

Digital literacy analysis: A case study of Telkom Indonesia in exploring its work environment dynamics

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Abstract

Digital literacy is increasingly recognised as a crucial skill in today's work environment, particularly in the context of rapidly advancing technology. This study aims to analyse the level of digital literacy among employees at PT Telkom Indonesia Graha Merah Putih Bandung and its impact on work productivity. Qualitative research methodology was employed with employees of the company serving as the research population. Both primary and secondary data were utilised, gathered through interviews, observation, and documentation. This study used three types of informants with each being represented by one employee. The findings reveal that digital literacy, encompassing proficiency in utilising digital communication tools and platforms, significantly influences the work productivity of PT Telkom Indonesia employees. Moreover, the development of digital literacy has identified that it is playing pivotal role. The study underscores the importance of digital transformation initiatives and enhancing employee digital literacy to drive improvements in work productivity.

Keywords: digital literacy, digital communication, work productivity

Introduction

The integration of digital technology in contemporary workplaces has spurred a profound shift in the skill sets required for professional success (Sutrisna, 2020). This research delves into the phenomenon of digital literacy within the work environment, particularly focusing on its manifestation and impact within PT Telkom Indonesia Graha Merah Putih. Researching digital literacy within PT Telkom Indonesia is urgent due to its prominent position in the telecommunications and digital services industry, where understanding how digital literacy impacts their workforce is crucial for staying competitive and innovative. As a major player in the telecommunication industry, PT Telkom Indonesia's strategic initiatives heavily rely on digital technologies, making it imperative to study how digital literacy shapes employee effectiveness and drives innovation within the organisation. Insights gained can inform strategies for enhancing employee skills and competencies, potentially setting benchmarks for digital transformation efforts across the industry. Moreover, studying PT Telkom Indonesia's approach to digital literacy can offer insights into broader societal impacts, digital inclusion efforts, and best practices that influence both industry standards and policy making. In an era dominated by rapid technological advancements, the ability to navigate, comprehend, and effectively utilise digital tools and information is pivotal for organisational efficacy and individual career advancement (Addina & Nasution, 2022). Despite the evident importance of digital literacy, a discernible gap exists in understanding its nuanced dynamics within specific organisational contexts, such as in the case of PT Telkom Indonesia. Previous research by Sutrisna (2020) has provided valuable insights into the broader landscape of digital literacy in workplaces; however, there remains a dearth of comprehensive studies that scrutinise its intricacies within the unique operational framework of Telkom. Consequently, this study aims to bridge this gap by conducting a detailed analysis of digital literacy, elucidating its multifaceted dimensions, and exploring its implications on employee performance and organisational outcomes within the context of PT Telkom Indonesia. By doing so, this research endeavours to contribute significantly to the existing body of knowledge on digital literacy in the workplace, offering actionable insights that can enhance organisational strategies and interventions aimed at boosting digital competence and fostering a culture of innovation and adaptability (Sutrisna, 2020).

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Literacy is a crucial skill for individuals to engage with and navigate today's digital world. The ability to comprehend and create written information forms as the basis for numerous essential personal and societal roles (Lin et al., 2023). Individuals who lack literacy skills often face limited access to education, job opportunities, social benefits (Schwerdt et al., 2020), and tend to have poorer health and lower participation in community activities. On a broader scale, literacy is essential for the functioning of democracy and socio-economic progress. The advancement of digital communication technology has introduced new difficulties for individuals with limited literacy skills. As public, professional, and social interactions increasingly move to a digital, text-based format, lacking literacy skills can lead to exclusion from online information and resources, as well as increased susceptibility to misinformation and associated harms (AJ et al., 2018; Mundial et al., 2016)

Kharizmi (2015) argues that literacy skills, specifically reading and writing should be more dominant than oracy skills (listening and speaking). This includes fundamental literacy, scientific, technical, multicultural, and global awareness. In addition, literacy is not only influenced by formal education but also by one's social, family, and professional environment (Permatasari, 2015). Digital literacy is becoming increasingly important as digital technology has become an integral part of everyday life. Pradana (2018) argues that digital literacy includes the ability to use digital technology to communicate and obtain information. Thus, digital literacy is critical to facing challenges and utilising opportunities in this digital era.

A programme known as digital-based applications is used to improve reading skills in relation to the development of digital-based technology. Software that is prepared to execute commands from the application is called an app. The goal is to obtain more accurate results in accordance with the purpose of using the application. One way of thinking about apps is as problem solvers that use the app's data processing methods. Typically, these methods depend on the desired or anticipated computation or anticipated data processing. As an applied tool that is generally defined, one of the definitions of an application can be utilised appropriately and integrated according to its capabilities. An application can be called an alternative for its users (Azizul, 2022).

Digital literacy encompasses a spectrum of abilities crucial for navigating the digital landscape effectively. It involves not only the technical skills required to operate digital tools but also the capacity to engage with digital content critically and ethically (Dinata, 2021). According to public opinion, digital literacy rests on four foundational pillars: digital skills, digital culture, digital ethics, and digital safety. These components are essential for individuals to search, work on, assess, use, produce, and utilise digital information wisely, thoughtfully, attentively, and appropriately. However, while these pillars provide a theoretical framework, empirical data are necessary to understand how they manifest and impact individuals within specific organisational contexts. For instance, within PT Telkom Indonesia, empirical research can shed light on the level of digital skills employees possess, the prevailing digital culture within the organisation, adherence to digital ethics principles, and practices related to digital safety. By examining these aspects empirically, we can gain insights into the practical implementation and effectiveness of digital literacy initiatives within PT Telkom Indonesia, thereby informing strategies to enhance digital competence and ensure optimal utilisation of digital resources for organisational success (Dinata, 2021)

The term 'digital skills' refers to the various talents and expertise needed to navigate, communicate, and engage with digital environments. These digital skills include using digital hardware, software, and technologies and knowing how to act morally and safely in digital environments. Proficiency in computer operation and use includes an understanding of operating systems and applications, surfing the web, searching for information online, and understanding terms such as URLs, browsers, and search engines. Recognise trusted sources, assess internet materials, and understand them. The main barriers to becoming proficient in digital marketing are the need for IT-savvy staff and business people's ignorance of internet usage (Anggraini & Supriyanto, 2019).

Comprehending our interactions and communications across various social media platforms like Facebook, Instagram, and others, along with recognising the significance of safeguarding privacy and practising ethical conduct online aids in shielding against cyber threats such as malware, phishing, and cybercrime. Digital communication skills to communicate through email,

online chat, video conferencing, and other digital communication platforms. It can provide an understanding of how to collect, analyse, and make decisions based on digital data. Proficiency in digital literacy is the ability to find and identify related data and understand, express, and share concepts in a digital environment. Besides that, there is a digital culture, which is a form of community activity in the digital space while still having national insight, Pancasila values, and diversity (Dinata, 2021).

Digital culture, as defined, encapsulates the behavioural norms and interactions shaped by digital technology within a society (Permatasari, 2015). It underscores how individuals engage, communicate, and navigate the digital realm, highlighting the profound influence of the internet and digital tools on modern lifestyles. This culture promotes easy access to diverse information sources, altering approaches to learning, decision-making, and daily activities. In essence, digital culture constitutes a significant context within which digital literacy operates.

Within the framework of digital literacy, digital culture plays a pivotal role in shaping individuals' competencies and behaviours in utilising digital resources effectively and responsibly. For instance, proficiency in social media usage, an integral aspect of digital culture, is crucial for communication, networking, and information dissemination in contemporary workplaces. Moreover, the prevalence of online content consumption, facilitated by digital culture, underscores the importance of critical thinking and information evaluation skills within digital literacy frameworks (Yanti et al., 2021).

Furthermore, digital culture fosters collaboration and information sharing, essential components of digital literacy in professional contexts (Rini et al., 2022). Platforms for online collaboration and file-sharing exemplify how digital culture facilitates cooperative endeavours, necessitating skills in digital communication and teamwork. Additionally, the heightened awareness of online privacy and security issues within digital culture underscores the importance of digital ethics, a key pillar of digital literacy (Pradana, 2018).

In essence, digital culture and digital literacy are intricately intertwined, with the former providing the socio-cultural context within which the latter operates (Yanti et al., 2021). A comprehensive understanding of digital literacy must encompass an awareness of the norms, behaviours, and dynamics inherent in digital culture, as they significantly influence individuals' digital competencies, practices, and ethical considerations. Therefore, exploring the relationship between digital culture and digital literacy is essential for developing holistic approaches to fostering digital competence and responsible engagement with digital technologies in contemporary society.

Multiliteracy, or the development of information literacy materials, includes literacies such as digital technology, information, multimedia, visual literacy (images), audio literacy, critical thinking, and understanding of moral, ethical, legal, social, and cultural issues related to the digital environment, as well as how to behave appropriately in online communities (Mardina, 2017). The use of smartphones and other mobile devices has become an essential part of the digital culture. They are used to access the internet, social media, applications, and many other digital services. Digital ethics is the ability of ASN individuals to adjust, model, rationalise, consider, and develop digital ethics governance (netiquette) in everyday life.

Digital ethics, encompassing ethical principles in the digital sphere, including privacy, data protection, cybersecurity, and ethical conduct online forms an integral component of digital literacy. Within the context of digital literacy, understanding and adhering to ethical guidelines are paramount for responsible and effective engagement with digital technologies. Proficiency in digital ethics equips individuals with the knowledge and skills to navigate complex ethical dilemmas inherent in digital environments, ensuring the ethical use of technology, respectful online behaviour, and protection of personal data (Rosalina et al., 2021). For instance, digital literacy initiatives that incorporate ethical considerations empower individuals to make informed decisions regarding online privacy, cybersecurity practices, and responsible digital citizenship. By integrating digital ethics into digital literacy frameworks, individuals can develop a comprehensive understanding of the ethical implications of their digital actions, fostering a culture of ethical conduct and digital responsibility. Moreover, addressing ethical considerations within digital literacy education facilitates the development of critical thinking skills necessary for ethical

decision-making in various digital contexts. Therefore, digital literacy is inherently linked to digital ethics, as both concepts are essential for equipping individuals with the competencies to navigate the digital landscape ethically and responsibly (Rosalina et al., 2021).

Understanding how to protect online privacy is essential for digital safety. This includes using strong passwords, privacy settings on social media, and thinking twice before sharing personal information online. Strong digital literacy skills are becoming increasingly important in a society that is increasingly connected to and dependent on digital technology. It enables individuals to actively participate in the digital world, access educational and employment opportunities, and lead efficient daily lives in the technological age. In addition, having solid digital literacy will be a foundation for developing other digital skills that may be required in both personal and professional contexts. The contribution of digital literacy to the competitiveness of society, as well as the function of data and information security in this regard (Suhherdi, 2021).

From the results of observations related to developments in PT Telkom Indonesia, there is a rapid development of telecommunications infrastructure in the sector held by this company. By increasing networks and expanding services, PT Telkom Indonesia companies are adopting various digital-based communication tools and platforms as a strategy to improve company efficiency and productivity, as well as the introduction of new technologies such as team collaboration, project management applications, and so on to improve performance and internal cooperation. Along with the introduction of new technologies, PT Telkom Indonesia realised the importance of enhancing employees' digital literacy. Education and training programmes were introduced to help employees understand and use digital-based communication tools and platforms effectively. The urgency of this research raises a problem that occurs: the need for digital literacy among PT Telkom Indonesia employees. In the latter part, this research will discuss these problems. The research object chosen by the researchers is based on a survey and the researchers' considerations in describing the uniqueness that exists in this place. In conducting this study, the researchers have asked for the desired data. Researchers hoped to complete this research thoroughly and obtain valid data sources.

At PT Telkom Indonesia, a noticeable phenomenon emerged between the months of January and June, characterised by fluctuations in the number of new hires and resignations. This trend has sparked the researchers' interest in delving deeper into the underlying issues within the company's premises. Consequently, this study aims to investigate the digital literacy levels of PT Telkom Indonesia employees concerning the utilisation of digital-based communication tools and platforms, with a view to enhancing work productivity. The hypothesis posits that improved digital literacy among employees will positively correlate with increased work productivity. Data visualisation of employee turnover rates, coupled with surveys assessing employees' proficiency in utilising digital communication tools, will provide valuable insights into the relationship between digital literacy and work productivity. The study underscores the significance of fostering a conducive work environment where employees feel happy, safe, and motivated, as these factors contribute to sustained work productivity. Moreover, it emphasises the pivotal role of organisational leaders in nurturing employee morale and engagement, thereby strengthening the employee-leader relationship and fostering a culture of productivity and innovation within PT Telkom Indonesia.

PT Telkom Indonesia evaluates employees' digital literacy levels to identify areas where improvement is needed. This could involve surveys, skill measurement, or direct assessment. Based on the evaluation results, PT Telkom Indonesia has developed a customised strategy to improve employees' digital literacy. This may include advanced training, educational resources, or other initiatives. The improvement strategy is implemented, and PT Telkom Indonesia continues to monitor and evaluate its impact on digital literacy and employee productivity. Analysing employees' digital literacy, PT Telkom Indonesia can identify specific issues that need to be addressed and design appropriate education and training strategies.

However, research on the digital literacy of PT Telkom Indonesia employees still needs to be completed. Therefore, this study aimed to fill the gap by analysing the digital literacy of PT Telkom Indonesia employees and the digital-based communication platforms used, the impact of using digital-based communication tools and platforms on the work productivity of PT Telkom Indonesia employees, and the factors that influence employees' digital literacy in using digital-based communication tools and platforms.

This research is expected to provide theoretical benefits that provide a deeper understanding of the level of digital literacy of employees in a leading company such as PT Telkom Indonesia, the relationship between digital literacy and work productivity, and the factors that influence employee digital literacy. This research can also provide policy recommendations for developing guidelines and programmes that support the improvement of employee digital literacy and work productivity in a digital environment. This research holds significant promise in providing PT Telkom Indonesia with a comprehensive understanding of employees' digital literacy levels and proficiency in utilising digital-based communication tools and platforms. By examining these aspects, the study can offer insights into areas requiring improvement and inform the design of more effective employee training and development programs tailored to address specific digital skill gaps. Moreover, by enhancing employees' digital literacy, PT Telkom Indonesia can elevate the quality of customer service, thereby bolstering its competitiveness in the market. Additionally, insights gathered from this research can aid in fortifying corporate information security measures, ensuring the protection of sensitive data and safeguarding against cyber threats. Ultimately, the findings of this study have the potential to drive organisational growth, efficiency, and resilience in an increasingly digitised landscape.

Method

The qualitative research method was selected in creating this study, which is particularly prevalent in social science disciplines such as educational sciences, due to its inherent focus on understanding and exploration. Unlike quantitative methods that primarily focus on numerical data and statistical analysis, qualitative research seeks to delve into the intricacies of human experiences and phenomena. In this study, the qualitative approach was deemed appropriate to explore PT Telkom Indonesia employees' digital literacy and usage of digital-based communication tools in depth. The qualitative approach facilitates the construction of rich, nuanced insights through techniques such as language analysis, in-depth interviews, and observations conducted in real-world settings. The following is the data of the sources and criteria that became the data sample for this research.

Table 1. Informant data

Informant Name	Position	Criteria	Informant Type
Indra Prasetya	Employee	a. Functional from PT Telkom Indonesia. b. Know the activities carried out by employees. c. Willing to be interviewed and publish the results in research.	Key Informants
Asep Hafidz Tirmidzi	Deputy Director of PT Kembang Langit	Willing to be interviewed and publish the results in research.	Expert Informants
Balqis Jabbarin Fidary	Employee	a. Is a PT Telkom Indonesia intern. b. Willing to be interviewed and publish the results in research.	Supporting Informants

Source: Author's Preparation, 2024

Qualitative research is well-suited for this study as it allows researchers to immerse themselves in the natural environment of the subjects, gaining a profound understanding of their perspectives and experiences. By employing techniques such as interviews and direct observation, researchers can capture the complexities of employees' digital literacy skills and their utilisation of digital communication tools. Moreover, the qualitative approach places the researcher as the primary instrument for data collection and analysis, enabling a deeper exploration of the subject matter. This approach aligns with the study's objective of comprehensively understanding the digital literacy landscape within PT Telkom Indonesia.

In terms of data analysis, qualitative research emphasises meaning overgeneralization. The focus lies in uncovering the richness and depth of individuals' experiences rather than drawing broad conclusions. Data validity is ensured through triangulation, a technique that involves cross-referencing multiple data sources to corroborate findings. By triangulating data from various sources such as interviews, direct observations, and document studies, researchers can enhance the

credibility and trustworthiness of their findings, thereby strengthening the validity of the qualitative analysis conducted in this study.

Results and Discussion

Digital Literacy of PT Telkom Indonesia Employees

PT Telkom Indonesia employees have a strong understanding of the technology used to improve performance and provide added value to customers. In the company's operations, digital literacy is highly integrated in every aspect. From platforms used to transact with customers to management systems that utilise technology to improve efficiency, every operational step is based on digital literacy. Technology is used to enhance the work performance and experience of PT Telkom Indonesia employees (Yanti et al., 2021). This is in accordance with the statement from Mr. Asep Hafidz Tirmidzi that:

“Employees must have an understanding of utilising information and communication technology to work effectively and efficiently”

This statement relates to the awareness, attitudes, and abilities of individuals in working with information and communication technology. Employees must have good-quality human resources in order to obtain good performance. Company performance can be seen in employee performance. Employee performance is not only seen in the ability to work perfectly but also in the ability to master and manage oneself and the ability to foster relationships with a wide range of people. High and low performance can be influenced by several factors, including organisational commitment and information technology (Addina & Nasution, 2022).

Social activities, including the selection of criteria for employees who understand technological developments. This is in accordance with the results of interviews with Mrs. Balqis Jabbarin Fidary, who is a PT Telkom Indonesia intern and stated that:

“The implementation of digital literacy at PT Telkom is perfect, and the policy towards the implementation of digital literacy is also good, but still needs to be comprehensive. It would be better if the implementation of digital literacy at PT Telkom were more socialised to internship children so that they could participate more in the use of digital literacy.”

The implementation of PT Telkom's digital literacy is still experiencing obstacles, even though it should be in the digitalisation era. The barriers related to digital literacy can be surmounted easily. The obstacle that occurs is the need for more detailed explanation from employees, compelling them to attempt to do their tasks through digital media. Mr. Asep Hafidz Tirmidzi also stated this:

“Employees who have not mastered digital fluency, in this case, the ability to understand and incorporate technology into daily tasks in the workplace, which allows for problems communicating effectively with colleagues in other fields using tools that may be new to them, for example, video conferencing or text messaging. This, in turn, can create online collaboration challenge and drain internal productivity. Customer-facing employees and difficulties in digital literacy led to difficulties in communicating seamlessly with customers and delivering the best for the company. One study showed that nearly one in three workers have little or no skills to use digital devices, communication applications, and networks to access and manage information (collectively known as digital skills), despite between 38% and 43% of those workers working in jobs that require moderate or complex computer use. This digital skills gap hampered some companies' productivity during the global pandemic, making them realise how important digital literacy is to their future success.”

Based on the results of these interviews, the level of digital literacy of PT Telkom Indonesia employees is top notch. However, there are still some things that PT Telkom Indonesia has not yet communicated with its employees. The results of this interview are also further strengthened by the

explanation of digital literacy from PT Telkom Indonesia for telecommunication employees to understand technological developments, training, and employee development related to cybersecurity and related digital skills which are divided into regular exercise, online courses, and collaboration. Thus, the existing obstacles can be won over.

The use of digital-based communication tools and platforms has a positive impact on the work productivity of PT Telkom Indonesia employees. Digital-based communication tools and platforms can improve the efficiency, effectiveness, collaboration, innovation, and quality of work of PT Telkom Indonesia employees by making information more accessible and transmitted, saving time and money, and reducing errors and redundancies. Employees become more efficient at work because digital-based communication tools and platforms help them achieve work goals, increase job satisfaction and motivation, and improve work performance and results. From the interviews conducted, Mr. Asep Hafidz Tirmidzi stated that:

“Digital-based communication tools and platforms are becoming an essential part of every business plan. There are many large and small companies using them to improve the business services they manage.”

The use of e-business applications and services platforms, e-commerce, e-banking, and others; the need for time and cost efficiency causes every businessperson to feel the need to apply information technology in their work environment; the application of information technology causes changes in the pattern of work habits— for example, the application of enterprise resource planning (ERP).

Based on the results of observations made directly, it can be seen that PT Telkom Indonesia already has an official website for managing database technology, electronic mail (e-mail), and other forms of non-computer technology such as goods delivery systems and payment tools for e-commerce to provide easy access for consumers. This is in accordance with the statement from Mrs. Balqis Jabbarin Fidary, who stated that:

“Telkom Indonesia companies also utilise digital archives through cloud drives and Outlook, online interaction through Meet and Zoom, and promotion and socialisation of programmes through social media platforms.”

Digital-based communication tools and platforms can improve the efficiency, effectiveness, collaboration, innovation, and quality of work of PT Telkom Indonesia employees. Digital-based communication tools and platforms improve employee work efficiency by making information more accessible to access and transmit, thus, saving time and money and reducing errors and redundancies. Employees are becoming more efficient at work as digital-based communication tools and platforms help them achieve work goals, increase job satisfaction and motivation, and improve work performance and results. Employee collaboration in the workplace is on the rise as digital-based communication tools and platforms facilitate coordination, communication, and cooperation between internal and external employees.

The results of this study are in accordance with research conducted by (Perwanto et al., 2022) which states that employees use personal computer equipment to communicate using publicly available internet platforms and instant messaging, as well as traditional means of communication (telephone). Although almost half of the documents sent are in paper format, financial and accounting data is well protected by the encryption of files sent and the use of VPNs. Tools that can be used in the form of employee work innovation can provide creativity, experimentation, and the development of new ideas. Digital-based communication tools and platforms improve the quality of employee work by raising work standards, ensuring accuracy and reliability, and enabling constructive feedback and evaluation. Training programmes are organised regularly to enhance employees' digital skills, including the use of digital communication platforms. Internal surveys are conducted periodically to assess employees' understanding and confidence in the tools and platforms. The results of this research will help adjust training programmes and focus on areas that

require further attention. The use of digital communication tools is monitored to ensure that employees not only have the knowledge but also actively integrate the tools into work processes.

Based on the results of the interview, since communication tools and platforms are already digital based, providing access to the same tools such as information technology resources, makes it easy to complete tasks properly, correctly, effectively, and efficiently. This proves that every staff employee of PT Telkom Indonesia must be able to apply digital media and technology in carrying out work as a space for creativity, experimentation, and the development of new ideas that can improve the quality of employee work by improving work standards, accuracy, reliability, and allowing constructive feedback and evaluation. The results of this study will help tailor training programmes and focus on areas that require further attention. The use of digital communication tools is monitored to ensure that employees not only have the knowledge but also actively integrate the tools into work processes.

Development of Employee Digital Literacy

Developing employee digital literacy is training, which provides broad insights for employees. Mr. Asep Hafidz Tirmidzi said that:

“A company will be hampered in operating without the active participation of employees, even though the tools owned by the company function only as support for every activity and process of the company's production. Human resources play an important role in the company because they are the driving force behind all efforts and activities in the company and also a determinant of the running of the company. It takes interest and enthusiasm to encourage employees to work optimally for the success of a company or organisation. This interest and enthusiasm can grow if employers are always aware of their obligations towards these employees, in this case, guiding, fostering, and caring for them reasonably in accordance with humanitarian principles and appreciating them as implementers of the company.”

The training conducted can provide a boost to the adaptability and resilience of individuals in the competitive and fast-paced digital era. Digital competency is one of the competencies that is felt to be essential to survive in the rapid digital flow, considering that the impact of the digital revolution is not only limited to manufacturing operations but more broadly reaches aspects of people's behaviour and way of life as well as the economy.

Based on the data obtained, PT Telkom Indonesia provides education and training through a program established in 2014, namely the Indonesia Digital Learning (IDL) program, with a programme-meme that supports equal distribution of digitalisation in education in Indonesia. The Omnichannel digital CRM programme was also established, which is a customer interaction management solution that combines multiple communication channels (digital CRM channels) into one platform (omnichannel), allowing them to interact with each other and share data and information. The solution provides a comprehensive customer communication history and ensures that agents are never asked again for information submitted by customers. The solution includes inbound and outbound communication applications for all communication channels, channel integration with a single database, and full channel options (voice, SMS, email, OTT chat, RTC chat, and social media).

This is supported by Mr. Asep Hafidz Tirmidzi's statement that there are four work cultures that employees must have,

“First, an employee must have harmony between thoughts, words, and deeds. This indicator relates to several things, including being consistent and firm in upholding the values of truth, being honest in all actions, avoiding conflicts of interest, and thinking positively, wisely, and wisely in carrying out their duties. Second, PT Telkom employees must be highly inventive and have the ability to create new things that are different from existing or previously known ones. Based on this, the positive indicators of work culture

that employees must own are having a varied mindset, perspective, and approach to every problem, being able to produce new work, always making periodic and continuous improvements, being open to accepting new constructive ideas, daring to take breakthroughs and solutions in solving problems, and utilising information and communication technology in working effectively and efficiently. Third, employees must have the ability to act beyond what is required from the work they are assigned and always strive to develop their professionalism competencies, and fourth, an employee must always participate in every company activity.”

The results of the research show that the digital literacy of PT Telkom Indonesia employees using digital-based communication tools and platforms is in the high category. This is evidenced by the small number of employees who experience problems with digital literacy. Then, for work done in the office, employees who work require moderate or complex computer use. This indicates that PT Telkom Indonesia can access, understand, evaluate, and use digital information effectively and ethically. It also enables PT Telkom Indonesia employees to adapt to changing digital technologies and develop the digital skills required for their jobs. The most common digital communication tools and platforms used by PT Telkom Indonesia employees are email, WhatsApp, Zoom, Google Meet, Google Drive, and Microsoft Teams.

In implementing digital literacy, PT Telkom Indonesia employees are expected to master technology. The European Information Association also defines digital literacy as the ability to collect, identify, access, manage, integrate, evaluate, analyse, and build new knowledge correctly, communicate with others using digital tools and equipment, and develop constructively (Rini et al., 2022). Digital-based communication tools and platforms can improve the efficiency, effectiveness, collaboration, innovation, and quality of work of PT Telkom Indonesian workers. Digital-based communication increases employee work efficiency by facilitating access and transfer of information, saving time and money, and reducing errors and redundancies.

According to Shaleh and Firman (2018), the role of human resources changes significantly because innovation requires ideas and creativity resulting from the ideas and creativity of human resources. Based on this, a person's intellectual ability can be an extraordinary ability to create something, imagine something, imagine something, and apply it. In line with the above considerations, the role of human resource management is no longer reactive but proactive. In the face of various threats and opportunities, a proactive role means that the company must utilise its resources proactively. To determine the high and low level of a person's performance, it is necessary to evaluate performance, especially in the application of digital literacy with the use of tools and platforms.

Employees are becoming more efficient at work as digital-based communication tools and platforms help them achieve work goals, increase job satisfaction and motivation, and improve work performance and results. Employee collaboration in the workplace is on the rise as digital-based communication tools and platforms facilitate coordination, communication, and cooperation between internal and external employees.

Employee qualifications and physical abilities include education and training levels, work motivation, work ethic, and mental and physical skills. Meanwhile, supporting facilities include the work environment (production, production facilities and equipment, level of work safety) and employee welfare (management and labour relations). This platform, which can integrate various information technologies, enables centralised team communication that is easily accessible and customisable. Remote working systems require communication technology to organise virtual meetings. In addition, communication media such as chat applications must be utilised so that employees can communicate centrally with colleagues (Luthfi, et al, 2023).

These tools and platforms are used for a variety of purposes, including communicating with managers, colleagues, and customers, exchanging documents and data, organising meetings and presentations, and managing projects and tasks. Digital media can provide communication platforms that can support the processes of goal planning, information exchange, tactic discussion, and discourse creation in response to current and future events. Team communication platforms are emerging social collaboration technologies that combine the capabilities of multiple social media

companies, such as social networking and instant messaging platforms. Tools and platforms regulate communication by clearly providing rules, tasks, responsibilities, and authority to everyone in the organisation. The regulatory function in this study is regulatory and focuses on communication messages sent from the upline. This is basically based on the rules and responsibilities of the game, and the upline explains the rules of the business (Jumrad & Mayang Sari, 2019). From the results and discussion above, the digital literacy of PT Telkom Indonesia employees in using digital-based communication tools and platforms is at a high level. It has a positive impact on the work productivity of employees. To facilitate employees' communication and intense coordination with colleagues, it is necessary to use communication media.

Factors that influence employee digital literacy include individual, organisational, and environmental factors. The concept of digital literacy is the ability of individuals to use various digital platforms to evaluate and write down information. Digital literacy is an individual's shrewdness in managing various information received by the technology used at that time. Information needs affect the intensity of digital media use in terms of literacy. Digital literacy competence is needed with the widespread openness of information that needs to be traced for its truth and accuracy to be processed as required. To achieve this competence, user experience in using digital media is an absolute thing. 1) Environmental support factors consisting of the campus environment and the role of the family; 2) socio-economic condition factors, which include individual financial conditions and criticality towards the media; and 3) media usage intensity factors, which include the use of digital media in daily activities (Rosalina et al., 2021).

The work environment relates to the overall facilities and infrastructure of employee work, such as the workplace, work facilities and tools, cleanliness, lighting, and tranquillity. A good work environment with good facilities can support employees in accessing information quickly, communicating effectively through various digital platforms, and increasing productivity in a changing work environment. Thus, managed services can also play an essential role in enhancing digital fluency in the workplace. When working with an experienced managed services provider who understands the industry well and has in-depth knowledge of the communication and collaboration tools needed to support it, they can put together a training plan that helps employees and managers make the most of the technology they need to succeed in their roles. Improving digital literacy in the workplace in this way can increase employee satisfaction, make businesses more resilient and adaptive to change, and put companies on a digital-first footing (Sari et al., 2023).

The findings of this research carry significant theoretical implications for both academia and practice. By highlighting the importance of digital skills development among PT Telkom Indonesia employees, this study underscores the necessity for organisations to invest in education and training programs aimed at enhancing digital literacy. Furthermore, the emphasis on using digital-based communication tools optimally and responsibly underscores the need for organisations to provide appropriate facilities, incentives, and guidance to support employees in their digital skills development journey. Moreover, the recognition of the dynamic nature of digital environments necessitates that organisations adapt to environmental changes, including technological advancements, evolving customer needs, and market competition, to ensure the effective utilisation of digital tools and platforms. Overall, these theoretical implications underscore the importance of continuous learning and adaptation within organisations to thrive in an increasingly digitised world.

The discussion presents several theoretical implications that can be drawn from the research findings regarding the digital literacy of PT Telkom Indonesia employees using digital-based communication tools and platforms. Here are some key theoretical implications:

1. **Organizational Adaptability and Digital Skills Development.** The study emphasises the importance of organisations adapting to technological advancements and evolving digital environments. Organisations like PT Telkom Indonesia need to continuously invest in education and training programs aimed at enhancing digital literacy among employees. This is crucial not only for current operational efficiency but also for future adaptability in a rapidly changing digital landscape. The theoretical implication here is that organisational success

- increasingly hinges on the ability to cultivate and sustain digital skills across its workforce.
2. **Efficiency, Collaboration, and Innovation.** Digital-based communication tools and platforms are shown to enhance efficiency, collaboration, innovation, and overall work quality. This underscores a theoretical shift where organisational performance is not just dependent on traditional factors like physical resources but also on digital infrastructure and competencies. The ability of these tools to facilitate teamwork, streamline processes, and foster innovation suggests that organisations must integrate digital literacy into their strategic frameworks to maintain competitiveness.
 3. **Role of Human Resources in Innovation and Creativity.** The discussion touches upon how the role of human resources has shifted from reactive to proactive due to the demand for creativity and innovation. This implies a theoretical shift in HR management towards fostering environments that support digital creativity and innovation. Organisations must recognise and harness the creative potential of their employees through digital tools, indicating a need for HR practices that nurture digital fluency and creativity.
 4. **Impact on Work Environment and Employee Satisfaction.** A well-equipped work environment that supports digital communication can significantly enhance employee productivity and satisfaction. The theoretical implication here is that organisational success is increasingly tied to the quality of the digital work environment provided to employees. This includes infrastructure, tools, and facilities that enable efficient digital collaboration and communication, ultimately influencing employee morale and performance.
 5. **Regulatory and Governance Implications.** The study mentions the role of tools and platforms in regulating communication within organisations. This has theoretical implications for governance structures within companies, suggesting that digital platforms not only facilitate communication but also establish rules, responsibilities, and authority structures. Organisations need to adapt their governance frameworks to effectively utilise digital tools while ensuring compliance and efficiency.

Conclusion

From the results of research on the digital literacy of PT Telkom Indonesia employees that has been conducted, it can be concluded that digital literacy has a vital role for PT Telkom employees. From the results of the interviews conducted, the level of digital literacy of PT Telkom Indonesia employees possess good skills when utilising digital tools and platforms. In this case, PT Telkom Indonesia also utilises its digital archives through cloud drives and Outlook, online interaction through Google Meet and Zoom, and promotion and socialisation of programmes through social media platforms. To provide support for PT Telkom Indonesia employees in technological developments, employee training and development related to cybersecurity and associated digital skills are offered, which are divided into regular exercise, online courses, and collaboration. Thus, obstacles that arise and problems from employees can be overcome. This aims to help employees better understand and use digital-based communication tools and platforms, which will have a positive impact on increasing work productivity. In addition, digital competence is essential from an educational and professional standpoint. Digital transformation and improving employees' digital literacy are of utmost importance in improving work productivity. Therefore, for the implementation of digital literacy among PT Telkom Indonesia employees, efforts must be made to ensure employees have the digital skills they need in an ever-evolving work environment. Future research on the digital literacy of PT Telkom Indonesia employees should consider longitudinal studies to track skill development over time, comparative analyses to benchmark against other industries or global counterparts, and investigations into the direct impacts on organisational performance metrics like productivity and innovation. Exploring correlations

between digital literacy and job performance within PT Telkom Indonesia, along with how digital skills facilitate organisational change and technological adoption, is crucial. Further research should assess the effectiveness of cybersecurity training and digital skills programs, examining different training modalities and their impact. Additionally, studying how PT Telkom Indonesia's organisational culture influences digital skill acquisition and technology adoption would provide insights into fostering a digitally fluent workforce amidst evolving technological landscapes.

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