

-RESEARCH ARTICLE-

OPTIMIZING THE RELATIONSHIP BETWEEN JOB AUTONOMY AND PROFESSIONAL WORKER'S PERFORMANCE: THE ROLES OF IT CAPABILITY

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—Abstract—

Nevertheless, knowledge-based activities require direct social connection, despite professional workers having a certain degree of workplace autonomy. However, since the epidemic, these interactions have been replaced by ICT. Professionals must adapt and rely on their current IT capabilities. Therefore, this study aims to determine how professional workers' autonomy and IT proficiency influence their performance. The proposed model was empirically tested using data collected from the five Indonesian provinces with the highest concentration of professional workers. The sample selection approach employs cluster random sampling based on population distribution, and the number of respondents was determined using the sampling methodology proposed by [Krejcie et al. \(1970\)](#). This study involved 384 Indonesian professional workers employed in professional Knowledge-Intensive Business Services (p-KIBS). The gathered data was evaluated using the CB-SEM methodology and IBM-AMOS. Even though job autonomy has a beneficial influence on professional worker performance, its association with professional worker performance is stronger through the indirect effect of IT competency. This study implies that professional employees should enhance their IT skills to enhance their effectiveness, particularly during a pandemic or when mobile or hybrid work becomes the norm. In addition, firms that migrate to mobile or hybrid work arrangements must provide appropriate support to guarantee that their professional employees can readily adapt to the new arrangements, such as by giving adequate IT training.

Keywords: professional worker, knowledge work, IT capability, job autonomy, performance.

1. INTRODUCTION

Because of the COVID-19 epidemic, new social behaviors and ways of life have emerged ([Ratten, 2020](#)). A global epidemic affects a company's entire structure, affecting the workplace's relationships and culture ([Lane et al., 2020](#)). The COVID-19 epidemic has caused businesses to alter their work environments, leading to more mobile and flexible work arrangements ([Kniffin et al., 2021](#)). The new norm of work, such as working from home (WFH), is becoming more popular and essential to the future of work ([Bai et al., 2020](#)). The paradigm of the workplace is shifting from a physical location to work-from-home (WFH) or telecommuting, in which employees do not need

to commute to the office (Shareena et al., 2020). This fast switch to WFH is a new experiment for most businesses, signifying a fundamentally distinct mode of operation. During this COVID-19 outbreak, video conversations have replaced face-to-face meetings and stopping by someone's desk or office (Wood, 2020).

This new norm of work is not unusual for professional workers who have a considerable degree of job autonomy before COVID-19 (Issahaka et al., 2019). Since then, there has been a significant movement toward knowledge labor that largely depends on knowledge and information processing, the essential resource for production, and work methods are less reliant on an organization's physical infrastructure (Singh et al., 2021). Even while new work norms such as WFH and telecommuting are not new, their application has been limited (Vasic, 2020). Face-to-face communication and business travel are regular practices for professional workers under normal conditions (Waller et al., 2020). They usually work in groups and rely on one another to accomplish difficult tasks (Hernaus et al., 2014). In addition, social connection is crucial for maintaining positive client relationships (Field et al., 2018).

As social distance rose, individuals searched for new ways to connect with coworkers, friends, and family members. Professionals must adapt to the changing work environment and use their existing IT abilities. Nonetheless, some employees lacked adequate technical skills, while others lacked clarity and could not communicate effectively with their coworkers and organization. With the spread of COVID-19 and the need to switch from office to remote work, we found that many professional workers had never been trained to telework, forcing them to improvise. The cultures and work practices of developing nations can explain this phenomenon. Realities exist, especially for Indonesians who have not yet fully adapted to the new work system and whose workplaces lack technological adaptation.

Therefore, this study aims to investigate how professional workers' autonomy and inherent ICT capability affect their performance. As there have been numerous studies of the Knowledge-intensive business services (KIBS) sector in Western nations, this study focuses on the emerging market instead of the developed market. Few studies have been conducted in emerging countries, with a growing demand for knowledge-intensive services and many young KIBS seeking employment. The KIBS industry is expanding in emerging markets like Indonesia, particularly among small and medium-sized businesses.

2. LITERATURE REVIEW

2.1 Theoretical Foundation

Self-Determination Theory (SDT) and dynamic capability theory are the cornerstones of the current investigation. The SDT is a theory of human motivation developed in by Harwell (2019). This theory provides a framework for studying the positive outcomes organizations achieve. The performance of employees is affected not only by human

factors, such as personality but also by organizational factors, such as the degree of autonomy they are granted in their jobs. According to research, increased job autonomy is associated with improved employee performance at the organizational level. In addition, Čirjevskis (2021) refer to dynamic capacities as a strategic concept applicable to numerous research fields. The capacity to integrate, develop, and reconfigure internal and external competencies in response to a rapidly changing environment is an example of what is meant by "dynamic capabilities." This does not change the fact that dynamic capabilities have recently garnered interest in numerous fields, including but not limited to information technology, information management, marketing, human resource management, technology and innovation management, international management, and entrepreneurship. This is an unalterable reality (Čirjevskis, 2021).

Given that information technology (IT) is commonly viewed as a collection of tools, methods, and procedures that assist an organization in enhancing its labor efficiency and productivity (Vasconcellos et al., 2020), the dynamic capabilities of IT appear to be a crucial characteristic. Manganelli et al. (2018) refer to dynamic IT capabilities as the ability to search, investigate, acquire, integrate, and apply information regarding opportunities, resources, and how resources may be arranged to exploit possibilities. According to Čirjevskis (2021), businesses in a more advantageous competitive position on the market are better able to coordinate and redeploy their internal and external resources and quickly adapt to new technological developments and market shifts.

2.2 Job Autonomy

According to the job characteristics model, job autonomy is one of the core job characteristics (Hackman et al., 1974). It is defined as the extent to which a job provides freedom and flexibility in determining how to accomplish work-related objectives. Job autonomy has also been incorporated into the job demands-resources (JD-R) theory. Job requirements are all aspects of the work that the employee must perform. Job resources are aspects of a position that assist employees in achieving work objectives or meeting personal needs and expectations. Previous research employing JD-R theory to comprehend, describe and predict employee well-being (e.g., burnout, health, motivation, and work engagement) and job performance have focused on understanding, describing, and predicting these variables. Job autonomy has also been identified as a distinguishing feature of professionals (López-Iñesta et al., 2020; Sahibzada et al., 2022; Surawski, 2019) and is one of the six factors of Drucker's knowledge-worker productivity theory.

New work norms, such as WFH and telecommuting, correlate highly with professional workers' job autonomy. There is evidence that knowledge workers with greater autonomy report greater job satisfaction (Palvalin, 2019), but there is also evidence that other factors may play a significant role in optimizing this relationship. Recent research indicates that greater job autonomy can harm employee job satisfaction and performance (Brunelle et al., 2021; Solís, 2017). For example, workers with lower levels of

telecommuting report significantly higher job satisfaction than those with higher levels of telecommuting. Due to reduced levels of physical contact and interaction with their coworkers and supervisors, some employees also experienced a sense of isolation and disconnection from the social life of the organization. As many businesses are compelled to implement new work norms, particularly during the pandemic, it is crucial to determine how to maximize the correlation between a professional worker's autonomy on the job and their job performance.

2.3 IT Capability

IT capability at the organizational level refers to a company's technological ability to make more effective decisions. It involves acquiring, processing, and transmitting useful information to the organization (Navío-Marco et al., 2018; Yang et al., 2018). Nevertheless, prior research indicates that IT capability at the individual level is just as crucial as at the organizational level. Broad definitions of IT capability suggest that IT human and infrastructure capabilities are causally related. According to Schüttler et al. (2021), IT infrastructure consists of two layers: a technical or physical component and a functional component that serves as the basis for shared IT services. According to them, human IT capabilities are the "mortar" that binds physical IT components into enduring and effective IT services. Individual IT skills have strategic value, as insufficient IT skills can impede efforts to improve business operations to meet competitive demands. (Kliestik et al., 2020; Theobald et al., 2018). IT affords employees a great deal of versatility and convenience. IT, for instance, enables professional workers to become the primary gateway of connectivity, enhancing their work autonomy and enabling them to control their work patterns. Moreover, IT can support individual networking and partnerships, enabling workers to obtain greater job autonomy and complete their work regardless of geographic or temporal constraints (Parker et al., 2022; Thörel et al., 2022). This leads to the subsequent conclusion:

H1: The level of professional worker Job Autonomy will be positively correlated with the level of their IT Capability.

The concept of user competence has been utilized to assess an individual's IT proficiency (Abrahams et al., 2019; Porat et al., 2018). It is defined as the user's capacity to fully utilize IT to optimize the performance of a certain task (Marcoulides et al., 2013). Antoni et al. (2020) explore business managers' IT competence, which is the collection of explicit and implicit IT-related knowledge that enables the business manager to exhibit IT leadership inside the organization. Explicit knowledge capability requires competent mapping of people within and outside the organization and secondary sources of information such as the Internet, journals, and conferences. IT tacit knowledge is comprised of both experience and mental models. Due to their impact on workplace productivity, individual IT skills and subsequent information use are crucial (Hwang, 2016). Therefore, it is plausible to believe that IT Capability affects the performance of professional workers in the following ways:

H2: The professional worker's IT capability level will positively affect performance.

2.4 Professional Worker Performance

Task performance and contextual performance are two general performance constructs, a multidimensional concept. Task performance includes actions that contribute to a company's primary activity or business process, such as producing goods, selling merchandise, acquiring supplies, supervising subordinates, and rendering services. On the other hand, contextual performance refers to actions that contribute to the organization's culture and environment, such as extra volunteer work or adherence to organizational values. Organizations have embraced professional workers as a workforce of liquid knowledge. They are highly mobile, adaptable, and capable of multitasking, which may involve different clients or projects. According to systemic literature on the knowledge workforce (Shujahat et al., 2019), most performance measurement dimensions, such as timeliness, quality, efficiency, and effectiveness, are part of task performance.

Numerous studies demonstrate both direct and indirect relationships between job autonomy and performance. For instance, job autonomy increases employee motivation, influencing their output. Compared to jobs with less autonomy, jobs with greater autonomy foster creativity by encouraging risk-taking and alternative thought. Innovation requires job autonomy, especially in difficult jobs. Additionally, job autonomy has been identified as a crucial aspect of job satisfaction and performance (Brough et al., 2018; Gross et al., 2019; Han et al., 2020). In addition, job autonomy has become one of the performance indicators based on a systematic review of 60 years of research on knowledge workers. Consequently, the following hypothesis develops:

H3: The level of professional worker job autonomy will be positively related to their performance

Based on the preceding discussion and development of hypotheses, the present study proposed the research framework shown in Figure 1. The research model theorized the direct relationship between a) Job Autonomy and IT Capability, b) IT Capability and Professional worker performance, and c) Job Autonomy and Professional worker performance using Self Determination Theory (SDT) and Dynamic Capability Theory.

3. RESEARCH METHOD

Based on the descriptive study, the quantitative method was selected and utilized as a part of the evaluation plan. This study focuses on knowledge-intensive professional business services (p-KIBS) personnel and service providers. The criteria for a professional worker are based on the International Standard Categorization of Occupations (ISCO) classification (Office, 2012). The sample selection approach employs cluster random sampling based on the population distribution in Indonesia. The number of respondents according to Krejcie et al. (1970)'s framework for sampling, 384

professionals from the five Indonesian provinces with the greatest concentrations of professionals participated. From June to August 2021, data are collected online during the height of the COVID-19 outbreak in Indonesia.

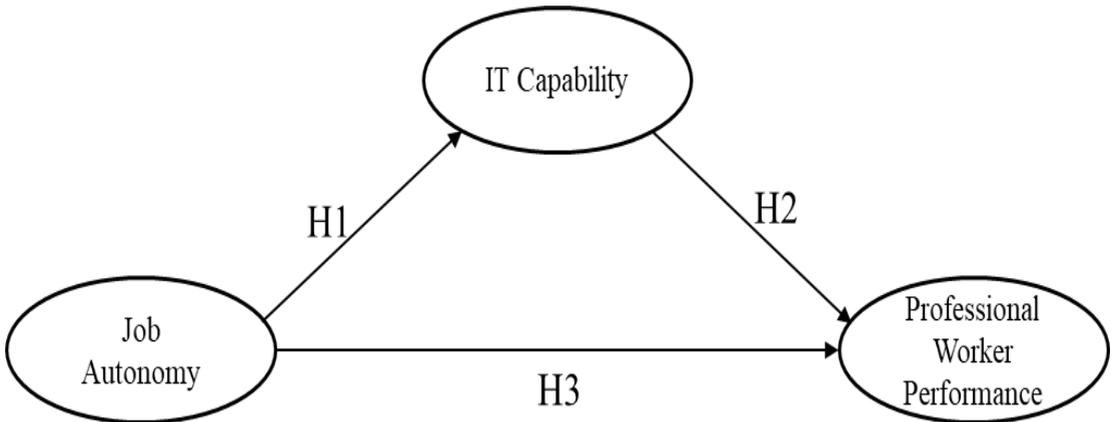


Figure 1. Proposed Research Framework

The questionnaire consists of three variables. Four dimensions were utilized to evaluate the job autonomy construct: Work Methods, Work Planning Autonomy, Work Scheduling Autonomy, and Decision-Making Autonomy Adapted autonomy from [Morgeson et al. \(2006\)](#). IT capability was measured using the following five dimensions: IT for Data Collection, IT for Data Analysis, IT for Information Synthesis, IT for Communication, and IT for Result Presentation. Similarly, five dimensions were employed to evaluate the performance of professional workers: Accuracy (only makes a few errors), Schedule Punctuality, Deadline Compliance, Task Completion, and Task Quality were adopted from [Befort et al. \(2003\)](#)'s task performance.

A cross-sectional analysis was performed on the data using a six-point Likert scale. The measurement model's validity and reliability are evaluated using KMO, the Bartlett Test, and Cronbach's Alpha. Standardized Factor Loading was utilized in SPSS AMOS for Confirmatory Factor Analysis to examine the association between each variable and their relationships. The hypothesis is accepted if the P-value is less than 0.05 and the standardized regression weight is positive.

4. RESULTS

The statistical characteristics of the variables are summarized in [Table 1](#). The mean and median values for Job Autonomy, IT Capability, and Professional Worker Performance for each variable fall within the lower and upper bounds of the 95% Confidence Interval for the Mean. Based on the proximity of the Mean and Median values, it is determined that the data for all three variables have a central tendency. In addition, the absolute values of Skewness and Kurtosis for each of the three variables fall within the acceptable range for SEM analysis, which is Skewness less than 3 and Kurtosis less than 10

Table 1. Variable Summary

Variable Descriptives		Job Autonomy	IT Capability	Professional Worker Performance
Mean		21.5625	26.4661	25.9297
95% Confidence Interval for Mean	Lower Bound	21.3442	26.1633	25.6216
	Upper Bound	21.7808	26.769	26.2378
5% Trimmed Mean		21.7407	26.7332	26.1053
Median		22	27	26
Variance		4.732	9.111	9.428
Std. Deviation		2.1754	3.01846	3.07058
Minimum		10	11	14
Maximum		24	30	30
Range		14	19	16
Interquartile Range		3	4	5
Skewness		-1.086	-1.326	-0.582
Kurtosis		2.122	2.937	0.3

Before moving forward with the structural model analysis, the reliability and validity of each item used in the measurement model are evaluated. Every item in [Table 2](#) has a KMO value greater than 0.5 and a Bartlett Test score less than 0.05. All Cronbach's Alpha values are greater than 0.7, and each item's item-to-total correlation with its corresponding dimension is significantly greater than 0.7. Therefore, all items satisfy the structural model analysis's reliability and validity requirements.

The model has a good fit based on the Goodness of Fit index (GFI), Adjusted goodness of Fit index (AGFI), Comparative Fit Index (CFI), and Bentler-Bonett normed fit index (NFI), with respective values of 0.951 GFI, 0.931 AGFI, 0.976 CFI, and 0.947 NFI, as shown in [Figure 2](#) and [Table 3](#). In terms of outcomes, all models have fit indices with scores of 0.90 or higher. This indicates that the models have adequate fit indices and that all items can be used to measure their respective constructs.

Job Autonomy has a substantial positive effect on IT Capability, as assessed by a path coefficient of 0.760. IT Capability substantially positively affects Professional Worker Performance, measured by a path coefficient of 0.505. The effect of Job Autonomy on the performance of professional employees was measured to be 0.202. Thus, adopting all of the study's hypotheses. In conclusion, the study's findings imply that Job Autonomy and IT Capability of professional workers are essential for supporting the work of professional workers.

Table 2. Measurement Model Reliability and Validity

Items	KMO Measure of Sampling Adequacy	Barlett Test	Alpha	Item-to-Total Correlation
Job Autonomy (JA)				
JA1	0.783	Significant at 0.01	0.779	0.743
JA2				0.779
JA3				0.790
JA4				0.792
IT Capability (ITC)				
ITC1	0.876	Significant at 0.01	0.869	0.822
ITC2				0.806
ITC3				0.843
ITC4				0.770
ITC5				0.809
Professional Worker Performance (PWP)				
PWP1	0.866	Significant at 0.01	0.846	0.779
PWP2				0.788
PWP3				0.808
PWP4				0.803
PWP5				0.784

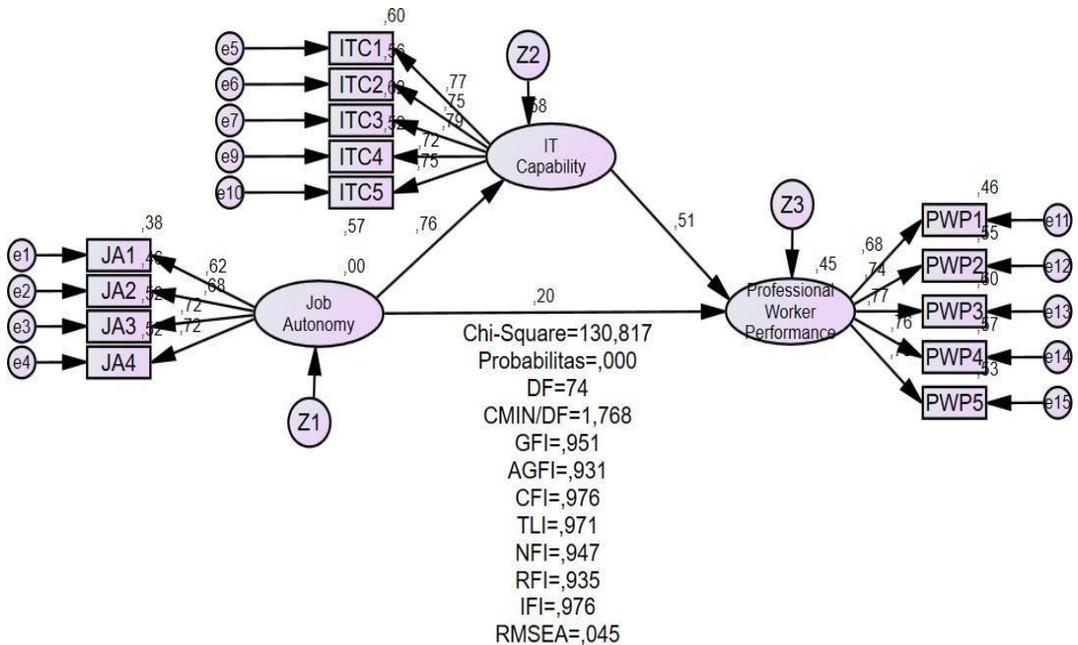


Figure 2. Structural Model Analysis Result

Table 3. Structural Model Coefficients and their Significance

Latent exogenous variable	Path Coefficient	T-value	P-Value	Hypothesis
Job Autonomy → IT Capability	0.760	10.426	0.001	Supported
Job Autonomy → Professional Worker Performance	0.202	2.133	0.033	Supported
IT Capability → Professional Worker Performance	0.505	5.152	0.001	Supported
† p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001				

5. DISCUSSION AND CONCLUSION

This study aimed to determine how professional workers' autonomy and innate IT skills influence their performance. The results of the route analysis demonstrate the autonomy of the proper theory and IT Capability in supporting the performance of professional workers in Indonesia. Based on the structural analysis, job autonomy contributes positively to the performance of professional workers. This finding is consistent with the Job Characteristics Model (JCM), which proposes autonomy as one of five enriching and motivating work characteristics (Van Bavel et al., 2019). High internal workmotivation, increased job satisfaction, and improved work quality is the outcomes of meeting these criteria. In the Job Demand and Resources (JD-R) Model, autonomy is now considered a job resource. Job resources are physical, social, or organizational factors that facilitate accomplishing tasks and alleviating stress (Heilala et al., 2022; Radic et al., 2020). Consequently, a higher level of job resources, such as autonomy, can favour professional employee engagement and job completion.

Even though job autonomy contributes positively to professional worker performance, its association with professional worker performance is stronger when mediated by IT capability. It is understandable, given that IT Capability can improve an individual's networking, interactions, and adaptability (Parker et al., 2022; Thörel et al., 2022). Therefore, organizations should recognize the significance of professional employees' IT skills. According to several studies, the appropriateness of the working environment at home and the reduction in time spent communicating with coworkers are the two most influential telework factors on a range of telework outcomes (Nakrošienė et al., 2019). This is crucial because social distancing can result in physical isolation, leading to psychological isolation. Psychological isolation refers to emotional discontentment resulting from a lack of meaningful relationships, support, and interactions with others (Wang et al., 2020).

Organizations must give all the resources necessary for successful teleworking for employees to overcome hurdles and challenges associated with teleworking. It should first provide all teleworkers with the appropriate technology, tools, and training for them

and their managers. Some individuals may have difficulty adapting to new technologies, impacting their job satisfaction and performance. [Suh et al. \(2017\)](#) examine how the interaction between technology and job characteristics causes technostress in teleworkers. [Stich et al. \(2018\)](#) also recommend that organizations develop the IT skills of their employees first, as not everyone enjoys or is proficient with technology. The study results indicate that IT skills are essential for professional workers because they affect how well they perform their jobs, particularly during COVID-19.

6. RESEARCH IMPLICATIONS

The study demonstrates that IT proficiency indirectly affects job autonomy and worker performance. Job autonomy affects the performance of professional employees primarily through their reliance on IT competence. The current investigation has numerous theoretical and practical implications. First, this study contributes to the body of knowledge by providing empirical evidence that job autonomy and IT competence are both significant factors in enhancing the performance of professional workers. Second, this study suggests that professional employees should improve their IT skills to enhance performance, particularly during a pandemic or when mobile or hybrid work becomes the norm. In addition, firms that migrate to mobile or hybrid work arrangements must provide appropriate support to guarantee that their professional employees can readily adapt to the new arrangements, such as by giving adequate IT training. This study can provide preliminary evidence of Indonesia's professional workers in the KIBS industry, enabling international companies to consider recruiting Indonesian professionals as "mobile professional workers" or "e-lancers."

7. RESEARCH LIMITATIONS AND FUTURE DIRECTIONS

The current study has several limitations. First, we collected data from Indonesian professionals employed by professional service firms (e.g., consulting, marketing, accounting, and legal services). Therefore, the generalizability of the findings is limited. Consequently, future research can replicate the current work under various conditions. This study employed a cross-sectional research design, second. Consequently, the presumption of causality may be compromised. In the future, longitudinal studies may be conducted to establish causality. Common source bias has the potential to reduce the reliability of self-reported data. By collecting information from various sources, future research can avoid similar biases.

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