

AMID THE SURGE OF TECHNOLOGY : DIGITAL MULTITASKING, TECHNOLOGY USE, AND INDIVIDUAL EFFECTIVENESS WITH SELF-CONTROL

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ABSTRACT

This study aims to analyze the influence of digital multitasking, technology use intensity, and self-control on individual effectiveness in the digital era. The rapid advancement of technology has significantly transformed how individuals perform tasks, often requiring them to engage in multiple activities simultaneously, which may affect their productivity and overall performance. Therefore, understanding the factors that influence individual effectiveness has become increasingly important in today's digital environment. This discussion is quantitative and relies on the SEM-PLS model. The reports are obtained from each questionnaire distributed to participants through digital technology in their activity. The results indicate that digital multitasking and technology use intensity do not have a significant effect on individual effectiveness. In contrast, self-control is found to have a significant positive influence in improving individual effectiveness. These findings suggest that individual effectiveness is more strongly determined by internal regulatory capabilities rather than the level of exposure to digital activities. This study contributes to the development of research on individual behavior in the digital era and provides practical implications for improving productivity through strengthening self-control.

Keywords: digital multitasking, individual effectiveness, productivity, self-control, technology use intensity

1. INTRODUCTION

The rapid development of digital technology has significantly transformed individual behavior in performing daily tasks, particularly through increased reliance on digital devices such as smartphones and computers. This transformation has led to the emergence of digital multitasking behavior and a higher intensity of technology use in both professional and personal

activities. However, individual effectiveness in task completion remains inconsistent, indicating that increased technology use does not always translate into improved performance.

Previous discussions have reported varying results regarding the effects of digital multitasking and technology use intensity on individual effectiveness. While some studies suggest that these behaviors enhance productivity and flexibility, others indicate negative impacts such as cognitive overload and reduced concentration. These inconsistencies highlight an unresolved research gap in understanding how digital behavior influences performance outcomes.

Moreover, the rapid digital transformation in both global and Indonesian contexts has intensified technology dependency in work and academic environments. Despite this condition, limited attention has been given to internal psychological factors that may regulate digital behavior and its consequences on performance effectiveness.

Therefore, this study aims to examine the effects of digital multitasking, technology use intensity, and self-control on individual effectiveness. Specifically, the study addresses whether these three factors significantly influence individual effectiveness in digital environments.

This discussion has a unique feature in the integration of self-control as a reference for internal behavior combined with digital multitasking and technology use intensity in explaining individual effectiveness, providing a more comprehensive model compared to previous research that predominantly focuses on external technological factors.

2. LITERATURE REVIEW

The rapid progress of digital technology has changed people's behavior, particularly through the increasing tendency to engage in digital multitasking. This behavior reflects the simultaneous use of multiple digital devices or applications in task execution. Prior studies suggest that digital multitasking may enhance efficiency and flexibility; however, it can also reduce attention and increase cognitive load, which may negatively affect individual effectiveness (Ophir et al., 2009; Kirschner & Karpinski, 2010).

In addition to multitasking behavior, the intensity of technology use has increased significantly in daily activities, reflecting individuals' high dependency on digital devices for communication and information processing. While higher intensity of use may improve accessibility and task completion speed, excessive use may lead to distractions and reduced productivity (Tarafdar et al., 2007; van Deursen et al., 2015). Alongside these behavioral factors, self-control plays an important role in regulating individual behavior in digital environments. Individuals with high self-control are better able to maintain focus, resist distractions, and manage competing demands, thereby supporting higher levels of effectiveness (Baumeister et al., 2007).

Individual effectiveness refers to the ability of individuals to achieve tasks efficiently and productively. It is influenced by both external behavioral factors and internal psychological mechanisms. However, previous studies have reported inconsistent findings regarding the

effects of digital multitasking and technology use intensity on performance outcomes, indicating that the relationships among these variables are not yet fully conclusive. From all these views, digital multitasking can be proposed, intensity of technology use, and self-control influence individual effectiveness.

3. METHODS

This quantitative discussion examines the impact of digital multitasking, technology use intensity, and self-control on individual effectiveness. The discussion relies on the SEM-PLS model to analyze each variable.

The population consists of individuals who actively use digital technology in their daily activities, such as students and employees. The sample in this discussion is determined from several conditions, namely individuals who frequently use digital devices and engage in multitasking activities. The sample size follows SEM-PLS requirements, which recommend 5–10 times the number of indicators used in the study.

Each report was obtained from a digital questionnaire proxied by a five-point Likert scale. Digital multitasking is measured based on the ability to perform multiple tasks using digital devices. Intensity of technology use is measured based on how often and how long individuals use digital technology. Self-control is measured through the ability to manage behavior and reduce distractions, while individual effectiveness is measured through task completion, productivity, and goal achievement.

To analyze each report, SmartPLS will be used with several phases: the structural model (inner model) and the measurement (outer model). The outer model tests reliability and validity using Average Variance Extracted (AVE), outer loading, Composite Reliability, and Cronbach's Alpha. The inner model tests the relationship between each variable using the t-statistic, p-value, and path coefficient from bootstrapping, as well as R^2 to measure the model's explanatory power.

The hypothesis will be tested based on the results of the path coefficient sig. The relationship is considered significant if it finds sig < 0.05.

4. RESULTS AND DISCUSSION

This section presents the results of the analysis and discussion related to the research objectives.

4.1 Measurement Model

The evaluation of the measurement model plays a role in ensuring that each construct is valid and reliable.

Table 1. Construct Reliability and Validity

No.	Variable	Cronbach's Alpha	Composite Reliability	AVE
1.	Digital Multitasking (X1)	0.396	0.406	0.390
2.	Technology Use Intensity (X2)	0.881	0.912	0.674
3.	Self-Control (X3)	0.808	0.867	0.573
4.	Individual Effectiveness (Y)	0.909	0.933	0.736

The results in Table 1 prove that the majority of constructs produce acceptable validity and reliability scales, meaning that the measurement instruments are generally capable of consistently capturing the intended variables.

However, one construct shows weaker measurement quality compared to the others, suggesting that its indicators may not fully represent the concept being measured. Therefore, the interpretation of this variable should be treated with caution.

Overall, the measurement model is adequate to support further analysis, although improvements in certain indicators are recommended for future research.

4.2 Structural Model

The structural model is evaluated to determine the explanatory power of the independent variables on the dependent variable.

Table 2. R-Square Results

No.	Variable	R Square	Adjusted R Square
1.	Individual Effectiveness (Y)	0.625	0.614

The results in Table 2 show that the model has a relatively strong ability to explain variations in individual effectiveness. This indicates that the independent variables included in the study contribute meaningfully to explaining the dependent variable.

However, there are still other factors outside the model that may influence individual effectiveness. This suggests that future research could incorporate additional variables to provide a more comprehensive explanation.

4.3 Hypothesis Testing

Hypothesis testing is conducted to examine the relationships between variables and determine their significance.

Table 3. path Coefficients

No.	Relationship	Coefficient	T-Statistic	P-Value	Result
1.	$X1 \rightarrow Y$	-0.187	1.074	0.283	Not Significant
2.	$X2 \rightarrow Y$	-0.102	1.348	0.178	Not Significant
3.	$X3 \rightarrow Y$	0.662	10.680	0.000	Significant

The findings presented in Table 3 indicate that not all independent variables have a meaningful influence on individual effectiveness. Some variables do not show a strong relationship, suggesting that their role in determining effectiveness may be limited in this context.

In contrast, one variable demonstrates a strong and meaningful influence, indicating that it plays a crucial role in shaping individual effectiveness. This highlights the importance of internal factors in managing performance in a digital environment.

4.4 Discussion

The findings of this study suggest that external factors such as digital multitasking and technology use intensity do not play a dominant role in determining individual effectiveness. This may indicate that individuals have adapted to digital environments and are able to manage multiple tasks without significantly reducing their performance.

On the other hand, internal factors, particularly self-control, appear to be more influential. The ability to regulate attention, manage distractions, and maintain focus is essential for achieving effectiveness in a technology-driven context.

These findings imply that improving individual effectiveness is not solely dependent on reducing the use of technology, but rather on strengthening self-regulation abilities. This is especially relevant for individuals who operate in environments with high digital exposure, such as students and professionals.

Therefore, efforts to enhance effectiveness should prioritize the development of self-control skills, as this factor plays a key role in optimizing performance in the digital era.

5. CONCLUSION AND LIMITATION

This study concludes that not all external factors significantly influence individual effectiveness in the digital era. While digital multitasking and technology use intensity do not show a meaningful impact, self-control emerges as a key factor in determining effectiveness. This indicates that individual effectiveness is more influenced by internal regulation than by exposure to digital activities. These findings contribute to the understanding that improving

productivity should focus on strengthening self-regulation rather than limiting technology use. However, this study has several limitations, particularly related to the measurement quality of one variable and the limited number of respondents, which may affect the generalizability of the results. Therefore, future research is recommended to refine measurement indicators and include additional variables to provide a more comprehensive explanation of individual effectiveness.

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