UDC 331

THE INFLUENCE OF EMPLOYEE COMPETENCE ON TECHNOLOGY COMPATIBILITY, ADOPTION OF GREEN INFORMATION TECHNOLOGY, AND EMPLOYEE PERFORMANCE DURING THE COVID-19 PANDEMIC

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ABSTRACT
The purpose of this study is to analyze the relationship between employee competency and information technology compatibility, employee competency and green IT adoption, employee competency and employee performance, the relationship between technology compatibility and green IT adoption, and the relationship between technology compatibility and employee performance. In order to collect data for this study, a list of questionnaires was distributed to respondents among the staff of the company. Following the tabulation of the acquired data in a table, a descriptive analysis is conducted. The Structural Equation Modeling (SEM) method is used as an inferential statistical methodology in this investigation. Using the SmartPLS program, the data analysis for this study was calculated. According to research, employee competency variables have the strongest relationships with other variables among all the observed variables (construct variables) in this study. Because the form and quality of information technology are constantly changing quickly, it is vital to analyze a number of models that have been created by earlier academics. Other elements that could potentially affect how strongly Green IT is used still need to be investigated.

KEY WORDS
Information, technology, compatibility, green IT.

There have been unprecedented changes in people's behavior as a result of the COVID-19 pandemic outbreak, which has affected almost every country in the world, including our own, Indonesia, and has never happened before. The growing diffusion of technologies is also creating new opportunities for the research community to study societal behavior regarding technology in times of international crisis. Thus, the fundamental question of how much is understood about the employment of digital technology during the COVID-19 epidemic is raised.

Technology adoption: Technoware, humanware, infoware, and orgaware are the four elements and interactions between them that make up technology. Physical facilities comprise tools, equipment, machines, motorized vehicles, factories, physical infrastructure, and other items utilized by humans in performing product transformation. Technoware (T) is a physical facility and manufacturing equipment. Human resources have the capacity to use their knowledge, skills, wisdom, creativity, accomplishments, and experience to make the best use of the natural resources and technology that are at their disposal. This capacity is known as humanware (H), and it incorporates all of these traits.

Utilizing technology to foster innovation Adoption is the process of altering one's cognition or behavior in order to acquire new skills, attitudes, or information (psychomotor). When someone first hears about a new idea, the adoption process begins, and it lasts until the person really adopts (Rogers, 2003). Adopting new ideas or technologies as a method of operation is known as technology adoption. current research gaps in IT adoption Despite the significance of implementing IT advances and the abundance of information accessible, there is still little understanding of the phenomena of IT adoption for enterprises (Carter et al., 2001; Abdul Hameed et al., 2012).

There is a dearth of research that provides a comprehensive model to explain how IT innovations are adopted and users of IT are accepted in businesses. Additionally, the user acceptance theories and innovation adoption theories only explain how people perceive their

own attitudes and behaviors toward adopting and accepting innovations. None of the user acceptance theories or models for innovation adoption that are now in existence take organizational contexts into account. It is necessary to incorporate an organizational context into present theories and models of innovation uptake.

Although there is a substantial body of literature that looks at the elements that help or impede IT adoption, the literature on IT fails to comprehend and validate the collection of factors that affect how an invention is adopted and used. It is incredibly difficult to come to definitive conclusions regarding how different elements affect the adoption of IT innovations based on prior studies. To handle the entire IT innovation adoption process, it is crucial to pinpoint the elements that either facilitate or obstruct the implementation process. Additionally, it's critical to examine the causes of the numerous discrepancies and differences found in earlier research that attempted to identify the factors that influence the adoption of IT. Research on IT adoption undertaken in various contexts, industries, organizations, and demographics frequently produces a range of findings (Damanpour, 1988). The authors attempt to frame the research challenge as follows in light of this background: Does employee competency affect how well they can use information technology? Does the implementation of green IT depend on staff competence? Does a person's competency affect how well they succeed at their job? Does the adoption of green IT depend on IT compatibility? Does compatibility with technology affect how well employees perform? Does adopting green IT impact how well employees perform?

MATERIALS AND METHODS OF RESEARCH

According to Moulton (2003), the definition of competence is divided into two parts, namely: For organizations, competence is a technical ability that distinguishes a company from its competitors. Meanwhile, for individuals, competence is a combination of knowledge, skills, and abilities that affect work performance. Ulrich (1997) defines competence as a characteristic that underlies a person's ability to perform well at work. These characteristics appear in the form of knowledge, skills, and other abilities or traits of personality.

IT adoption requires human resources skills to run it. Katz (Robbins, 2001) argues that technical skills are the ability to apply knowledge. Technical skills are those that are administrative in nature and are used to support business facilities such as computers, machines, and other equipment (Coates, 2006). According to Baloh and Trkman (2003), the internet and information technology have an effect on information technology professionals and employees who use information technology in their daily work. Similarly, green IT adoption.

Externally, under the influence of technological developments and economic, legal, and social pressures, organizations may decide to adopt green IT in order to become more competitive. For the purposes of this paper, two different factors are examined: the technological context and institutional pressures. A number of propositions are formulated based on theoretical reasoning.

Organizations may choose to adopt green IT for a number of reasons, including external and internal pressures such as technological advances, the economic and business benefits of green IT, and legal, social, and environmental pressures. A number of traditional and contemporary organizational theories can be applied to explain these motives. These theories include the diffusion of innovation theory (DOI), institutional theory, the resource-based view of the firm (RBV), and organizational culture theory, among many others. This section provides an explanation of why an organization can adopt green IT and introduces a research model.

It is assumed that the study of green IT adoption involves a causal chain that starts with motivation and ends with the adoption of green IT. In this paper, we follow the advice and look at adopting green IT as a means of creating a sustainable competitive advantage. Synthesizing the theories discussed above and the literature examined, a research model is proposed to capture the predictors of organizational Green IT adoption and the relationship between such adoption and employee performance.

According to Cushway (2002), performance is assessing how someone has worked compared to predetermined targets. According to Veithzal Rivai (2004), performance is real behavior. Mathis and Jackson (2001) stated that performance is basically what employees do or don't do. Whitmore (1997) explained that performance is a condition that must be known and confirmed by certain parties to determine the level of achievement of an agency's results related to the vision carried out by an organization or company and to know the positive and negative impacts of an operational policy.

Competence affects performance. Competencies, as stated by Gilley, Boughton, and Maycunich (2011), are useful in recruiting and selecting employees for a given job classification. They can also be used to determine the training and development activities in which employees must participate to acquire adequate levels of performance mastery. In this case, it means that performance is influenced by the competence of each individual, which is determined by the training and development of human resources in order to achieve the desired level. The research was conducted at employees of PT JIEP Jakarta, Indonesia. This type of research is quantitative using 4 variables, namely: Employee Competence (X1), Technology Compatibility (Y1), Green IT Adoption (Y2), and Employee Performance (Y3) where each variable has its own indicator by determining the score using a Likert scale then determine the population and sample using the Hair formula:

Minimum sample size = Number of indicators x 5

Furthermore, the minimum sample size is the number of indicators (17) X 5 = 85. Using inferential statistical analysis with 6 steps of Structural Equation Modeling (SEM) which will be analyzed descriptively, while calculating data analysis in this study using SmartPLS 4.0 software. To build a Research Concept Model, the authors first examine each of the variables used in this study.

CONCEPTUAL FRAMEWORK

Rogers suggested that adoption rate and observability had a beneficial relationship. This implies that the adoption rate will increase if the invention is more widely known to people. Rogers' model was expanded by Moore and Benbasat (1991), who gave it visual elements, demonstration capabilities, and visibility. Moore and Benbasat (1991) took four aspects of innovation from Rogers: compatibility, relative advantage, trialability, and ease of use, which is also quite similar to Rogers' complexity. The following factors are used in this study: employee performance, technological compatibility, green IT adoption, and staff competency. This is demonstrated in Figure 1.

Adopting technical innovations requires qualified employees with competent learning and innovative abilities (Moore and Fleischer, 1990). The following are indicators used to measure the quality of human resources:

- Ability to learn new technologies easily;
- Ability to share knowledge with each other;
- Ability to use new technology to quickly solve problems;
- Ability to provide new ideas for the company.

Compatibility is the degree to which an innovation is perceived as consistent with the needs or existing practices of potential adopters. High compatibility has been identified as a facilitator for innovation adoption. Therefore, compatibility can be an important determinant of green IT adoption. The following hypothesis is put forward:

- The changes introduced by Green IT are consistent with the beliefs and values;
- Green IT is compatible with existing information infrastructure;
- The changes introduced by Green IT are consistent;
- Green IT development is compatible with company experience.

Green logistics can also be defined as efforts to assess and minimize the environmental impact of logistics activities. On the other hand, related to the research

entitled "The Determinants of Green ICT Adoption in Foreign Multinational Organizations in Malaysia," several indicators of Green IT adoption are used by asking the question, "How important is organizational readiness to adopt and implement Green ICT?"

- Green IT strategy road map;
- Promotion of the latest initiatives;
- Environmentally friendly;
- Environmental policy;
- Flexible work schedule.

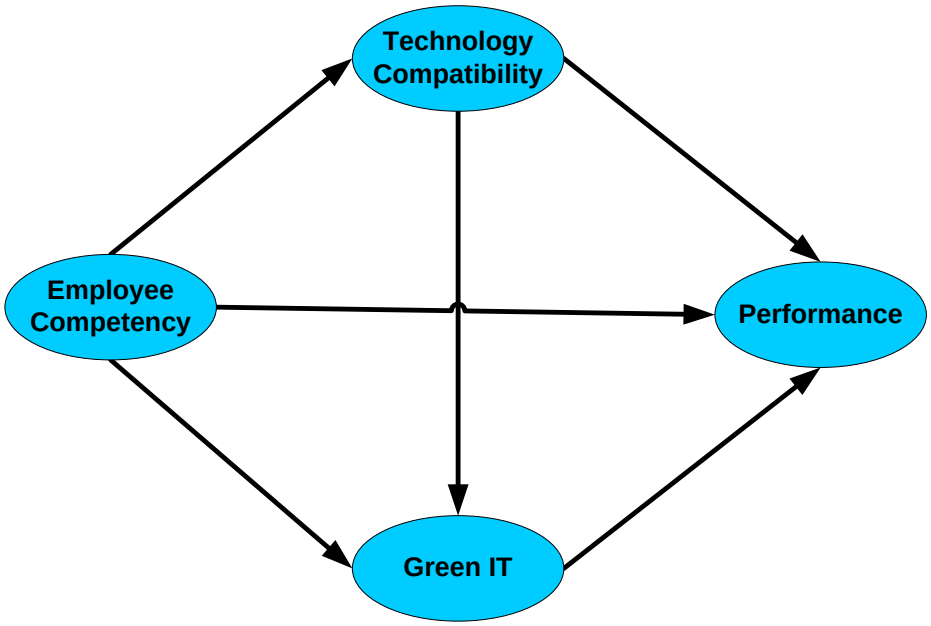

Figure 1 – Research Model

Performance measurement is a process for evaluating work progress towards predetermined goals and objectives (Robertson, 2013). Whittaker (2009) defines performance measurement as a management tool to improve the quality of decision-making and accountability. Performance measurement is also used to assess the achievement of goals and objectives. Mathis and Jackson (2012) show there are five elements to identify and measure employee performance, namely:

- Yield quality;
- Yield quantity;
- Timeliness of results;
- Presence;
- Ability to cooperate.

Based on the relationship pattern between variables in the research model described above, the research hypothesis is formulated as follows:

- H1 = employee competency (X) has a significant effect on information technology compatibility (Y1);
- H2 = employee competence (X) has a significant impact on green IT adoption (Y2);
- H3 = Employee Competence (X) influences Employee Performance (Y3);
- H4 = Information Technology Compatibility (Y1) has a significant effect on Green IT Adoption (Y2);
- H5 = Information Technology Compatibility (Y1) influences employee performance (Y3) significantly;
- H6 = Adoption of green IT (Y2) has a significant effect on employee performance (Y3).

The complete hypothesis model with its indicators can be seen in the Figure 1.

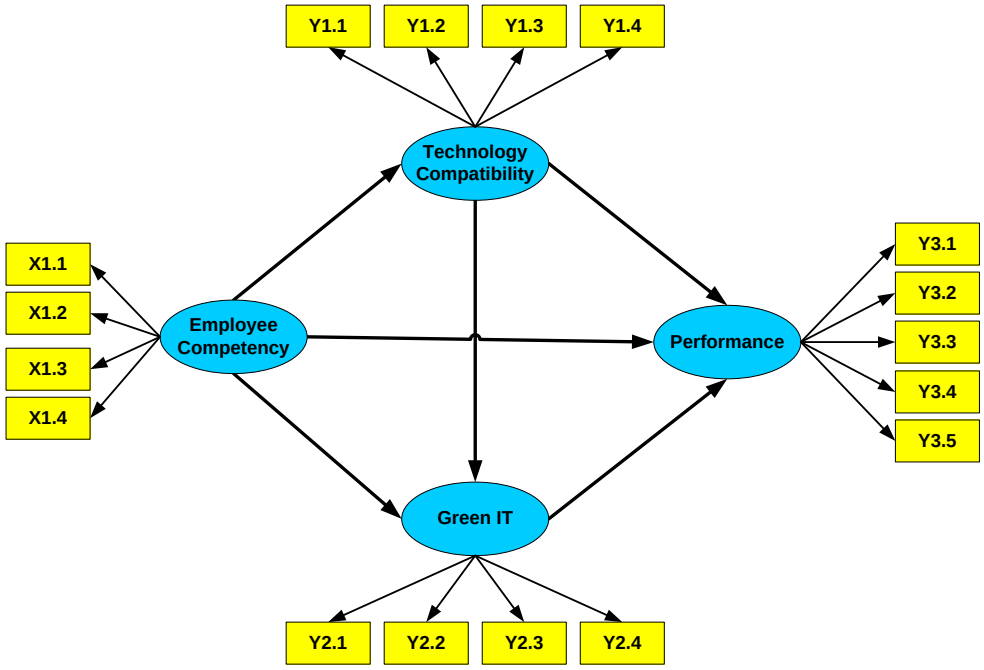

Figure 2 – Hypothesis Model

RESULTS AND DISCUSSION

Inner Model Test

Figure 3 below shows the results of the validity and reliability tests of the construct. Questions or indicators with a loading factor value of 0.7 will be excluded from the model when testing their validity (Hair et al., 2014). In Figure 3, it can be seen that the first running output shows all loading factor values > 0.7, which means that the external model of all indicators is valid.

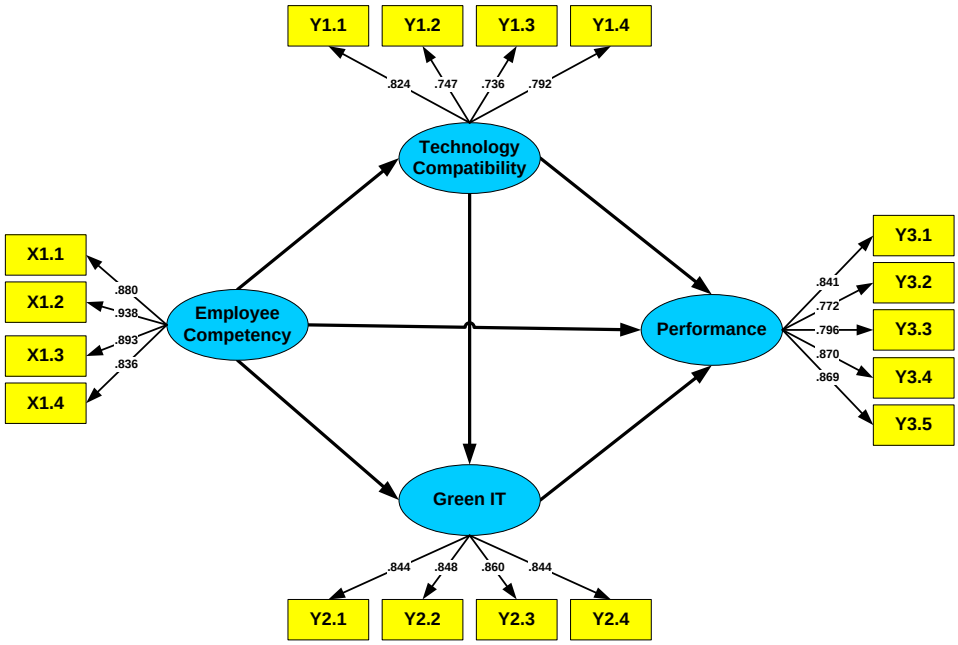

Figure 3 – Research Instrument Test (Outer Model Test)

While the statistical hypothesis for the inner model: the effect of exogenous latent variables on endogenous is: H0: γi = 0 versus, H1: γi ≠ 0.

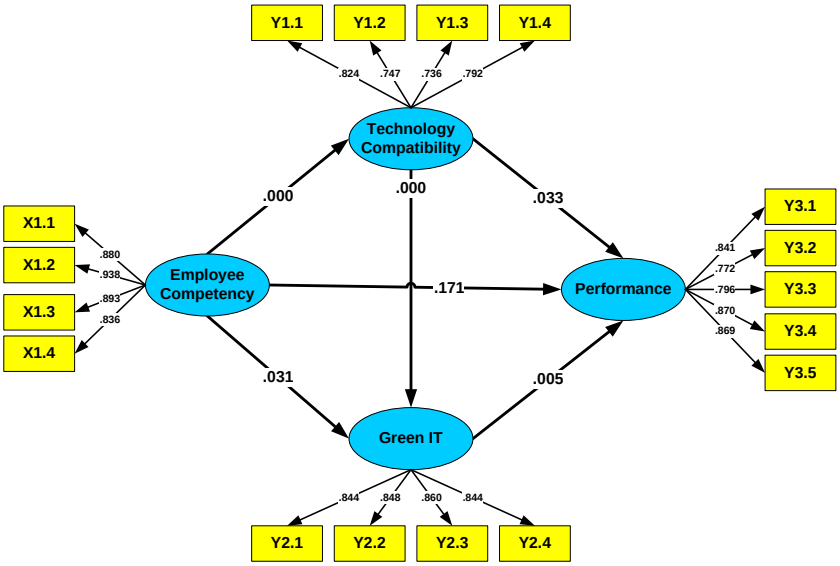

Figure 4 – Research Hypothesis Test (Inner Model Test)

To complete the analysis in this study, the authors display a table of hypothesis test results. This can be seen in table 1.

Table 1 – Hypothesis Test Results

n/n	Original sample (O)	Average sample (M)	Standard deviation (STDEV)	T statistic (|O/STDEV|)	P_values	Information
Employee Competency → Green IT	0.190	0.186	0.088	2.162	0.031	Accepted
Employee Competence → Technology Compatibility	0.389	0.392	0.107	3.633	0.000	Accepted
Employee Competency → Performance	0.131	0.129	0.096	1.368	0.171	Rejected
Green IT → Performance	0.390	0.397	0.140	2.792	0.005	Accepted
Technology Compatibility → Green IT	0.688	0.687	0.074	9.290	0.000	Accepted
Technology Compatibility → Performance	0.301	0.301	0.141	2.129	0.033	Accepted

Source: Data Processed.

Shown in Table 1 above is the calculation result of Bootstrapping to test the inner model which describes the research hypotheses in the SEM model simultaneously. The results of the path analysis explaining the direct effects from construct to other construct are as follows:

- H1 = Employee Competence (X) is proven to have a significant effect on Information Technology Compatibility (Y1), the P Value is 0.005;
- H2 = Employee Competence (X) is proven to have a significant effect on Adoption of Green IT (Y2), the P Value is 0.000;
- H3 = Employee Competence (X) has no significant effect on Employee Performance (Y3), the P Value is 0.171;
- H4 = Information Technology Compatibility (Y1) is proven to have a significant effect on Green IT Adoption (Y2), the P Value is 0.031;
- H5 = Information Technology Compatibility (Y1) has proven to have a significant effect on Employee Performance (Y3), the P Value is 0.033;
- H6 = Adoption of Green IT (Y2) has proven to have a significant effect on Employee Performance (Y3), the P value is 0.000.

Model Fit Test

SmartPLS analysis can be performed on measurement models, structural models, and overall models. The measure of fit in the measurement model aims to determine whether the

research instrument is valid and reliable. The aim is to find out how much information can be explained by the structural model (relationships between latent variables) from the results of the SmartPls analysis. Hypothesis testing was carried out using the Bootstrap resampling method. Some of the variables used in this study are as follows Employee Competence, Technology Compatibility, Green IT Adoption, and Employee Performance.

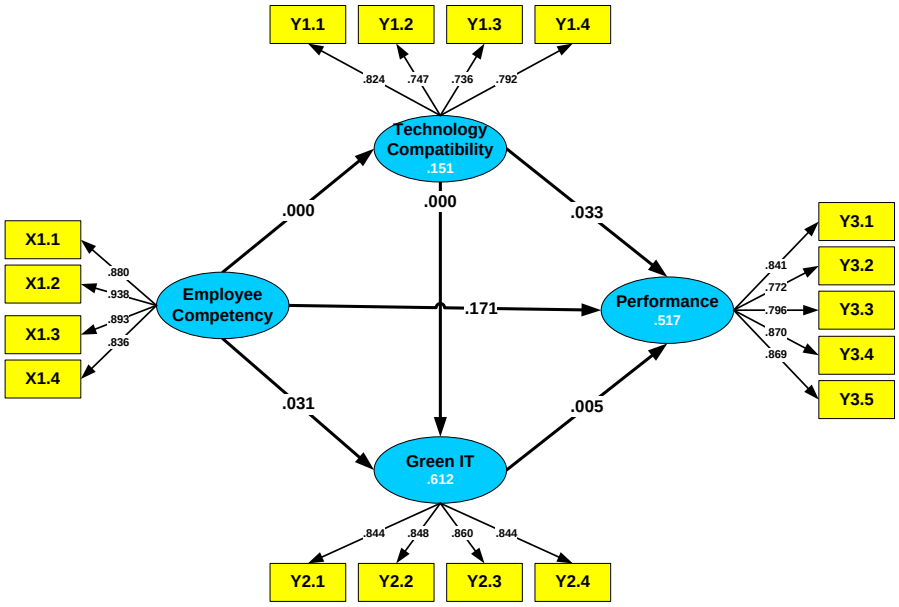

Figure 5 – Model Fit Test

Figure 5 shows that there is an influence of technology compatibility (Y1) on green IT (Y2), as indicated by the coefficient of determination, namely R^2 = 0.152. This means that the influence of technology compatibility (Y1) is 15%. Similarly, the coefficient of determination, R^2 = 0.517, indicates that technology compatibility (Y1) and employee performance (Y3) have a significant influence.This means that the influence of technology compatibility (Y1) on employee performance (Y3) is 51%. Green IT (Y2) also shows an effect on employee performance (Y3) with a coefficient of determination of 0.612. This means that the influence of green IT (Y2) on performance (Y3) is 61%. After going through the process of testing the relationship between indicators and latent variables, testing the relationship between latent variables and testing the fit of the model, a final model that fits simultaneously has been found. As explained above, there are six hypotheses tested in the analysis of Employee Performance:

- The Effect of Employee Competence (X1) on Technology Compatibility (Y1). The significant relationship has a significant effect on the employee competency variable in terms of technological compatibility, so that the competence of human resources encourages the success of technology adoption;
- Effect of employee competence (X1) on adoption of green IT (Y2) A significant relationship exists between the variable of employee competence and the adoption of green IT. This explains that the successful adoption of green IT is driven by strong employee competence;
- Employee competence (X) is not proven to have a significant effect on employee performance (Y3); this means that employee competence only acts as a complementary variable in achieving good employee performance;
- Because information technology compatibility (Y1) is proven to have a significant effect on green IT adoption (Y2), it can be stated that the quality of employee performance will increase through the use of compatible technology;

- Information technology compatibility (Y1) is proven to have a significant effect on employee performance (Y3); this shows that information technology compatibility is an important variable in achieving high employee performance;
- Because Green IT adoption (Y2) proved to have a significant effect on Karyawn's performance (Y3), this test shows that adoption of Green IT (Y2) plays an important role in increasing Karyawn's performance.

CONCLUSION

Based on the research that has been done, several conclusions can be drawn, All the relationships between variables that have a significant effect either on employee competency (X1) influencing technology compatibility (Y1) or employee competency (X1) influencing Green IT (Y2.) Technology compatibility (Y1) influences performance (Y3). Green IT (Y2) has an effect on performance (Y3), while technology compatibility (Y1) has no effect on green IT (Y2). It is necessary to review the use of the technology compatibility variable (Y1), which has no effect on green IT (Y2), for future studies to ensure that this variable is feasible to continue to use. Based on the conclusions above, the suggestions put forward are because the coefficient of determination of the technology compatibility variable only reaches R2 = 15%, so further researchers are recommended to explore other factors that have the potential to influence the continued use of Green IT. Considering that the green IT that has been implemented is seen by users as something that is indeed useful in supporting the company's management process but has not yet reached a satisfactory level, the agency continues to review the quality of its systems and infrastructure so that its use continues to be maximized, but at the same time it also needs to be accompanied by an increase in the quality of human resources and policies for users through various trainings.

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