Examining the Mediating Role of Personality on the Relationship between Talent, Technology Systems, and Employee Competency

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Abstract
Human resource management in Indonesian industries plays a critical role in enhancing employee competencies amid technological, economic, and global labor market developments. However, there is a gap between employee competencies and organizational demands, reflected in Indonesia's 87th ranking in the Human Capital Index (HCI). This study aims to analyze the influence of talent and technology systems on employee competency, with personality as a mediating variable. Using a quantitative approach with Structural Equation Modeling - Partial Least Squares (SEM-PLS), data were collected from 196 respondents out of a population of 385 employees at Putra Kelana Makmur Group. The results indicate that talent does not directly influence employee competency but has an indirect effect through personality. In contrast, technology systems and personality significantly impact competency enhancement. Personality is a significant mediator in the relationships between both talent and technology systems with competency. These findings highlight the importance of developing effective technology systems and a supportive work environment that fosters personality development. For companies, this study emphasizes the need to consider personality and technology as key factors in creating a more holistic and adaptive human resource management strategy to improve employee competencies.
Keywords: Employee Competency; Personality; Talent; Technology Systems; SEM-PLS

INTRODUCTION

The industrial world emphasizes the importance of human resources (HR) in business processes. Changes in technology, the economy, and the global job market are pushing organizations to improve the competencies of their employees (Ciraso-Calí et al., 2022; Praj et al., 2022). Employee plays a key role in business management, especially in the face of changes in technology, economy, and global job market (Govindarajo et al., 2021; Imran & Kantola, 2019). There is a gap between employee competence and company demands in several countries, including Indonesia. Human Capital Index (HCI) Indonesia is ranked 87th out of all countries in HCI, showing that human resource competence is still low compared to neighboring countries (Faishal et al., 2021; Petre, 2022).

Factors Affecting Competence are that employees' natural talents need to be honed to suit work placement (S & Dash, 2022; Mohamed Jais et al., 2021). Technology has the ability to master technology, and has a big impact on work productivity (Kannan & Garad, 2020; Kyriakopoulos & Hamid, 2022; Ra et al., 2S019; Treviño-Elizondo & García-Reyes, 2023). Technology can help develop employee talent through personalized online training programs.

The influence of talent and technology systems on employee competence can be seen from how well-honed natural talents and mastered technology can improve work ability and productivity (Ratnasari et al., 2019). Well-honed talents allow employees to do their jobs more effectively and efficiently. Meanwhile, mastering technology provides them with the tools and skills needed to face the challenges of modern jobs (Hartati et al., 2020).

Talent, technology systems, and personality are three crucial elements that interact with each other and affect employee competencies in the context of modern work (Hasan et al., 2022). The combination of these factors creates an environment that supports or hinders employee productivity and development (Purwoko, 2020). Technology helps employees make the most of their talents, such as through automation or increased efficiency (Sivanissa et al., 2022). However, only talents relevant to a particular technology can fully develop. For example, employees with technical skills will be more competent if they have access to the latest software that supports their tasks. In other words, technology strengthens talent, but it also demands continuous upskilling (Ramadhani et al., 2023). Certain personality traits influence how individuals develop and utilize their talents (Mukhtar & Masradin, 2023). For example, someone who has curiosity and openness to new experiences will be quicker to adapt to technology or changes in the work environment. Meanwhile,

someone with a high level of precision and discipline will have an advantage in completing technical and detailed tasks. Technology can accelerate or hinder competency development, depending on the personality characteristics of employees (Rusdiana, 2022). For example, employees with adaptive and proactive traits will have an easier time mastering new technologies. On the other hand, those who tend to be resistant to change may have difficulty adapting to the new digital system, so their competencies do not develop optimally (Masruroh et al., 2023).

The interaction between talent, technology systems, and personality significantly shapes employee competence in organizations. Talent refers to the inherent abilities and skills that individuals possess(Fitri et al., 2024; Rehman et al., 2022). High levels of inherent talent can lead to quicker learning and adaptation to new technologies. Employees with strong analytical or creative skills may excel in tech-driven environments. Individuals with a high degree of emotional intelligence may be better equipped to navigate the social and interpersonal aspects of technology-mediated work, fostering effective collaboration and communication.

Technology systems play a crucial role by providing tools that streamline processes and enhance productivity. Effective technology systems can enhance employee competence by streamlining processes and providing access to essential information. Traits such as openness to experience, conscientiousness, and emotional stability are particularly relevant. Employees who are open to new experiences are more likely to embrace technological changes, while conscientious individuals tend to be diligent and organized in their work. Poorly designed systems can hinder performance and lead to frustration. The effectiveness of these systems often depends on the personality traits of employees. The successful integration of technology systems requires a careful consideration of both technological capabilities and employee characteristics.(Hamid, 2022).

Organizations can leverage these insights to develop more effective human resource management strategies(Rehman et al., 2022). Tailoring training programs that consider individual personality traits, HR can foster quicker adaptation to new technologies. Investing in user-friendly technology systems that align with employee capabilities enhances overall competence. Incorporating personality assessments during recruitment helps identify candidates who are likely to thrive in tech-driven environments. Promoting a culture of continuous learning encourages employees to develop both technical and soft

skills suited to their personalities, ultimately leading to a more competent workforce capable of navigating the complexities of modern work environments.

However, to better understand the relationship between talents, technology systems, and employee competencies, it is necessary to consider the role of personality as a mediating variable. An employee's personality can influence how they utilize talent and technology in their work. In this study, the researcher explored the influence of talent, technology system, and personality on employee competence. By understanding how these factors interact with each other and contribute to employee competencies, it is expected to provide valuable insights for companies in developing HR management strategies that are more effective and responsive to changes in the dynamic business environment. The novelty of this study is the use of personality as a mediating variable to see the extent to which personality affects the relationship between talents, technology systems, and employee competency.

The formulation of the problem in this study is low employee competency and the difference in the results of previous research on the influence of talent, and technology system on employee competency mediated by employee personality variables. Objectives This study analyzes the influence of talent and technology on employee competency in Putra Kelana Makmur Group, with employee personality as a mediating variable. The benefits of this research are to contribute to the development of science, provide recommendations for the company, and assist Putra Kelana Makmur Group in understanding the factors that affect employee competency. This study lies in the use of personality as a mediating variable in analyzing the relationship between talent, technology systems, and employee competency. Previous research has often focused on the direct effects of talent and technology on employee competency. However, this study introduces a new perspective by identifying how personality acts as a bridge between talent, technology, and competency. Through this approach, the study demonstrates that personality is not merely an independent factor but one that can enhance or diminish the influence of talent and technology on competency. Thus, this research offers a deeper understanding for organizations aiming to develop more comprehensive human resource strategies.

The Theoretical Basis of this research is the Multiple Intelligence Theory by Howard Gardner which provides a comprehensive framework for understanding that each individual has a unique intelligence profile. In the context of competency development, this theory highlights the importance of recognizing and stimulating different types of intel-

ligence. By understanding a person's dominant intelligence, organizations can design more effective and personalized training programs, so that employees can develop their potential optimally and contribute better to the Company.

Competence as an ability that includes the skills, knowledge, and attitudes needed to carry out certain tasks (Cabral & Dhar, 2019). Personality is the overall way an individual reacts and interacts with other individuals (Kang et al., 2023). Talent is a natural ability possessed by a person that allows them to learn or do things faster and better compared to others(Kord & Thornton III, 2020). Technology system as a system that can support the acceleration of employee competencies (Arballo et al., 2019). Previous research related to the variables of talent, technology systems, personality, and competency. Here's an overview of each research category in the : (1) Talent and Competency : Studies emphasize the importance of talent identification and competency-building initiatives, particularly in retaining Generation Y employees. Continuous skill development is necessary to transform talent into competencies that meet business needs (Younas & Bari, 2020). Another study investigates the use of behavioral assessments to evaluate expert competencies in decision-making, communication, and analytical skills (Kord & Thornton III, 2020). (2) Technology System and Competency : Research here highlights the competencies needed for Industry 4.0, including technical, analytical, and interpersonal skills, and notes a gap between current workforce skills and new technological demands (Blanka et al., 2022). Another systematic review traces the evolution of technological competence, outlining it as a multidimensional concept that overlaps with technological skills and capabilities (Arballo et al., 2019). (3) Personality and Competency: Studies in this category reveal that competency development is an ongoing process that requires formal education and experience, with the need for assessment methods that reflect evolving competencies (Wong, 2020). Additionally, research indicates that personality traits influence job performance, satisfaction, and engagement, especially in dynamic work settings that require adaptability (Ritz et al., 2023).

Relationship between Talent and Competence is complex. Individuals with higher aptitude tend to have better personalities. Talent can be a solid foundation for competency development, as gifted individuals tend to more easily master new skills and apply the knowledge gained (Bani-Hani, 2021). The influence of talent on employee competence occurs through a personality change mechanism (Meyers, 2020; Srisorn, 2020). Employe-

es with a natural talent for data analysis and a meticulous, detail-oriented personality will be more effective in roles that require precision and accuracy.

In exploring the relationship between technology and competence, it's evident that technology systems can significantly enhance employee competencies. By automating routine tasks, technology allows employees to focus on more complex and high-value work, increasing efficiency and productivity. This shift in focus enables employees to develop deeper skills and knowledge, ultimately contributing to their overall competence (Saniuk et al., 2023). The influence of technology systems on employee competence occurs through a personality change mechanism (Mallik & Gangopadhyay, 2023). The use of a good technological system can improve an individual's personality. Personality that is open to new experiences and adaptive to change.

The interaction between talent and technology systems is pivotal in shaping employee competency, yet it remains an area that requires deeper exploration. Research has indicated that the integration of talent management systems (TMS) with technology can significantly enhance employee performance by aligning individual skills with organizational goals (Schulz et al., 2022). A TMS provides a framework for managing employee skills and development, facilitating the identification of competencies that are crucial for adapting to technological advancements (Landers, 2019). However, the specific mechanisms through which talent and technology systems interact to influence employee competency considering individual differences such as personality traits and organizational context remain underexplored. This gap highlights the need for further analysis to understand how these factors can be effectively leveraged to optimize workforce capabilities.

Some research has explored the interaction between talent and technology systems on performance, suggesting that these elements can significantly influence outcomes when effectively integrated(Barber & Hu, 2020) . Yet, there is a need for further analysis on how talent and technology systems interact to influence employee competency, particularly considering individual differences and organizational contexts. This understanding could inform strategies for leveraging both human and technological resources to maximize employee effectiveness.

Studies have examined changes in competency over time, pointing to the evolving nature of employee skills in response to organizational changes (Barber & Hu, 2020). However, more research is needed to explore the evolving relationship between talent, techno-

logy systems, and employee competency over time(Barney, 2019). Factors such as career development pathways, organizational transformations, and technological advancements should be considered within specific industry contexts to provide a comprehensive view of competency evolution.

RESEARCH METHODS

The design of this study uses a quantitative descriptive design to analyze the influence of talent and technology on employee competencies mediated by employee personality. The study population is 385 employees in Putra Kelana Makmur Group. The sample was taken randomly with a total of 196 respondents. Data Collection Techniques were collected through questionnaires distributed to respondents. The questionnaire includes questions about the employee's talents, technology systems, personality, and competencies. Data Analysis Techniques were analyzed using Structural Equation Modeling - Partial Least Squares (SEM PLS) 3 with structural tests and model tests to see the influence of talents, technological systems on competencies mediated by employee personalities.
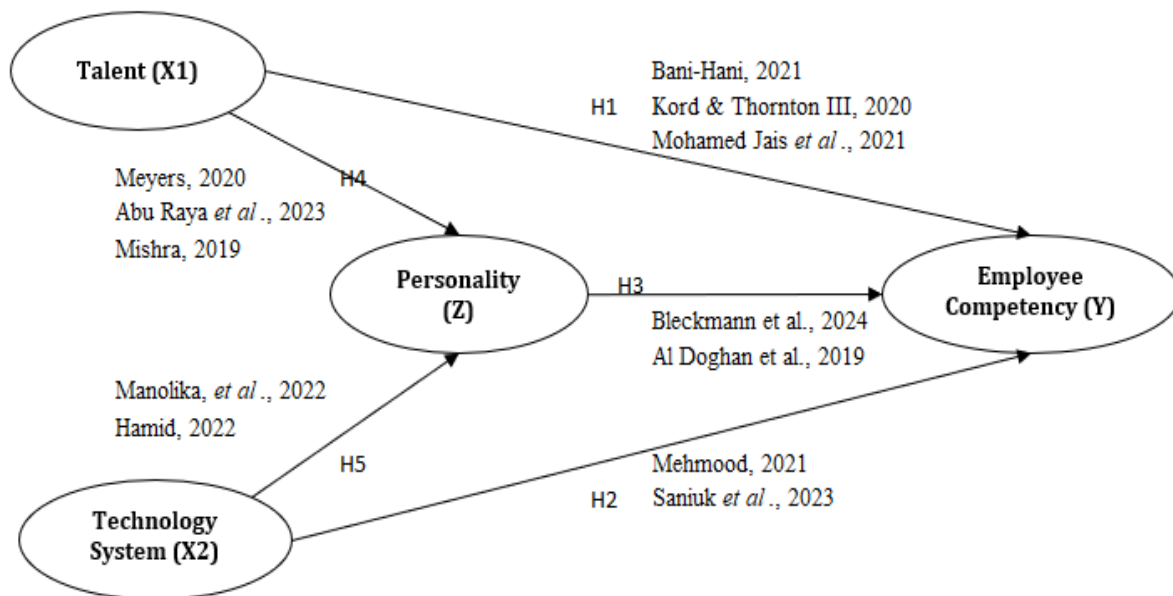

Figure 1. Conceptual Model

Based on Figure 1, the hypotheses are as follows:

H1: Talent (X1) has an effect on employee competency (Y)

H2: Technology system (X2) has an effect on employee competency (Y)

H3: Personality (Z) has an effect on employee competency (Y)

H4: Talent (X1) has an effect on personality (Z)

H5: Technology system (X2) has an effect on personality (Z)

H6: Talent (X1) has an effect on employee competency (Y), through personality (Z) as a mediator variable

H7: Technology system (X2) has an effect on employee competency (Y), through personality (Z) as a mediator variable

RESULTS AND DISCUSSION

Descriptive Data Analysis

Table 1. Descriptive Data of Talent

Dimension	N	Index	Predicate
Abilities and Traits (Natural Aptitudes)	196	79.80	Excellent
Analysis Skills	196	80.10	Excellent
Social Skills	196	81.12	Excellent
Total		80.34	Excellent

Source: Smart PLS (2024)

Table 2. Descriptive Data of Technology System

Dimension	N	Index	Predicate
Technological Capability	196	80.75	Excellent
Technological Skill	196	80.85	Excellent
Technological competence	196	81.67	Excellent
Total		81.09	Excellent

Source: Smart PLS (2024)

Table 3. Descriptive Data of Personality

Dimension	N	Index	Predicate
Openness to Experience	196	80.00	Excellent
Conscientiousness	196	80.61	Excellent
Extraversion	196	80.87	Excellent
Agreeableness	196	82.24	Excellent
Neuroticism	196	82.70	Excellent
Total		81.29	Excellent

Source: Smart PLS (2024)

Table 4. Descriptive Data of Employee Competency

Dimension	N	Index	Predicate
Knowledge	196	84.64	Excellent
Skill	196	85.00	Excellent
Abilities	196	86.22	Excellent
Awareness	196	85.00	Excellent
Attitude	196	85.82	Excellent
Behaviour	196	85.87	Excellent
Total		85,43	Excellent

Source: Smart PLS (2024)

Overall, the dimension of variable indices of talents, technology systems, personality, and employee competencies showed that respondents gave a very good assessment of the implementation of employee competencies that had been carried out.

Variable Validity and Reliability Test

Table 5. Result Test of Validity and Reliability

Variable	AVE	Validity	CR	Reliability
Talent	0.8398	Valid	0.9792	Reliable
Technology System	0.7976	Valid	0.9725	Reliable
Personality	0.7004	Valid	0.9087	Reliable
Employee Competency	0.6626	Valid	0.9587	Reliable

Source: Smart PLS (2024)

Table 5 shows the results of the validity and reliability analysis of the variables of Talent, Technology System, Personality, and Employee Competency. The AVE (Average Variance Extracted) score for Talent, Technology System, Personality, and Employee Competency is above 0.7, all of which are greater than 0.5, indicating good convergent validity. This validity indicates that the measurement instrument is capable of measuring what is supposed to be measured. CR (Composite Reliability) values for Talents, Technology System, Personality and Employee Competency above 0.9, all of which are greater than 0.7, indicate good reliability. This data shows that the measurement instruments for these variables have good validity and reliability, so that they can be used for further analysis in research.

Table 6. Result and Analysis of Hypothesis

Hypothesis	Path Coefficient	T-Statistic	P Value	Conclusion
H_1: Talent → Employee Competency	0.1383	1.4509	0.1484	Rejected
H_2: Technology System → Employee Competency	0.2692	3.6997	0.0003	Accepted
H_3: Personality → Employee Competency	0.2160	2.6573	0.0085	Accepted
H_4: Talent → Personality	0.2874	3.4197	0.0008	Accepted
H_5: Technology System → Personality	0.2381	3.2302	0.0015	Accepted
H_6: Talent → Personality → Employee Competency	0.0644	2.7266	0.0064	Accepted
H7: Technology System → Personality → Employee Competency	0.0518	2.9321	0.0034	Accepted

Source: Smart PLS (2024)

Table 6 shows the results of a path analysis that examines the relationship between talents, technology system, personality, and employee competency. The first hypothesis that talent has a direct effect on employee competency is rejected because the statistical t-value of 1.4509 is smaller than the t-value of table 1.96, meaning that it has no effect. A p-value greater than 0.05 means that it is not significant, even if the path coefficient is positive. On the contrary, the second hypothesis, up to the seventh hypothesis is accepted. The path coefficient value is positive, the t-statistic is greater than 1.65 and the p value is less than 0.05. The results of the analysis show that personality plays a significant role as a mediator in the relationship between talent and technology system and employee competency. Over-

all, these results emphasize the importance of technology system and personality in improving employee competency, and show that talent can affect competence indirectly through personality.

Natural talent is not always directly related to employee competency. This study shows that factors such as motivation, work environment, and training have a greater effect on employee competency than natural talent. In the research (Parra-Martinez & Wai, 2023; Samanta & Eleni, 2021) shows that talent management has a significant influence on employee performance, but not directly on competence. Based on Herzberg's Motivation Theory, this theory distinguishes between motivator factors and hygiene factors. In this context, motivation and a supportive work environment are considered more important in the development of employee competencies than natural talents (Bundtzen, 2020).

Technology systems have a significant effect on employee personality (AlKhemeiri et al., 2020). This research shows that the use of technology can change the way employees interact and adapt to the work environment. Technology Adaptation Theory states that individuals will adapt their behavior and personality according to the technology they use (Cieciuch & Strus, 2021). This study shows that personality and motivation, which are influenced by technology, have a significant impact on the work productivity of Generation Z (Schulz et al., 2022; Sheets et al., 2019; Shet & Pereira, 2021)The study found that personality plays a mediator in the relationship between employee talent and competence. Natural talents affect personality, which in turn increases employee competency. (Parra-Martinez & Wai, 2023; Samanta & Eleni, 2021) found that job competencies are influenced more by training, work experience, and social environment than by natural talents.

This study shows that employee personality and competence have a significant effect on performance, with organizational commitment as a moderation variable. (Hernandez-de-Menendez 2020; Santana & Díaz-Fernández, 2023) found that personality has a significant effect on employee competency, which in turn affects employee performance. Influence of talents on personality, natural talents can shape personality traits. For example, a person with a natural talent for social interaction might develop a more extroverted personality. Similarly, someone with a talent for detailed analysis might become more conscientious and meticulous. Personality as a mediator, personality traits then influence how these talents are utilized and developed in the workplace. For instance, an extroverted person might be more effective in roles that require teamwork and communication,

thereby enhancing their competence in those areas(Landers, 2019). Increased competence, as personality traits mediate the expression of natural talents, they help in honing these talents into specific competencies. For example, a conscientious person might be better at time management and organization, leading to higher competence in project management roles(Schulz et al., 2022).

CONCLUSION

Our research findings reveal that while talent does not directly influence employee competence, it plays an indirect role through its impact on personality traits. Personality factors, such as openness, rigor, and adaptability, emerge as critical determinants of competence development and implementation. These traits act as mediators, amplifying or weakening the influence of both talent and technology systems on employee performance.

Effective technology implementation is a significant factor in improving employee competencies. By providing better access to information, smoother communication, and more efficient work processes, technology empowers employees to develop their skills and enhance their performance.

To optimize employee competence, organizations should prioritize the implementation of effective technological systems and cultivate a work environment that values and develops employee personalities. While talent management remains important, its indirect impact through personality traits cannot be overstated. By focusing on these complementary factors, organizations can create a more holistic approach to talent development, one that addresses the multifaceted nature of employee competence.

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