Digital Literacy Improves the Tourism Workers Competency in Bali

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Abstract

Tourism workers finally gave up losing their jobs due to the closure of many tourism companies, returned to their hometowns, switched professions to agriculture, trade, online transportation and other sectors. Since the 1st Bali Bombing (2002), 2nd Bali Bombing (2005), the eruption of Mount Agung up to the Covid 19 Pandemic, there has been no strategy, model or concept set by the Government or the private sector in Bali to anticipate this employment tsunami. Tourism workers need additional skills in the field of Digital Literacy. Strengthening the Digital Literace for Tourism Workers Competence will realize the independence of the Workers.

Researchers will try to complement previous research by emphasizing the importance of Digital Literacy which must be owned by every Tourism worker who is equipped with Self-Efficacy abilities for the independence of Tourism workers and is able to have strong Digital Competency to deal with a Dynamic Environment that can change at any time.

This study will examine the direct and indirect effects of Digital Literacy on Self-Efficacy and Digital Competence by using the Dynamic Environment moderating variable and expanding the empirical study of

Tourism workers on a larger scale. This study uses a grand theory: Self Efficacy Theory, Competence Based Education Theory and Planned Behavior Theory. Total respondents were 270 Tourism staff who were still working or those who were part-time during the pandemic, IT experts and users in 7 Hotels, 5 Villas, 3 Tourism Destinations in Bali.

This research is a quantitative research. Multivariate analysis with the application of AMOS-based structural equation models or SEM (structural equation modeling). This research as a practical reference, is expected to be an empirical contribution to Bali Tourism and also useful for other Tourism destinations around the world in dealing with Manpower disaster management and preparedness, with a focus on the Digital Literacy model and Tourism Workers Competence.

Keywords: Digital Literacy, Digital Competency, Environment Dynamic, Self Efficacy

INTRODUCTION

Highly talented workers who previously worked in the tourism industry, since the Covid 19 pandemic, many have switched fields of work, such as small, micro and medium enterprises, agriculture, animal husbandry, online transportation and others, just to survive and meet family needs. This needs to be anticipated for the future, these Tourism Workers need to have additional skills, so they can live in this digital era.

Bali's economic performance was still contracting in the fourth quarter (2021) so that it had an impact on increasing the number of unemployed and the number of poor people. The Open Unemployment Rate (TPT) recorded an increase from 1.57% in August 2019 to 5.63% (yoy) in August 2020, in line with the policy of limiting activities due to the COVID-19 pandemic. In terms of employment absorption, the agricultural sector is the largest contributor to employment in the Province of Bali, shifting the domination of the trade sector with a share of 22.51% of the total working population. (BI Bank of Indonesia 2021).

Today, the tourism sector maximizes the use of technology and reduces the involvement of people in operations (Pencarelli 2020). The existence of the internet for the development of Information and Communication Technologies (ICTs) in every economic sector (Soava, 2015), including Tourism which is very dependent on the digital skill competency of each employee. Technological evolution and changing forms of Tourism with increasing complexity so that some jobs change, some disappear and new jobs appear and demand for new types of skills (Medina and Plaza, 2018).

Tourism workers always want to improve their talents according to their field of work in the hospitality world, where the main medium is in the ICT (Information, Communication & Technology) sector. Organizations believe that more needs to be done until employees have the ability, both now and in 2030, to the appropriate level of digital skills that will enable them to operate in the tourism subsector analyzed (Patrocinio Zaragoza-Sa ez, 2021).

The future of the Tourism Industry and efforts to overcome Covid 19 can be predicted with Artificial Intelligence (AI) and analytical data (Liew, 2020). This study aims to improve the Digital Competence skills of Tourism workers by identifying Digital Literacy moderated by the Dynamic Environment and Self-Efficacy of Tourism workers.

LITERATURES

Digital Competency

Digital competence requires involvement that is broader than just knowing how to use devices and applications that are closely related to communication skills with information and communication technology and information skills (Garzon-Artacho, et. al., 2021). Reasonable use of information and communication technology requires specific knowledge and attitudes regarding legal and ethical aspects, privacy and security, as well as understanding the role of information and communication technology in society and a balanced attitude towards technology (Janssen, et. al., 2013).

Tabel 1. Explanation of Digital Competency Fields

Competence	Description
Functional	Knowledge and understanding of terminology, use of digital technology for basic purposes
Integratif	Effective integration of digital technologies into everyday life
Special	Optimizing the use of digital technology for work and creative purposes.
Communication and collaboration	Digitally powered network for collaborative knowledge development
Information management	Use digital technology to access, organize, analyze and assess the relevance and accuracy of digital information
Privacy and security	Measures to protect a person's personal identity, data and safety.
Legal and ethical	Socially appropriate behavior in a digital environment, including legal and ethical factors related to the use of technology and digital content
Technology and society	Context and use of digital technologies, and their impact on people and society.
Learn with and about technology	Emerging digital technologies, and how they can be used to support lifelong learning.
Informed decision making	Critical selection of digital technology that suits your needs and goals
Coherence / *Self-efficacy*	Use digital technology to enhance personal and professional performance.
Disposition	The importance of maintaining an objective and balanced perspective on digital innovations, and the confidence to explore and exploit their potential as opportunities arise.

(Sources Janssen, *et. al.*, 2013)

In Janssen's 2013 research, the Dynamic Environment element has not been included, even though the Dynamic Environment is very important, because it changes easily and quickly, this is what often happens in Bali. Several professional Competencies have been defined in close relationship with the relevant profession. Professional competence is essential for high performance in tourism jobs (Kay and Russette, 2000). Professional competence is a skill possessed by a person related to the knowledge and skills possessed, where individuals who hold positions, expertise and even certain positions are required to have high professionalism so that the implementation of their work can run effectively.

Self Efficacy

Self-efficacy means that workers believe they have the ability to make things happen through their own initiative, with the confidence and readiness to make efforts to succeed, including completing certain tasks, persuading others, and feeling change (Gong et al., 2009: Ng & Lucianetti 2016; Raub & Liao 2012).

Self-efficacy theory is a branch of Social Cognitive Theory put forward by Bandura (known as Social Learning Theory). One's belief in one's ability to control self-functions and the environment is called self-efficacy.

In the process of dealing with a pandemic, employees' self-efficacy represents their belief in overcoming difficulties encountered, ensuring their safety, completing tasks, understanding change, and persuading others (Niu, 2010).

Four important sources used by individuals in forming self-efficacy (Bandura in Friedman & Schustack, 2008), are:

1. **Mastery Experience** (experience mastering something) Experience in solving problems is one of the most important experiences that will affect a person's self-efficacy, because any action taken to achieve success or success is built on a strong belief in individual beliefs.
2. **Vicarious experience**, Observing the behavior and experiences of others as an individual learning process. Through this model individual self-efficacy can increase, especially if individuals feel they have equal abilities or even feel better than the people who are the subject of their study.
3. **Verbal persuasion** is to increase a person's beliefs about the things he has to try to be more enthusiastic and persistent to achieve a goal and success. Verbal persuasion has a strong influence on increasing individual self-efficacy. The condition for social persuasion to take place is that a person must believe or trust the party carrying out the persuasion whereby words or criticism from a trusted source have more effective power than the same thing but the source is not trusted (Feist & Feist, 2009).
4. **Physiological and emotional state,** Situations that suppress emotional states can affect self-efficacy. Individuals with reactions of anxiety, fear, stress and tension as traits that show that their performance is decreasing.

Digital Literacy

Digital literacy is an individual's ability to apply functional skills to digital devices so that they can find and select information, think critically, be creative, collaborate with others, communicate effectively, and still pay attention to electronic security and the evolving Socio-Cultural context (Hague & Payton 2010).

Digital literacy is the ability to define, access, manage, integrate, communicate, evaluate and create information safely and appropriately through digital technology and network devices to participate in economic and social life. This includes competencies referred to as computer literacy, ICT literacy, information literacy, data literacy, and media literacy (UNESCO, Paris 2018).

The principle of developing digital literacy according to Mayes and Fowler (Kemendikbud, 2017) is tiered. First, digital competence which includes skills, concepts, approaches and behaviors. Second, digital use which refers to the application of digital competencies related to a particular context. Third, digital transformation that requires innovation and creativity in the digital world.

Tourism is one of the most promising and dynamic activities today mainly due to two factors: the growth in job opportunities and the demand for qualified human resources, which are increasingly required for tourism professionals (Firth, 2020; OECD, 2020; WTTC, 2018).

Dynamic Environment

Environmental dynamism is an environmental condition that refers to the current environment. There is no pattern and instability, thus requiring organizations and individuals to quickly adapt to their environment to continue to explore and exploit external pressures. (Rumanti, A.A et. all., 2020).

Factors that influence environmental dynamics include politics, economics, society, technology, law, and the environment. Low environmental dynamism means that market demands, technological changes, and the institutional environment are stable and predictable, whereas high environmental dynamism is the opposite (Sun P. et.all.2022).

Information technologies such as artificial intelligence algorithms play an important supporting role in the design of smart travel services. It is also a key driving force for the innovation and construction of smart travel systems. The introduction of modern information technology is not only the recognition of technological innovation in the development of the tourism industry, but also the understanding of the internal organization, innovation, management and control, planning, marketing, and sales of the tourism industry, which realizes the innovation of the entire tourism industry (Yin, X et.all., 2022).

The construction of an e-commerce service system based on modern information technology that will introduce new productivity and market power. It promotes the transformation of the tourism industry from extensive operations to fine operations, the excessive development of traditional tourism to modern tourism, and the upgrading of the

tourism industry and realizes the joint development of tourism across regions. It has developed tourism into a pillar industry and a more advanced industry of the national economy (Yin, X.et. all.,2022).

During the Covid 19 crisis, everything was in a complex and chaotic environment. Under these conditions, psychology and consumer behavior are easily influenced by the external environment. Moments in times of crisis are the most relevant because of their impact on world views (Zenker & Kock, 2020). Therefore workers need to increase their digital literacy so that they have sufficient Digital Competence, so that they can do business independently.

RESEARCH METHODOLOGY
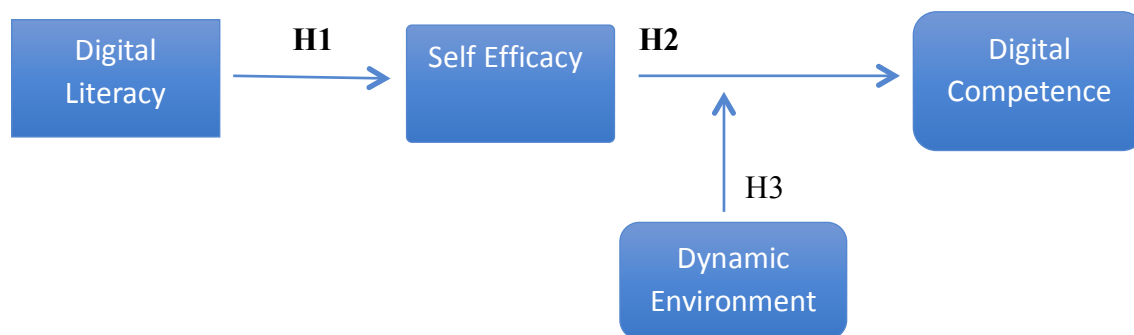
The type of research used in this research is quantitative research. Multivariate analysis with the application of AMOS-based structural equation models or SEM (structural equation modeling).

In this study, each variable that is thought to have an influence will be seen, namely Digital Literacy (X), Self-efficacy (M1), Dynamic Environment (M2), and Digital Competence (Y). The study used a survey technique using a questionnaire with a number of samples from the population as the main data collection tool. This is done with the intention of explanation (explanatory), namely providing a causal explanation between variables through hypothesis testing (Bauer, *et. al.*, 2021; Molino, *et. al.*,2021).

Hypothesis 1: Digital Literacy can influence Self Efficacy. Hypothesis 2: Self - Efficacy is able to moderate the relationship between Digital Literacy and Entrepreneur behavior. Hypothesis 3: Dynamic Environment is able to moderate the relationship between Self Efficacy and Entrepreneur Behavior

This study uses a grand theory: Self Efficacy Theory, and supporting by Competence Based Education Theory and Planned Behavior Theory. Total respondents were 270 Tourism staff who were still working or those who were part-time during the pandemic, IT experts and users in 7 Hotels, 5 Villas, 3 Tourism Destinations in Bali.

RESULT AND DISCUSSION

According to Palan (2007) said that competency consists of several different types of characteristics, which drive behavior, the foundation of these characteristics is evident in the way a person behaves at work. Competence is a characteristic of what people are like and what they can do, not what they might do. Competence is found in people who are classified as superior or effective performers.

From the several opinions above, it can be concluded that competence is a number of abilities that must be owned by someone, especially employees to reach the level of professional employees. The skills needed by a tourism professional are not static and depend heavily on technological developments (Almeida, *et. al.*, 2021).

The World Economic Forum in 2018 explained through a survey distributed among companies in the tourism sector that the emerging technologies with the greatest potential for market adoption in 2022 are big data, cloud computing, internet of things, machine learning, and augmented and virtual reality. This emerging technology will have a significant impact on the skills a tourism professional must have. Skills must be developed throughout life, and the skills that are the least automatic and the most complex to develop (eg, creativity, emotional intelligence, critical thinking) will form the basis of the job market.

Basically a tourism worker is active and has creativity skills, the ability to support one's own point of view, the ability to search, have critical reflection, communicative, collaborative, problem solving and listening skills. By focusing on the critical dimensions of digital competence, it is possible to create evaluation tools that are applicable to different contexts and target audiences (Esther, et. al. 2020).

Chung-Herrera, et. al. (2003) found that the most important competencies that hospitality leaders should possess are self-management skills such as ethics and integrity, time management, flexibility and adaptability, or self-development, along with strategic positioning. skills such as awareness of customer needs, commitment to quality, managing stakeholders or concern for society. This work fits into some of the outcomes discussed earlier but also advances other skills such as ethics, integrity or community care.

These competencies will be placed in fields related to social-savvy and self-savvy. Tesone and Ricci (2005) analyzed job professional competence expectations for hospitality and tourism employees across 31 items related to the knowledge, attitudes, skills, and abilities that employees must demonstrate. They concluded that the most relevant competencies were teamwork/communication, guest/customer service, professional image, understanding of performance standards and realistic job/career expectations. Professional competence he considers as one of the main substructures of the subject of professional work, together with individual motivation (self-efficacy), professional qualities, physiological and psychological traits in a professional manner. Soft skills development for rank and executive staff will also be required.

Every tourism person needs to have entrepreneurial skills digitally or through digital media that can be used whenever needed. In preparing Tourism workers to face Metaverse technology, it is hoped that every tourism worker can keep abreast of technological developments that continue to grow rapidly.

The following are the dimensions of the encompassing digital competence according to Garzon-Artacho, et. al. (2021) as follows:
1. Information and Information Literacy with indicators including:
a.) Information navigation, search and filtering; b.) Evaluation of digital information and data and content; c.) Storage and retrieval of information in the form of digital data and content.

2. Communication and Collaboration with indicators including: a.) Interaction through digital technology; b.) Share information and digital content; c.) Netizen participation; d.) Collaboration through digital channels; e.) Netiquette; f.) Digital identity management.

3. Production of Digital Content with indicators including:
a.) Development of digital content; b.) Integration and reworking of digital content; c.) Copyrights and licenses; d.) Programming.

4. Security with indicators including: a.) Device protection; b.) Protection of personal data and digital identity; c.) Health Protection; d.) Environmental protection.

5. Solving problems with indicators includes: a.) Solving technical problems; b.) Identification of technological needs and responses; c.) Innovation and creative use of digital technology; d.) Identification of gaps in digital competence.

This research focuses more on digital competencies that must be owned by a worker, so that tourism workers and people living in tourist destinations can understand the current needs of tourism actors, especially in the post-pandemic 19 era. In this context, the central role of humans is very important to ensure that the use of technology does not harm humans and many benefits can be obtained from tourism (Stankov dan Gretzel, 2020).

Tourism is labor intensive, the encounter between customers and employees is the main determinant of quality, employees are the main asset for tourism organizations. The real challenge is finding and retaining employees with the right skills, knowledge, and attitudes (Haven-Tang and Jones, 2008). This study states that the problems of business actors are limited experience, capital requirements and incompetent human resources (HR), especially in the use of digital technology.

Employees are a key asset for tourism organizations, and they need to have the right skills to tackle technological challenges (Haven-Tang and Jones, 2008). The most common type of training in digital skills is on-the-job courses, followed by online courses, several days of on-site training by external providers and one day of on-site and off-site training by external providers. Online training provides greater flexibility, efficiency and cost reduction, compared to more traditional training methods (Stone, *et. al.*, 2015).

A survey of tourism professionals was conducted to assess the importance and performance of a set of skills and competencies related to hospitality and tourism management (Stankov and Gretzel, 2020). Currently, the competence of tourism workers is required to equip themselves with an understanding of digital competence, because customers (guests) are netizens whose every step is always related to the world of the internet and mobile phones so that every tourism person is expected to be literate in digital technology, also expected to be someone who has competence in the digital field.

In this sub-sector, basic digital skills will be complemented by marketing (E-Commerce) and online communication skills as well as skills required for web development. In the future, virtual and augmented reality are expected to enhance the visitor experience (Espeso-Molinero and Camps, 2019). Workforce training to improve their skills is necessary to avoid dysfunction between technology and workforce which can greatly hinder the competitiveness of companies (Bonometti, 2009).

Competency Competence of workers can be enhanced by understanding the importance of digital and customer engagement by attending digital training, often using applications that make work run more effectively and efficiently. The results of Salwani's research (2009) show that technological competence, company size, company scope, web technology investment, pressure intensity, and back end use have a significant effect on e-commerce usage.

CONCLUSION

The results of this study strengthen the opinion of Krpalek (2021) explained that soft skills have been defined as competencies that must be owned by every employee regardless of profession with soft skills that have been tested as follows: 1.) Effective communication and negotiation; 2.) Planning and organizing work; 3.) Leadership; 4.) Teamwork. The results of the analysis regarding the use of digital technology and the digital competency capabilities of each tourism person aim to explore student tendencies to become entrepreneurs (Almeida, 2021). According to the results of the questionnaire collected and processed, the resulting data shows that most Tourism workers are aware of the importance of Digital Competence both when they work every day, and later when there is a disaster or force majeure situation.

It has been proved from the that hypothesis 1: Digital Literacy has positive influence to Self Efficacy. Hypothesis 2: Self -Efficacy is positively able to moderate the relationship between Digital Literacy and Digital Competence. Hypothesis 3: Dynamic Environment is not significantly moderating the relationship between Self Efficacy and Digital Competency.

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