influence the adoption of a cashless society among accounting students.

Design/methodology/approach: The research study employed a quantitative methodology and was placed during the academic year 2019-2020. The participants in the research were accounting students at UPN "Veteran" East Java. The researchers gathered data from these students and applied the SPSS Ver.26 software for analysis. To explore the connections between the variables of Perception Ease of Using QRIS, Perception of Security QRIS, and adoption a cashless society using multiple linear regression analysis.

Findings: The study's results demonstrate that the adoption of a cashless society among accounting students at UPN "Veteran" East Java is affected by the perceived ease of using QRIS. That indicates a higher likelihood of embracing a cashless society observed when students perceive QRIS as user-friendly. Furthermore, the research reveals that the perception of QRIS security also play a role in influencing the adoption of a cashless society among accounting students. This suggests that a stronger inclination to embrace a cashless society is associated with perceiving QRIS as a secure payment method.

Practical implications: The author recommends the government of Bank Indonesia and banking companies in conducting performance evaluations on the importance of QRIS-based payments accompanied by increased promotion and efficiency.

Originality/value: This research is original and adds new value to the Cashless Society in Indonesia which is influenced by perceptions of convenience and perceptions of security

Paper type: Case study

Keywords: *Perceived Convenience, Perceived Security, Cashless Society.*

Received : May 3th

Revised : May 12th

Published : July 31th

I. INTRODUCTION

During the fourth industrial revolution era, many developments have arisen, one of which is in the field of fintech or financial technology, which has increased. This has brought changes to the daily activities of humans, including payment methods that can meet the needs of society in terms of easy and fast transactions. The most common payment method used by society today is cash. In its development, the financial sector has continued to grow thanks to the presence of financial technology. However, it should be noted that the key to the financial industry is money. Without money, the financial sector cannot operate. There is an expression, "Money makes the

world go round," meaning that money is so crucial that many events cannot happen without it (Kraanen, 2016). But then, a question arises about money, its concrete form, and its function. Money itself has a reasonably long history. This historical progression aligns with the rise of information and communication technology, conducted by the fourth industrial revolution that highlights disruptive innovation. Disruptive innovation refers to an innovative advancement that has the potential to generate new markets while simultaneously disrupting or even obliterating existing markets. Disruptive innovation develops products or services that are unexpected by the market, generally by creating different types of consumers in that new market. According to the Indonesian Internet Service Provider Association (APJII), the Southeast Asian country with the highest internet usage is Indonesia.

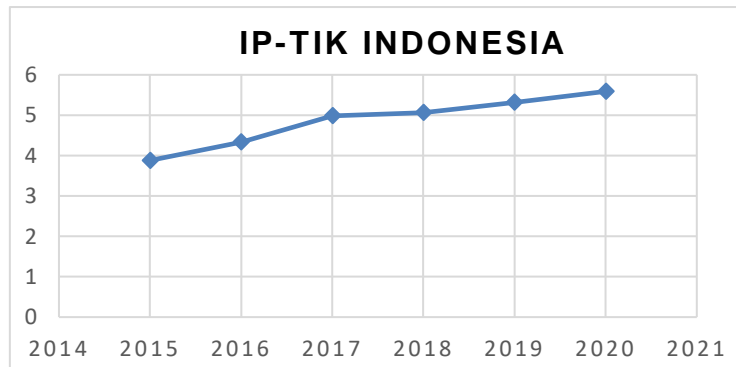


Figure 1. Graph of the Development Index of Technology, Information, and Communication from 2015 to 2020.

According to the Central Statistics Agency (BPS), the Development Index of Technology, Information, and Communication (IP-TIK) of Indonesia reached 5.59 points in 2020, indicating a 5.08% increase compared to the previous year (BPS, 2020). Based on the data from the graph, the IP-TIK shows a yearly increase with an average growth rate of 7.69% between 2015 and 2020. Therefore, according to the Central Statistics Agency, it is predicted that 2021 and 2022 will be years of significant growth in the field of information and communication technology. Technological advancements had Significant impact on the payment system, leading to a shift from cash-based transactions to non-cash methods. This transition to non-cash payments is operating by that recognition, so it offers greater efficiency and cost-effectiveness (Parastiti et al., 2015). This is also influenced by the condition of the Indonesian people who increasingly have knowledge and understanding (M Fryli & Budiwitjacksono, 2021). So that technology can develop faster and faster.

Non-cash payments in Indonesia initially used paper-based instruments such as checks and giro bills that were processed using clearing/settlement mechanisms. In addition, these instruments are also known as paperless payment tools (without paper), Examples of payment methods that involve electronic fund transfers and card-based tools include transactions made using ATM cards, credit cards, debit cards, and prepaid cards. In the last decade, there has been a wave of digitization and its penetration into people's lives, drastically changing people's behavior. Payment instrument tools have become increasingly varied with the presence of card-based electronic money as well as server-based electronic money. Changing consumer behaviors have led to a growing preference for convenient and secure mobile payments across multiple platforms, including websites, mobile applications, Unstructured Supplementary Service Data (USSD), and SIM Toolkit (STK).

Furthermore, virtual currency instruments which are digital money obtained through mining, purchase, or reward transfer, have emerged. The possession of virtual currency entails speculative risks and prerequisites. This is due to the absence of an official administrator, the absence of any underlying asset supporting its value, and the highly volatile nature of its trading value. Consequently, virtual currency is susceptible to inflation risks and can be exploited for money laundering and financing terrorism, posing potential threats to the stability of the financial system and the well-being of the general public. Through Bank Indonesia as the Central Bank, the government continues to improve the payment system to support digital economic and financial development. Bank Indonesia also encourages the acceleration and expansion of electronic programs for local government transactions and encourages digital transformation in the financial sector. Digital-based payment systems have added variations to non-cash payment models in the current digital era. One of them is the QR code used by e-wallet applications in Indonesia. With the large number of QR codes issued by e-wallet applications, merchants must provide several QR code services as many as the number of e-wallet applications available to be scanned by each device or application. This also causes consumers to have various applications to make digital payments, which is considered inefficient.

To address this matter, Bank Indonesia has launched the National Non-Cash Movement initiative aimed growth of an ecosystem for a cashless society in Indonesia. A cashless society pertains to an economic condition wherein financial transactions are through digital information transfer instead of physical cash. (Parmar, 2018). However, the concept of a Cashless Society does not necessarily entail that 100% of society must use non-cash payments. Instead, it aims to reduce the cost of printing paper money, which has become increasingly costly over the years, and address security concerns on the rise (Tekniska Högskola, 2019). While a Cashless Society does not eliminate or transform cash payments, it does aim to reduce its usage. This makes it a fitting concept to support GNNT in Indonesia, particularly concerning digital-based costs. Consequently, Bank Indonesia has released the Indonesian Payment System Blueprint (BSPI) 2025, which has five visions realized through 5 working groups or main initiatives, with the Retail Payment System being one of them, designed to support the Cashless Society in Indonesia.

As a result of these advancements, there has been a requirement for toll road users and other transportation services to make non-cash payments. Furthermore, the popularity of online transportation services has soared, leading to a surge in e-payment. Numerous banks and companies have responded by introducing e-money services, and the number of merchants accepting e-money products has witnessed substantial growth. Non-cash payment tools have simplified financial activities and positively impacted daily routines, which has led to increased interest in using non-cash payments, generating a cashless society movement (Lukito, 2022). Moreover, in the digital era, especially in 2020, the cashless society has been supported by the high use of APMK (Payment Tool Using Cards) and the high amount of electronic money in circulation. According to a survey, Indonesian society has embraced digital payments by 79.4% (Singh et al., 2022).

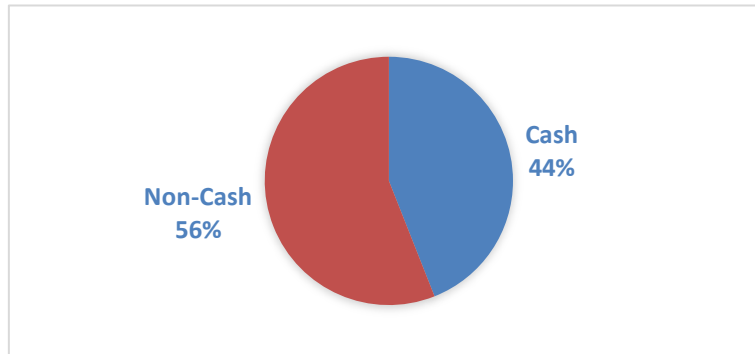


Figure 2. Graph of Cash and Non-Cash Payment Usage among Accounting Students of the 2019 Batch at UPN "Veteran" East Java.

The increase is also felt by the students of Universitas Pembangunan Nasional "Veteran" East Java. The author conducted a preliminary survey to gather evidence, as depicted in Figure 2. The author obtained the data from a sample of 253 accounting students from the 2019 batch at UPN "Veteran" East Java. The survey results indicate that accounting students at UPN "Veteran" East Java tend to prefer non-cash payments over cash payments, with a difference of only 12%. According to the survey, 56% of the students chose non-cash payments, while the remaining 44% opted for cash payments. Students who chose non-cash payments believed that it is easier, faster, and safer.

Non-cash payments also offer attractive promotions such as cashback and discounts. This aligns with the convenience of using QRIS payments, which are fast, easy to use for daily purchases, and provide assured security. This phenomenon is influenced by the high acceptance of technology owned by students so that adjustments to new technology are carried out more quickly. The effect of fast technology acceptance, influenced by the Technology Acceptance Model known as a theory by Davis in 1989. This model revolves around the concept of societal adaptation, focusing on the acceptance of technology by users (F,Davis, 1989). The TAM model explains the reciprocal relationship between beliefs about the usefulness and security of an information system and user convenience, behavior, and users of an information system.

Previous research in this study entitled Analysis of Determinants Intention to Use QRIS (Quick Response Code Indonesian Standard) as a E-Payment Technology by MSMEs In Padang City was included in a doctoral dissertation at Andalas University which was researched by Rahmi Andriana. The results of this study indicate that perceptions of the ease and benefits of using it statistically have a positive or significant effect on the decision variables to use QRIS-based electronic money, especially in e-payment in Padang City(Andriana. R, 2022). In addition, previous research conducted by Widyoretno Adiani in the journal Journal of Economics, Business, and Accountancy Ventura, Bandung Institute of Technology with the title "Cashless Society in Progress: capturing different generations' Perspectives toward external influence in e-wallet Usage" shows that understanding

behavior Consumers are very important because every aspect, from personal factors such as age to the service industry, can influence behavior, especially in terms of convenience. Based on the findings, researchers show that the older generation relies on government support in choosing e-wallet providers, while the younger generation trusts the recommendations of their peers and family members more (Adiani et al., 2021).

To attract the younger generation, it is necessary to increase trust and security supported by the government, for example by setting up multiple security procedures for service providers. Then in previous research by Arnoldus Dillon Hastono in the Binus Journal with the title "Influence of Cashless society Socialization Toward Trust Transaction Culture in Jakarta, Indonesia" shows that user trust, especially in terms of QRIS-based transaction security, has a significant effect on the development of a cashless society in the South Jakarta area (Dillon Hastomo & Aras, 2018). Additionally, prior research conducted by Wirda Saputri, as cited in the MES Management Journal, investigated the impact of the Technology Acceptance Model on student interest in utilizing the Indonesian Standard Quick Response Code (QRIS) as means of fostering a cashless society. The study found that the development of student interest in utilizing QRIS to promote cashless transactions in Indonesia influenced by the application of the Technology Acceptance Model (Seputri et al., 2023).

In previous research submitted by the author, it can be seen that there is a research gap. It is shown that previous research conducted by Rahmi Andirana and Widyoretno Adiani only conducted a cashless society research basis on the perspective of convenience and benefits in using QRIS-based payments, especially the difference between the younger generation which is more inclined to accept new technology. This young generation's explanation is also corroborated by Wirda Saputri's research showing that the application of the Technology Acceptance Model among students has a significant level of interest. So, the authors found a research gap to examine Perceptions of the ease of using QRIS for students. Besides that, researchers also added a new variable in cashless society research, namely the security variable for using QRIS which was strengthened by previous research from Arnoldus Dillon Hastono, and in research discussing cashless society in Indonesia, it is still relatively small. So, the researcher chose the title Perceived Convenience and perceived security of Using QRIS in Students' Cashless Society.

The purpose of the research about the perceived ease and security of using QRIS (Quick Response Code Indonesian Standard) toward a cashless society in Accounting Students at UPN "Veteran" East Java is to investigate the students' attitudes and perceptions regarding the adoption of QRIS as a cashless payment system. The research aims to assess the perceived ease of use and the level of security associated with QRIS among accounting students. By conducting this research, researchers can obtain new research, especially insights about the acceptance and adoption of QRIS among accounting students. These findings can be used to identify potential barriers or concerns that could hinder the widespread adoption of QRIS as a non-cash payment method. In addition, this research can provide recommendations and strategies for overcoming perceived difficulties or safety problems using QRIS identified by students. So, this research contributes to knowledge about the implementation of non-cash payment systems, especially the ease, and safety of using QRIS among accounting students. These findings can inform policymakers, educators, and stakeholders about the factors influencing QRIS acceptance and implementation, helping them make decisions to promote a cashless society in the context of Accounting Students at UPN "Veteran" East Java.

A. Literature Review and Hypothesis

1. Model Theory Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) theory establishes a connection between beliefs and behaviors influence by users' attitudes and actions toward technology (Davis, 1989). TAM is rooted in the Theory of Reasoned Action (TRA). In this TAM theory, the intention to use technology is determined by two factors, namely perceived ease of use and perceived usefulness. The purpose of this TAM Theory is to look at attitudes towards using technology which will determine interest in using technology. Technology systems that are easy to use and learn will only take a short time to use so that they have plenty of time to do other activities, resulting in performance effectiveness. Perceived Ease, According to Jogiyanto (2007) Perceived Ease is an individual who believes that the use of technology can facilitate their activities. Technology that is easy to learn, and understand, and the operating procedures are clear, so it is easy to use. If technology is easy to use and understand, then the individual will decide to use the technology.

Therefore, non-cash payment issuers should continue to make technological innovations related to the ease of using non-cash payments. These innovations, for example, how to operate it is simplified, made easier and more practical so that it is easy to learn, understand and understand and use. Prasetya and Putra (2020) state that this perception of convenience and benefits can affect a person's behavioral interest. According to Flavia'n and Guinali'u, security perception is a possibility of subjective trust where someone who believes their personal information will not be seen, stored, and manipulated by irresponsible parties while stored and in transit, giving rise to their confidence (C.Flavián & Guinaliú, 2006). When making payment transactions, especially the non-cash society (cashless society) must have and maintain good service quality for transactions, then the public is

more confident and creates public trust. Technology or systems can be hacked at any time, as well as the risk of data loss, and there are still not many merchants, so there are still many people who choose offline transactions because they are safer (Brahmana et al., n.d.).

2. Cashless Society

A Cashless Society refers to a payment system wherein financial transactions are conducted electronically or digitally, eliminating the need for physical payment (cash). Sweden is one example that has successfully implemented the Cashless Society concept intending to reduce crime and increase legal compliance. This success has sparked the interest of other countries, especially in Europe, to adopt the Cashless Society. The European Union has issued policies and laws to support the development of digital markets, e-commerce, and digital payments. They are also improving consumer and personal data protection, as well as cybersecurity (Yuvaraj S and N. D. Sheila Eveline, 2018). Positive public acceptance of the transformation from cash to cashless is also a contributing factor to the success of the Cashless Society in the EU (Achord, 2018).

In 2014, Bank Indonesia introduced the National Non-Cash Movement in Indonesia to promote and encourage the adoption of e-payment methods. Communities, businesses, and governments began to adopt cashless transactions with the emergence of various online payment methods. The goal is to facilitate easy, fast, secure, and coordinated transactions. With this development, digital payment technology continues to be developed to meet the needs of the community and companies in conducting cashless transactions.

3. Hypothesis Development

a. The Effect of Perceived Ease on Cashless Society

Ease is a person's belief that if they use a technology it will be free from effort (H.M. Jogiyanto, 2007). In electronic money, users will find it easy because they don't need to carry cash, and transactions are easy and fast. Ease can influence a person's decision in their interest in using it. Someone who believes that technology is easy to use will have an interest in using it. Conversely, if someone feels that technology is not easy to use, doubts arise about using it. Based on the provided description, Based on the information provided, we can formulate the following hypotheses.:

H1: Perceived convenience has a positive effect on the cashless society

b. The Effect of Perceived Security on Cashless Society

Perceived security is related to a threat that creates conditions, circumstances, or events that cause economic difficulties through data or networks that experience data corruption, denial of service, fraud, and abuse of authority. So good service quality in transactions will make users satisfied and generate trust. For a system or technology that has a high-security guarantee, users will believe in using it, otherwise, if a system or technology has vulnerable security, users will not be interested in trusting it. Based on the provided description, we can derive the following hypotheses:

H2: Perceived security has a positive effect on a cashless society

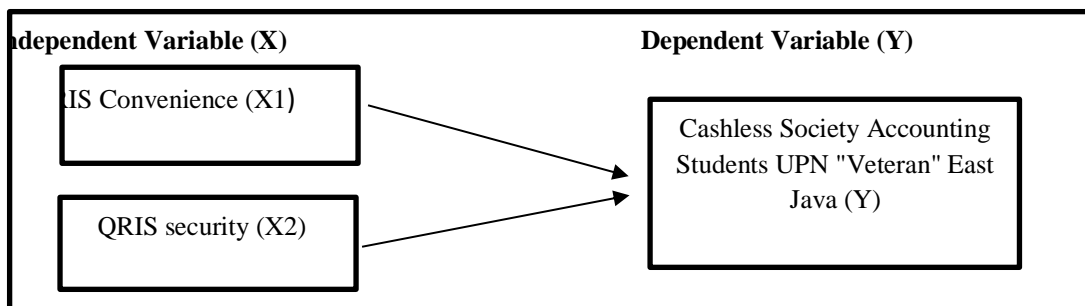


Figure 3. Frame of mind diagram

II. METHODS

A. Types of Research

- This study employs a quantitative research method. As mention by Sugiyono (2018), quantitative research is grounded in the positivist philosophy and aims to examine a particular population or sample. The researchers have opted for an associative research design, which seeks to establish the correlation between the perceived ease and security of QRIS (Quick Response Code Indonesian Standard) and the adoption of a cashless society. The data used in this research is primary data. Primary data is a data source that directly provides data to data

collectors (Sugiyono, 2018). Researchers collected primary data by distributing questionnaires through Google Forms. Primary data in this study consists of data on the effect of QRIS convenience and security on a cashless society among UPN "Veteran" East Java students. In addition, the secondary data used in this study include literature data obtained by researchers through a study of scientific journals, reference books, articles, and other sources of information related to research problems. Primary data was obtained by the author through a g-form with 84 correspondents with measurements using a Likert scale. All of these sources are used to build a theoretical framework for hypothesis formulation and further analysis. The population in this study were East Java "Veteran" National Development University students majoring in accounting class 2019 - 2020, totaling 520 students.

B. Data Collection Method

The sample in this study were students of the Faculty of Economics and Business majoring in Accounting S1 batches of 2019 and 2020 at the East Java "Veteran" National Development University, totaling 84 students. Determination of the number of samples in this study is to use the Slovin formula, namely:

$$n = \frac{N}{1 + N (e^2)}$$

$$n = \frac{520}{1 + 520 (0,1^2)}$$

$$n = \frac{520}{6,2}$$

$$n = 83,87 \approx 84$$

The data collection method utilized in this study involves the sampling method, where questionnaires are worn to gather data. The random sampling method is a sample collection method in which each member of the population has the same opportunity to become a member of the sample (Rangkuti, 2021). To obtain 84 samples, the researcher must have data on UPN "Veteran" East Java accounting students for the 2019-2020 class, then the authors randomized all 520 students to produce 84 selected students. Upon the selection of 84 students, the researcher will proceed to distribute the questionnaire. The study comprises two variables: the independent variable and the dependent variable. Independent variables are factors that provide an explanation or influence on other variables, whereas the dependent variable is the variable that is explained or influenced by the independent variable (Sugiyono, 2018). In this study, the variables analyzed included two variables, namely the independent variable and the dependent variable. The independent variable or independent variable in this study is Ease of Use (X1) and Safety of Use (X2). The dependent variable or dependent variable in this study is the cashless society of UPN "Veteran" East Java accounting students. In testing the proposed hypothesis, each variable needs to be given a clear size and definition first.

III. RESULTS AND DISCUSSION

This research investigates the correlation between two variables, X and Y, and adopts a quantitative research approach as it involves numerical data analysis. The data employed in this study is primary data collected through a survey. The survey is conducted using a questionnaire as a means of gathering information. Primary data refers to data collected directly by the researcher from the source or the location where the research subjects are present (Sugiyono, 2018). The data for this study was collected by the researcher using a questionnaire administered through Google Forms.

Table 1. distribution questionnaire

<i>Description</i>	<i>Jumlah</i>
<i>Questionnaires that have been distributed to researchers</i>	<i>502 questionnaire</i>
<i>Unused questionnaire (using the Slovin formula)</i>	<i>418 questionnaire</i>
<i>Questionnaires that can be used for research</i>	<i>84 questionnaire</i>

A. Validity test*Table 2. Validity Test results*

<i>Indicator</i>	<i>r -calculated</i>	<i>r-table</i>	<i>Description</i>
<i>X1.1</i>	<i>0,628</i>	<i>0,1786</i>	<i>Valid</i>
<i>X1.2</i>	<i>0,549</i>	<i>0,1786</i>	<i>Valid</i>
<i>X1.3</i>	<i>0,625</i>	<i>0,1786</i>	<i>Valid</i>
<i>X1.4</i>	<i>0,530</i>	<i>0,1786</i>	<i>Valid</i>
<i>X1.5</i>	<i>0,730</i>	<i>0,1786</i>	<i>Valid</i>
<i>X1.6</i>	<i>0,605</i>	<i>0,1786</i>	<i>Valid</i>
<i>X2.1</i>	<i>0,597</i>	<i>0,1786</i>	<i>Valid</i>
<i>X2.2</i>	<i>0,556</i>	<i>0,1786</i>	<i>Valid</i>
<i>X2.3</i>	<i>0,584</i>	<i>0,1786</i>	<i>Valid</i>
<i>X2.4</i>	<i>0,606</i>	<i>0,1786</i>	<i>Valid</i>
<i>X2.5</i>	<i>0,603</i>	<i>0,1786</i>	<i>Valid</i>
<i>Y.1</i>	<i>0,357</i>	<i>0,1786</i>	<i>Valid</i>
<i>Y.2</i>	<i>0,458</i>	<i>0,1786</i>	<i>Valid</i>
<i>Y.3</i>	<i>0,521</i>	<i>0,1786</i>	<i>Valid</i>
<i>Y.4</i>	<i>0,630</i>	<i>0,1786</i>	<i>Valid</i>
<i>Y.5</i>	<i>0,534</i>	<i>0,1786</i>	<i>Valid</i>
<i>Y.6</i>	<i>0,590</i>	<i>0,1786</i>	<i>Valid</i>
<i>Y.7</i>	<i>0,652</i>	<i>0,1786</i>	<i>Valid</i>
<i>Y.8</i>	<i>0,584</i>	<i>0,1786</i>	<i>Valid</i>

Source: Validity test SPSS 26, 2023

According to the results presented in Table 2, the validity testing of the questionnaire, which includes three variables, was completed by 84 respondents in this study. To determine which questionnaires are valid and invalid, it is necessary to establish the corresponding table. The r-table value, which is determined using the formula $df =$

N-2, can be calculated for this study as follows: with a sample size of 84, the degrees of freedom (df) would be 82, resulting in an r-table value of 0.1786. Based on the validity calculation results presented in the table above, it is evident that the calculated correlation coefficient (r) is greater than the corresponding r-table value for 19 questionnaires. This indicates that these 19 questionnaires exhibit validity, as their calculated correlations are statistically significant.

B. Reliability Test

Table 3. Reliability Test Results

<i>Variable</i>	<i>Cronbach's Alpha</i>	<i>N of Items</i>	<i>Description</i>
<i>Perception of Convenience (X1)</i>	<i>0,682</i>	<i>5</i>	<i>Reliable</i>
<i>Security Perception (X2)</i>	<i>0,781</i>	<i>4</i>	<i>Reliable</i>
<i>Cashless Society (Y)</i>	<i>0,604</i>	<i>3</i>	<i>Reliable</i>

Source: Reliability test SPSS 26, 2023

The data presented in Table 3 indicates that all variables can be considered reliable as they possess a Cronbach's Alpha value exceeding 0.6.

C. Descriptive statistics

Table 4. Descriptive statistic Results

<i>Description</i>	<i>N</i>	<i>Min.</i>	<i>Max.</i>	<i>Mean</i>	<i>Std. Deviation</i>
<i>Perception of Convenience (X2)</i>	<i>84</i>	<i>15</i>	<i>30</i>	<i>22.48</i>	<i>3.525</i>
<i>Security Perception (X2)</i>	<i>84</i>	<i>13</i>	<i>25</i>	<i>16.50</i>	<i>3.143</i>
<i>Cashless Society (Y)</i>	<i>84</i>	<i>15</i>	<i>40</i>	<i>12.90</i>	<i>5.237</i>
<i>Valid N (listwise)</i>	<i>84</i>				

Source: Descriptive statistic Results SPSS 26, 2023

Based on table 4, shows that out of 84 sample data, the data has a high mean value and is close to the maximum value, indicating that the majority of respondents answered agree to strongly agree with that variable. Additionally, it has a mean value that is greater than the standard deviation, indicating a low deviation of the data, resulting in a uniform distribution of values.

D. Classic Assumption Test

1. Normality test

Table 5. Kolmogorov-Smirnov Test Normality Test Results

<i>One-Sample Kolmogorov-Smirnov Test</i>		
<i>Unstandardized Residual</i>		
<i>N</i>		<i>84</i>
<i>Normal Parameters,b</i>	<i>Mean</i>	<i>.0000000</i>
	<i>Std. Deviation</i>	<i>944.5351564</i>
<i>Most Extreme Differences</i>	<i>Absolute</i>	<i>.086</i>
	<i>Positive</i>	<i>.071</i>
	<i>Negative</i>	<i>-.086</i>
	<i>Test Statistic</i>	<i>.086</i>
	<i>Exact Sig. (2-tailed)</i>	<i>.180</i>

Source: Normality Test SPSS 26, 2023

Based on the findings attendance in Table 5, the normality test conducted using the Kolmogorov-Smirnov method with an exact significance approach yielded a value of 0.180. Since this value exceeds the significance level of 0.05, it can be concluded that the regression method utilized in this study satisfies the assumption of normality.

2. Multicollinearity Test

Table 6. Multicollinearity Test Coefficients

<i>Collinearity Statistics</i>		
<i>Model</i>	<i>Tolerance</i>	<i>VIF</i>
<i>Perception of Convenience (X1)</i>	<i>.817</i>	<i>1.224</i>
<i>Security Perception (X2)</i>	<i>.817</i>	<i>1.227</i>

a. Dependent Variable: *Cashless Society*

Source: Multicollinearity Test Coefficients SPSS 26, 2023

Based on the information provided in Table 6, it is evident that both the convenience variable and safety variable have a tolerance value greater than 0.1, indicating low multicollinearity. Additionally, their VIF (Variance Inflation Factor) values are lower than 10, further confirming the absence of significant multicollinearity issues. This indicates that the study is not affected by multicollinearity, and it is appropriate to conclude that there are no significant intercorrelations among the independent variables.

3. Heteroscedasticity Test

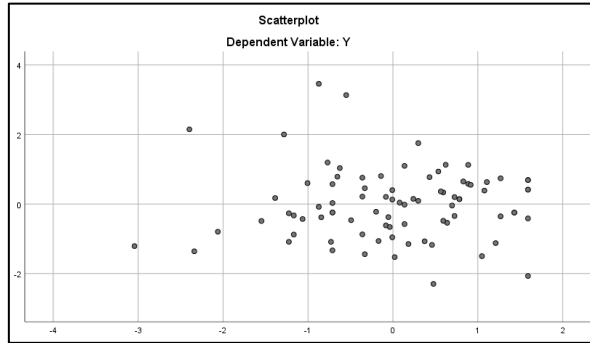


Figure 2. Scatterplot Graph

Source: Scatterplot Graph SPSS 26, 2023

Based on the information provided regarding Figure 2, the scatterplot graphic displays an unclear pattern with data points scattered both above and below the number 0 on the Y-axis. Based on this observation, it can be concluded that the data does not exhibit symptoms of heteroscedasticity.

4. Autocorrelation Test

Table 7. Autocorrelation Test

Durbin-Watson	1.695
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Source: Autocorrelation Test, 2023

According to Table 7, the Durbin-Watson (DW) value is 2.153. This value will be compared to the significance value of 5%, with the sample size of 84 (n) and the number of independent variables being 2 (k = 2). Consequently, we obtain the values of $D_L = 1.597$ and $D_U = 1.694$. As the DW value of 2.153 is greater than the upper limit (D_U) of 1.694 and less than $4 - D_U$ (4 - 1.694), it can be concluded, based on the decision table, that we cannot reject the null hypothesis (H_0), which states that there is no positive or negative autocorrelation (Ghozali, 2018).

E. Multiple Linear Regression Analysis

Table 8. Results of Multiple Linear Regression Analysis

Model	Coefficients ^a				Sig.	
	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta	t		
1	(Constant)	1.550	1.473		1.052	.295
	Perception of Convenience (X1)	.285	.069	.343	4.134	.000
	Security Perception (X2)	.300	.062	.403	4.862	.000

Dependent Variable: Cashless Society (Y)

Source: Primary data processed, 2023

Based on the outcomes presented in Table 8, the multiple linear regression analysis equation model is derived as follows: $Y = 0,058 + 0,712 X1 - 0,604 X2$

F. Hypothesis testing

Table 9. Coefficient of Multiple Determination (R^2)

The Multiple Coefficient of Determination,	'R-Square
	0.709

Source: Coefficient of Multiple Determination Test SPSS 26, 2023

From Table 9, it is evident that the value of R Square (R^2) is 70.9% or 0.709. This indicates that approximately 70.9% of the variation in adoption of a Cashless Society can be accounted for by the variation in perceived convenience and perceived security. The remaining 29.1% of the variations are attributed to other factors that fall outside the scope of this study.

1. Goodness Of Fit (F Test)

Table 10. Goodness of Fit Test Results

Variable	Sig.
Cashless Society on Accounting Students of UPN "Veteran" East Java (Y), Ease of Perception (X1), Security Perception (X2).	0.00

Source: F Test SPSS 26, 2023

According to the data presented in Table 10, the significance value is less than 0.05, specifically 0.00. This signifies that the multiple linear regression model employed in this study is statistically significant and appropriate for use.

2. Hypothesis Test (t-test)

Table 11. Hypothesis Test Results

Model	Sig.
(Constant)	.032
Ease of Perception	.000
Security Perception	.000

Source: T Test SPSS 26, 2023

From Table 11 it can be seen:

1. The Ease of Perception variable with a significance value of 0.000 is smaller than 0.05. This shows that perceived convenience affects a Cashless Society.
2. The significance value of the security perception variable is 0.000 smaller than 0.05. This shows that perceived security affects a Cashless Society.

The results of the data analysis show that the first hypothesis, namely "The Effect of Perceived Convenience on a Cashless Society" is declared accepted. This can be explained that the perception of convenience influencing a cashless society based on the TAM (Technology Acceptance Model) theory which states that in accepting a technology, perceived ease of use (convenience) is needed in its operations (Ghani-Abdul et al., 2019). Perceived ease of use refers to an individual's subjective perception of the quantity of effort required to comprehend and operate computer programs. Perceived ease of use serves as an evaluative criterion to assess an individual's belief regarding the ease with which computer programs can be understood and utilized. It helps determine the subjective perception of the level of effort required in interacting with and navigating through these programs. Various indicators can be used to assess perceived ease of use, such as flexibility, simplicity in learning, ease of operation, and the ability to have control over tasks. Therefore, perceived convenience can be interpreted as an indicator that is felt when the technology used is easy to understand, and learn about, and has a clear function so that it can influence public interest (Prasetya & Putra, 2020).

The findings of this study indicate that UPN "Veteran" Accounting Students in East Java have high technology acceptance with ease in using technology that helps facilitate activities and other activities. It can also be seen in the research data of accounting students, both from the 2019 class and the 2020 class, each of which has increased technology acceptance, especially in the next generation. The ease of using QRIS arises because the development of the technology used is increasingly sophisticated so that the technology is very easy to understand, can be learned and has clear functions, and focuses more on how the user experience is towards using the technology itself. Although research proves that perceptions of convenience affect a cashless society, there is a tendency that correspondents do not to feel convenience, especially in terms of transactional process indicators by simply touching the smartphone screen. The findings of this study are that not everyone can operate the application properly and are influenced by correspondents who do not read the instructions for use (user manual) and descriptions of the applications used. So that the information obtained by correspondents is not maximal.

The results of the data analysis show that the second hypothesis, namely "The Effect of Perceived Security on the Cashless Society" is declared accepted. This is based on the perceived secured theory, namely the feeling of being protected from a threat that creates circumstances, conditions, or events that have the potential to cause negative aspects both socially and economically from the use of information technology (Afghani & Yulianti, 2017). Security aspects include confidentiality, integrity, and availability, so the use of technology, especially in transactional matters, requires good control in running applications safely. This finding is in line when technology is created there will be many challenges, especially in terms of security of use. The security of using QRIS is very important for the operation of QRIS technology as a tool that facilitates transactions and is reliable. The number of cases of information theft in modern times demands more reliable security, especially in transactional technology, so security is needed that can be updated regularly. With this factor, there is a tendency for correspondents to disagree with the security indicators of QRIS users in knowing illegal transactions. This is because there are still many cases of theft of customer data information via m-banking and QRIS and the handling of these problems is still not optimal.

V. CONCLUSION

Based on the results of analyzing and testing the data in the study, regarding the perceived ease and perceived security of using QRIS on Cashless Society in accounting students of UPN "Veteran" East Java, the following conclusions are obtained that Perceived ease of use based on QRIS affects Cashless Society on accounting students of UPN "Veteran" East Java and Perceived security of QRIS-based use affects the Cashless Society of UPN "Veteran" East Java accounting students. Based on the research findings, there are several recommendations. First, it is advised that the Indonesian government focuses on enhancing the development of QRIS-based payments by expanding the reach of transactions beyond cities and urban areas, ensuring accessibility in rural areas as well. This will make transactions easier and more secure. Second, banking institutions should continually update their service systems, particularly in addressing customer information theft issues. Third, it is important for the public to actively maintain and utilize QRIS payment facilities for maximum operation. Lastly, future researchers are encouraged to conduct comparative studies on cashless societies in Indonesia and other countries, particularly in Southeast Asia. This will provide insights into the development of cashless societies in Indonesia compared to other Southeast Asian nations and investigate additional factors that may influence the adoption of cashless payments.

This research faces several limitations that need to be considered. First, the number of studies discussing a cashless society in Indonesia is still limited, relying more on foreign research than domestic research. In addition, this research is also limited in terms of the sample and the range of years of data used. Second, this study uses multiple linear regression methods which are rarely used in the context of a cashless society. The initial phase of

the research involved using questionnaire data from UPN Veteran East Java accounting students to assess perceptions of ease and safety in using QRIS and linking it to a cashless society. The author has difficulty accessing similar research and studying relevant formulas. It should be remembered that these limitations may affect the interpretation and generalization of the research results. Therefore, it is necessary to carry out further research and use a more varied method to gain a deeper understanding of the cashless society in Indonesia.

This study aims to investigate the impact of the Technology Acceptance Model, with a focus on the perceptions of ease of use and security of Quick Response Code Indonesian Standard (QRIS), on the adoption of Cashless Society among accounting students at UPN "Veteran" East Java. The study aims to explore how the perceived ease of use and security of QRIS influence the willingness of accounting students to embrace a cashless payment system. The implications of this research suggest that the government, through the central bank of Indonesia, Bank Indonesia, should evaluate the performance of QRIS and enhance its promotion and efficiency among the public. During increasing technology usage, which plays a crucial role in various aspects of society and the nation, it is essential to have proper and wise control over the digitalization process. Bank Indonesia, as the central bank, is expected to formulate policies and foster the development of QRIS to ensure the maximum digital transactional growth and enable all segments of society to utilize it and benefit from it.

ACKNOWLEDGMENTS

The author would like to thank UPN "Veteran" East Java accounting students for their support in conducting research for journal writing. The author also expresses his deepest gratitude to Mr. Gideon for his guidance to the author.

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The Analysis of Parking Facility Characteristic Areas for Academic Activity at Universitas Internasional Batam

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ABSTRACT

Purpose: Parking is an essential need that the community has for a motorist. The density of parking lots is often a problem with parking needs in a place. Universitas Internasional Batam, one of the campuses in Batam City, has a relatively small parking area. Thus, this study aims to analyze the need for parking lots in the Universitas Internasional Batam environment.

Design/methodology/approach: The research method used is systematic observation guided by the Parking Space Unit (SRP) 1996. This research was carried out at night during the effective day of academic activity at Universitas Internasional Batam.

Findings: Based on the results of studies that have been carried out, it is concluded that the area of land to be carried out for car parking planning at Universitas Internasional Batam covers an area of 8,169.45 m² and has met the needs. In addition, the land to be planned for motorcycles parking covering an area of 1,574.69 m² has also met the needs.

Research limitations/implications: The planning and parking area at Universitas Internasional Batam have met vehicle parking needs.

Practical implications: Factors due to the density of parking lots at Universitas Internasional Batam cause many vehicles to park on the shoulder of the road (on-street).

Originality/value: This paper is an original work.

Paper type: Research papers.

Keyword: *Academy Activity, Campuses, Parking Characteristics*

Received : May 4th

Revised : May 15th

Published : July 31th

I. INTRODUCTION

The development of international parking is not just about the placement of temporary vehicles. At this time, vehicle parking lots are necessary for vehicle owners in big cities (Wang et al., 2017). In densely populated areas such as cities, problems regarding lack of space or parking lots often occur due to the limited availability of vehicle parking facilities (Paidi et al., 2018). When vehicle technology called self-driving (Badue et al., 2021) is not yet complete, opportunities open for cities to take the lead in forming vehicles to be used and structure provided to them (Winter et al., 2021). As time goes by, many new solutions have emerged to overcome these problems, one of which is Smart Building. Smart Building System is the use and application of information technology to control devices or vehicles in a building (Yu et al., 2021).

Vehicle parking in Indonesia has existed since the beginning of independence. At that time, vehicle parking activities grew spontaneously in the surrounding community and did not have a legal prohibition in the management of parking lots for vehicles. The term in this parking activity is also referred to as "Jaga Otto". Along with technological advances and economic developments in Indonesia, people's ability to buy private vehicles is also increasing (Münzel et al., 2019). In recent years, many authors or researchers have proposed a computer vision-based approach to solving problems related to vehicle parking management (Almeida et al., 2022) This parking problem arises due to several factors, including the lack of parking space (Mikusova et al., 2020)

Sometimes, the difficulty of finding a place to park the vehicle makes the layout of the vehicle irregular in a place. This is because motorists tend to take the opportunity to allow their vehicles to park even though it will be dangerous for their vehicles. In addition, this will undoubtedly interfere with road performance for other motorists because they must reduce the speed of their vehicles to be careful that there is a buildup of vehicles.

Batam City is one of the largest cities in the Riau Islands province. Batam Island has a very strategic geographical landscape. The city in the Riau Islands has a land area of about 715 km², and the overall area is estimated to reach 1,575 km² (Batam, 2022). Batam City has relatively large land and is not too dense because there are still natural areas containing trees. From the data from the Batam City Transportation Agency survey, there are 555 parking points in the Batam area. At first, this parking point only amounted to 202 points, and now there have been 353 vehicle parking points in Batam City (Dewi Haryati, 2017).

In recent years, parking studies have aimed to measure the relationship between parking costs (Zhuge et al., 2019) and or economic factors to organize more acceptable and balanced transportation policies in the community (Dowling et al., 2017) (Meng et al., 2018). One of the complex problems in finding parking locations is in educational environments such as universities which often cause many losses, disrupting road performance and other alternative policies (Gurbuz & Cheu, 2020). Based on the results of field observations on the campus of Universitas Internasional Batam, the lack of comfort for car and motorcycle users is caused by the dense parking space available. The lack of space for parking is caused by the imbalance in the number of parking lots with students carrying vehicles, which later will cause various kinds of problems. As a result, to be an alternative to this problem, many student vehicles are parked in places that should not be like the body of the road. This is a bit annoying for other motorists passing by because part of the road section has been used by motorists who park.

The density of vehicles parked in the campus environment of Universitas Internasional Batam causes a lack of parking space which is a problem for students who bring vehicles to campus because of difficulties and are pretty risky in their vehicles. Therefore, to review this problem, a study and evaluation are needed to determine the need for parking spaces that the Universitas Internasional Batam campus must provide. The evaluation in question aims to determine the density of motorists on the campus of Universitas Internasional Batam and determine the level of need for parking facilities on available land in the campus environment of Universitas Internasional Batam. This research is expected to help to review the problem of the availability of parking facilities in the campus area of Universitas Internasional Batam. Suppose the parking facilities are sufficient to accommodate existing vehicles. In that case, this will optimize the facilities needed for parking lots and provide a sense of comfort for students and visitors in the campus environment of Universitas Internasional Batam.

A. Literature Review

1. Parking

Parking space facilities are one of the needs that can affect the comfort and safety of vehicle users (Scheck et al., 2022) A driver tends to find a place to park his vehicle as close to his destination as possible (Rifai et al., 2021) This is a concern for the campus environment of Universitas Internasional Batam. The increasing volume of motorists carrying private vehicles will undoubtedly increase the need for parking spaces in a location (Levin et al., 2020) Based on the facilities, parking is divided into two: parking not on the road body (off-street) and parking on the street body (on-street). Off-street is a vehicle parking location not on the road, with parking available both in buildings and on open land. However, this type of parking requires a cost as measured by how long the vehicle is parked in the area (Biswas et al., 2017). At the same time, parking on the road body (on-street) is parking on the part of the road body whose position tends not to be organized but does not require a fee (Fokker et al., 2022) On-street parking (Rifai, 2021).

Two parking lots are located in the campus environment of Universitas Internasional Batam, namely on-street and off-street. Although only a few vehicles are parked on-street, this will reduce the effectiveness of the existing road. Therefore, the need for parking space on the campus of Universitas Internasional Batam is an absolute condition. This interest is expected to solve several problems, such as congestion, delays, and queues. The lack of parking space will cause vehicles to park on the shoulder of the nearby road, interfering with the smooth traffic flow of other motorists (Singh & Kumar, 2022). To accommodate the increase in the number of private vehicles, the need for parking is significant for every faculty. Not only motorcycles, but this campus also has many car users who carry out parking activities during the effective day of lectures, so qualified parking facilities are needed.

2. Parking Characteristics

Parking is necessary for every motorist because it requires a place to rest their vehicles. Various types of parking vary in each place because it adapts to the situation and conditions. Of course, the type of parking also differs in the type of vehicle that can park its vehicle. Different types of parking have different characteristics and have their characteristics (Brown et al., 2020). Parking characteristics are specifications owned by various types of parking. These characteristics can affect the type of situation, vehicle, and policy that applies to a parking

location. This can be seen in various situations that show significant differences in the type of vehicle. Parking characteristics have a variety of parameters, including parking accumulation, duration, turnover rate, usage rate, parking volume, parking capacity, and parking index (Rifai Andri Irfan & Hafis Khairul, 2021). These parameters can be viewed by modeling the type of parking in a specific location and paying attention to the type of vehicle.

Parameters that can be reviewed from the parking situation can determine the standard of parking needs in a location. One of the things that can be a difference in the standard of parking needs is the location of parking. The relationship between parking needs and the location is the basis for forming a parking space model according to the parking situation's characteristics (Kazazi Darani et al., 2018) The modeling of the parking space can also be determined from the characteristics of the location so that this can determine the final result. Good parking certainly has characteristics that are by international parking standards. In addition, parameters are also of particular concern in creating a systematic parking system. Thus, characteristics become the main determinants of parking in a location. A poor parking system infrequently occurs due to a lack of understanding of parking characteristics.

3. Parking Lot Analysis

The main index in the construction of a park system island. The land is a primary need for vehicle volume collectors, so that it can be a good location for parking. Parking lots can be decisive for a systematic parking system (Peng et al., 2017) Because this can create much space to rest the vehicle. The large parking spaces can also create comfort and safety for vehicles parking in a location. Narrow land is a very influential thing in the performance of parking spaces. So important is the land in the park is so important that it causes many parking problems in locations with narrow land. In addition to being challenging to accommodate the volume of vehicles, narrow land can undoubtedly hinder the flow of vehicle movement and cause road performance problems (De Ryck et al., 2020) If this is not addressed, the problem will undoubtedly continue to occur and can cause losses to many people, especially in their vehicles.

Nevertheless, a large parking lot may not necessarily create a reasonable parking system. This is because a sound parking system must, of course, have good flow management and management. In addition, parking management can certainly be an alternative thing to overcome land problems at parking locations (Bahrami et al., 2021) Given several cases in various locations, there are constraints on parking lots the only solution to this problem is the management of park management performance. The parking system can be a particular concern for parking locations with limitations in terms of parking spaces. Narrow land is not a problem for parking management, so parking performance can still run well as it should. Several things also need to be considered so parking performance on narrow land can run well. One of the things is to pay attention to the type and time of the vehicle within a certain period (Małeckki, 2018). Thus, cases like this can be solved despite inadequate land conditions.

II. METHODS

In this study, the method used was to use the SRP 1996. Data is one of the main strengths in compiling scientific research and modeling (Rifai et al., 2015) This guideline is a reference in carrying out field data collection and research on procuring problems the systematic process of scientific research must begin with correctly identifying the problem (Rifai et al., 2016). For data collection on parking at Universitas Internasional Batam, a systematic observation method reviews two-wheeled and four-wheeled vehicles that park on campus land.

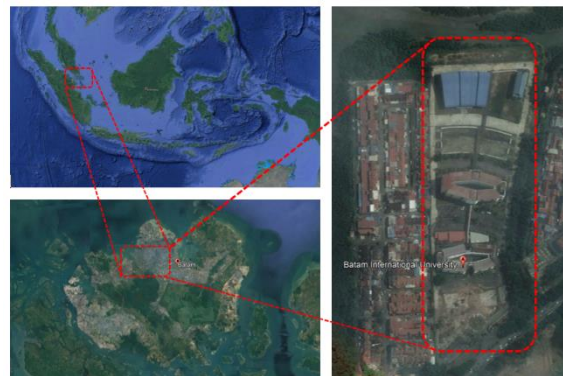


Figure 1 - Research Location at Universitas Internasional Batam

Observation of the use of parking facilities on campus is carried out on vehicles used by students, lecturers, and employees at Universitas Internasional Batam. The observation was carried out on Friday, starting from 17.00 WIB to 22.00 WIB. This is because the effective hours of lectures at Universitas Internasional Batam are curfews. The tendency and culture of students in Batam are to work while studying, so evening lecture hours, especially at Universitas Internasional Batam, are very crowded compared to morning and afternoon.



Figure 2 - Parking Lot at Universitas Internasional Batam

A. Parameters

According to the Directorate General of Land Transportation (1996), the characteristic parking parameters that need to be known are calculation, parking duration, and usage rate. In addition, the parameters used in the parking characteristics research are about the parking lot itself, namely volume, capacity, and parking index. Accumulation of parking is valuable information to find out the number of vehicles parked at a particular time in a parking building or yard. This accumulation is used to find out the design of the parking space needed. Durasi parking data is used to know how long it takes for a vehicle to be parked in a certaparticulare. The turnover and usage rates are the results of dividing the number of vehicles using the parking space at any given time by the number of available parking spaces.

Another parameter to assess parking characteristics is available land at a parking location. Parking volume is information about the number of vehicles using a particular parking space per unit of time. The capacity car is the maximum number of vehicles a parking lot can know during the service time. Meanwhile, parking is a measure that expresses the use of the length of the road and is expressed in the form of a per percentage of the space occupied by the vehicle.

B. SRP (Parking Space Unit) and Standard Parking Space Needs

According to the SRP 1996, a Parking Space Unit (SRP) is an effective placement measure for vehicles (cars, buses/trucks, and motorcycles), as well as a rider-free space to open vehicle doors as wide as possible. Based on figure II.2 about the parking space for passenger cars quoted from SRP 1996, has a description, namely the total width of the vehicle (B), the total length of the vehicle (L), the width of the door opening (O), the longitudinal directional clearance of -8-10 (a1, a2), and the lateral directional clearance (R). In addition, units of king spaces on motor vehicles, according to the SRP 1996, are attached.

Standard parking space requirements differ depending on several things, applicable services and rates. Based on research by the Directorate General of Land Transportation, activities and standards for parking needs for universities or schools are divided into two groups: lecturers or teachers and workers who work in the school or college and students or students. This parking need is reviewed from the number of students because most campus visitors who use parking facilities are students of Universitas Internasional Batam. As stated in the SRP 1996, from the results of a study by the Directorate General of Land Transportation table (e), Schools/Universities states that if the number of students (people) is 3000, the required SRP is 60, and for the number of students as many as 12000 then the required SRP is 240.

C. Parking Pattern

A parking pattern is a form or modeling of parking used at a location to accommodate vehicles that will park. Usually, the parking pattern will be determined according to the needs or problems contained in the location. The application of parking patterns should also not be determined without calculating the problems or consequences caused. Applying improper parking patterns will result in various things, such as hampering road performance, disturbing other motorists who pass by, and much more.

Parking patterns have variations that can be applied according to the needs of the field, one of which is double-sided parking. This parking pattern is a parking pattern that applies when sufficient space is available.

Two parking patterns have been specified in the SRP 1996, which form the 90° angle described in Figure II.12 of the SRP 1996. In addition, parking patterns form angles of 30°, 45°, and 60° as described in figure II.25 in the SRP 1996.

III. RESULTS AND DISCUSSION

This study aims to analyze the need for parking spaces for two-wheeled vehicles analyzes the need for parking spaces for two-wheeled parking characteristics and parking lots. This analysis was carried out to get the numbers of the parking index, parking duration, and parking space needs. This analysis uses data on the area available for car and motorcycles parking and the number of vehicles entering and leaving the parking lot, as well as parking lot units (SRP), used to calculate the needs of each type of parking space that parks vehicles in the campus environment of Universitas Internasional Batam.

Table 1 - Results of the UIB Campus Citizen Data Survey in 2022

<i>Description</i>	<i>Number of people</i>
<i>Lecturer</i>	<i>222</i>
<i>Employee</i>	<i>64</i>
<i>Mahasiswa</i>	<i>3895</i>
<i>Total</i>	<i>4181</i>

A. Results of Analysis of Car Parking Spaces

From the data obtained through observations in the parking lot of Universitas Internasional Batam, which was analyzed in November 2022, there are three parking spots for four-wheeled vehicles, and it is estimated that the total area of the parking space is 8,169.45 m² at Universitas Internasional Batam. From the data on the entry and exit of four-wheeled vehicles and after the analysis, several characteristics can be calculated, including the parking index, parking duration, and parking space needs. The parking duration obtained from the observation results can be calculated through data on four-wheeled vehicles entering and having been in the same direction as the exit time, data of $9824.4/90 = 109.16$ minutes as many as 90 vehicles and obtained an average duration of about 1.81 hours. Then the parking index from the data in table (2) is known as parking accumulation x 100% divided by available parking spaces, $90 \times 100 / 310 = 2.93$. Parking needs are equal to the number of vehicles, so the results obtained from the parking were multiplied by the average duration of parking/length of observation time of $90 \times 1.81 / 5 = 32.58$ vehicles.

Table 2 - Calculation Results of Characteristics of Four-Wheeled Vehicles

<i>Time</i>	<i>Enter</i>	<i>Out</i>	<i>Accumulated Parking</i>	<i>Volume</i>
<i>17.00 - 17.15</i>	<i>5</i>	<i>0</i>	<i>5</i>	<i>5</i>
<i>17.15 - 17.30</i>	<i>6</i>	<i>0</i>	<i>11</i>	<i>11</i>
<i>17.30 - 17.45</i>	<i>8</i>	<i>1</i>	<i>18</i>	<i>19</i>
<i>17.45 - 18.00</i>	<i>13</i>	<i>2</i>	<i>29</i>	<i>32</i>
<i>18.00 - 18.15</i>	<i>9</i>	<i>3</i>	<i>35</i>	<i>41</i>

18.15 - 18.30	9	6	38	50
18.30 - 18.45	5	0	43	55
18.45 - 19.00	5	2	46	60
19.00 - 19.15	3	2	47	63
19.15 - 19.30	4	7	44	67
19.30 - 19.45	5	4	45	72
19.45 - 20.00	3	3	45	75
20.00 - 20.15	5	2	48	80
20.15 - 20.30	4	3	49	84
20.30 - 20.45	0	5	44	84
20.45 - 21.00	0	8	36	84
21.00 - 21.15	3	5	34	87
21.15 - 21.30	2	7	29	89
21.30 - 21.45	1	13	17	90
21.45 - 22.00	0	17	0	90
<i>Total</i>	<i>90</i>	<i>90</i>		

Based on the Parking Space Unit (SRP) of four-wheeled vehicles of $2.30 \times 5.00 = 11.5$ m², with the number of vehicles based on the observation results is 90 vehicles, and the campus land availability area is 8,169.45 m², where the land area for car parking space is needed of $90 \times 11.5 = 1,035$ m² less than 8,169.45 m² (meet).

B. Results of Analysis Bicycle Parking Space Motor

The data obtained through observations in the parking lot of Universitas Internasional Batam, which was analyzed in November 2022 and carried out in a parking lot for two-wheeled vehicles, is estimated to be the total parking space area is 1,574.69 m² at Universitas Internasional Batam. The results obtained include the duration of parking with the calculation of the total time from the data of motorcycles entering and exiting the parking area and matched with the time, then obtained $8989.2 / 120 = 74.91$ minutes. The average parking duration of 120 vehicles entering the campus area is 1.24 hours. The parking index is obtained by calculating the accumulated parking $\times 100\%$ / available parking space with a value of $120 \times 100 / 906 = 13.24$. In addition, parking needs are obtained by calculating the number of vehicles that multiplied parking by the average duration of parking/observation time of $120 \times 1.24 / 5 = 29.76$ vehicles.

Table 3 - Data from the results of the Two-Wheeled Vehicle Survey (Observation Results, 2022)

<i>Time</i>	<i>Enter</i>	<i>Out</i>	<i>Accumulated Parking</i>	<i>Volume</i>
<i>17.00 - 17.15</i>	<i>7</i>	<i>3</i>	<i>4</i>	<i>7</i>
<i>17.15 - 17.30</i>	<i>3</i>	<i>0</i>	<i>7</i>	<i>10</i>
<i>17.30 - 17.45</i>	<i>9</i>	<i>5</i>	<i>11</i>	<i>19</i>
<i>17.45 - 18.00</i>	<i>10</i>	<i>4</i>	<i>17</i>	<i>29</i>
<i>18.00 - 18.15</i>	<i>11</i>	<i>7</i>	<i>21</i>	<i>40</i>
<i>18.15 - 18.30</i>	<i>20</i>	<i>10</i>	<i>31</i>	<i>60</i>
<i>18.30 - 18.45</i>	<i>8</i>	<i>4</i>	<i>35</i>	<i>68</i>
<i>18.45 - 19.00</i>	<i>5</i>	<i>0</i>	<i>40</i>	<i>73</i>
<i>19.00 - 19.15</i>	<i>5</i>	<i>2</i>	<i>43</i>	<i>78</i>
<i>19.15 - 19.30</i>	<i>9</i>	<i>9</i>	<i>43</i>	<i>87</i>
<i>19.30 - 19.45</i>	<i>7</i>	<i>3</i>	<i>47</i>	<i>94</i>
<i>19.45 - 20.00</i>	<i>8</i>	<i>4</i>	<i>51</i>	<i>102</i>
<i>20.00 - 20.15</i>	<i>5</i>	<i>5</i>	<i>51</i>	<i>107</i>
<i>20.15 - 20.30</i>	<i>3</i>	<i>3</i>	<i>51</i>	<i>110</i>
<i>20.30 - 20.45</i>	<i>0</i>	<i>7</i>	<i>44</i>	<i>110</i>
<i>20.45 - 21.00</i>	<i>0</i>	<i>6</i>	<i>38</i>	<i>110</i>
<i>21.00 - 21.15</i>	<i>2</i>	<i>9</i>	<i>31</i>	<i>112</i>
<i>21.15 - 21.30</i>	<i>1</i>	<i>8</i>	<i>24</i>	<i>113</i>
<i>21.30 - 21.45</i>	<i>4</i>	<i>14</i>	<i>14</i>	<i>117</i>
<i>21.45 - 22.00</i>	<i>3</i>	<i>17</i>	<i>0</i>	<i>120</i>
<i>Total</i>	<i>120</i>	<i>120</i>		

Based on the Parking Space Unit (SRP), two-wheeled vehicles are = $0.75 \times 2.00 = 1.5 \text{ m}^2$, with the number of vehicles based on the observation results, is 120 vehicles, and the campus land availability area is 1,574 m²,

where the land area for car parking space is $120 \times 1.5 = 180 \text{ m}^2$ less than $1,547 \text{ m}^2$ (meet). The results of a study conducted on Friday, November 25th, 2022, between 17.00 and 22.00 WIB showed that as many as 90 four-wheeled vehicles entered the parking area. Includes parking parameters, namely an average duration of 1.81 hours, a parking index of 20%, and the number of parking needs is 32.58 vehicles, so the area of parking area needed is calculated using the equation wide of parking area SRP x total of vehicles which is $2.30 \times 5.00 \times 90 = 1,035 \text{ m}^2$. With a total parking area of $8,169.45 \text{ m}^2$ which meets the needs. In addition, according to a survey regarding two-wheeled vehicles conducted on Friday, November 25, 2022, at 17 o'clock. 00 – 22. 00 WIB, as many as 120 motorcycles arrived at the motorcycle parking area with an average duration of 1.24 hours and 13% parking. Therefore, the equation calculates the required parking space, parking money with the SRP equation x number of vehicles = $0.75 \times 2.0 \times 120 = 180 \text{ m}^2$. The reusable parking fee is 50 m^2 to fit the required surface.

IV. CONCLUSION

Based on the results of studies that have been carried out, it is concluded that the area of land to be run for car parking planning at Universitas Internasional Batam, covering an area of $8,169.45 \text{ m}^2$ has met the needs. In addition, the land to be planned for motorbike parking covering an area of $1,574.69 \text{ m}^2$ has also met the needs. The highest accumulation was in area A (including the canteen building and building B), with 91 cars. The parking index was obtained from the total of all points at Universitas Internasional Batam, which includes three parking points, namely 20% for four-wheeled vehicles and 13% for two-wheeled vehicles. The peak parking time is obtained at 18.15-18.30 WIB with details of 20 motorcycles and 13 cars due to the tendency of students who will start their lectures.

ACKNOWLEDGMENTS

I would like to thank God Almighty and the lecturer who teaches Transportation Engineering courses at Universitas Internasional Batam has guided and provided direction in the preparation and writing of this scientific paper to completion. Hopefully, this research can be helpful for future researchers and the development of good things in the future at Universitas Internasional Batam.

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Employee Performance: Communication, Group Collaboration, Leadership and Motivation

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ABSTRACT

Purpose: This study examines how communication, group collaboration, leadership, and motivation affect to employee performance. This study was conducted at the office of the ministry of religion in Mojokerto.

Design/methodology/approach: This study used the validity and reliability test, classical assumption test, multiple linear regression test, partial t test, and f simultaneous test.

Findings: Communication, group collaboration, leadership and motivation all affect employee performance. Partially the variable group collaboration, leadership and motivation has a direct affect on employee performance, but communication does not.

Paper type: Research Paper.

Keyword: *Audit, External Quality Audit, Internal Quality Audit, Sustainability*

Received : May 7th

Revised : May 12th

Published : July 31th

I. INTRODUCTION

Human resource issues continue to receive significant attention and become the foundation upon which business capabilities can be built to thrive in this era of globalization. The company's activities are significantly influenced by its human resources in almost every way (Fitriyadi, 2002). Even though it is supported by facilities and infrastructure as well as abundant financial resources, institutional operations will not be carried out properly if it is not supported by reliable human resources. This shows that human resources are the main factor that must be considered along with all their needs (Hariandja, 2002). Utilization of human resources will be the main factor that determines the success or failure of actions taken by an institution or organization. The changing dynamics of the environment have created a higher sense of urgency in relation to the expectations placed on institutions to obtain, develop, and preserve quality human resources (Hitt et al, 1997). Change requires support from senior management as an important first step, and this support cannot be trivial. The ability to mobilize a team is a must for leaders, as is the development of work procedures, and the management of human resource processes must be a key focus. In order to ensure continued business success, it is necessary to modify and improve the functions of the human resources department. Value creation or the application of human resource knowledge is related to related management practices and has an impact on organizational performance (Amstrong, 1998).

Moreover, the purpose of human resource management is quite broad; they are not limited to operational personnel but also span the managerial level (Kenna, 1995). The actions of the people who make up an organization, whether referred to as actors or participants, have a significant impact on the human resources of the organization (Sualiman, 2002). It is this delegation of power and responsibility that determines the level of involvement that human resources can have in an organization (Mathis, 2002). Formulate the authority and responsibility that must be achieved by workers with criteria or benchmarks that have been determined and agreed upon by employees and superiors (Lucky, 2000). Formulate given tasks and responsibilities that must be achieved by employees. Employees and their respective superiors have the ability to work together to set work goals and performance criteria to be met, and then evaluate the actual results achieved at the end of a certain time. According

to Siagian, (1999) Improving individual employee performance will trigger overall human resource performance, which will result in increased overall productivity.

Based on the explanation above, it is clear that performance review is an aspect that cannot stand alone from an institution (Zainun, 2001). Support from each management in the form of directions, resource support such as the provision of sufficient equipment as a means to facilitate the achievement of the objectives to be achieved in mentoring, guidance, training and development will further encourage objective performance evaluation. These objectives include: mentoring; training and development; accompaniment; and training and development. According to Zweig in Prawirosentono (2009), performance evaluation is a process of assessing work results that will be used by management to provide information to individual workers about the quality of their work from the perspective of institutional interests. (Rahmanto, 2002) Performance appraisal is a process of evaluating work results that will be used by management to provide information to individual employees about the quality of their work. In this scenario, an employee must be informed about the results of his work, whether they are positive, moderate, or negative. Employees will be motivated to act well or increase and decrease performance (achievement) that is below standard. The success of a company will largely depend on the availability of skilled, qualified, highly motivated and eager human resources to collaborate with each other in group settings (Papu, 2001).

Therefore, leaders need to have the ability to set work goals that will produce highly skilled, highly motivated, and highly productive personnel. Masson and Linn, (1999) Quantitative and qualitative aspects in setting the right goals to achieve within a certain period of time both play a role here. Hutapea, (2001) The existing performance evaluation needs to be supplemented with competencies related to skills and knowledge. This competency should focus on leadership, communication, and teamwork. It is hoped that incorporating competence into performance appraisal will make the employee performance appraisal process more effective (Cira, 1998). Performance is the result of work that can be achieved by a person or group of people in an organization in accordance with their respective authorities and responsibilities, in an effort to achieve the goals of the organization concerned legally, not violating the law, and in accordance with morals and ethics (Prawirosentono, 1999). Performance can be achieved by a person or group of people in an organization according to their respective authorities and responsibilities (Ruky 2001).

According to Riyono and Zulaifah (2010), the capacity to encourage and influence subordinates is a necessary component of effective leadership. A strong ability to operate as a strong guide and driver, in addition to being goal oriented, is essential to a leader's success. According to Robbins (2008), a well-coordinated effort from a work team will result in the production of beneficial synergies. Individual efforts result in a level of performance that is higher than the total of the individual inputs. This is because individual efforts build on one another. According to Fillmore H. Stanford's definition (quoted in Mangkunegara, 2012), motivation is a state that propels people toward the achievement of a certain objective. Employees at this organization are considered to be top management executors because of their ability to communicate with both workers and top management.

II. METHODS

In this study the research instrument in the form of distributing questionnaires was used to collect data in order to obtain quantitative information about the research variables. A Likert scale ranging from 1 to 4 will be used for all independent variables. Because the participants in this study were all employees of the religious department in Mojokerto, it was possible to select a sample that was representative of the population for this study based on the population itself. The sample represents a portion of the population that will be used as an object for the purposes of research and analysis of the data collected. Santoso, (2002) Purposive sampling is the approach taken for this particular sample. Purposive sampling is a method that researchers use to collect their data for their studies. Because this study analyzed the performance of employees at the religious services in Mojokerto, the researchers agreed that the most suitable sample based on these criteria was 75 people. Purposive sampling is a sampling strategy with certain considerations (Sugiyono, 2009:85). Because this study analyzes worker performance, the researcher chose purposeful sampling. This study uses an analytical method known as the validity and reliability test, followed by an assumption test and multiple linear regression tests, and finally the partial t test and simultaneous f test (Sulaiman, 2002).

III. RESULTS AND DISCUSSION

A. Validity and Reliability Test

Because the correlation coefficient value of each statement item has a value greater than 0.000 and a significance of less than 0.05, which means that all statement items in each research variable can be used in further testing, one can draw the conclusion from the results of the SPSS test processing that all of the instruments in the variables in this study are valid. This conclusion can be drawn because the correlation coefficient value of each statement item has a value that is greater than 0.000 and a significance that is less than 0.05. The Cronbach's Alpha value for each question that was employed as a research variable instrument was more than 0.6. It is also possible to test reliability by determining whether or not Cronbach's Alpha is more than 0.6. If it is, then all of the criteria may be said to be reliable, which means that they have a high level of consistency and can be relied upon for reuse at many periods and places. Therefore, the data from the population that the author researched are included in the categories of being valid and trustworthy, which makes it possible to do additional testing.

B. Classic assumption test

1. Normality test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	.33020715
Most Extreme Differences	Absolute	.077
	Positive	.077
	Negative	-.050
Kolmogorov-Smirnov Z		.743
Asymp. Sig. (2-tailed)		.639

a. Test distribution is Normal.
b. Calculated from data.

Figure 1. Data Normality Test

Source: SPSS output, data processed

According to the table above, all study variables are normally distributed since the likelihood of the KS value is 0.743 with a probability of 0.639, indicating a significance of larger than 5% ($P > 5\%$).

2. Multicollinearity Test

Table 1. Multicollinearity testing

Regression Models	VIF	tolerance value	Information
Leadership	1, 466	10	Good
Communication	1, 420	10	Good
Group collaboration	1, 863	10	Good
Motivation	1, 499	10	Good

Source: SPSS output, data processed

Due to the fact that the regression model has a VIF value that is lower than 10, the results of the calculation of the tolerance value indicate that the model does not include multicollinearity.

3. Heteroscedasticity Test

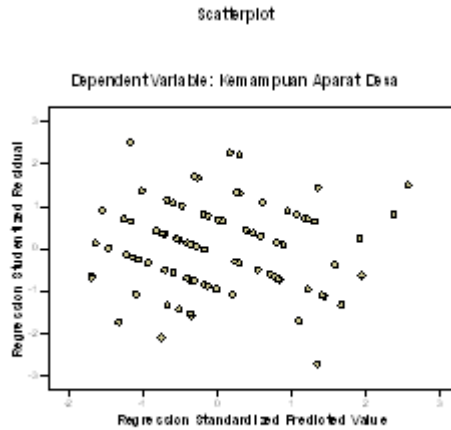


Figure 2. Heteroscedasticity Test

Because the spreading points do not conform to any particular pattern, it is possible to deduce, using the graph that was just presented, that the impact of heteroscedasticity does not take place as a result of the regression model.

4. Autocorrelation Test

The results of the autocorrelation test for each regression model can be seen in the table below:

Table 2. Autocorrelation testing

<i>N</i>	<i>k</i>	<i>Du</i>	<i>4-du</i>	<i>Durbin Watson</i>	<i>Information</i>
75	4	1.75	2.25	1,889	Good

Source: SPSS output, data processed

The regression equation in this study has no autocorrelation since SPSS calculated a statistical value of Durbin Watson of 1.889, which is between two and four du ($du < d < 4-du$).

C. Multiple Linear Regression Analysis

Table 3. Regression Analysis

<i>Model</i>	<i>Unstandardized Coefficients</i>		<i>Q</i>	<i>Sig.</i>	
	<i>B</i>	<i>std. Error</i>			
<i>1</i>	(Constant)	0,664	0,463		
	Communication	0,013	0,117	0,108	0,914

<i>Group collaboration</i>	0,436	0,121	3,597	0,001
<i>Leadership</i>	0,268	0,130	2,057	0,043
<i>Motivation</i>	0,427	0,140	3,056	0,003

a. Dependent Variable: employee performance
Source: SPSS output, data processed

The multiple linear regression equation may be derived using the linear regression calculation table:

$$Y = 0.664 + 0.013 X_1 + 0.436 X_2 + 0.268 X_3 + 0.427X_4$$

The purpose of the regression coefficient in the table above can be explained as follows:

- a. Constant (a)
The magnitude of the employee performance variable (Y) is a = 0.664, which is unaffected by communication, teamwork, leadership, and motivation.
- b. Communication regression coefficient
Assuming cooperation, leadership, and motivation remain unchanged, an increase in communication by one unit increases employee performance by 0.013 units.
- c. Cooperative group regression coefficient
Assuming communication, leadership, and motivation are constant, a one-unit increase in group collaboration will increase employee performance by 0.436 units.
- d. Leadership regression coefficient
Assuming communication, group collaboration, and motivation are constant, an increase in leadership by one unit increases employee performance by 0.268 units.
- e. Motivational regression coefficient
Assuming communication, group collaboration, and leadership are constant, an increase in motivation by one unit will increase employee performance by 0.427 units.

The multiple correlation coefficient value was 0.725, which indicates that the communication, group collaboration, leadership, and motivation variables had a fairly strong relationship with employee performance. The multiple determination coefficient value (R²) was 0.526, which indicates that communication, teamwork, leadership, and motivation can explain 52.60% of the variation in employee performance.

D. Hypothesis test

1. Simultaneous Test

Table 4. F test

ANOVA^b

	<i>Model</i>	<i>Sum of squares</i>	<i>Df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
<i>1</i>	<i>Regression</i>	6,503	4	1,626	19,403	0,000 ^a
	<i>Residual</i>	5,865	70	0,084		
	<i>Total</i>	12,368	74			

Source: SPSS output, data processed

The SPSS algorithm calculates Fcount as 19.403 with a significance of 0.000 (P<0.05), rejecting Ho and accepting Ha. Thus, communication, group collaboration, leadership, and motivation concurrently affect the employee performance.

2. Partial Test

Table 5. T test

	<i>Model</i>	<i>Unstandardized Coefficients</i>		<i>Q</i>	<i>Sig.</i>
		<i>B</i>	<i>std. Error</i>		
<i>1</i>	<i>(Constant)</i>	<i>0,664</i>	<i>0,463</i>		
	<i>Communication</i>	<i>0,013</i>	<i>0,117</i>	<i>0,108</i>	<i>0,914</i>
	<i>Group collaboration</i>	<i>0,436</i>	<i>0,121</i>	<i>3,597</i>	<i>0,001</i>
	<i>Leadership</i>	<i>0,268</i>	<i>0,130</i>	<i>2,057</i>	<i>0,043</i>
	<i>Motivation</i>	<i>0,427</i>	<i>0,140</i>	<i>3,056</i>	<i>0,003</i>

a. Dependent Variable: employee performance

Source: SPSS output, data processed

- a. The effect of communication on employee performance
The t test determines if communication affects civil servant performance. Multiple linear regression analysis shows that Ho is accepted and Ha is rejected, hence the second hypothesis is not established. The communication t value is 0.108 with a significance of 0.914 (P> 5%). Communication seldom affects employee performance.
- b. The effect of group collaboration on employee performance
The t test determines if group collaboration partially affects employee performance. The linear regression analysis tool yielded a t value for group collaboration of 3.597 with a significance of 0.001 (P <5%), rejecting Ho and accepting Ha, proving the second hypothesis that group collaboration affects employee performance.
- c. The influence of leadership on employee performance
To find out whether leadership partially has a major impact on employee performance, the test technique utilized is the t test. The multiple linear regression analysis tool in table 4.20 above yielded a leadership t-value of 2.057 with a significance of 0.043 (P <5%), rejecting Ho and accepting Ha, proving the second hypothesis that leadership affects employee performance.
- d. The effect of motivation on employee performance
The t test is used to determine if motivation partly affects employee performance. The linear regression analysis tool yielded a t-count value of motivation of 3.056 with a significance of 0.003 (P <5%), rejecting Ho and accepting Ha, proving the second hypothesis that motivation affects employee performance.

E. The Effect of Communication on Employee Performance

Planning performance is the first step in the performance management cycle, followed by reviewing and evaluating how the plan is executed (Bittel et al, 1996). Continuous communication, on the other hand, allows performance management to work in the most efficient manner between the planning and appraisal stages. Even if it is done properly and correctly, it will not give ideal results if there is no continuous relationship on all lines (vertical, horizontal, or diagonal communication) (Kartikawangi, (2002). This is due to the lack of employee skills. in utilizing technology; the implementation of efficient communication is something that is very important. The internet world is developing very fast, which offers great benefits for workers to help them improve their performance. In this context, the role of communication is one that is very necessary and crucial (Green, 1999).

This indicates that you must be able to produce interesting communications through presentation material that can be made in softcopy and can be downloaded from the internet. This allows it to be immediately followed up to the sales execution stage as soon as there is a reaction from outside. Even if the worker is not an expert in the field of information technology, he can develop communication with colleagues who are experts in that field or with other parties. Meliisa, (2012) Effective communication is necessary because employees must be able to

share and debate their ideas with their supervisors and co-workers so that they can receive support from these other people.

F. The Effect of Group collaboration on Employee Performance

If employees are supported as much as the company itself, then the business has a chance to achieve success. Cooperation among group members is very important for achieving goals (Boutler, 1996). Everyone who has ever been successful is well aware of this fact. On the other hand, it goes without saying that the group in question is not just any group but an efficient group. Cooperation in group settings is analogous to skills that must be cultivated (Tjiptono, 1997). That's not to say that highly talented workers can't work well together in teams. These two things can be considered as a bundle. The efficiency of work groups is determined by two outcomes: the amount of work produced and the amount of enjoyment individuals derive from their work (Sunu, 1999).

Organizational capacity to meet the individual needs of its members and then continue to maintain their membership and commitment is directly related to the level of satisfaction of members with the group (Rahmanto, 2002). What is meant by "productive output" refers to the quality and amount of work produced in accordance with organizational goals. Context, structure, strategy, cultural environment, and reward systems are some of the organizational aspects that can impact the effectiveness of a group. The types of groups, their structure, and the people who make up the group are important aspects. The quality of this group affects the group's internal processes, which in turn affect the results and satisfaction levels. Usmara, (2002) To form an efficient group, leaders need to have understanding and ability to handle various stages of development, cohesion, norms, and conflict.

G. The effect of Leadership on Employee Performance

The quality of leadership that exists within an organization is one of the most important factors that determines not only the achievement of the company as a whole but also the achievement of the many subgroups that make up the organization (Kartono, 2001). The level of leadership that exists in an organization turns out to play a very dominant role in the company's success in terms of employee performance. This is something that can be considered as the case. As an individual, a leader is a personality that interacts with a number of other people, each of which is also a personality. These people form groups led by leaders. Under these conditions, a leader is required to have an understanding of each personality that is different from himself. Both in terms of realizing the desire to join and unite in a group and in terms of carrying out activities that are the duties and obligations of each individual member, the leader as a personality has motives that may not be the same as the motivations of his members. group members. This applies both in realizing the desire to join and unite in a group and in carrying out activities. In carrying out their obligations and duties, a leader in a government organization is a central figure who exerts enormous influence on his staff members (Diana, 2001).

This effect can be observed in the attitude and behavior of leaders. The executives and staff that make up a government entity are considered its human resources. A large number of people are employed. In carrying out his responsibilities, an employee is a servant of the state as well as a servant of the community. This position requires employees to have high competence, be full of commitment, and have work discipline. This is a very important factor in the overall success of the business. A leader of a government agency needs to use various strategies, one of which is by applying the right leadership style, in order to foster a positive work attitude among his employees. The function of a leader is very important to achieve organizational goals, including the goals of government organizations, especially in terms of improving employee performance in carrying out their duties. Employee performance is the result of work that can be completed by an employee or group of employees in an organization in accordance with various authorities and duties in order to realize organizational goals. This work is carried out in order to realize organizational goals.

H. The Effect of Motivation on Employee Performance

The phrase "motivation" refers to a collection of elements, both internal and external to a person, that urge that person to accomplish set goals by committing all of the strength and potential that is available to them. Therefore, providing encouragement as a kind of motivation may boost employee morale, which in turn can help the organization achieve the outcomes that management wants to see. The link between motivation and performance may be thought of as having a linear form, in the sense that if you motivate your employees well at work, their morale will rise, and their job outcomes will be at their highest possible level in accordance with the performance criteria you have set. The degree to which workers are committed to their jobs as a kind of motivation may be inferred, among other things, from the number of hours they put in each week and their level of attendance at work. Motivation is one of the contributing aspects that can help increase performance.

The ability, skills, and experience of employees are meaningless if they are not followed by high motivation from each employee to improve their performance. In essence, an organization not only expects employees to be willing and able to work diligently, but also how to have high motivation to achieve organizational goals. An

unfulfilled need is the first step in the process of motivation. This need generates tension, which in turn causes a person to act on their impulses. These impulses lead to attempts being made to fulfill or satisfy wants, which, in the end, results in a lessening in the pressure that is felt. When the amount of pressure drops, so does people's level of motivation. As a result, proportionate pressures need to be maintained on a continual basis in order to ensure that the want to act is always there within a person.

Individually, attempts to motivate oneself can be performed by first controlling oneself, then evaluating oneself, and finally motivating oneself. However, there are instances when a person does not have the awareness to inspire himself; as a result, they want external motivation, which may come from superiors, family, coworkers, instructors, and other people. This type of motivation can come from a variety of sources. It is possible to draw the following conclusion from the information presented above: the existence of motivation will result in increased performance, and the opposite, a drop in motivation will also have an effect on performance at the Office of the Ministry of Religion in the Mojokerto Regency

IV. CONCLUSION

A. Conclusion

Based on the research findings described earlier, it can be concluded that:

1. Based on the explanation above, the variables of leadership, communication, teamwork, and motivation all affect employee performance at the Mojokerto Regency Office of the Ministry of Religion, proving the first hypothesis.
2. Testing the relationship between communication and employee performance produces insignificant results, then refutes the second hypothesis. Communication rarely affects employee performance.
3. Leadership, teamwork, and motivation affect employee performance. Leadership, teamwork, and motivation affect employee performance, as shown by the results of data processing calculations.

B. Suggestion

The suggestions put forward by the author in this study are as follows:

1. Group collaboration and motivation are crucial to employee performance, so they must be maintained and improved by prioritizing: a. principles, goals, and objectives, b. openness and confrontation, c. support and trust, d. cooperation, communication, and conflict, e. proper work procedures and decisions, f. proper leadership, g. regular review of work and programs, h. individual development, i. relations between groups (social), and j. synergy. The management office hopes to improve performance via group collaboration.
2. To optimize thinking contribution, researchers might incorporate other elements that affect employee performance, such as individual situations, work culture, and organizational learning.

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The Impact of Perceived Organizational Support, Leadership, and Work Motivation on Employee Performance

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ABSTRACT

Purpose: This study examines how perceived organizational support, leadership, and work motivation affect on employee performance.

Design/methodology/approach: The unit of analysis used is the employees at the company CV. Amanah. This study included all employees. This study randomly selected 18 people. This study uses primary and secondary sources. The validity and reliability test, classic assumption test, multiple linear regression test, and hypothesis test were used in this study.

Findings: Perceived organizational support, leadership, and work motivation partially and concurrently affected employee performance. Even if the effect was somewhat meaningful, motivates workers and affects UD performance.

Paper type: Research Paper.

Keyword: *Perceived Organizational Support, Leadership, Work Motivation and Employee Performance*

Received : May 7th

Revised : May 14th

Published : July 31th

I. INTRODUCTION

At this point in time, it is impossible to deny the fact that globalization has necessitated a great deal of change, progress, and advancement in a variety of disciplines. If it is associated with human resources, there needs to be a rise in the quality and abilities of the workforce so that it is able to be independent and compete with other organizations. Within the organization, there are many different kinds of human resource groups, such as human resources who always completely direct the abilities of workers, employees who work only because demands need them to, and human resources who do not fully control all of their talents while at work. One type of human resource group is human resources who always fully direct the abilities of employees (Luthans, 2015). Therefore, in order for businesses to be successful, they need to have the ability to effectively manage their people resources. Therefore, the existence of perceived organizational support is required so that workers may be attached to their jobs and firms in order for employees to be able to create goods according to the objectives established by the company. Since the company has a significant impact on the output of the company, the existence of perceived organizational support is necessary. The degree to which employees believe that their employer values the contributions made by employees and is concerned about their well-being is referred to as perceived organizational support (Rhoades & Eisenberger, 2002).

In general, the organizational support that is offered can take the form of giving reasonable compensation and benefits, fostering positive relationships between superiors and subordinates, and ensuring that suitable facilities are in place to ensure that acceptable working conditions are maintained. Employees will have a more favorable attitude toward the company if they believe that it has paid attention to their contributions and cares about their performance if they believe that the organization supports them and their efforts. According to Ariyanto, et al (2019), when workers get help from their organization and believe that their needs are addressed, they may develop a sense of indebtedness and believe that they have a responsibility to repay the support.

Leadership is another component that plays a role in determining how well employees do their jobs, alongside the working environment (Mangkunegara, 2017). There is a direct correlation between the position of a leader and whether or not an organization or institution is successful in attaining its goals. It is necessary for effective leadership to offer direction for the actions of all workers in order to accomplish the goals of the company. It is impossible for there to be a one-way link between individual ambitions and company goals when there is no leadership. Because of this circumstance, people labor toward attaining their own personal goals, while the company as a whole becomes inefficient in its efforts to fulfill its goals. A person's capacity for leadership is something that comes naturally to them and is influenced by a wide range of circumstances, both internal and external to the individual. According to (Winardi, 2000), one of the aspects that shape and encourage others to work and passionately attain the intended goals related to organizational performance is leadership.

Leadership also helps others to work. According to Hasibuan, (2016), leaders have the ability to impact employee morale and job happiness, as well as job loyalty, security, the quality of work life, and most importantly, the degree of success in a company. The work motivation of workers (employees) is another component connected to human resources that the business has to take into consideration. Work motivation refers to the willingness of employees to mobilize all of their resources and efforts for the organization (Rivai, 2015). The amount of the organization's competitive advantage will be directly proportional to the level of motivation exhibited by its workforce. The motivation of workers has to be addressed since it will have an effect on their level of pleasure in their jobs. It is hoped that employee performance would rise when they are happy with the work that they are doing, which will lead to the accomplishment of organizational or organizational goals (Robbins, 2017).

The purpose of the organization is to be able to continue its existence and progress by successfully navigating obstacles posed by both its internal and external environments. The external environment that has an impact on how the organization functions is in a state of constant flux. As a result, the organization has to establish a routine for the management and processing of its available resources. Because the leader assigns tasks to his subordinates that they are expected to do well and that is geared towards the goals that have been established in advance, motivation is becoming an increasingly significant factor. When it comes to motivating employees, leaders have to be aware that people have a readiness to put in a lot of effort in the belief that the outcomes of their labor will be able to satisfy the requirements and wishes that they have.

Allen et al. (2008) Employees do not do all of the work associated with their jobs on their own, and occasionally a high level of collaboration and coordination amongst coworkers is required in order to successfully finish a task. In this scenario, the leader has to be able to inspire and rouse the motivation (willingness to work) of his employees to complete a task that is his responsibility (Tjhajono, 2020). This will ensure that his people are inspired to perform as effectively as they possibly can, which will ultimately lead to an improvement in their overall work productivity. This is something that needs to be taken into consideration since people who work are not the same as people who can be moved around at will; rather, people who work are living creatures who have their own feelings, wants, desires, and mentalities. Because difficulties with performance are challenges that will always be addressed by organizational management parties, management has to be aware of the aspects that impact employee performance in order to effectively manage the workforce. The management of a company will be able to implement the required policies to increase employee performance after they have a better understanding of the factors that might impact employee performance. This will allow employee performance to better match the expectations of the business.

II. METHODS

According to Arikunto (2019), the entire aim of study is the people. The population of this research consists of all of the people who are employed at company CV. Amanah in Mojokerto got information on the number of employees to be as high as 18 persons based on the data provided by the firm. The method of sampling that was used in this investigation was complete sampling. According to Sugiyono (2017), total sampling is a method of sampling in which the number of samples taken is equivalent to the size of the population being sampled. In this particular study, it was not possible to utilize a sample due to the restricted size of the population; as a result, the researchers either took the same number of samples as the population or they conducted a census. The census included as many as 18 individuals who were employed by CV. Ananda. This study is of the quantitative kind and is of an explanatory character use of SPSS Software (Ghozali, 2018). More specifically, the purpose of this research is to emphasize the effect between the research variables and test the hypotheses that have been developed in the past. This study makes use of both primary and secondary sources of information. Sugiyono, (2017) This study employed the method of analysis known as the validity and reliability test, followed by the traditional assumption test, the multiple linear regression test, and finally the hypothesis test, which comprised the partial t test, the simultaneous f test, and the test of the coefficient of determination.

III. RESULTS AND DISCUSSION

A. Validity and Reliability test

The validity test shows a favorable correlation (Sig. 0.05) between organizational support, leadership, employee motivation, and performance. Researching all study variables is worthwhile. This research measures employees' impressions of support, leadership, motivation, and performance. Cronbach's alpha cannot exceed 0.6, although all reliability requirements are valid, consistent, and reusable if it is. The author's demographic data is credible, allowing further study.

B. Multiple Linear Regression Analysis

Table 1. Regression Analysis

<i>Variable</i>	<i>Regression coefficient</i>	<i>T count</i>	<i>Sig.</i>	<i>Information</i>
<i>Perceived organizational support</i>	<i>0.438</i>	<i>2.363</i>	<i>0.022</i>	<i>Significant</i>
<i>Leadership</i>	<i>0.413</i>	<i>2.218</i>	<i>0.031</i>	<i>Significant</i>
<i>Work motivation</i>	<i>0.617</i>	<i>3.399</i>	<i>0.001</i>	<i>Significant</i>
<i>Constant</i>	<i>: -2.510</i>	<i>F count</i>	<i>: 27.256</i>	
<i>R</i>	<i>: 0.782</i>	<i>Sig.</i>	<i>: 0.000</i>	
<i>R square</i>	<i>: 0.611</i>			

Source: SPSS Processing data , 2023

The multiple linear regression equation is:

$$Y = -2.510 + 0.438 X1 + 0.413 X2 + 0.617 X3$$

The above table's regression coefficient can be understood by considering its function in the following way:

- a. Constant (a)
Perceived organizational support, leadership, and work motivation do not affect employee performance, which is -2.510.
- b. Regression coefficient Perceived organizational support
Assuming leadership and work motivation are constant, increasing perceived organizational support by one unit will increase employee performance by 0.438 units.
- c. Leadership regression coefficient
Assuming Perceived organizational support and work motivation are constant, increasing Leadership by one unit increases Employee Performance by 0.413 units.
- d. Work motivation regression coefficient
Assuming constant perceived organizational support and leadership, an increase in work motivation by one unit will increase employee performance by 0.617 units.

C. Hypothesis Testing

When researchers test a hypothesis, they compare the level of significance of each variable to a set threshold. If the value of a variable is less than 0.05, the hypothesis is thrown out.

1. Partial testing

Table 2. t test

<i>Variable</i>	<i>Regression coefficient</i>	<i>T count</i>	<i>Sig.</i>	<i>Information</i>
<i>Perceived organizational support</i>	0.438	2,363	0.022	<i>Significant</i>
<i>Leadership</i>	0.413	2,218	0.031	<i>Significant</i>
<i>Work motivation</i>	0.617	3,399	0.001	<i>Significant</i>
<i>Constant</i>	: -2,510	<i>F count</i>	: 27,256	
<i>R</i>	: 0.782	<i>Sig.</i>	: 0.000	
<i>R square</i>	: 0.611			

Based on the table above, partial hypothesis testing can be explained as follows:

1. The effect of Perceived organizational support on employee performance
Perceived organizational support positively affects employee performance with a significance value of 0.022 and a regression coefficient of 0.438. The positive Perceived organizational support regression coefficient indicates a unidirectional relationship. If the variable increases in a positive direction, employee performance at company will increase by 0.438.
2. The Influence of Leadership on Employee Performance
Leadership variable positively affects employee performance, with a significance value of 0.031 and a regression coefficient of 0.413. The positive leadership regression coefficient reveals a unidirectional link, implying that employee performance and trust in a company will rise by 0.413 if the leadership variable increases.
3. Effect of work motivation on employee performance
Work motivation positively affects employee performance, with a significance value of 0.001 and a regression coefficient of 0.617. Positive work motivation has a unidirectional association with employee performance at company.

The first hypothesis indicates that employee performance is significantly affected by perceived organizational support, leadership, and work motivation credibility.

2. Simultaneous testing

Table 3. F test

ANOVA^b

<i>Model</i>	<i>Sum of squares</i>	<i>Df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
<i>1</i>					
<i>Regression</i>	11,391	3	3,797	27,256	0,000 ^a
<i>Residual</i>	7,244	52	,139		
<i>Total</i>	18,635	55			

Source: SPSS output, data processed

SPSS rejects Ho and accepts Ha with a F value of 27.256 and a significance of 0.000 (P<0.05). Perceived organizational support, leadership, and work motivation all affect employee performance.

3. Testing the Dominant Variables

Table 4. Partial determination coefficient (r²)

No.	Variable	partial r	Partial determination coefficient (r ²)
1.	Perceived organizational support	0.311	0.2809 = 9.67%
2.	Leadership	0.294	0.2777 = 8.64%
3.	Work motivation	0.426	0.4264 = 18.15%

Work Motivation has the largest coefficient of determination, 18.15%, suggesting it dominates employee performance.

4. Effect of Perceived organizational support on employee performance

The findings of this research have demonstrated that the variable known as "perceived organizational support" has a substantial impact on the overall performance of workers. This is demonstrated in Table, which provides an explanation for the magnitude of the regression coefficient of the variable perceived organizational support on employee performance, which is 0.438 (Sig = 0.022 Significant). This indicates that the overall performance of workers at company will improve by 0.438 percentage points if the variable known as "perceived organizational support" undergoes a shift (increases) in a more favorable direction 1 level. The value of the partial determination coefficient (r²) is 0.2809, which indicates that the contribution of the variable "perceived organizational support" to employee performance is 9.67%. This can be observed by comparing the value of "perceived organizational support" to "performance." The significance of the connection or correlation (r) between the variable perceived organizational support and employee performance is 0.022, whereas the relationship or correlation (r) between the variables perceived organizational support and employee performance is 0.311. According to the magnitude of this correlation, it can be deduced that there is a strong connection between the employees' levels of perceived organizational support and their overall performance. Empirically supports the results of Qi, L., Liu, B., Wei, X., & Hu, Y. (2019)., one of which concluded that Perceived organizational support has a significant effect on employee performance, meaning that Perceived organizational support has a significant effect on employee performance, where the higher Perceived organizational support will be associated with better employee performance. The findings of this study indicate that perceived organizational support has a significant impact on employee performance.

5. The Influence of Leadership on Employee Performance

The findings of this research have demonstrated that there is a considerable influence that the leadership variable has on the performance. This is demonstrated in Table, which also provides an explanation that the size of the regression coefficient of the Leadership variable on employee performance is 0.413 (Sig = 0.031 Significant). This indicates that the employee performance will similarly rise by 0.413 if the leadership variable changes (increases) in a more favorable direction 1 level. The value of the partial determination coefficient (r²) is 0.2777, and since the contribution of the leadership variable to employee performance can be deduced from this value, the percentage of the total variance explained by the leadership variable is 8.64%. While the association or correlation (r) between the leadership variable and employee performance is 0.294 with a significance of 0.031, it is important to note that this value is not statistically significant. Given the magnitude of this correlation, it is clear that there is a direct connection between leadership at company and the performance of its employees. Empirically supports the research results of Ariyanto et al, (2019), one of which concludes that leadership has a significant effect on employee performance, which can be interpreted as meaning that leadership has a significant effect on employee performance, where higher leadership will have an impact on improving employee

performance. The findings of this study indicate that leadership has a significant impact on employee performance. The findings of this study were empirically supported by CV. Amanah in Mojokerto.

6. Effect of work motivation on employee performance

The findings of this research have demonstrated that the variable of work motivation does, in fact, have a substantial influence on the employee performance. This is demonstrated in Table, which also provides an explanation for the size of the regression coefficient of the variable Work motivation on employee performance, which is 0.617 (Sig = 0.001 Significant). This indicates that the performance of workers will rise by 0.617 if the variable work motivation shifts (increases) in a more favorable direction 1 level. The value of the partial determination coefficient (r^2) is 0.4264, and the contribution of the work motivation variable to employee performance can be deduced from this value. Since the contribution is 18.15%, we can say that the value is 18.15%. While the association or correlation (r) between the variables of employee performance and work motivation is 0.426 with a significance of 0.001, it is important to note that this value is not statistically significant. This correlation value demonstrates the tight association between work motivation and employee performance, which can be seen by looking at the results. Empirically supports the research results of Tjahjono et al, (2020), one of which concluded that work motivation has a significant effect on employee performance, meaning that work motivation has a significant effect on employee performance, where higher work motivation will have an impact on improving employee performance. The findings of the study indicate that work motivation has a significant effect on employee performance at company CV. Amanah Mojokerto.

IV. CONCLUSION

A. Conclusion

Based on the research findings described earlier, it can be concluded that:

1. Employee performance increases with perceived organizational support, leadership, and job motivation.
2. This study found that organizational support, leadership, and work motivation partially affect employee performance.
3. Leadership, support, and incentives affect employee performance. This study shows that organizational support, leadership, and work motivation affect employee performance.
4. Work motivation elements drive CV employee performance. Trust Mojokerto.

B. Suggestion

The suggestions put forward by the author in this study are as follows:

1. Maintaining and improving work motivation at company is crucial to staff success.
2. To improve thinking contribution, researchers might incorporate other variables that affect employee performance, such as employee competency, perceived organizational support, etc.

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Technical Skill, Work Experience, Work Discipline and Its Influence on Craftsmen Performance at Pottery Cluster in Tulungagung Regions

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ABSTRACT

Purpose: This study was aimed to determine the influence of technical skills, work experience, work discipline on the performance of craftsmen in the pottery cluster in Tulungagung Regency.

Design/Methodology/Approach: The population in this study were 35 pottery craftsmen who had more than 2 years of work experience. The sampling technique use complete enumeration method where all members of the population are used as respondents. Using primary data related to technical skills, work experience, work discipline and their impact on the pottery craftsmen's performance. While the analysis tool uses multiple linear regression analysis.

Findings: The results of the study show that technical skill, work experience, and work discipline have positive and significant effect on the craftsman's performance in the pottery cluster in Tulungagung Region.

Practical Implication: Many workers lack of discipline at work and less innovate in form of creating new product. Meanwhile most of the owner of small bussiness had years in experience inherited from their parents.

Keywords: *Technical Skills, Work Experience, Work Discipline, Craftsmen Performance.*

Received : May 10th

Revised : May 14th

Published : July 31th

I. INTRODUCTION

Based on data from the Ministry of Cooperatives and Small and Medium Enterprises (Kementerian KUKM) in 2021, the number of MSMEs in Indonesia has reached 64.2 million with a contribution to the gross domestic product of 61.07 percent or IDR 8,573.89 trillion. MSMEs are able to absorb 97 percent of the total workforce and are able to collect up to 60.4 percent of total investment in Indonesia. Micro small and Medium Enterprises (UMKM) also plays a significant role in reducing unemployment rate within its community, especially for those that having non-formal education background. Therefore, continuous development should be given so that these informal sectors will exist and grow larger both in number and quality.

The pottery cluster industry in Tulungagung Regency produces various clay-based products. Most of people that are in cluster area works as craftsmen that for years already produce potteries craft in various sizes, designs, and colors. Most of production will deliver to outside of Tulungagung district. However, the development of both in number of business units and employment has been relatively small since the last three years. Pottery handicrafts produced by pottery industry craftsmen from this center seem to be lacking in buyers, especially during the current Covid 19 pandemic.

Preliminary research found that 4 percent of totall production were not consistent in terms of the size, 5 percent of the products had colors that did not suit consumer tastes, and craftsmens were found to be late for work but came home earlier than the set time. The result from pre-eliminary interview also showed that only 40 percents of production were sold during pandemic covid 19. Those are indicating that there are some problem related on craftsmen's skills and experience of making product based on customer needs, and also lack of work discipline among craftsmens.

Most of micro and small business were run by self-employ, out of date technology process, low productivity, low in raw material supply, and uncontrolled management, which will make it difficult for small businesses to develop (Hadiyati, 2010). Work productivity, in its simplest definition is the output per unit of input. For an industry, worker productivity is one of many factors that contribute to the success of business. Therefore, productivity is the key factor of any micro and small bussiness company, because productivity of each unit (land, labor, capital) determine the cumulative competitiveness with other competitors (Zuhal, 2010).

Hasibuan (2016) stated that skills are competencies that required to complete responsibilities. Types of skills include technical skills, human skills, and conceptual skills in the form of competency of taking advantage of opportunities, and accuracy using equipment to reach the goal. Technical skill will contribute and benefit as in the form of ability to solve difficult situations in business. Therefore, pottery entrepreneurs need to be aware that technical skills are important to acquire their employees to become experts in their fields. Competence has a substantial impact on output or production. Technical skills according to Katz quoted by Silalahi (2002), as a specific competency for carrying out of tasks or abilities using techniques, tools, procedures and knowledge of specialized fields correctly and precisely in implementation job.

Works procedure in the pottery industry start from the preparation of raw clay materials, processing the clay according to the design (selection of clay materials, shaping, painting and other finishing), those are requiring technical skills to work on it until the pottery is finished. If there are craftsmen who are less skilled in handling the production process, it will result in a slowdown in production and the occurrence of defective products that will harm the company. Therefore, each craftsman must have technical skills in accordance with their respective duties. Several studies that implies the important of technical skill on craftmens performance are Megantoro (2015), Inalen (2017), Dewi and Saskara (2020), and Khairunisa *et al.*, (2021). However, Hayati and Sari (2007) stated that technical skill did not influence on employee's performance.

Another factor that can affect employee performance is work experience. Gibson *et al.*, (2011: 523) argues that people who have experience will always be smarter in responding to everything than those who have absolutely no experience. Someone is said to be experienced or have experience if they had spent some time in a job before. The more experience gained by a worker will make them more trained and skilled in carrying out their duties.

Experience will happen if someone have been working for a long time, so they will use the best way to produce goods or services (Sedarmayanti, 2016). Meanwhile, according to Foster and Karen (2001), employees cannot perform their work due to lack of how to get information, lack of competency according to their duties, and unsure of their ability to complete their tasks. Several studies concluded that work experience affect on employee's performance comes from Rahmawati (2016), Wirawan *et al.*, (2019), and Sholeh *et al.*, (2020). On the contrary, Haslindah (2011) finds that work experience cannot effect on work performance.

According to Hasibuan (2016), discipline is known as the most important operative function of HRM, because the better the discipline of workers in the company, the higher the work performance that can be achieved. Upholding a discipline is important for the company, because discipline contains rules that must be obey by every employee. Good discipline will be reflected in: *first*, High sense of employee concern for achieving of company's goals; *second*, High morale and initiative of employees in doing work; *third*, the great sense of responsibility of employees to implement best job; *forth*, the development of a sense of belonging and a high sense of solidarity among employees; and *fifth*, Increased work efficiency and productivity of employees (Sutrisno, 2009). Therefore, if every craftsman is disciplined at work, then they will be initiative and concern for achievement, which will lead to higher working performance.

Several studies that stated work discipline affecting on employee's performance are Sitohang (2010), Nisyak and Trijonowati (2016). Different result showed in Parerung and Mekel (2014) state that the work discipline did not affect on employee's performance.

II. METHODS

This research was conducted in the pottery industry cluster in Tulungagung Regency. The population in this study were all pottery craftsmen who had worked for 2 years. The sample technique used is total sampling which produces 35 craftsmen to be studied. Analysis data use Multiple Linear Regression by SPSS 26. There are two types of research variables, technical skill, work experience, and work discipline are independent variables and craftsmen performance as dependent variable.

The operational definitions and variables used in this study are as follows:

1. Technical Skill (X1), is the technical ability possessed craftsmen to complete their work. This variable indicated by 5 abilities (Spencer and Spencer, 1993) are: able to determine how to complete the work, able

to simplify complex work, able to complete the job properly, able to determine the best volume of work, and able to analyze problems.

2. Work Experience (X2), is the level of knowledge and skills of craftsmen in their work that can be measured from years of service, the ability to understand and apply information in work, skill level possessed, and mastery of work and use of production equipment.
3. Work Discipline (X3), is the attitude of craftsmen to comply with applicable regulations, both written and unwritten and to accept the sanctions if they violate them. There are 5 indicator as follows: awareness, compliance with work regulations, compliance with work standards, alert level, and ethics at work.
4. Craftsmen Performance (Y), is the quality of work achieved by craftsmen in a certain period of time. Indicates by 5 indicators: able to complete work according to work quality standards, able to complete the work in accordance with the standard quantity, able to complete the work in accordance with the standard time, able to work effectively, able to work independently.

III. RESULTS AND DISCUSSION

A. Research result

1. Validity Test

The results of the validity test for each variable indicator have a significance value smaller than the significance level (α) of 0.05. This means that all indicator items forming each of the four variables are valid.

2. Reliability Test

Table 1. Reliability Test Result

<i>Variabel</i>	<i>Alpha</i>
<i>Technial Skill (X1)</i>	<i>0,766</i>
<i>Work Experience (X2)</i>	<i>0,838</i>
<i>Work Discipline(X3)</i>	<i>0,765</i>
<i>Craftsmen Performance (Y)</i>	<i>0,792</i>

Source: SPSS Outputs (2023)

Based on the results in Table 1, all items of the variables used are above 0.6, therefore all variables used in this research are reliable.

3. F Test

Ghozali (2016) explained that the Feasibility Test of the model with the F test was carried out using a significance level of 0.05 where $\alpha = 5\%$. If the significance value of $F < 0.05$ indicates that the model is fit.

Tabel 2. Anova Test Result

<i>Model</i>	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
<i>1 Regression</i>	<i>6,936</i>	<i>3</i>	<i>2,3120</i>	<i>28,264</i>	<i>0,000b</i>
<i>Residual</i>	<i>2,127</i>	<i>46</i>	<i>0,0818</i>		
<i>Total</i>	<i>9,063</i>	<i>49</i>			

Source: SPSS Outputs (2023)

Table 2 shows that the significance value of the F test is 0.00 (<0.05). Means conceptuall model of technical skills, work experience, and work discipline are able to explain craftsmen performance.

4. Coefficient of Determination (R²)

This test aims to determine the accuracy of estimates in the regression analysis. The greater the value of R², the greater the variation in the dependent variable which can be explained by the variation in the independent variables, as follows:

Table 3. Coefficient Determination Test Result

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
<i>1</i>	<i>0.8765</i>	<i>0.7656</i>	<i>0.7382</i>	<i>0.2860</i>

Source: SPSS Outputs (2023)

Table 4 shows that the R Square is 0.7656, means that the influence of technical skills, work experience, and work discipline on craftsmen performance is 76.56%, while the remaining 23.44% is influenced by other variables that are not included in the analysis.

5. Multiple Linear Regression and Hypotesist Test

Based on the calculation results of data processing with the help of the SPSS 26 for windows computer program, the regression equation is obtained as shown in Table 4 below.

Table 4. Multiple Linear Regression Result

<i>Model</i>	<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>		
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t</i>	<i>Sig.</i>
<i>1 (Constant)</i>	<i>0.346</i>	<i>0.161</i>		<i>2.149</i>	<i>0.041</i>
<i>Technical Skill (X1)</i>	<i>0.617</i>	<i>0.197</i>	<i>0.545</i>	<i>3.133</i>	<i>0.004</i>
<i>Work Experience (X2)</i>	<i>0.338</i>	<i>0.149</i>	<i>0.403</i>	<i>2.254</i>	<i>0.033</i>
<i>Work Discipline (X3)</i>	<i>0.436</i>	<i>0.154</i>	<i>0.410</i>	<i>2.805</i>	<i>0.009</i>

Source: SPSS Outputs (2023)

6. Hypotesis Test (t Test)

1. Sig. value of technical skill is 0,004 (< 0,05). Means, technical skill significantly affect on craftsmen performance.
2. Sig. value of work experience is 0,033 (< 0,05). Means, work experience significantly affect on craftsmen performance.
3. Sig. value of work discipline is 0,009 (< 0,05). Means, work discipline significantly affect on craftsmen performance.

B. Discussion

1. Technical Skill has positive and significant effect on Craftsmen Performance

The positive and significant influence of technical skills on craftsmen performance shows that if the Pottery Crafts industry entrepreneurs want to improve the performance of craftsmen, then this can be done through coaching on the importance of skills in completing work both individually and in groups. However, entrepreneurs need to apply rewards and punishments whereby craftsmen who have achievements need to be given rewards and for craftsmen who are unable to improve their achievements are given punishment. Thus, the craftsmen will try to work efficiently and effectively until their performance is maximized.

Hasibuan (2016) said that technical skill will contribute and benefit as in the form of ability to solve difficult situations in business. Workers with high technical skills, it is hoped that they can make work as efficient as possible. Technical Skills can be seen as something that has great benefits, both for the benefit of the organization and for craftsmen in particular.

The results of this study are in line with research conducted by Megantoro (2015), Inalen (2017), Dewi and Saskara (2020), and Khairunisa *et al.*, (2021). In contrary result from Hayati and Sari (2007) stated that technical skill did not influence on employee's performance.

2. Work Experience has positive and significant effect on Craftsmen Performance

The positive and significant influence of work experience on craftsmen performance shows that the advantage of having experienced craftsmen lead to faster on detecting errors, understanding the causes of errors, and looking for causes of errors. So, the more experienced a craftsman is, the more competent he will do the job and the more perfect his pattern of thinking and attitude in acting to achieve the goals set.

Gibson *et al.*, (2011) argues that people who have experience will always be smarter in responding to everything than those who have absolutely no experience. Someone is said to be experienced or have experience if they had spent some time in a job before. The more experience gained by a worker will make them more trained and skilled in carrying out their duties.

The results of this study are in line with research conducted by Rahmawati (2016), Wirawan *et al.*, (2019), and Sholeh *et al.*, (2020). On the contrary, Haslindah (2011) finds that work experience cannot effect on work performance.

3. Work Discipline has positive and significant affect on Craftsmen Performance

The positive and significant influence of work discipline on craftsmen performance shows that the higher the work discipline of the craftsmen to comply with all regulations, they will be able to complete their work according to the target. This also shows that all procedures, methods and time for completion of work as well as the use of all production equipment can be utilized efficiently and effectively.

Sutrisno (2009) stated that implement of good discipline will reflected in: *first*, High sense of employee concern for achieving of company's goals; *second*, High morale and initiative of employees in doing work; *third*, The great sense of responsibility of employees to implement best job; *forth*, The development of a sense of belonging and a high sense of solidarity among employees; and *fifth*, Increased work efficiency and productivity of employees.

The results of this study are in line with research conducted by are Sitohang (2010), Nisyak and Trijonowati (2016). Different result showed in Parerung and Mekel (2014) state that the work discipline did not affect on employee's performance.

V. CONCLUSION

A. Conclusion

Based on analysis data statistic and hypothesis analysis on previous points, then the conclusion of this study can be stated as follow, all variables that consist of technical skill, work experience, and work discipline partially has positive and significant effect on craftsmen performance at Pottery Cluster in Tulungagung Region.

B. Research Limitation

1. This study only focuses on the influence of technical skills, work experience, and work discipline on the performance of craftsmen in the pottery industry cluster in the Tulungagung region.
2. The object of this research is the craftsmen who work in the pottery industry cluster in the Tulungagung region.

Distribution of questionnaires given to 35 employees who already have work experience of 2 years and over.

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Determinant Factors Affecting Consumer Decisions in Purchasing Smartphones

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ABSTRACT

Purpose: The research aims to examine the determinants that influence the decision to buy a smartphone. Several factors there are product quality, price, market, promotion were examined to prove the purchase decision and show the effects of the consumer decision in buying a Samsung Galaxy smartphone in Bandar Lampung city.

Design/methodology/approach: This study uses questionnaire data of respondents. The analysis method in this study uses the Partial Least Square analysis method (PLS).

Findings: The findings of this study reveal that the low level of purchase decisions Samsung Galaxy smartphones can be damaged by good product quality, more affordable prices for consumers, ease when making pre-orders in the marketplace and attractiveness as well as power promotion of brand ambassadors.

Paper type: Research paper

Keyword: Purchase Decision, Product Quality, Price, Market, Promotion

Received : May 6th

Revised : May 14th

Published : July 31th

I. INTRODUCTION

Smartphone market opportunities are growing rapidly. This market makes *smartphone* manufacturers from various parts of the country competing to offer *smartphones* with the latest features but at more affordable prices. Various emerging brands make consumers faced with various choices and must be selective in choosing a smartphone to suit the needs of these consumers, because of this, manufacturers need to advertise or promote to provide product information for consumers. The role of the brand is no longer just as a name or differentiator with competing products, but has become the most important factor in competitive advantage (Sulistiyawati, 2011; Putra, 2016). Price is the similarity of an exchange rate with money or other goods in order to get benefits from an item or service for individuals or groups at a certain time and place (Tjiptono, 2020). Prices will exist when using a product, service, or when a credit payment is required (Kotler & Keller, 2021). Purchasing decisions made by consumers are important for companies, especially for companies that issue products with the same type and characteristics in a market. Attracting consumers to make purchasing decisions is a challenge for companies not only from business competitors but these challenges arise from various factors that influence consumers in making purchases of a product, especially in certain areas.

Samsung *galaxy smartphone* is an android product originating from South Korea, the brand is very popular among the public, then Samsung is a brand that has been operating for a very long time, namely for 82 years and always presents quality product innovations. Smartphone sales data in the global market for the Samsung brand occupy the top position with the most sales, namely 274.5 million units with a market share of 20%. After Samsung there is the Apple brand which is in second place with 230.1 million units. Then in third place is the Xiaomi brand 191.2%. In fourth place was the Oppo brand with sales of 145.1 million units, followed by the Vivo brand with sales of 129.9 million units. From the data listed above, it can be interpreted that smartphone competition in the global market is very tight. In Indonesia, Samsung smartphone users are more in demand among the public than other smartphone brands. Recognition regarding Samsung cellphones is required because it is a cellphone that is widely known by all elements of society, both in Indonesia and throughout the world . (Vindiana & Lestari, 2023)

The city of Bandar Lampung is one of the cities in the province of Lampung, where the population has used smartphones of various brands. The average smartphone user is from the age of 15 and over, where the population aged 15 and over in Lampung airports in 2021 is 510,483 people based on data from the Lampung Province BPS. The following data on the number of smartphone users from various brands can be seen in the table below:

Table 1. The Data of Smartphone User Bandar Lampung City

<i>No</i>	<i>Smartphone Brand</i>	<i>Number of smartphone users</i>	<i>Percentage of users (Year of 2021)</i>	<i>Amount</i>
1	<i>Huawei</i>	510,483	19.6%	100,054
2	<i>Samsung</i>	510,483	18.9%	96,481
3	<i>apples</i>	510,483	15.8%	80656
4	<i>Vivo</i>	510,483	9.8%	50,027
5	<i>Xiaomi</i>	510,483	9.7%	49,516
6	<i>Oppo</i>	510,483	9.1%	46,453
7	<i>Etc</i>	510,483	17.1%	85,761

Data source: Canals Smartphone Market Pulse Analysis 2021/Kompas.com (Data processed)

Based on table 1 above, the number of users of the Huawei smartphone brand in Bandar Lampung is around 100,054 people, then Samsung galaxy smartphone users are around 96,481 people, and Apple brand smartphone users are around 80,656 people. Vivo smartphone users are around 50,027 users, then Xiaomi are around 49,516 users and Oppo smartphones are around 46,453 users. Meanwhile, smartphone users with other brands are around 85,761. Based on the data listed above, there are 96,481 Samsung galaxy smartphone users, which is 18.9% of the 510,483 smartphone users in Bandar Lampung City. Previous research related with purchasing decision consumers have inconsistency result, Vindiana & Lestari (2023) provide empirical evidence that product quality has a significant effect on purchasing decisions for Samsung smartphones. Contrary with Supu et al. (2021) which found that partially product quality has no significant effect on Samsung Smartphone Purchase Decisions. The results of other studies show that product quality has no significant effect on purchasing decisions for Oppo smartphones. This indicates that product quality is not a determining factor in purchasing decisions (Septiani & Prambudi, 2021). Listighfaroh (2019) documents that the influence of product quality, price and promotion on purchasing decisions. This research is to examine the effect of product quality, price perception, marketplace, brand ambassadors partially and simultaneously on purchasing decisions of Samsung galaxy smartphones in Bandar Lampung City.

A. Literature Review

1. Product Quality And Purchasing Decisions

Product quality can influence consumers in making a purchase decision. Product quality is the company's effort to give characteristics to a product in order to meet consumer expectations (Suryani & Batu, 2021). According to Kotler and Armstrong (2004) in the book (Firmansyah, 2019) product quality is the ability of a product to perform its functions, this includes overall durability, reliability, accuracy, ease of operation and

product repair as well as other product attributes. The quality of the products owned by the Samsung Galaxy smartphone is very good, starting from the design, speakers and screen design which uses a super AMOLED panel with an elegant and also thin design that makes it easy to hold, even other brands such as Oppo and Vivo also rely on super AMOLED panels made by Samsung. . From this explanation, it can be interpreted that the product quality of the Samsung galaxy smartphone is very good and is not only ogled by consumers but also ogled by other manufacturers. According to the results of the study (Suryani & Batu, 2021) stated that product quality partially has a positive effect on purchasing decisions. The results of the study stated that product quality partially and simultaneously had a positive and significant effect on the decision to purchase smartphone products (Suartina, 2021).

H1: Product quality has affected purchasing decision of Samsung Galaxy Smartphones.

2. Price Perceptions and Purchasing Decisions

Perceived price is what consumers sacrifice to get a product (Rahman & Hidayati, 2021) . According to (Wariki et al., 2015) Perceived price is a person's view of the suitability of the price of a product and the price of a product against the financial ability to obtain the product. . Currently there are many smartphone brands that provide many features that can be used to facilitate all activities but by offering a more affordable price compared to the Samsung Galaxy Smartphone where Samsung provides the same features but at a higher price. According to the results of previous studies, prices have negative and insignificant results on purchasing decisions. That is, the best price is not a reason for someone to buy a Xiaomi Smartphone. When the price offered is getting cheaper, consumers are even more doubtful about the quality offered, conversely when the price offered is higher, consumers are more confident in deciding to buy a Smartphone (Maghfiroh, 2019). Meanwhile, according to the results of the study (Susanto, 2021) that Simultaneously Price has a significant influence on Oppo Smartphone Purchase Decisions. The results of the study (Triadi et al., 2021) state that prices simultaneously and significantly influence purchasing decisions. Price affects the decision to buy a Samsung Galaxy Smartphone.

H2: Price perception has affected the purchasing decision of Samsung Galaxy Smartphone.

3. Marketplace And Purchasing Decisions

Marketplace also has an important role in influencing consumers in making purchasing decisions Gumanti et al (2022). According to (Ardy & Nainggolan, 2022) a marketplace is a website that provides buying and selling facilities for shops. *Marketplace* and traditional markets have almost the same concept. *Marketplace* provides a place to sell and helps sellers to meet buyers and make payments easily. The Samsung Galaxy S20 BTS Edition was successfully sold out in less than an hour after the pre-order was officially opened. During the pre-order period, Samsung's marketing manager said that there were twice as many enthusiasts as the Samsung Galaxy BTS or Z Flip compared to the previous generation. Pre-orders can be made at several marketplaces, namely Tokopedia, Shopee, Blibli and the Samsung.com website. The results of research (William & Aripadono, 2020) show that the marketplace has a significant effect on purchasing decisions. Whereas in (Nurul Hidayah et al., 2022) states that the marketplace has an effect on increasing sales .

H3: Marketplace has affected the purchasing decision of Samsung Galaxy Smartphones

4. Brand Ambassadors and Purchasing Decisions

According to Andini & Lestari (2021) A brand ambassador is a celebrity who has a passion for the brand and can influence and invite consumers to buy or use a product being promoted. Brand ambassadors usually use artists who are well-known because they have a large fan following. According to Nurwanti & Aulia (2022) defines a brand ambassador as someone who acts as a representative for certain products or services from a brand and has a major impact on sales of these products or services. Meanwhile, according to (Jamiat, 2021) brand ambassadors are figures known for their achievements in different fields from the product groups they support and their involvement is commonly referred to as *brand endorsers* or *brand ambassadors*. According to the results of research (Brestilliani, 2020) brand ambassadors have a positive and significant effect on purchasing decisions. according to the results of research (Janingum et al, 2020; Susanto, 2021) that Simultaneously Price has a significant influence on OPPO Smartphone Purchase Decisions. The results of research conducted by (Alamsyah et al., 2021) state that there is a significant influence from the brand image variable on purchasing decisions.

H4: Brand Ambassadors has affected the purchasing decision of Samsung Galaxy Smartphones

5. Product Quality, Price Perception, Brand Ambassador Marketplace and Purchasing Decision

According to Kotler and Armstrong (2004) in the book (Firmansyah, 2019) product quality is the ability of a product to perform its functions, this includes overall durability, reliability, accuracy, ease of operation and product repair as well as other product attributes. According to (Wariki et al., 2015) . Perceived price is a person's view of the suitability of the price of the product and the price of the product against the financial ability to obtain the product. Currently there are many smartphone brands that provide many features that can be used to facilitate

all activities but by offering a more affordable price compared to the Samsung Galaxy Smartphone where Samsung provides the same features but at a higher price. According to (Ardy & Nainggolan, 2022) a marketplace is a website that provides buying and selling facilities for shops. *Marketplace* and traditional markets have almost the same concept. *Marketplace* provides a place to sell and helps sellers to meet buyers and make payments easily. According to (Nurwanti & Aulia, 2022) defines a brand ambassador as someone who acts as a representative for certain products or services from a brand and has a major impact on sales of these products or services. Product quality, Perceived Price, Marketplace and Brand Ambassador influence purchasing decisions.

H5: Product Quality, Price, Market Place, and Brand Ambassadors has affected the purchasing decision of Samsung Galaxy Smartphones

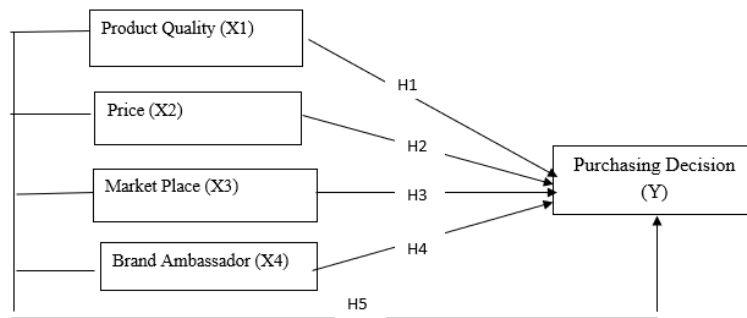


Figure 1 Conceptual Framework

II. METHODS

A. Data and Respondents

According to Arikunto (2005) data collection techniques are methods that can be used by researchers to collect data. How to show something that is abstract, cannot be realized in objects that are visible to the eye, but can only be shown by the user. Data collection is a systematic and standard procedure for obtaining the necessary data. There is always a relationship between the method of data collection and the research problem to be solved (Nazir, 2005). Collecting data in this study is by distributing questionnaires.

B. Definition and Operationalization Variables

Table 2. Definition of Operational Variables

Variable	Dimensions	Indicator	Statement	Scale
Product (X1)	Product quality	1. performance	1. The performance of the Samsung galaxy smartphone is very good	Ordinal Scale
		2. additional features (features)	2. The features provided by the Samsung Galaxy Smartphone are in accordance with user needs	
		3. reliability	3. Samsung Galaxy smartphones are very reliable in helping user activities	
		4. compliance with specifications	4. Samsung galaxy smartphone meets standard specifications	
		5. Durability		
		(Tjiptono, 1997)		

			5. Samsung Galaxy smartphones are not easily damaged and last long when used.	
Price (X2)	Price Perception	<p>1. conformity of price with product quality</p> <p>2. Price comparison with competitors</p> <p>3. financial ability</p> <p>(Sumiyati & Soliha, 2020)</p>	<p>1. the price given by the Samsung galaxy smartphone is in accordance with its good quality.</p> <p>2. The prices provided by Samsung Galaxy smartphones can compete with the prices of other brands.</p> <p>3. The prices provided by Samsung Galaxy smartphones are very affordable for consumers.</p>	Ordinal Scale
Place (X3)	Marketplaces	<p>1. system quality</p> <p>2. quality of information</p> <p>3. Quality of service</p> <p>(DeLone & McLean, 2003)</p>	<p>1. The marketplace system (online buying and selling application) is easy to use when buying a Samsung Galaxy smartphone</p> <p>2. The information provided about the Samsung galaxy smartphone is quite clear.</p> <p>3. Respond to consumers very well and quickly</p>	Ordinal Scale
Promotion (X4)	Brand Ambassador (Brand Ambassador)	<p>1. Visibility (Popularity)</p> <p>2. Credibility (Expertise)</p> <p>3. Attraction</p> <p>4. Power</p> <p>(Maulida & Kamila, 2021)</p>	<p>1. The popularity of Samsung Galaxy Smartphone Brand Ambassadors can make consumers interested in buying Samsung galaxy smartphone products</p> <p>2. Brand Ambassador Samsung Galaxy Smartphones can create a feeling of trust in consumers to buy products</p> <p>3. Attractiveness of Brand Ambassadors can make consumers interested in buying Samsung galaxy smartphone products</p> <p>4. Achievements of Smartphone Brand Ambassadors can make</p>	Ordinal Scale

<i>Purchase Decision (Y)</i>	<i>Buying decision.</i>	<i>1. desire to use the product</i>	<i>1. there is a desire of consumers to use Samsung galaxy smartphones</i>	<i>Ordinal Scale</i>
		<i>2. the desire to own the product</i>	<i>2. the desire of consumers to have a Samsung galaxy smartphone</i>	
		<i>3. interest in the product</i>		
		<i>4. Take the time to get the product</i>	<i>3. there is a sense of consumer interest in buying a Samsung galaxy smartphone</i>	
		<i>5. know the function of the product</i>	<i>4. Consumers will take the time to get Samsung Galaxy smartphone products</i>	
		<i>(Adiwidjaja, 2017)</i>	<i>5. consumers know the function of each feature of the Samsung galaxy smartphone</i>	

C. Analysis Method

Data analysis in this study uses the Partial Least Square (PLS) approach. PLS is a component- or variant-based Structural Equation Modeling (SEM) model. SEM and PLS are an alternative technique in SEM analysis where the data used does not have to be normally distributed multivariate (Oda et al., 2014; Haryono, S. (2017). Besides being able to be used to confirm theories, PLS can also be used to explain and whether there is a relationship between latent variables. SEM PLS can simultaneously analyze constructs formed by reflective and formative indicators.

III. RESULTS AND DISCUSSION

The description of the respondents in this study explains the characteristics of the respondents based on the age of the respondent, the job of the respondent, the term of use of the consumer. The following are the results of the description of the respondents for each characteristic:

Table 3 Respondent Demographics

<i>Frequency Test Based on Characteristics</i>	<i>Frequency (Person)</i>	<i>Presentation (%)</i>
<i>18 – 21</i>	<i>10</i>	<i>8.3%</i>
<i>22–25</i>	<i>68</i>	<i>56.7%</i>
<i>Age 26–28</i>	<i>35</i>	<i>29.2%</i>
<i>29 – 32</i>	<i>6</i>	<i>5.0%</i>
<i>>33</i>	<i>1</i>	<i>0.8%</i>

Work	Student / Student	20	16.7%
	Employee	59	49.2%
	Self-employed	19	15.8%
	Etc	22	18.3%
Term of Use	< 2 years	48	40%
	2 years	31	25.8%
	3 – 4 Years	37	30.8%
	5 – 6 Years	4	3.3%

Data source: Data processed in 2023

The results of the data frequency test show that the characteristics of the respondents are based on age, the users of the Samsung Galaxy Smartphone product are dominated by respondents aged 22-25 with a percentage of 56.7%. the results of the data frequency test show that the characteristics of respondents are based on work, users of the Samsung Galaxy Smartphone product are dominated by job respondents as employees with a percentage of 49.2%. The results of the data frequency test showed that the characteristics of the respondents based on the period of use, the users of the Samsung Galaxy Smartphone product were dominated by respondents who used Samsung for a period of 3-4 years with a percentage of 30.8%.

Data processing techniques using the SEM method based on *Partial Least Square* (PLS) testing to see the Fit Model of a study (Ghozali, 2006). There are three criteria in the use of data analysis techniques with SmartPLS to assess the outer model, namely Convergent Validity, Discriminant Validity and Composite Reability. Convergent validity of the measurement model with reflected indicators is assessed based on the correlation between the item score/component score estimated by the PLS software. The individual reflexive measure is said to be high if it correlates more than 0.70 with the construct being measured. However, according to Chin, 1998 (Ghozali, 2006) for the early stages of research, the development of a measurement scale for a loading value of 0.5 to 0.6 was considered sufficient. In this study used a loading factor limit of 0.50.

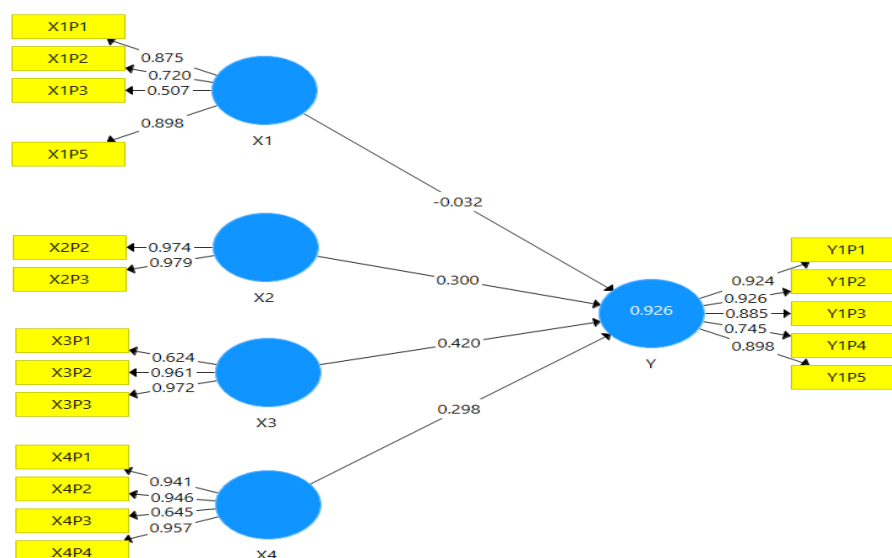


Figure 2. Structural Model

The results of processing using SmartPLS outer loading in each variable where the value of the outer model or the correlation between the construct and the variable shows that all loading factors have values above 0.50.

Table 4. Outer Loadings (Measurement Model)

<i>Variable</i>	<i>Statement</i>	<i>Model</i>
<i>Product Quality (X1)</i>	<i>X1P1</i>	<i>0.875</i>
	<i>X1P2</i>	<i>0.720</i>
	<i>X1P3</i>	<i>0.507</i>
	<i>X1P4</i>	<i>-</i>
	<i>X1P5</i>	<i>0.898</i>
<i>Price Perception (X2)</i>	<i>X2P1</i>	<i>-</i>
	<i>X2P2</i>	<i>0.974</i>
	<i>X2P3</i>	<i>0.979</i>
<i>Marketplaces (X3)</i>	<i>X3P1</i>	<i>0.624</i>
	<i>X3P2</i>	<i>0.961</i>
	<i>X3P3</i>	<i>0.972</i>
<i>Brand Ambassador (X4)</i>	<i>X4P1</i>	<i>0.941</i>
	<i>X4P2</i>	<i>0.946</i>
	<i>X4P3</i>	<i>0.645</i>
	<i>X4P4</i>	<i>0.957</i>
<i>Purchase Decision (Y)</i>	<i>Y1P1</i>	<i>0.924</i>
	<i>Y1P2</i>	<i>0.926</i>
	<i>Y1P3</i>	<i>0.885</i>
	<i>Y1P4</i>	<i>0.745</i>
	<i>Y1P5</i>	<i>0.898</i>

Source: Data Processing with PLS 2023

The results of processing using Smart PLS can be seen in the *outer loading table* for each variable where the outer model value or the correlation between the construct and the variable shows that all loading factors have values above 0.50.

Table 5. Composite Reability and Average Variance Extracted (AVE)

Variable	Composite Reability	Average Variance Extracted (AVE)	Conclusion
Product quality	0.845	0.587	reliable
Price Perception	0.976	0.953	reliable
Marketplaces	0.898	0.752	reliable
Brand Ambassador	0.932	0.778	reliable
Buying decision	0.944	0.771	reliable

Source: Smart PLS Report output

From table 5 above, *Composite Reability* show that each construct or variable has a *Composite Reability value* above 0.7 and AVE above 0.5 which indicates that the *Consistency Interval* of endogenous variables is product quality, price perception, marketplace and brand ambassador then the exogenous variable is the purchase decision.

A. Structural Model Testing (Inner Model)

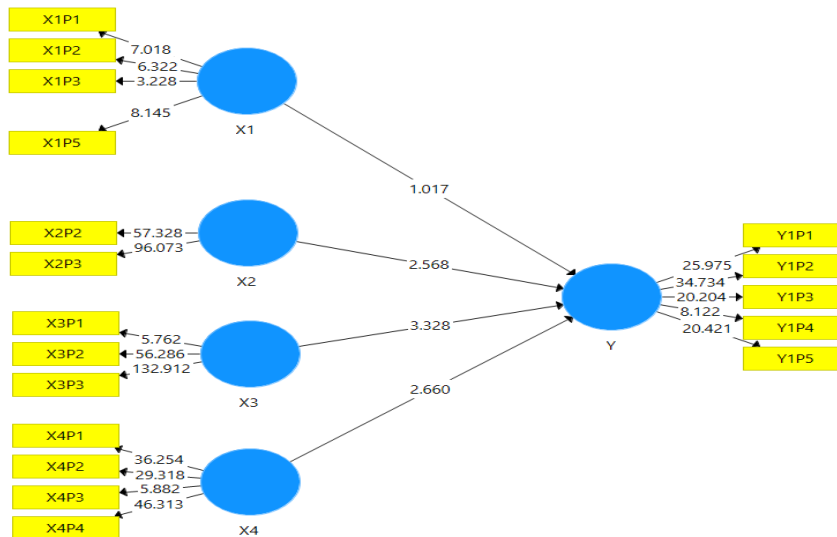


Figure 3. Bootstrapping Model Results

B. The Results of Hypothesis Test

Hypothesis testing in this study used a real level of 10% or Alpha (0.1) following the results of the *Path Coefficients test* in this study:

Table 6. Path Coefficients (Partial Test)

<i>Hypothesis</i>	<i>Path</i>	<i>Original Sample (O)</i>	<i>T Statistics</i>	<i>P Values</i>
<i>H1</i>	<i>X1 -> Y</i>	<i>-0.032</i>	<i>1.017</i>	<i>0.309</i>
<i>H2</i>	<i>X2 -> Y</i>	<i>0.300</i>	<i>2,568</i>	<i>0.011</i>
<i>H3</i>	<i>X3 -> Y</i>	<i>0.420</i>	<i>3,328</i>	<i>0.001</i>
<i>H4</i>	<i>X4 -> Y</i>	<i>0.298</i>	<i>2,660</i>	<i>0.008</i>

Source: Data Processing With PLS, 2023

The results of hypothesis based on Table 6, show that the first hypothesis of the effect of product quality on purchasing decisions obtained a coefficient T (count) of 1.017. If the T (count) value is compared to t (table) 1.960 this shows that the T (count) value is greater than the t (table) value, but if the T (count) value is less than t (table) then H0 is accepted. Thus, the results of testing the hypothesis state that the product quality variable has no effect on purchasing decisions because T(count) is less than 1.960. The results of other studies show that product quality has no significant effect on purchasing decisions for Oppo smartphones. This shows that product quality is not a determining factor in purchasing decisions (Septiani & Prambudi, 2021) . The results of testing the second hypothesis the effect of product quality on purchasing decisions obtained a coefficient T (count) of 2.568. If the T (count) value is greater than t (table) 1.960 this shows that the T (count) value is greater than the t (table) value. Thus, the results of hypothesis testing state that the price perception variable influences the Purchase Decision. The results of the study (Triadi et al., 2021) state that the perception of price simultaneously and significantly influences purchasing decisions. The results of this study state that price perception influences the purchase decision of the Samsung Galaxy Smartphone.

The results of testing the third hypothesis of the influence of the Marketplace on Purchase Decisions obtained the value of the coefficient T (count) of 3.328. If the T (count) value is compared to t (table) 1.960 this shows that the T (count) value is greater than the t (table) value. Thus the results of testing the hypothesis state that the Marketplace variable has an effect on Purchasing Decisions. The results of testing the fourth hypothesis of the influence of the Marketplace on Purchase Decisions obtained the value of the coefficient T (count) of 2.660. If the T (count) value is compared to t (table) 1.960 this shows that the T (count) value is greater than the t (table) value. Thus the results of testing the hypothesis state that the Brand Ambassador variable has an effect on Purchasing Decisions.

In addition to the partial hypothesis test, an F test was also carried out which was used to find out whether simultaneously (simultaneously) the independent variables had an effect or had no effect on the dependent or dependent variable, the following are the results of the F test:

<i>Model</i>	<i>Sum of Squares</i>	<i>df</i>	<i>MeanSquare</i>	<i>F</i>	<i>Sig.</i>
<i>1 Regression</i>	<i>1234,224</i>	<i>4</i>	<i>308,556</i>	<i>207,214</i>	<i>,000^b</i>
<i>residual</i>	<i>171,243</i>	<i>115</i>	<i>1,489</i>		
<i>Total</i>	<i>1405,467</i>	<i>119</i>			

a. Dependent Variable: Purchase Decision

b. Predictors: (Constant), Brand ambassador, Product Quality, Marketplace, Price Perception

Simultaneous test results Perceived price, marketplace and brand ambassador obtained an F test value of 207.214 > F-(table) > 1.99, then a significance value of 0.000 < 0.5 then simultaneously variable X affects variable Y. This shows that high The low decision to purchase Samsung Galaxy smartphones can be reflected in good product quality, more affordable prices for consumers, convenience when pre-ordering in the marketplace and the attractiveness and promotional power of brand ambassadors.

V. CONCLUSION

This study aims to examine several determinant factors in smartphone purchasing decisions in Bandar Lampung. Based on the results of data analysis and hypothesis testing that has been done, empirical evidence shows that price perception, Marketplace, Brand Ambassadors have no effect on Samsung galaxy smartphone purchasing decisions. While product quality has no effect on purchasing decisions for Samsung galaxy smartphones. Subsequent research can expand research by adding other factors that may influence purchasing decisions that have not been studied in this study so that research results can better describe real conditions over the long term.

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The Effect of Financial Literacy on Financial Well-Being Mediated by Financial Behavior

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ABSTRACT

Purpose: The occurrence of a shift in the consumption patterns of people who originally shopped in traditional markets to modern markets. Market traders often experience delays in development that can affect financial well-being (Financial Well Being). This study aims to see the effect of financial literacy on financial well-being mediated by financial behavior

Design/methodology/approach: This research is a quantitative research using the PLS SEM analysis tool. This research was carried out in Kotagede market, which was established since the time of the Mataram Kingdom in Yogyakarta. The research sample was 99 traders in Kotagede market, Yogyakarta.

Findings: The results showed that there was an influence of Financial Literacy variables on Financial Behavior variables and Financial Behavior variables on Financial Well Being. While the influence between Financial Literacy variables on Financial Well Being is stated to be insignificant. But the results show that the difference between the effect of financial literacy on financial well being will be significant if mediated by financial behavior

Paper type: Research paper

Keyword: Financial Behavior, Financial Literacy, Financial Well Being

Received : May 7th

Revised : May 14th

Published : July 31th

I. INTRODUCTION

The informal sector has a big role in developing countries (NSB) including Indonesia. The informal sector is unorganized, unregulated, and mostly legal but unregistered. In NSB, about 30-70% of the urban workforce population works in the informal sector. According to Kurniadi and Tangkilisan (2002) explained that the informal sector is a sector consisting of small-scale business units that produce and distribute goods and services with the main purpose of creating job opportunities and income for themselves and in their business they are faced with various obstacles such as capital factors, both physical, and human (knowledge) and skill factors. Traditional markets are one of the informal sectors that have great benefits in order to improve the Indonesian economy. The existence of the industrial revolution led to the development of the modern market. This has caused a shift in people's consumption patterns, which used to be quite shopping in traditional markets, now not a few have moved to shopping in modern markets (Ambarwati, 2019).

One of the markets that is the center of MSMEs in Yogyakarta is Kotagede Market. Kotagede Market which still exists today according to several historical sources is known to have existed since the time of Mataram. Kotagede Market is part of the concept of Catur Gatra Tunggal, which means four places or rides become a single unit. The four places are separated by a corridor of streets but are a single entity. The four places or vehicles include: the market as the center of the economy, the square as the center of community culture, the mosque as the center of worship, and the palace as the center of power (Wibowo, 2011). Kotagede Market, which is a market that has existed since the Mataram Kingdom, until now is a market for MSME levels. However, Abor and Quartey (2010) stated that MSMEs often experience delays in their development so that these delays can affect the financial welfare of MSME actors.

Financial well-being according to (Gutter and Copur, 2011) is influenced by various socioeconomic factors and financial behavior. In addition, (Gutter and Copur, 2011) also state that budgeting, thrift, risky credit card behavior, and compulsive purchases are significantly related to finance. Based on factors that affect financial well-being, researchers use two factors that are considered to affect financial well-being, including financial literacy and financial behavior. This confirms previous research from (Gutter and Copur, 2011) which states that financial well-being is influenced by one of them financial behavior.

Financial well-being can be achieved when a person has good financial literacy in making sound financial decisions. Financial capability is often referred to as financial literacy. Financial difficulties do not only occur due to issues of economic status. Financial difficulties can also occur if people mismanage finances. The existence of financial literacy can help someone in managing financial planning. A combination of financial knowledge, skills, attitudes and behaviors is necessary to make sound financial decisions, based on individual circumstances, to improve financial well-being (Muir et al., 2017). This explanation is also supported by the results of research from Zulfiqar and Bilal, (2016) which explains that one of the things that can affect financial well-being is Financial Literacy.

In addition to these factors, based on previous research, financial well-being is also influenced by financial behavior (Financial Behavior) where this factor is used as an intervention variable or intermediary variable. Based on the theory of life plan development that the habit of behavior of a person in acting can provide benefits for the well-being of the individual, in this case is financial well-being. This financial behavior influences financial behavior. (Sabri and Falahati, 2012) states that positive financial behavior can increase the level of financial well-being. Research (Starobin et al., 2013) and (Adam, 2017) shows that financial behavior is related to financial well-being. Based on the background and existing phenomena, the researcher took the title *The Effect of Financial Literacy on Financial Welfare through Financial Behavior as a Mediation Variable (Study at SARGEDE Mataram, Kotagede, Yogyakarta)*

A. Literature Review And Hypothesis Development

1. Literature Review

a. Financial Well-Being

According to (Kim, Garman, & Sorhaindo, 2003) states that financial well-being is a function of individual characteristics, financial behavior, and stressful financial events. An individual's financial well-being is related to attitudes, behaviors and feelings toward the financial condition of the individual. A person's well-being is not only seen from his physical or health but also seen from his spiritual. Indicators of his financial well-being. Financial well-being indicators are divided into 2, namely objective and subjective welfare. Objective indicators refer to a person's economic status such as income level and debt level (Bruggen et al, 2017). Each individual has the same level of income but has a different level of financial well-being and values (Tanoto & Evelyn, 2019). It is also stated by (Bruggen et al, 2017) that individuals have the same level of income but the level of welfare obtained differs depending on their personal preferences. In addition, subjective indicators are also influenced by financial satisfaction and financial behavior (Muhammad, 2018). This study used more subjective indicators in measuring financial well-being. This is because subjective models are easier to calculate or measure. According to Tanoto & Evelyn (2019) that subjective models are preferred because they are more comprehensive because they can cover non-financial matters and are more suitable for understanding financial concepts personally.

b. Financial Behavior

Financial behavior can be defined as a person's behavior in terms related to financial management in everyday life (Xiao, 2003). Financial behavior is related to a person's behavior in managing and using financial resources in actual (Nababan & Sadalia, 2012). Financial behavior relates to a person's financial responsibilities related to the way finances are managed. Financial responsibility is the process of managing money and assets that is carried out productively. Money management is the process of mastering and using financial assets (Andrew & Linawati, 2014). According to Suryanto (2017), financial behavior is a way that everyone does to treat, manage, and use their financial resources.

c. Financial Literacy

Financial literacy is the ability to manage finances (Chen & Volpe, 1998), while according to Lusardi and Mitchell (2008), financial literacy can be interpreted as financial knowledge, with the aim of achieving prosperity. This can be interpreted that preparations need to be made to welcome globalization, and more specifically, globalization in the financial sector. Financial literacy is awareness and knowledge of financial products, financial institutions, and concepts regarding skills in managing finances (Xu & Bilal, 2012), while according to the Financial Services Authority (OJK) financial literacy is knowledge, skills, and beliefs that influence attitudes and behaviors to improve the quality of decision making and financial management in order to achieve prosperity.

Financial literacy is divided into four aspects consisting of basic financial knowledge, savings and borrowing, insurance, and investment (Chen & Volpe, 1998).

2. Hypothesis Development

a. Financial Literacy toward Financial Behavior

From various studies that have been conducted to analyze the effect of Financial Literacy on Financial Behavior, where researchers show that Financial Literacy has an influence on Financial Behavior (Ida & Dwinta, 2010; Tang & Baker, 2015; Ismail et al., 2017). Research conducted by Perry and Morris (2005), Mien and Thao (2015), Arifin (2017) and Grable et al. (2009) argues that Financial Literacy has a positive influence on Financial Behavior. Based on the results of the study, individuals have a high knowledge of financial concepts. But there are also studies that have very contrary results. Research conducted by Herdjiono and Damanik (2016) suggests that Financial Literacy has no influence on Financial Behavior. From the results of this study, it can be concluded that individual financial knowledge has no effect on financial behavior in managing their personal finances. Based on the results of previous research, the hypothesis can be concluded that

H1: There is an influence of Financial Literacy on Financial Behavior

b. Financial Behavior toward Financial Well-Being

Qamar et al., (2016) explained that financial behavior is human behavior that is relevant to financial management. Financial behavior is related to how a person treats, manages, and uses the financial resources available to him. Individuals who have responsible financial behaviors tend to be effective in using their money, such as budgeting, saving money and controlling expenses, investing, and paying obligations on time. (Nababan and Sadalia, 2012). Financial behavior is related to financial well-being. Following the theory of life-span development proposed by Baltes in 1987, namely the formation of behavioral habits. Habits in behavior can shape actions that provide benefits and well-being in human life. In this study, the formation of behavioral habits is financial behavior. Good financial behavior will cause the family to manage finances well so that financial prosperity can be achieved. This is supported by research conducted by (Gutter and Copur, 2011) which shows that financial behavior has a positive influence on financial well-being. In addition, research from (Mohamed, 2017) also shows that financial behavior has a positive influence on financial well-being.

Based on the results of previous research, the hypothesis can be concluded that

H2 : There is an influence of Financial Behavior on Financial Well-Being

c. Financial Literacy toward Financial Well Being

Taft et al., (2013) explain that Financial literacy means the ability to understand and analyze financial options, plan for the future, and respond appropriately to events. So, a person with good financial literacy can increase financial security and reduce financial problems in the future. Having financial literacy skills affects living and working conditions and can be very helpful in anticipating the future and increasing income. According to Alwee Salleh (Garg and Singh, 2017), financial literacy is considered as a means to facilitate financial well-being, so having financial literacy will help families with daily financial tasks, handle financial emergencies and can avoid the threat of poverty.

It follows the theory of age development proposed by Baltes in 1987. This theory is closely related to cognitive development with knowledge that can provide benefits and well-being in human life. Knowledge of the cognitive is important in aiding well-being. The better the family's financial literacy level, the better the financial well-being. Conversely, when a family's financial literacy level becomes worse, the level of financial well-being also becomes worse. Families with a good level of financial literacy can make good financial decisions so that their level of financial well-being can be achieved.

Based on the results of previous research, the hypothesis can be concluded that

H3: There is an influence of Financial Literacy on Financial Well-Being

d. Financial Literacy to Financial Well-Being through Financial Behavior

Muir et al., (2017) explain that individuals with higher levels of financial literacy and good financial knowledge, attitudes, decisions, and behaviors tend to have better levels of financial well-being as well. But financial knowledge, attitudes, decisions, and behaviors affect financial well-being in different ways and mean different things to people of different ages. A high level of financial literacy will show good financial behavior so that the level of financial well-being can be felt (Falahati and Paim, 2011). With proper financial management supported by good financial literacy, it is expected that people's living standards will improve because no matter how high one's income is, without proper financial management, financial security will be difficult to achieve. It follows the opinion (Dwiastanti, 2015) by managing finances properly and correctly, individuals in the household will avoid financial difficulties.

This is in line with the behavioral theory planned by Ajzen in 2005 which deals with the background in implementing financial behavior, i.e. information, in this case, is knowledge. Knowledge is included in the category of control beliefs which in this study is financial literacy that influences traders' financial behavior. In addition, this is also in line with the theory of life span development by Baltes in 1987 related to cognitive development that can form behavioral habits, which will then provide benefits for well-being

Based on the results of previous research, the hypothesis can be concluded that

H4: The Effect of Financial Literacy on Financial Well-Being Mediated by Financial Behavior

II. METHODS

This study used a quantitative descriptive research design. The population used in this study is Micro, Small and Medium Enterprises in Kotagede Market, Yogyakarta. The sampling method in this study is non-probability sampling with purposive sampling techniques. The determination of the number of samples developed by Roscoe in Sugiyono (2015) is a feasible sample size in the study is between 30 to 500. This study used primary data or direct data. According to Sugiyono (2017) Primary data sources are data obtained directly from the results of interviews, observations and questionnaires distributed to a number of sample respondents who are in accordance with the target target and are considered representative of the entire population. The source of data in this study was obtained from the results of a questionnaire of market traders in Kotagede Market, Yogyakarta. This study used the Structural Equation Modeling (SEM) testing model with Smart-PLS software version 3.2.8. Validation testing in PLS based on convergent validity, Average Variance Extracted (AVE), Loading Factor. Reliability testing based on composite reliability and Cronbach's Alpha results of each variable. The outer model test is used to see indicators of independent variables in research. Determine whether all indicators can be declared valid and realistic based on each variable based on loading factor and AVE. If the loading factor and AVE result >0.5 , then the indicator is declared valid. Next, the model test is carried out by checking the goodness of fit inner model. The examination is based on the total determination value (Q^2) by calculating the R^2 of each variable.

III. RESULTS AND DISCUSSION

A. Validity and Reliability Test

1. Loading Factor

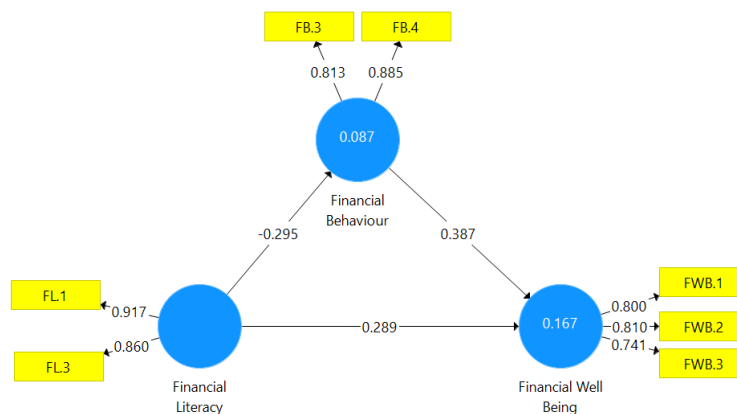


Figure 1. Loading Factor

Convergent validity testing is used outer loading or loading factor values. An indicator is declared to meet convergent validity in the good category if the outer loading value >0.6 . This study has had an outer loading value of more than 0.6 shown with the outer loading image above. Another method that can be used to assess the validity of discriminants is based on the Fornel Larcker criterion and the value of loading and cross loading indicators. The Fornel-Larcker criterion calculation process is carried out by comparing the AVE root of each construct with the correlation between one other construct in the research hypothesis model (Ghozali, 2008). If the results of the Fornel-Larcker Criterion calculation show that the AVE root value of each construct is greater than the correlation value between one construct and another, then the discriminant validity value is expressed whether the

discriminant validity value based on the Fornell-Lacker Criterion in this research model can be seen in the following table:

Table 1. Cross Loading Fornell Larcker Criterion

	<i>Financial Behaviour</i>	<i>Financial Literacy</i>	<i>Financial Well Being</i>
<i>Financial Behaviour</i>	0,850		
<i>Financial Literacy</i>	0,295	0,889	
<i>Financial Well Being</i>	0,302	0,175	0,784

The next analysis after the validity test is a reliability test. Instrument reliability tests are carried out to determine consistency with the regularity of measurement results of an instrument even though it is carried out at different times, locations, and populations. Construct reliability is measured by two different criteria: composite reliability and Cronbach's Alpha (internal consistency reliability). A construct is considered reliable if the value of composite reliability is more than 0.7 and the value of Cronbach's Alpha is more than 0.6. The results of reliability test calculations on composite reliability and Cronbach's Alpha are shown in table 2

Table 2. Construct reliability

	<i>cronbach's Alpha</i>	<i>Composite Reliability</i>
<i>Financial Behaviour</i>	0,619	0,838
<i>Financial Literacy</i>	0,739	0,883
<i>Financial Well Being</i>	0,686	0,827

The results of measuring Composite Reliability and Cronbach's Alpha in the Table show that all variables for Composite Reliability have values above 0.70 and all variables for Cronbach's Alpha have values above 0.60. Thus, these results can be declared valid and have a fairly high reliability.

2. Inner Model

The inner model can be measured by calculating the R-square for the dependent construct, the t-test as well as the significance of the structural path parameter coefficients. There are three categories in the grouping of R-square values. If the R-square value is 0.75 belongs to the strong category; for R-square values 0.50 belongs to the moderate category and 0.25 belongs to the weak category (Hair et al, 2010). Structural model testing is to look at the R square value as a model goodness-fit test or alignment test. The R-square value of the dependent variable obtained in this research model can be seen in the following table:

Table 3. Inner Model Test

<i>Variable</i>	<i>R Square Adj</i>
<i>Financial Behaviour</i>	0,78
<i>Financial Well Being</i>	0,15

The Financial Behavior (FB) variable has an r-square value of 0.78 or 78% after calculation through SmartPLS, this can be interpreted that the variance ability that can be explained by the variable is 78% through this model. The 22% that influence Financial Behavior is explained through other models. While the R Square value between Financial Literacy variables to Financial Well Being has an R² value of 0.15 or 15%. This shows that the variables in this study are able to explain their effect on indogen variables by 15%. And the remaining 85% is explained outside the existing model.

The next process after the R square value is obtained is to perform a t-test of the significance of the structural path parameter coefficient. The significance value of the parameter coefficient can be calculated using the bootstrapping method. Bootstrapping is a non-parametric procedure that can be applied to test whether coefficients such as outer weight, outer loadings, and path coefficients are significant by estimating the standard error for the estimate. The results of data processing to see the relationship between variables can be seen in the table below by using bootstrapping in PLS, the results of Path Coefficients and T-statistics will be obtained

Table 4. Bootstrapping

	<i>Original Sample (O)</i>	<i>Sample Mean (M)</i>	<i>Standard Deviation (STDEV)</i>	<i>T Statistics (O/STDEV)</i>	<i>P Values</i>	
<i>Financial Behaviour -> Financial Well Being</i>	0.387	0.402	0.097	3.974	0.000	Sig
<i>Financial Literacy -> Financial Behaviour</i>	-0.295	-0.295	0.111	2.659	0.008	Sig
<i>Financial Literacy -> Financial Well Being</i>	0.175	0.181	0.106	1.642	0.101	No Sig

Based on the presentation of data in the table above, it can be seen that of the three hypotheses proposed in this study related to the influence between variables, two are acceptable because each influence shown has a P-Values value of < 0.05. That is the influence of the Financial Literacy variable on the Financial Behavior variable with a significance value of 0.008. And the next influence between the variables of Financial Behavior on Financial Well Being with a significance value of 0.000 So that it can be stated that the independent variable to its dependents has a significant influence. While the effect between Financial Literacy variables on Financial Well Being is stated to be insignificant with a value of 0.101.

The next step is to conduct a mediation test between Financial Literacy variables on Financial Well Being with Financial Behavior as mediation variables. Based on the data, the following data is shown in table 5.

Table 5. Test Mediation

	<i>Original Sample (O)</i>	<i>Sample Mean (M)</i>	<i>Standard Deviation (STDEV)</i>	<i>T Statistics (O/STDEV)</i>	<i>P Values</i>	<i>Info</i>
<i>Financial Literacy -> Financial Behaviour -> Financial Well Being</i>	-0.114	-0.119	0.055	2.071	0.039	Sig
<i>Financial Literacy -> Financial Well Being</i>	0.175	0.181	0.106	1.642	0.101	No Sig

Based on table 5 data, it was found that the P-Value value in the role of the Financial Behavior variable as a mediation between Financial Literacy and Financial Behavior with a value of 0.039 or below 5%. Referring to

the direct influence between the results obtained that Financial Literacy does not have a significant effect on Financial Well Being. Meanwhile, if the role of mediation with Financial Behavior variables is carried out, it becomes significant. This shows that Financial Behavior is a full mediator.

V. CONCLUSION

The informal sector has a big role in developing countries (NSB) including Indonesia. Traditional markets are one of the informal sectors that have great benefits in order to improve the Indonesian economy. There is a shift in people's consumption patterns, which used to be enough to shop in traditional markets, now not a few have moved to shopping in modern markets. Market traders often experience delays in their development that can affect financial well-being (Financial Well Being). Financial well-being can be achieved when a person has financial literacy. In addition, based on previous research, financial welfare is also influenced by financial behavior (Financial Behavior). This research results that Financial Literacy can affect Financial Behavior. Similarly, Financial Behavior towards Financial Well Being. This research also shows that Financial Literacy does not significantly affect Financial Well Being. But the results show that the difference between the effect of financial literacy on financial well being will be significant if mediated by financial behavior.

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Suitability of Work Role and Organizational Commitment on Work Engagement in District Government Employees in the Province of Bali

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ABSTRACT

Purpose: Work engagement has a very positive impact on individuals and organizations, because work engagement is a positive attitude towards work and the organization where they work.

Design/methodology/approach: The research design can be interpreted as a strategy to organize research steps in order to obtain valid data according to the variable characteristics and research objectives.

Findings: This research is an ex-post facto research (measurement after the event), because the research data for both the independent variable and the dependent variable have occurred before this research was conducted. Path Analysis (Path Analysis) is used to determine the magnitude of the relationship and the direct and indirect influence of work role suitability (X1), organizational commitment (X2), on work engagement (X3). Because the data obtained from the questionnaire is ordinal data, while the data analysis used to prove the truth of the hypothesis suggests a minimum of interval data, the ordinal data needs to be scaled up to an interval scale through the "method of successive interval. There is a significant influence of work role suitability and organizational commitment together on work engagement. The first research hypothesis is that there is influence from the suitability of work roles and organizational commitment on work engagement in employees of the Regional Government of the Regency of Bali Province. based on the results of the path analysis test or Path Analysis in Table 4.8 the results obtained are the magnitude of the influence of work role suitability on work engagement showing the results $R_{yx1x2} = 0.926$, with a p-value of $0.000 < 0.05$, which states that H_0 is rejected which means there is an influence from role suitability work and organizational commitment to work engagement. There is an influence of work role suitability on work engagement. The second research hypothesis is that there is an influence of suitability of work roles on work engagement in employees of the Regional Government of the Regency of Bali Province. based on the results of the path analysis test or Path Analysis in Table 4.8, the result is that the magnitude of the influence of work role suitability on work engagement is 0.771 with a p-value of $0.000 < 0.05$. There is an Effect of Organizational Commitment on Work Engagement. The third research hypothesis is that there is an influence of organizational commitment on work engagement in employees of the Regional Government of the Regency of Bali Province. based on the results of the path analysis test or Path Analysis in Table 4.8 the result is the magnitude of the influence of organizational commitment on work engagement of 0.388 with a p-value of $0.000 < 0.05$. Appropriateness of work roles and Organizational Commitment have a significant positive effect on work engagement in the Regional Government Employees of the Regency of Bali Province. Appropriateness of work roles has a significant positive effect on work engagement for Regional Government Employees of the Regency of Bali Province. Organizational Commitment has a significant positive effect on work engagement in the Regional Government Employees of the Regency of Bali Province.

Paper type: Research paper

Keyword: Suitability, Work Role, Organizational Commitment, Work Engagement, District Government Employees, Bali

Received : May 9th

Revised : May 18th

Published : July 31th

I. INTRODUCTION

The success of an organization in order to grow and develop in a solid and reliable manner, of course, requires professional performance in carrying out its duties and obligations. Human resources play an important role in increasing the sustainability of an organization (Wibowo, 2018). Organizational forms and goals, various visions are designed for the benefit of the people, where they are led and guided by humans in carrying out the mission. This means that human resources are very important in all organizational activities. Therefore, personnel resources must be planned, strategies relevant to the goals set and implemented consistently to improve the performance and efficiency of the organization where these personnel resources are located. Employee performance is the success of employees in fulfilling their duties and responsibilities (Cahyana & Jati, 2017). Performance consists of carrying out an activity in accordance with the responsibilities given to achieve the programmed goals (Harsan et al., 2020). It can be said that employee performance provides an overview of the success of an institution. Therefore it is important for a company to pay attention to the performance of its employees. However, in fact, based on the results of observations and temporary interviews with the Regional Governments of Buleleng, Jembrana, Tabanan, Badung, Gianyar, Bangli, Klungkung, and Karangasem Regencies in the Province of Bali, it shows that there are still relatively many people using public services who have an impression of being unsympathetic and disillusioned with the attitudes and behavior of district government employees who should be community servants, setting an example, and becoming the backbone of regional development have turned into community commanders. The poor quality of service to the community can be traced from the many complaints raised by the public, especially those related to services that are long-winded and tend to be bureaucratic, high costs, the existence of additional fees, the behavior of officials who act more as officials rather than servants of the community, and public service. discriminatory (Haris, 2019). This gives an indication of the existence of symptoms that are employees of the Regency Regional Government in the Province of Bali who are less clean, less authoritative, and less upholding their mission as servants of the state and society. The phenomenon of the low performance of district government employees is a reflection of: (1) the lack of suitability of employee work roles to carry out the tasks assigned to them, (2) the relatively low commitment of employees to district government organizations and (3) employee engagement in work is still weak both in identifying work, participating actively in work and the importance of work performance for self-esteem (Munir, 2012).

Performance that is not optimal for employees is indicated by the amount of work carried out by employees that has not reached the target and does not meet the needs of society, employee engagement physically and psychologically at work is still relatively low, the suitability of employee work roles is not optimal, and employee commitment to the organization is still low. relatively low. All of this will affect the low level of performance of district government employees in achieving organizational goals. This fact is also supported by the findings of research conducted at the Center of Population and Policy Studies (2016) which shows that the productivity of civil servants in Indonesia is still very low, namely it has only reached an average productivity rate of 51.40%. This fact provides an implicit indication that the performance of Regency Regional Government employees in Bali Province is still relatively low because Regency Regional Government employees in Bali Province also include civil servants. The performance targets for local public services have not been achieved as expected by the central government due to the relatively low commitment of employees to the organization and the suitability of human resource work roles (Lumbanraja, 2020). This statement is also supported by a statement of weaknesses owned by the government in the provision of public service infrastructure, including limited capacity of apparatus resources, budget shortages, management and technology weaknesses in the procurement of public service infrastructure (Abdullah, 2020). So, based on this description it is stated that the quality of employee performance is not optimal, one of the factors that causes it is the suitability of work roles.

The suitability felt by employees between their self-concept and the suitability of their work role in the organization will result in meaningful experiences and work engagement. Work role suitability is a work role that is felt to be in accordance with the individual's self-concept that must be issued in individual performance as an employee (Fairus & Kurniawan, 2018). Job role fit refers to the match between individual skills and job requirements. When individual tasks and responsibilities match their competencies, there will be a good job role match (Rossouw & Rothmann, 2020). High role suitability will lead to high performance, because the work given is well understood by employees and there are already standard rules governing work procedures that must be carried out (Ayuniari et al., 2017). If a person feels that the work he is doing is in accordance with his abilities, it will create the confidence to do it, comfort to do it and happy to do it. Several research findings state that work role compatibility is an important factor in understanding the relationship between work orientation and psychological meaningfulness experiences at work (Rothmann & Hamukang'andu, 2013). Findings suggest that mental health and work role suitability are significantly related to work involvement (Zyl et al., 2020). Based on this description, it can be said that work role suitability is defined as the perceived match between the strengths, personality, and work preferences of individuals with the job-related roles they occupy. In other words, the

suitability of work roles will have an impact on employee performance. In addition to the suitability of work roles, the factors that affect performance are organizational commitment.

Organizational commitment can be synthesized as a person's emotional attachment to an organization that involves loyalty, belief in organizational values and is willing to make high efforts to achieve organizational goals (Mukrodi, 2019). Organizational commitment is one of the most important factors for the survival and stability of organizational development (Fajar & Rohendi, 2016). Organizational commitment is a force that binds individuals to an action related to the target (Pramana & Mujiati, 2020). Organizational commitment possessed by employees will have a good impact on the organization where they work, and will be more motivated at work. Organizational commitment is the biggest influence on performance when compared to the influence of other variables (Shalahuddin, 2018). Organizational commitment is a mental attitude that represents the desire, need and obligation to continue work in an organization, Meyer and Allen (2010: 65) have developed three organizational commitment factor models, namely: Affective commitment, Continuance commitment), normative commitment (Cok & Erawati, 2017). Organizational commitment includes elements of loyalty to the organization, involvement in work, and identification of organizational values and goals (Daud & Afifah, 2019). Employees who are committed to their organization will behave, such as considering the goals and benefits of the organization as their own, taking risks for the organization and wanting to remain in the organization (& Dewi, 2020). Several findings related to organizational commitment include findings stating that organizational commitment and job satisfaction can affect Organizational Citizenship Behavior (Krisjayanti & Supartha, 2020). The findings state that the variables of job satisfaction and organizational commitment have a positive and significant effect on employee performance (Mardiani & Dewi, 2015; Simpau et al., 2017). So it can be said that the existence of organizational commitment will affect employee performance.

In addition to these two factors, employee performance is also influenced by employee engagement. Work engagement is defined as a positive state that motivates employees to complete work characterized by high energy, full involvement with work and appreciation when completing work (Rachmatan & Kubatini, 2018). Work engagement is a positive psychological condition of employees that they are able to contribute physically, cognitively and emotionally which is marked by an outpouring of energy and mentality at work (Mulyani et al., 2020). Work engagement is a positive thing, it is fulfillment, an affective-motivational state of work-related wellbeing as opposed to burnout at work, and engaged employees have high levels of energy, and are enthusiastic about being involved in their work (Adi & Indrawati, 2019). Work engagement is a positive employee ability that is characterized by an outpouring of physical and mental energy at work as well as strong involvement and full concentration at work (Aidina & Prihatsanti, 2018). Work engagement is also characterized by high energy levels and strong identification with one's work (Sofiyan, 2018). This description illustrates that work engagement is in a positive state which makes employees motivated to complete work which is characterized by high energy, full involvement with work and appreciation when completing work. Work engagement has a very positive impact on individuals and organizations, because work engagement is a positive attitude towards work and the organization where they work. Based on the descriptions of performance and the factors that influence employee performance, this is one of the reasons this research was conducted. Research that examines the influence of work role suitability and organizational commitment on employee engagement. The difference between this study and existing ones is the suitability of work roles with organizational commitment as a factor influencing work engagement. This study entitled the effect of work role suitability and organizational commitment on work engagement in district government employees in the province of Bali.

II. METHODS

The research design can be interpreted as a strategy to organize research steps in order to obtain valid data according to the variable characteristics and research objectives. This research is an ex-post facto research (measurement after the event), because the research data for both the independent variable and the dependent variable have occurred before this research was conducted. Random sampling from SPU in this study used $f = 50\%$, the sample size fraction for research using descriptive-correlational methods was at least 20% of the population. By using $f = 50\%$, the size of the sample unit is the four District Governments. The four District Governments that were randomly selected were the District Governments of Buleleng, Bangli, Gianyar, and Karangasem. Of the four selected District Governments, based on area sampling, they can be stratified into two work unit strata, namely Administration & Administration Assistant (Assistant I) and Assistant for Economics & Social Welfare (Assistant II). Then each stratum is divided into four sub-stratums, namely group IV, group III, group II, and group I.

In this study the sample size was 140 respondents or 25.69% of the population. Because the employees of the Regional Government of Buleleng, Bangli, Gianyar, and Karangasem Regencies who are the observation units

consist of two work unit strata, namely Administration & Administration Assistant (Assistant I) and Economic & Social Welfare Assistant (Assistant II) and each work unit stratum is divided into four substratum, namely group IV; class III; class II; and group I, in this study the determination of the sample used was a stratified random sampling technique with a size proportional to the population strata (proportional to size) and the selection of samples from each population stratum used a simple random sampling technique.

A. Data Collection Methods and Research Instruments

Methods of data collection in this study using questionnaire techniques and documentation techniques. The questionnaire technique is used to capture data on the suitability of work roles, organizational commitment, and employee engagement on the dependent variable. The questionnaire technique is a way of collecting data by distributing questionnaires or questionnaires containing a number of questions or statements to all members of the sample for their answers. This technique was taken considering the large number of samples and spread over a large area. This is in accordance with the opinion (Sugiyono, 2015) which says that the questionnaire technique is an efficient data collection technique and is suitable for large respondents and spread over a large area.

The data collection instrument is a data collection tool that is used to retrieve data from data sources. As explained above, the data collection instruments are adjusted to the type and source of data required. The data in this study can be grouped into three groups, namely: suitability of work roles, organizational commitment, and employee engagement. Based on the type and source of existing data, in this study for data on (1) suitability of work roles, (2) organizational commitment to performance and (3) work engagement, using a questionnaire. The data in this study were collected using closed questionnaires and observation guidelines which were compiled by the researchers under the guidance of the supervisor, the preparation of which was carried out in the following stages: (1) identification of variables based on the formulation of the title, (2) elaboration of the sub-variables of each variable, (3) determining the indicators of each sub-variable, (4) compiling questions from each indicator, and (5) completing the instrument with instructions for filling out. Alternative answers available from each question (questionnaire) or observation guidelines are measured using the Likert scale model, which is a method for measuring attitudes, opinions, and perceptions of a person or group of people about social phenomena (Sugiyono, 2003). Alternative answers to the questionnaire items were measured using a Likert scale, with the weighting of the answers as follows. For alternative answers to positive statements, the weights are: Always (5), Often (4), sometimes (3), rarely (2) and never (1). As for alternative answers to statements that are negatively weighted are: always (1) often (2), sometimes (3), rarely (4) and never (5). Test the validity and reliability of the instrument

Validity test is a test used to measure whether or not a questionnaire is valid. If the questions or statements in the questionnaire can reveal what will be measured, then the questionnaire is considered valid. The basis for the decision to find out whether an instrument is valid or not, namely by looking at the significance value, if the significance value is < 0.05 (5%) then the questionnaire is said to be valid, but if > 0.05 (5%) then the questionnaire is said to be invalid (Sugiyono, 2013). Reliability test is a test that is used as a tool to measure a questionnaire which is an indicator of a variable. If the respondent's answers to a question or questionnaire statement are consistent or stable, then it can be said that the questionnaire is reliable. The basis for decision making in this test is by looking at the Cronbach Alpha value. Instruments or variables can be said to be reliable if they have a Cronbach Alpha value > 0.60 (Ghozali, 2011).

B. Data Analysis Method

Path Analysis (Path Analysis) is used to determine the magnitude of the relationship and the direct and indirect influence of work role suitability (X1), organizational commitment (X2), on work engagement (X3). Because the data obtained from the questionnaire is ordinal data, while the data analysis used to prove the truth of the hypothesis suggests a minimum of interval data, the ordinal data needs to be scaled up to an interval scale through the "method of successive interval" from Hays (1969:39).

Table 1. Contribution of the Effect of Variables X1 and X2 on Y

<i>X1 to Y directly</i>	$px3x1.px3x1$
<i>X1 through X2 indirectly on Y</i>	$px3x1.r x1x2.P x3x2$
<i>X1 in total on Y</i>	<i>A</i>
<i>X2 to X3 directly</i>	$px3x2. px3x2 px3x2.r$ $x1x2.px3x1$
<i>X2 through X1 indirectly on Y</i>	
<i>X2 in total on Y</i>	<i>B</i>
<i>Total overall to Y</i>	<i>A + B</i>
<i>Other variables (E1) on Y</i>	$-(A + B)$

III. RESULTS AND DISCUSSION

A. Research result

The object of this study is the Suitability of Work Roles and Organizational Commitment to Work Engagement in Local Government Employees of the Regency of Bali Province. In this study the sampling process was carried out using stratified random sampling technique through two stages (two stage cluster sampling), namely conducting the first random stage to determine the number of District Governments that were sampled in the research area and then carrying out the second stage random to determine the number of employees who became respondents in the District Government that has been selected. In this study there were eight primary sampling units (SPUs) because in the Province of Bali there were eight District Governments and District Governments used as SPUs. The data collection used in this study was through distributing questionnaires online by providing a link to the questionnaire to the District Government Employees of the Province of Bali. The number of samples and distribution of questionnaires was 140 respondents, so the number of questionnaires that could be processed was 140 responses. Test the validity and reliability of the instrument.

1. Validity test

Validity Test is a test used to measure whether or not a questionnaire is valid. If the questions or statements in the questionnaire can reveal what will be measured, then the questionnaire is considered valid. The basis for the decision to find out whether an instrument is valid or not, namely by looking at the significance value, if the significance value is < 0.05 (5%) then the questionnaire is said to be valid, but if > 0.05 (5%) then the questionnaire is said to be invalid (Sugiyono , 2013).

Table 2. Validity Test Results

<i>Variable</i>	<i>Pearson Correlation Sig. (2 - tailed</i>	<i>N</i>	<i>Desc.</i>
<i>Work Role Compatibility (X1)</i>			
<i>KPK1</i>	<i>0,852</i>	<i>140</i>	<i>Valid</i>
<i>KPK2</i>	<i>0,867</i>	<i>140</i>	<i>Valid</i>
<i>KPK3</i>	<i>0,858</i>	<i>140</i>	<i>Valid</i>
<i>Organisation Commitment (X2)</i>			
<i>KO1</i>	<i>0,501</i>	<i>140</i>	<i>Valid</i>
<i>KO2</i>	<i>0,635</i>	<i>140</i>	<i>Valid</i>
<i>KO3</i>	<i>0,719</i>	<i>140</i>	<i>Valid</i>
<i>KO4</i>	<i>0,635</i>	<i>140</i>	<i>Valid</i>
<i>KO5</i>	<i>0,283</i>	<i>140</i>	<i>Valid</i>
<i>KO6</i>	<i>0,426</i>	<i>140</i>	<i>Valid</i>
<i>KO7</i>	<i>0,592</i>	<i>140</i>	<i>Valid</i>
<i>KO8</i>	<i>0,675</i>	<i>140</i>	<i>Valid</i>
<i>KO9</i>	<i>0,631</i>	<i>140</i>	<i>Valid</i>
<i>KO10</i>	<i>0,266</i>	<i>140</i>	<i>Valid</i>
<i>Work Engagement (X2)</i>			
<i>KK1</i>	<i>0,566</i>	<i>140</i>	<i>Valid</i>
<i>KK2</i>	<i>0,758</i>	<i>140</i>	<i>Valid</i>
<i>KK3</i>	<i>0,767</i>	<i>140</i>	<i>Valid</i>
<i>KK4</i>	<i>0,832</i>	<i>140</i>	<i>Valid</i>
<i>KK5</i>	<i>0,554</i>	<i>140</i>	<i>Valid</i>
<i>KK6</i>	<i>0,309</i>	<i>140</i>	<i>Valid</i>

2. Reliability

Reliability testing in this study used the help of the Statistical Package for Social Science (SPSS) 23 for Windows program to make it easier to process research data. Instruments or variables can be said to be reliable if they have a Cronbach Alpha value of >0.60 (Ghozali, 2011). The reliability test in this study was through the SPSS version 23 program with a total of 140 respondents. The results of the reliability test that has been processed through the program are presented in the following table.

Table 3. Reliability Test Results

<i>Research Variable</i>	<i>Cronbach's Alpha</i>	<i>AlphaStandard</i>	<i>Description</i>
<i>Work Role Compatibility (X1)</i>	<i>0,849</i>	<i>0,60</i>	<i>Reliable</i>
<i>Organisation Commitment (X2)</i>	<i>0,731</i>	<i>0,60</i>	<i>Reliable</i>
<i>Work Engagement (Y)</i>	<i>0,758</i>	<i>0,60</i>	<i>Reliable</i>

B. Data Analysis Method

Data analysis is a process of simplifying data in a form that is easier to understand and interpret using statistics. Based on the research objectives stated above, namely to determine the effect of work role suitability, organizational commitment, on employee engagement, the data analysis used is path analysis. The steps taken in data analysis are as follows. (1) data description, (2) perform analysis prerequisite test, and (3) test the hypothesis.

C. Data Description

The raw data that has been collected needs to be described to make it easier to understand. For this purpose, the variable data of work role suitability, organizational commitment and work engagement with descriptive statistics. Descriptive analysis was carried out to be able to clearly describe all research variables (Sugiyono, 2015b). The descriptive analysis in question is a description of the frequency distribution (f), the average score (M), the highest score, the lowest score, the range, class size, class width, and standard deviation.

Table 4. Data Description

<i>Description</i>	<i>Work Role Compatibility</i>	<i>Organisation Commitment</i>	<i>Work Engagement</i>
<i>Min.</i>	<i>7,00</i>	<i>32,00</i>	<i>19,00</i>
<i>Max.</i>	<i>15,00</i>	<i>48,00</i>	<i>30,00</i>
<i>Rerata</i>	<i>10,8786</i>	<i>39,2714</i>	<i>24,1143</i>

1. Testing Statistical Hypotheses

Path Analysis (Path Analysis) is used to determine the magnitude of the relationship and the direct and indirect influence of work role suitability (X1), organizational commitment (X2), on work engagement (X3). Because the data obtained from the questionnaire is ordinal data, while the data analysis used to prove the truth of the hypothesis suggests a minimum of interval data, the ordinal data needs to be scaled up to an interval scale through the "method of successive interval" from Hays (1969:39). Based on the calculation results using the help of the SPSS 20.0 for windows program, the calculation results are obtained as in table 1 below.

Table 5. SPSS Output Path Analysis Influence X1 and X2 on Y

<i>No</i>	<i>Parameter</i>	<i>Score</i>	<i>P-value</i>	<i>Alpha (a)</i>	<i>Result</i>	<i>Conclusion</i>
<i>1</i>	<i>Ryx1x2</i>	<i>0,926</i>	<i>0,000</i>	<i>0,05</i>	<i>Declined Ho</i>	<i>There is a Joint influence of work role suitability and organisational commitment on work attachment which is 92.6%.</i>

2	R_{2yx1x2}	0,858	0,000	0,05	Declined Ho	Contribution of Joint influence of work role compatibility and organisational commitment on work engagement is 85.8%.
3	P_{yx1}	0,771	0,000	0,05	Declined Ho	There is an influence of work role compatibility on work engagement, which is 77.1%
4	P_{2yx1}	0,878		0,05	Declined Ho	Contribution Joint of work role compatibility to work engagement is 87.8%.
5	P_{yx2}	0,388	0,000	0,05	Declined Ho	There is an effect of organisational commitment on work engagement, which is 38.8%.
6	P_{2yx2}	0,622	0,000	0,05	Declined Ho	Contribution Joint of organisational commitment on work engagement which is 62.2%.
7	P_{x1x2}	0,773		0,000	Declined Ho	There is an effect of X1 on X2
8	P_{2x2x1}	0,597	0,000	0,000	Declined Ho	Contribution Joint of work role compatibility to organisational commitment which is 59
9	ϵ	0,145				Contribution Joint of other variables on work engagement which is 14.5%

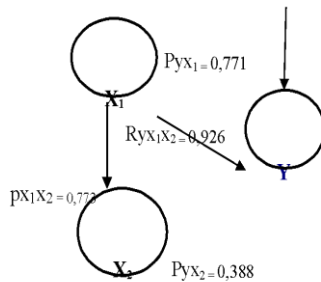


Figure 4.1 Structure of Influence of Work Role Conformity (X1) and Organizational Commitment (X2) on Work Engagement (Y)

Table 6. Contribution of the Influence of Variables X1 and X2 on X3

Description	Contribution	Percentage (%)
Contribution of X1's direct effect on Y	0,878	87,8%
Contribution of X1's indirect effect on Y through X2	-0,107	-10,7%
Total influence of X1 on Y	0,771	77,1%
Contribution of X1 to X2	0,773	77,3%
Contribution of X2 to Y directly	0,388	38,8%
Contribution of Joint of X1 and X2 on Y	0,926	92,6%

<i>Total overall to Y</i>	<i>0,858</i>	<i>85,8%</i>
<i>Other variables (E1) on Y</i>	<i>0,145</i>	<i>14,5%</i>

Based on the results of the calculation of the Path Analysis statistical test in Table 4.6, it shows that the suitability of work roles and organizational commitment jointly affect work engagement in employees of the Regional Government of the Regency of Bali Province. The magnitude of the influence of work role suitability and organizational commitment on work engagement is 92.6%, while the relationship between other factors on work engagement is 14.5%. Based on the results of the calculation of the Path Analysis statistical test in Table 4.8, it shows that the suitability of work roles has a positive effect on work engagement for employees of the Regional Government of the Regency of Bali Province. The magnitude of the influence of work role suitability on work engagement is equal to 77.1%, while the large contribution of work role suitability to work engagement is equal to 87.8%. Based on the calculation results of the Path Analysis statistical test in Table 4.8, it shows that organizational commitment has a positive effect on work engagement in employees of the Regional Government of the Regency of Bali Province. The magnitude of the influence of organizational commitment on work engagement is equal to 38.8%, while the contribution of suitability of work roles to work engagement is equal to 62.2%.

2. Hypothesis Test

1. There is a significant influence of work role suitability and organizational commitment together on work engagement

The first research hypothesis is that there is influence from the suitability of work roles and organizational commitment on work engagement in employees of the Regional Government of the Regency of Bali Province. based on the results of the path analysis test or Path Analysis in Table 4.8 the results obtained are the magnitude of the influence of work role suitability on work engagement showing the results $R_{yx1x2} = 0.926$, with a p-value of $0.000 < 0.05$, which states that H_0 is rejected which means there is an influence from role suitability work and organizational commitment to work engagement. The size of the contribution of work role suitability and organizational commitment to work engagement together is 85.8%. Meanwhile, the influence of other variables is 14.5%. This indicates that H_0 is rejected, which means there is a significant positive effect on role suitability. work on work engagement for employees of the Regional Government of the Regency of Bali Province. The contribution of the influence of the suitability of work roles on work engagement is 87.8%.

2. There is an influence of work role suitability on work engagement

The second research hypothesis is that there is an influence of suitability of work roles on work engagement in employees of the Regional Government of the Regency of Bali Province. based on the results of the path analysis test or Path Analysis in Table 4.8, the result is that the magnitude of the influence of work role suitability on work engagement is 0.771 with a p-value of $0.000 < 0.05$, which indicates that H_0 is rejected, which means there is a significant positive effect on work role suitability on work engagement on employees of the Regional Government of the Regency of Bali Province. The contribution of the influence of the suitability of work roles on work engagement is 87.8%.

3. There is an Effect of Organizational Commitment on Work Engagement

The third research hypothesis is that there is an influence of organizational commitment on work engagement in employees of the Regional Government of the Regency of Bali Province. based on the results of the path analysis test or Path Analysis in Table 4.8 the result is the magnitude of the influence of organizational commitment on work engagement of 0.388 with a p-value of $0.000 < 0.05$, which indicates that H_0 is rejected which means there is a significant positive effect of organizational commitment on engagement work for employees of the Regional Government of the Regency of Bali Province. The contribution of the influence of the suitability of work roles on work engagement is 62.2%.

D. Discussion

1. The Effect of Work Role Suitability and Organizational Commitment on Work Engagement

Based on the results of the tests that have been carried out, the results obtained are that the variables of suitability for work roles and organizational commitment jointly affect work engagement for employees of the Regional Government of the Regency of Bali Province. Someone who feels the work he is doing is in accordance with his abilities, it will generate confidence to do it, comfortable to do it and happy to do it. The condition of employee engagement will be higher if the employee has high organizational commitment. The results of this study are in line with Desniari & Dewi's research (2020) which suggests that suitability for work roles will have

an influence on employee organizational commitment. The more appropriate the employee's work role, the higher organizational commitment which indirectly has an influence on employee engagement. Based on this statement it can be said that with the suitability of work roles and organizational commitment will be able to make employees have higher work engagement.

2. Effect of Work Role Suitability on Work Engagement

Based on the results of the research that has been done, it shows that there is a significant positive influence from the suitability of work roles on work engagement in employees of the Regional Government of the Regency of Bali Province. These results are supported by Rossouw's theory (2020) that work role suitability refers to compatibility between individual skills and job requirements. When individual tasks and responsibilities match their competencies, there will be a good job role match. This theory is also supported by Ayuniari's research (2017) that high role suitability will lead to high performance, because the work provided is well understood by employees and there are already standard rules governing work procedures that must be carried out.

3. The Effect of Organizational Commitment on Work Engagement

Based on the results of the research conducted, it shows that there is a significant positive effect of organizational commitment on work engagement in employees of the Regional Government of the Regency of Bali Province. This result is supported by Fajar & Rohendi's theory (2016) which states that organizational commitment is one of the most important factors for the continuity and stability of organizational development. This theory is supported by Mardiani's research (2015) which states that the variables of job satisfaction and organizational commitment have a positive and significant effect on employee performance. This opinion is also in line with research conducted by Salahuddin (2018) that organizational commitment has a greater effect on performance than the influence of other variables.

The limitations in this research are that the variables studied are still limited, there are still variables that are not included in the study, so it is hoped that future researchers will examine other variables that can affect work engagement. The results of this research prove that the relationship between work role suitability and organizational commitment greatly influences work engagement. High role suitability will lead to high performance, because the work given is well understood by employees and there are already standard rules governing work procedures that must be carried out.

Organizational commitment possessed by employees will have a good impact on the organization where they work, and are more motivated to work so as to create good performance. It is expected that recruiting employees in accordance with the roles and abilities in their fields, because the suitability of work roles greatly affects employee performance. And it is also expected to maintain organizational commitment because organizational commitment is one of the most important factors for the survival and stability of organizational development. improve employee engagement by paying attention to factors that can increase employee engagement which can be done by creating skills development programs, fostering work relations that will have a positive impact on employees and provide opportunities for employees to participate in making decisions related to their work. Employees will be more likely to feel more attached to their work and have higher motivation to achieve their performance. For further analysts who wish to explore the field of Human Resource Management, given the importance of the relationship between work role suitability, organizational commitment, and work engagement, it is hoped that they will conduct further research using variables that have not been included in this study, as well as those that have an influence on work engagement.

V. CONCLUSION

Appropriateness of work roles and Organizational Commitment have a significant positive effect on work engagement in the Regional Government Employees of the Regency of Bali Province. Appropriateness of work roles has a significant positive effect on work engagement for Regional Government Employees of the Regency of Bali Province. Organizational Commitment has a significant positive effect on work engagement in the Regional Government Employees of the Regency of Bali Province.

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