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## Mediating Effect of Work Engagement in Relation to Technology Readiness Index and Adaptive Performance Among Newly Hired it Employees

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### ABSTRACT

This study investigates the mediating effect of work engagement in relation to the Technology Readiness Index (TRI) and adaptive performance among newly hired IT employees. In the contemporary workplace, the successful integration of information technology plays a crucial role in organizational performance. As such, understanding the factors that influence the adaptive capabilities of IT employees becomes paramount. The research will adopt a quantitative approach, utilizing a sample of newly hired IT professionals from diverse industries. The implications of these findings will provide valuable insights for organizations seeking to optimize their IT workforce's performance and adaptability. Fostering a work environment that encourages work engagement, coupled with the promotion of technology readiness, can yield a more agile and responsive IT workforce. Further research opportunities exist to explore the interplay between technology adoption, work engagement, and adaptive behaviors in different organizational contexts

### INTRODUCTION

The last decade has seen the emergence of a diverse set of digital technologies, platforms and infrastructures that have changed the way we live and work. Organizations from both the private and public sectors and almost all industries have been driven to explore and often have had no choice but to adopt, cutting-edge technology and its applications. Information Technology (IT) are essential to improve all aspects of developing economies and their entry into new global markets (Flechsig, Anslinger, & Lasch, 2022).

According to Turja, et al., (2022), with the use of technology in workplaces, organizations have been able to increase their productivity and efficiency at a rapid pace. The digitalization of the global economy has been helping many businesses to thrive in many ways than before. At a time of fragile economic recovery, digital technologies such as e-commerce platforms can play an important role

in promoting products, services, trade expansion, as well as productivity gains (Manzoor, 2010).

In Malaysia, we still lack highly skilled employees to meet the demands of industry, especially new and emerging technologies (Mohd Salleh, Selvaduray, Jeevan, Ngah, & Zailani, 2021)). Among the world's leading countries for highly skilled jobs are Luxembourg that leads the way with 59.5 percent, followed by Singapore at 54.7 percent and Switzerland at 51.3 percent. According to Coursera's Global Skills Report (2021), Malaysia faces an urgent need to bridge the current skills' gap faster as this country strives to accelerate the digital economy agenda.

The report revealed that, although students in Malaysia are relatively more proficient in digital skills such as Cloud Computing and Data Analysis, there is a significant skills' gap covering Business, Technology and Data Science skills. Coursera's Managing Director - India and Asia Pacific (APAC), Raghav Gupta stated that the rate of skill

transformation in Malaysia is slower than the rate of digital transformation in some other countries around the world.

Thus, Malaysia Short-Term Employment Program (MySTEP) has been introduced as a government initiative that provides short-term employment opportunities (contracts) in various ministries, government agencies, government-linked companies (GLCs), government-linked investment companies (GLICs) and strategic partners. It specifically caters for Malaysian citizens aged 18 and above from various academic backgrounds who seek for career growth. In short, this is one of Malaysian Government's praiseworthy efforts in opening up more job opportunities and providing work experience as well as improving their marketability.

This study tries to propose a clear concept of adaptive performance that highlights employees' capability to adapt with a rapidly changing environment and ability to deliver prompt action under limited resources and difficulty. This study focuses on IT employees, who have some of the most challenging jobs in today's workforce. According to research that was done in the past on the topic of performance, individual differences, abilities, and knowledge, as well as the environment, could be the elements that influence individuals' performances (Diamantidis & Chatzoglou, 2019).

With this regard, CUEPACS Malaysia (2022) advised all employees in Malaysia regardless of their backgrounds (either from the government or private sector) to utilise digital technology in order to stay competitive in the workplace. This is due to the fact that digitalisation has changed almost every aspect of our life to become easier and more efficient. This statement is aligned with the former ninth Malaysian Prime Minister Datuk Ismail Sabri's speech remark that 45% employees with good command in digital technology are targeted to compete with other countries.

Additionally, Van, Mende & Noble (2017) mentioned that failure to cope with technology readiness will cause employees to have lower engagement to their work. In other words, it is important to note that all employees can achieve effective work engagement on condition they are always ready to be engaged with the technology. Thus, work engagement has been considered as one

of the most important variables to be studied among IT employees.

## **Literature Review**

### **Technology Readiness Index and Adaptive Performance**

The increased use of digital technology has resulted in the emergence of new issues, which in turn necessitates adjustments to be made to the organizational culture, the technological infrastructure, and the employment structure (Shahidan, Azizan, Arifin, Abumandil & Arshad, 2021). Ability to adjust to new circumstances is what we mean when we talk about an employee's adaptability (Sony & Mekoth, 2016). Employees that have adaptable performance are able to think imaginatively about issue solving, successfully manage volatile situations, and cope well with pressure. When personnel are ready to adopt the use of digital technology, also known as technology readiness, adaptive performance can be improved. The investigation of the connection between TRI and Adaptive Performance has revealed some fascinating findings (Liljander, Gillberg, Gummerus, & Van Riel, 2006).

Some studies have found a positive correlation between technology readiness and adaptive performance, indicating that individuals who promptly adopt technology tend to demonstrate greater levels of adaptability (Abdul Hamid, 2022). These employees may be more receptive to acquiring new skills and utilizing technology to effectively adapt to a changing work environment. In contrast, other studies have found contradictory or insignificant associations between TRI and adaptive performance (Verbeke & Brugman, 2009).

Various factors, such as individual differences, organizational contexts, and the nature of the technological changes in question, may account for the absence of an obvious positive correlation. Some employees may acclimatize well to some technologies but struggle with others, affecting their overall adaptability.

### **Technology Readiness Index and Work Engagement**

Rapid technology advancement also resulted in a fundamental shift in the education sector which redefines the teaching-learning process and teacher engagement (Khalidass & Chethiyar, 2022).

Numerous studies on work engagement models and technology readiness have been conducted to shed more light on bigger questions (Parasuraman & Colby, 2015). A particular study by (Joseph et al., 2021) explored the teachers' readiness to embrace educational technologies and the impacts on teacher's engagement.

The research into the relationship between TRI and Work Engagement has yielded mixed results (Bakker, Hakanen, Demerouti & Xanthopoulou, 2007). Some studies have found a positive correlation between technology readiness and work engagement, suggesting that individuals with greater technology preparedness are more likely to be engaged at work.

These employees view technology as an opportunity for growth, development, and increased productivity, which boosts their levels of engagement (Vedamanikam, Chethiyar, & Che Mohd Nasir, 2020). In contrast, other studies have found a negative or insignificant correlation between TRI and work engagement (Zacher & Winter, 2011). In such circumstances, employees may experience a sense of technological overload, leading to disengagement and exhaustion. In addition, the complexities of technology may reduce employees' autonomy and decision-making abilities, thereby negatively affecting their work engagement.

### **Work Engagement and Adaptive Performance**

According to Kahn (1990), an engaged employee is one who has a job that satisfies the criteria of self-investment, energy, and enthusiasm, all of which contribute to an increase in job performance in both the in-role and extra-role aspects of the job. Since we established earlier that engagement is a component of a set of motivating factors, we can deduce that it is associated with tenacity and intensity in directing the task performance of employees (Chethiyar, Asad, Kamaluddin, & Sulaiman, 2019). The findings of studies that looked at the connection between work engagement and Adaptive Performance are very interesting. Several studies have established a positive link between work engagement and adaptable performance, showing that people who acquire technology quickly tend to demonstrate higher levels of adaptation (Abdul Hamid, 2022).

This correlation has been proven to exist between work engagement and adaptive performance (Saptarini & Mustika, 2023).

In conclusion, active participation in one's place of employment and adaptable performance are intricately intertwined. Employees that are engaged in their work typically demonstrate better levels of adaptable performance, and vice versa (Mariamdarani & Veloo, 2017). A culture that encourages participation as well as adaptable performance can be cultivated inside an organisation by offering chances for learning and growth, recognising and rewarding proactive behaviours, and creating a good and supportive work environment. This integrated strategy has the potential to boost employee performance, as well as the effectiveness of the organisation as a whole.

### **The Mediating Effect of Work Engagement Between Technology Readiness Index and Adaptive Performance**

Christian, Garza, and Slaughter, (2011) conducted a meta-analysis of previous studies and discovered that engagement acts as a mediator between critical antecedents and consequences, particularly in regards to job performance. This demonstrates quite clearly that participation in meaningful work has the potential to act as a mediator between any two relevant constructs. However, despite the very significant consequences, there are still a few specific problems that have not been solved. One of these problems is that the concept of "engagement" has been plagued by inconsistencies in terms of definition and operationalization (Macey & Schneider, 2008).

One is possible to gain a deeper comprehension of the dynamics of the connection between the Technology Readiness Index and Adaptive Performance by looking at the relationship through the lens of several theoretical frameworks, such as the Job Demands-Resources (JD-R) model.

According to this paradigm, technology can be both a resource and a demand for employees. Individuals with a greater technology readiness may perceive technology as a resource that facilitates the efficient completion of tasks and the adaptation to new requirements, thereby improving their adaptive performance. Alternatively, if technology is perceived as a demanding factor, it may inhibit adaptive performance as employees struggle to

adapt to technological changes. Several mediating factors may influence the relationship between TRI and adaptive performance (Eckstein, Goellner, Blome & Henke, 2015).

The relationship between technology readiness and adaptive performance may be moderated by job autonomy, supervisor support, and access to training and resources for technology adaptation. A supportive work environment that promotes a growth mindset and continuous learning may improve employees' adaptability (Dennis, 2016).

## **METHODS**

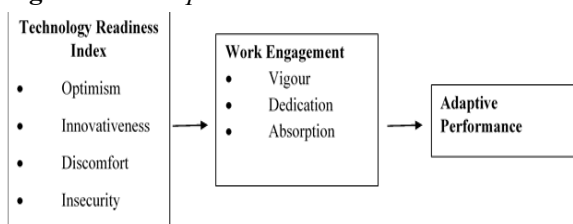
In accordance with a deductive method of research, this investigation will make use of a research design that is cross-sectional and qualitative in its character. Data will be obtained using a questionnaire-based survey strategy, utilising a self-administered questionnaire technique. For the purpose of demographic analysis, statistical methods such as SPSS 23 will be utilised, whereas Smart-PLS (SEM) will be used to evaluate both the measurement and structural models. A seven-point Likert scale will be utilised in order to evaluate the responses of the participants, and the measures of the constructs will be derived from previously conducted research investigations.

### **Proposed Research Framework**

A complete model is suggested to investigate the links between the following variables: Technology Readiness Index (TRI), Work Engagement, and Adaptive Performance. This model was developed on the basis of a literature review that was carried out. In this model, TRI and Work Engagement are both viewed as independent variables, whereas Adaptive Performance is the one that is considered to be the dependent variable.

In addition, Work Engagement is recognised as a mediator and is shown to play a significant part in explaining the indirect effect that TRI has on Adaptive Performance.

**Figure 1. Conceptual Model**



### **Proposed Research Propositions**

The purpose of this study is to investigate the role that work engagement plays as a moderating factor in the relationship between the technology readiness index (TRI) and adaptive performance (AP) in newly hired Information Technology (IT) workers. In the fast-transforming field of information technology that exists today, businesses are faced with the difficulty of training newly hired members of their IT workforce with the abilities and mentality necessary to effectively adapt to the ever-changing requirements of their jobs.

The purpose of this study is to investigate how technology readiness, as evaluated by TRI, affects the levels of work engagement of newly hired IT personnel, and how work engagement, in turn, influences how the relationship between technology readiness and their adaptive performance is mediated by technology readiness. The purpose of this study is to provide HR managers and organisational leaders with valuable insights that will allow them to design strategies that foster a technologically savvy and adaptable IT workforce, which will ultimately lead to improved performance and productivity in the information technology sector.

This will be accomplished by understanding the role that work engagement plays as a mediator in this context. On the basis of the discussion following research proposition is proposed:

**Hypothesis 1:** *“There is a significant relationship between Technology Readiness Index (Optimism, Innovativeness, Discomfort and Insecurity) and Adaptive Performance among newly hired IT employees in Malaysia”.*

**Hypothesis 2:** *“There is a significant relationship between Technology Readiness Index (Optimism, Innovativeness, Discomfort and Insecurity) and Work Engagement among newly hired IT employees in Malaysia”.*

**Hypothesis 3:** *“There is a significant relationship between work engagement and adaptive performance among newly hired IT employees in Malaysia”.*

**Hypothesis 4:** *“Work engagement mediates the relationship between Technology Readiness Index and Adaptive Performance among newly hired Information Technology (IT) employees in Malaysia”.*

## CONCLUSION

In today's rapidly evolving IT landscape, organizations face the challenge of equipping their newly recruited IT workforce with the skills and mindset to adapt effectively to technological advancements and dynamic work demands. Understanding how work engagement plays a mediating role between technology readiness and adaptive performance holds significant implications for HR managers and organizational leaders seeking to foster a highly engaged and adaptable IT workforce.

The examination in this study into the mediating effect of work engagement in connection to technology readiness index and adaptable performance among newly hired IT employees bears promise in terms of its potential to contribute to the knowledge of factors that influence employees' adaptability in the information technology sector. Organisations may empower their IT workforce to handle uncertainties, innovate, and achieve sustained success in the dynamic and competitive IT business by developing work engagement and adopting technological readiness. This is one way that organisations can empower their IT workforce.

It is anticipated that the results of this research study will throw light on the significant role that job engagement plays in encouraging adaptive performance among newly hired IT personnel. Employers will have a better understanding of how their adaptability to the constantly shifting IT landscape is influenced by their employees' positive views towards technology preparedness thanks to the mediating effect that job engagement will have. These insights can be utilised by HR managers and organisational leaders in order to build targeted interventions and strategies to improve work engagement and enhance the adaptability of their IT workforce.

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