



The Influence of the 5S Concept on Auditor Work Productivity (Survey of the Indonesian Financial Audit Agency)

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ABSTRAK

The Supreme Audit Agency, in carrying out its main function of auditing, still encounters instances where audit procedures cannot be completed on time by the auditors. The 5S concept is expected to offer a solution to ensure that audit procedures are completed on time, and it is therefore proposed that this concept be implemented in the institution to improve auditor work productivity. This study analyzes whether the 5S concept has an impact on auditor work productivity, using a sample of 100 respondents analyzed with Smart PLS version 4.0. The results show that the statistical values for "maintenance" (2.674) and "diligence" (2.232) are greater than the t-table value of 1.96, indicating a significant effect on auditor work productivity. On the other hand, the t-statistics for "sort" (1.689), "set in order" (1.767), and "shine" (0.985) are less than 1.96, meaning they have a positive but not significant effect on auditor work productivity.

INTRODUCTION

The Supreme Audit Agency (Badan Pemeriksa Keuangan) is an independent state institution tasked with auditing the management and accountability of the state's finances. In carrying out their duties, auditors follow audit procedures outlined in the Individual Work Program (PKP) document. Based on research into the accuracy of audit procedure completion compared to their implementation in a financial statement audit cycle, a gap was found between the target and the actual completion of audit steps. This indicates that the execution of audit procedures has not fully met the time targets set.

To improve auditor work productivity, a method is needed to ensure documents are well-organized, prevent difficulties in retrieving audit documents, or even avoid damage to these documents due to improper storage, as well as to enhance work motivation. One proposed method for improving auditor work productivity is the 5S concept. Therefore, a survey was conducted to determine whether the 5S concept is effective and suitable for enhancing auditor work productivity.

The results of this study are expected to serve as a reference or input for the development of management science, especially in the field of productivity management, and to provide additional references on the usefulness of the 5S concept in improving employee productivity. It can also offer recommendations for the Supreme Audit Agency to implement the 5S concept to improve auditor work productivity through this method.

Since the onset of the COVID-19 pandemic, auditors of the Supreme Audit Agency of the Republic of Indonesia (BPK RI) have indirectly implemented parts of the 5S concept. This is evident when auditors requested audit documents in softcopy format from auditees to reduce physical contact and uploaded them to Google Drive. This practice aligns with Seiri (Sort), as it involves organizing and placing documents into folders created according to audit steps, thus reducing the time spent searching for needed documents.

Storing audit documents on Google Drive helps reduce document clutter, allowing auditors to access audit documents from anywhere with an internet connection. This increases work productivity by enabling auditors to work anytime and anywhere. Documents in softcopy format are also less likely to be damaged or lost.

The importance of awareness and understanding of auditor work productivity and the 5S concept is crucial for creating a comfortable, clean, and organized work environment, ensuring that all tasks are carried out effectively to enhance employee productivity. Additionally, to determine whether the 5S concept can be applied to BPK RI auditors and whether it can improve their work

productivity, further research on the implementation of the 5S concept and employee work productivity is needed.

LITERATURE REVIEW

Total Quality Management Theory

In operational management, 5S is a part of Total Quality Management (TQM), a management strategy aimed at instilling quality awareness in all organizational processes through the participation of all members. It seeks long-term success by ensuring customer satisfaction and providing benefits to all members of the organization and society. TQM consists of eight core elements, each incorporating aspects of the 5S methodology: customer focus, total employee involvement, process-centered approach, integrated system, strategic and systematic approach, continual improvement, fact-based decision-making, and communication.

The 5S method involves several stages that directly impact the improvement of quality, efficiency, effectiveness, waste reduction, and the creation of a safe and comfortable working environment for employees. According to Osada (2015), 5S is a movement aimed at sorting out the workplace, organizing, cleaning, maintaining stable conditions, and sustaining the necessary habits to perform work well. Meanwhile, Hirano (2015) described 5S as a process of attitude change by applying workplace organization and cleanliness.

5S is a culture of treating the workplace properly, maintaining and keeping it neat, clean, and orderly, to create ease in work. 5S consists of **Seiri (Sort)**, **Seiton (Set in order)**, **Seiso (Shine)**, **Seiketsu (Standardize)**, and **Shitsuke (Sustain)**. Initially developed in Japan, 5S has since been adapted by many developed countries to revitalize their industries. In the UK and the US, 5S is known as 5C (Clear-out, Configure, Clean, Conform, Custom), while in Germany, it is referred to as 5A (Aussortieren unnötiger Dinge, Aufräumen, Arbeitsplatz sauber halten, Anordnungen zur Regel machen, Alle Punkte einhalten und ständig verbessern). In Indonesia, 5S has been translated into **5R: Ringkas (Sort)**, **Rapi (Set in order)**, **Resik (Shine)**, **Rawat (Standardize)**, and **Rajin (Sustain)**, or as activities involving sorting, organizing, cleaning, standardizing, and maintaining good habits.

Productivity Theory

Productivity is a measure of how effectively a company uses its resources, often expressed as the ratio between the output achieved and the resources used. Productivity can be viewed through the lens of human resources, where work productivity is driven by internal motivation and supported by the appropriate technology and production facilities to enhance efficiency.

According to Haizer et al. (2014), productivity is the comparison of total output divided by input, which includes resources such as labor and capital. Managers and organizational leaders are increasingly focusing on efforts to boost productivity, even though they mainly serve as the facilitators and implementers of productivity improvement initiatives.

Siagian (2014) identified three key factors for successful productivity improvement:

1. **Continuous improvement** - every component must strive for ongoing enhancement.
2. **Improvement in work quality** - all organizational components should focus on delivering high-quality results.
3. **Human resource empowerment** - ensuring employees are fully utilized and motivated.

Hypothesis of the Study

This study hypothesizes that **Ringkas (Sort), Rapi (Set in order), Resik (Shine), Rawat (Standardize), and Rajin (Sustain)** significantly impact auditor work productivity. Previous research with relevant topics has been utilized as a foundation for this study. The relevant prior research topics are outlined as follows:

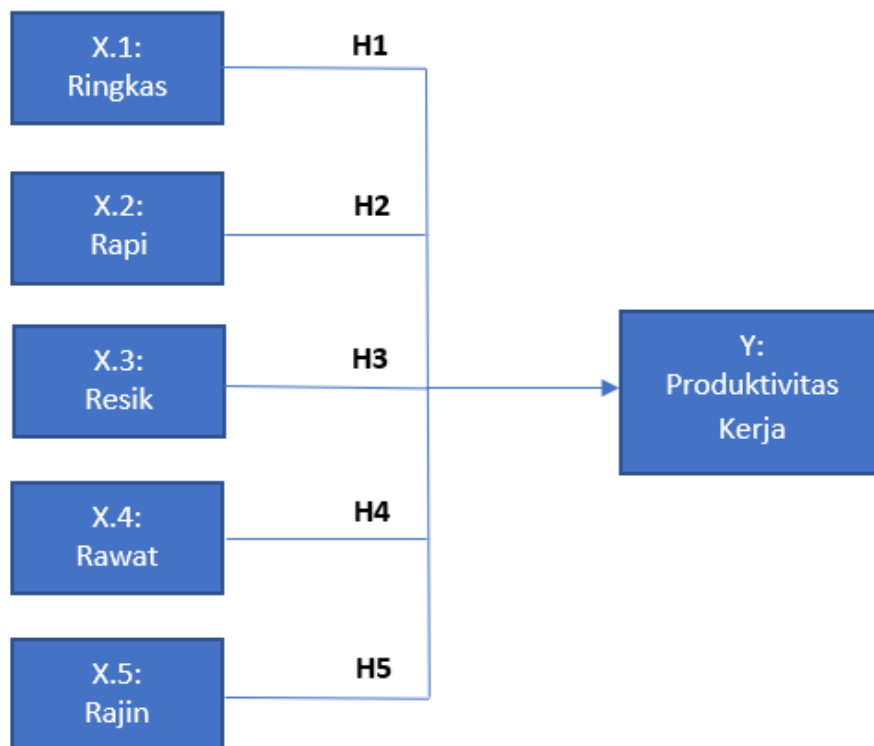
1. **Zepy (2016)** - "The Effect of Kaizen 5S Culture and Leadership Style on Employee Work Productivity (Case Study at PT. Hasil Raya Industries, Soreang Branch, Bandung)." The results showed that both leadership style and the Kaizen 5S culture had a significant influence on employee work productivity.
2. **Merry (2017)** - "Analysis of the Impact of 5S Work Principles and Employee Motivation at PT. Jasa Barutama Perkasa, Pekanbaru, Riau." The results indicated that communication was the most influential factor in the implementation of 5S.
3. **Sofiyanurriyanti (2019)** - "Implementation of 5R/5S Work Culture and Its Effect on Employee Work Productivity at CV. Cahaya Mandiri." The findings revealed that 5R/5S activities could affect employee productivity by 73.9%, while 26.1% was influenced by other factors outside of 5R/5S activities.
4. **Bella (2019)** - "Analysis of the Impact of 5S Work Culture Implementation on Employee Work Productivity (Case Study at Panti Rapih Hospital, Yogyakarta)." The results indicated that out of the five hypotheses, only three variables—**Seiso (Shine), Seiketsu (Standardize), and Shitsuke (Sustain)**—had a significant influence on employee work productivity.
5. **Marina (2023)** - "The Effect of Kaizen Culture on Employee Work Productivity at PT. Pegadaian, Palembang Area." The study concluded

that there was a significant effect of Kaizen culture on employee work productivity at PT Pegadaian, Palembang.

6. **Sa'dillah (2023)** - "Analysis of the Impact of 5S Implementation on the Production Effectiveness of Bleaching Earth (BE)." The findings showed that the 5S aspects collectively had a significant influence on production effectiveness. The implementation of 5S at Bentonit Cileungsi successfully improved HPBE production effectiveness.

Conceptual Framework

Based on the statements above, the conceptual framework is formulated consisting of input, process, and output, which leads to conclusions, recommendations, and managerial implications, as explained below:



METHODOLOGY

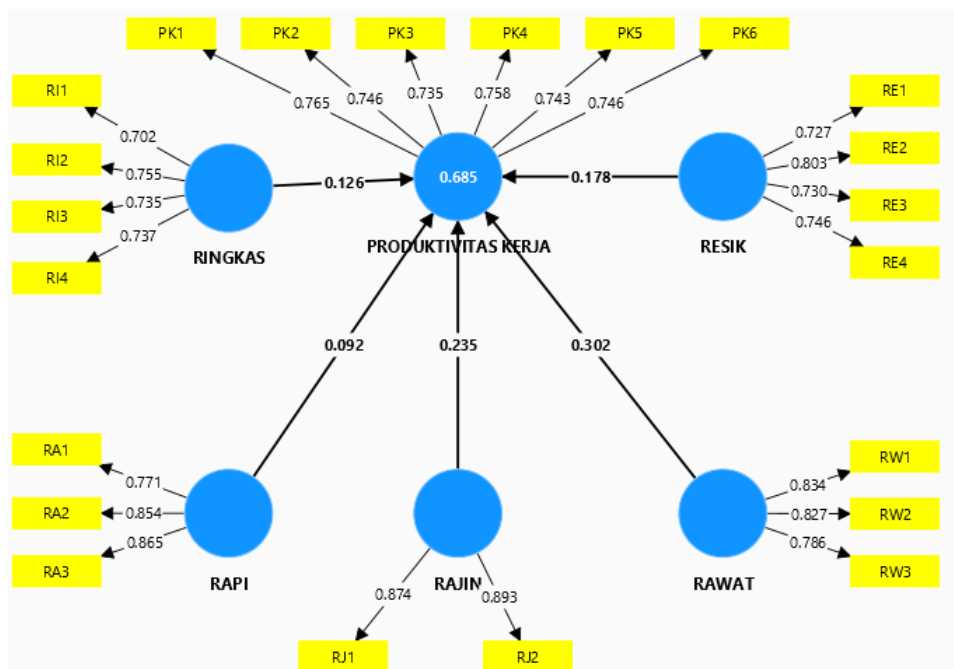
This research utilizes a **quantitative correlational method**. The quantitative correlational method is a research approach aimed at determining whether there is a relationship between two or more variables (Arikunto, 2006). This study is non-experimental, where the researcher measures two variables, understands, and assesses the statistical relationship between them to produce

one of three possible outcomes: a positive correlation, a negative correlation, or no correlation. The research seeks to determine the influence of five independent variables—**Seiri (Sort)**, **Seiton (Set in order)**, **Seiso (Shine)**, **Seiketsu (Standardize)**, and **Shitsuke (Sustain)**—on one dependent variable, which is the **work productivity of auditors**. This study uses the **Structural Equation Model (SEM)** methodology with the help of **Smart PLS 4.0** software.

Research Results

In the evaluation of the measurement model or **outer model**, the analysis reveals the relationships between variables, where the researcher needs to understand the connection between each latent variable and its corresponding indicators, or vice versa, how each indicator relates to the latent variables being studied.

Convergent validity is evaluated based on the loading factor values of each latent variable indicator determined in the study. The criteria for assessing convergent validity are based on the relationship between the scores of the manifest variables and the scores of the latent variables (loading factor). If the loading factor is greater than 0.70, the correlation between the manifest variables and the latent variables is considered high, meaning the indicator can be considered valid in measuring the construct. Below are the results of the outer model analysis using **Smart PLS 4.0**: (Note: You would typically include a table or a set of results from the software output, displaying the loading factors, validity assessments, and the correlation between each indicator and the latent variable.)



Based on the results of the path analysis above, all loading factor values meet the interpretation criteria, which is > 0.70 . According to Chin, as cited by 1784

Ghozali (2014), if the **outer loading** value is greater than 0.70, it is considered to meet the criteria for **convergent validity**, meaning that each indicator has fulfilled the validity requirements and can be used to measure the latent variables and constructs.

Subsequently, after obtaining the indicator validity values, an evaluation of the **Average Variance Extracted (AVE)** is conducted. This step is required to assess convergent validity, in addition to the convergent validity test. Below are the results of the AVE obtained through the calculation of the **PLS Algorithm**:

Table 1: **Results of Average Variance Extracted (AVE) Analysis.**

Variabel	Average Variance Extracted (AVE)
Seiri (ringkas)	0,537
Seiton (rapi)	0,691
Seiso (resik)	0,566
Seiketsu (rawat)	0,666
Shitsuke (rajin)	0,781
Produktivitas kerja	0,561

It can be observed that all **Average Variance Extracted (AVE)** values for the variables are greater than 0.50. This indicates that the values for the variables **Seiri, Seiton, Seiso, Seiketsu, Shitsuke**, and **Work Productivity** have a high level of validity, as demonstrated by the interpretation value of **AVE > 0.50**, which meets the requirements for **convergent validity**.

Discriminant validity can be assessed using two steps: first, by comparing the results of the **cross loading** between variables, and second, by evaluating the results of the **Average Variance Extracted (AVE)**. In the analysis using **Smart PLS version 4.0**, the cross loading values can be represented by **cross validation** values. Each indicator can be said to have a high level of discriminant validity if the loading value of each variable is higher compared to the loading values of other variables. The following presents the results of the cross loading between variable indicators:

Table 2: **Results of Cross Loading Analysis.**

	PRODUKTIVITAS KERJA	RAJIN	RAPI	RAWAT	RESIK	RINGKAS
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PK1	0.765	0.681	0.520	0.674	0.552	0.479
PK2	0.746	0.495	0.429	0.526	0.480	0.481
PK3	0.735	0.598	0.384	0.586	0.514	0.464
PK4	0.758	0.536	0.599	0.595	0.625	0.540
PK5	0.743	0.438	0.442	0.487	0.512	0.493
PK6	0.746	0.580	0.552	0.593	0.581	0.568
RA1	0.507	0.513	0.771	0.540	0.553	0.479
RA2	0.550	0.557	0.854	0.588	0.494	0.691
RA3	0.578	0.539	0.865	0.554	0.647	0.577
RE1	0.505	0.521	0.628	0.610	0.727	0.480
RE2	0.563	0.537	0.522	0.593	0.803	0.574
RE3	0.594	0.569	0.555	0.630	0.730	0.571
RE4	0.525	0.526	0.341	0.513	0.746	0.392
RI1	0.445	0.490	0.550	0.545	0.542	0.702
RI2	0.439	0.535	0.398	0.519	0.493	0.755
RI3	0.567	0.491	0.519	0.435	0.455	0.735
RI4	0.504	0.467	0.583	0.509	0.499	0.737
RJ1	0.636	0.874	0.614	0.723	0.638	0.612
RJ2	0.685	0.893	0.530	0.689	0.630	0.582
RW1	0.632	0.601	0.540	0.834	0.677	0.597
RW2	0.670	0.718	0.475	0.827	0.607	0.529
RW3	0.596	0.631	0.646	0.786	0.633	0.539

Based on Table 2, it can be observed that the correlation values of the indicators are greater than those of the indicators of other latent variables. This indicates that the latent construct represented in the gray-blocked area has a higher value compared to the measurement values of other variable indicators. Additionally, it can be seen that the cross loading values within each variable are greater than 0.50. This means that the results of the cross loading analysis indicate that discriminant validity can be accepted.

Reliability testing in PLS can be performed using two methods: **Cronbach's alpha** and **composite reliability**. Cronbach's alpha measures the lower bound of the reliability of a construct, while composite reliability measures the true reliability value of a construct. The rule of thumb for composite reliability is that it should be greater than 0.7, and for Cronbach's alpha, it should also be greater than 0.7 (Ghozali, 2016). The results of the evaluation of composite reliability and Cronbach's alpha in this study can be seen in the presentation of Table 3 below:

Table 3: **Results of Composite Reliability Analysis.**

Variabel	Composite Reliability (rho_a)
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Work Productivity	0,846
Sort	0,717
Set in Order	0,780
Shine	0,745
Standardize	0,752
Sustain	0,722

From Table 3 above, it can be seen that the calculation results of composite reliability using **Smart PLS Version 4.0** show that all constructs have values greater than 0.70. This indicates that each respondent has demonstrated good consistency in answering the questionnaire items for each variable indicator. It suggests that respondents are consistent in their responses, leading to the conclusion that all constructs have a good level of reliability.

The reliability test using composite reliability can be further supported by the values of **Cronbach's alpha**. Cronbach's alpha employs an assessment criterion where each variable indicator is considered reliable if it has a Cronbach's alpha value greater than 0.7 (Ekawati, 2020). Below is Table 4 presenting the results of the Cronbach's alpha analysis:

Table 4: Results of Cronbach's Alpha Analysis.

Variabel	Cronbach's Alpha
Work Productivity	0,844
Sort	0,715
Set in Order	0,775
Shine	0,744
Standardize	0,749
Sustain	0,720

Chin, as cited in Ghozali (2016), states that if the value of R^2 is greater than 0.67, it falls into the good category, indicating a strong influence from the exogenous variable. If the results fall within the range of 0.33 to 0.67, it is categorized as moderate, and if the results show a range of 0.19 to 0.33, it is considered weak.

The analysis results using **Smart PLS Version 4.0** with 5,000 bootstraps produced the following path coefficient values:

Table 5: Path Coefficient Values (Mean, STDEV, t-Value, p-Value).

	Original Sample	Sample Mean	Standard Deviation
Sustain -> Work Productivity	0.335	0.224	0.105
Set in Order-> Work Productivity	0.092	0.102	0.093
Standardize -> Work Produktivity	0.332	0.300	0.113
Shine -> Work Produktivity	0.178	0.183	0.101
Sort -> Work Produktivity	0.126	0.132	0.075

Table 5 above shows positive values for the path coefficients of all variables in this model. This means that the larger the path coefficient value for an exogenous variable with respect to an endogenous variable, the stronger the influence of the exogenous variable on the endogenous variable.

The R^2 value can be used to assess the influence of specific exogenous variables and whether they have a substantive impact. An R^2 value of 0.67 is categorized as good, 0.33 falls into the moderate category, and 0.19 is considered weak (Ghozali, 2014). Below is the table presenting the **R-square** values obtained using **Smart PLS Version 4.0**:

Table 6: R-Square Values.

Variabel	R-Square
Work Produktivity	0,685

Table 6 above shows that the R-square value for the variable **Work Productivity (Y)** is 0.685, which is greater than 0.50, indicating that it meets the criteria for the R-square value. This means that 68.5% of work productivity is influenced by the **5S** practices (Seiri, Seiton, Seiso, Seiketsu, and Shitsuke), while the remaining 31.5% is influenced by other factors or causes.

Hypothesis testing is conducted by examining the value of the **t-statistics** using a significance level of 95% ($\alpha = 0.05$). The critical t-value at this significance level is 1.96. The criterion for rejecting or accepting the proposed hypothesis refers to the value of 1.96. A hypothesis will be accepted if it has a t-statistics value greater than 1.96, and it will be rejected if the t-statistics value is less than 1.96 (Perdana et al., 2018).

Below is the table of coefficients for each hypothesis path (Path Coefficients) and the t-Statistics values obtained from the output of the bootstrapping process in **Smart PLS 4.0**, with 5,000 bootstraps:

Table 7: **Path Coefficient Test Results.**

	Original Sample	Sample Mean	Standard Deviation	T - Statistics	P Values
Sustain-> Work Produktivity	0.335	0.224	0.105	2.232	0.013
Set in Order -> Work Produktivity	0.092	0.102	0.093	0.985	0.162
Standardize ->Work Produktivity	0.332	0.300	0.113	2.674	0.004
Shine ->Work Produktivity	0.178	0.183	0.101	1.767	0.039
Sort -> Work Produktivity	0.126	0.132	0.075	1.689	0.046

Based on Table 7 above, it can be observed that there are 2 variables with statistical values greater than 1.96, which are **rawat (Standardize)** and **rajin (Sustain)**, while 3 variables have values less than 1.96, which are **ringkas (Sort)**, **resik (Shine)**, and **rapi (Set in order)**. This indicates that the variables **rawat** and **rajin** have a significant influence on the work productivity of auditors.

Below is Table 8, summarizing the hypothesis testing conclusions:

Table 8: **Hypothesis Testing Conclusions.**

	Hypothesis	Result
H1	Seiri/ringkas has a positive and significant effect on auditor work productivity	×
H2	Seiso/rapi has a positive and significant effect on auditor work productivity	×
H3	Seiton/resik has a positive and significant effect on auditor work productivity	×
H4	Seiketsu/rawat has a positive and significant effect on auditor work productivity	√
H5	Shitsuke/rajin has a positive and significant effect on auditor work productivity	√

DISCUSSION

Seiri (Sort) The findings indicate that Seiri (Sort) has a positive but insignificant effect on auditor work productivity. Based on workplace observations, placing audit documents in their designated spots after completing work, classifying documents by necessity, and removing unused documents from the workspace do not significantly impact auditor productivity because auditors do not always work indoors. Their tasks also include outdoor work such as confirming and interviewing entities, conducting physical checks, cash counts, and stock counts, the results of which are obtained outside the auditor's workspace or in the field. Additionally, the layout of the audit workspace has been organized with distance and partitions between auditors, so document sorting is unnecessary as audit documents will not mix. Therefore, if management wishes to implement a sorting concept to enhance productivity, the researcher suggests adding variables such as creating a checklist of physical check equipment to be used, bringing sufficient physical check supplies according to field needs, and understanding the situational conditions in the field.

Seiso (Set in Order) The findings indicate that Seiso (Set in Order) has a positive but insignificant effect on auditor work productivity. Results from workplace observations show that labeling folders, securely storing documents, and saving documents in softcopy form for easy access do not significantly impact productivity since these tasks are performed by auditors as part of collecting documentation evidence, and in fact, they are usually done after fieldwork. As Seiso does not significantly affect productivity, such activities should not be conducted by management during field audits; rather, the researcher recommends performing these activities after field audits to avoid disrupting audit procedures.

Seiton (Shine) The findings indicate that Seiton (Shine) has a positive but insignificant effect on auditor work productivity. Based on workplace observations, indicators of Seiton (Shine), such as participating in cleaning and maintaining the cleanliness of the audit workspace, are insignificant because auditors do not always work indoors. Their tasks also include outdoor work such as confirming and interviewing entities, conducting physical checks, cash counts, and stock counts, the results of which are obtained outside the auditor's workspace or in the field. To make these activities significant, the researcher suggests adding a variable for activities during outdoor auditing, such as asking auditees to clean the physical check area and ensuring that physical check equipment is functioning well.

Seiketsu (Standardize) The findings indicate that Seiketsu (Standardize) has a positive and significant effect on auditor work productivity. Observations in the workplace show that activities like adhering to and consistently implementing established audit procedures significantly enhance auditor productivity. This is because the procedures established by the organization provide direction, structure, and consistency to auditors' work, as every step of the audit has been

explained in detail. This also shows that BPK auditors have complied with and followed the audit procedures set by the organization well. In practice, management can support this by providing guidance and reminders to members to comply with and follow audit procedures, giving rewards and punishments to auditors who do not follow procedures, and displaying posters as reminders for auditors.

Shitsuke (Sustain) The findings indicate that Shitsuke (Sustain) has a positive and significant effect on auditor work productivity. Observations in the workplace show that auditors' punctuality significantly enhances productivity, as arriving on time allows auditors to be more productive and maximize their available time. Auditors often need confirmation and interviews with auditees to answer audit steps, so they must schedule their time to align with the auditee's availability. If this time is not managed and utilized well, it will certainly hinder answering audit procedures and steps. This also reflects the heavy workload of auditors, making time a valuable resource that must be used efficiently. Therefore, the researcher suggests that management pay more attention to auditors' punctuality at audit locations, as it is riskier not to arrive on time due to being outside their own office, making real-time monitoring difficult, and the necessity for on-time attendance may be bypassed since they have received task assignments and would not face salary deductions.

CONCLUSIONS AND RECOMMENDATIONS

Based on the study and supporting theoretical review, the following conclusions can be drawn:

1. Seiri (Sort) has a positive but insignificant effect on auditor work productivity. The variable (RI1), which refers to consistently placing audit documents in their designated spots after completing work, is the weakest/insignificant sorting variable with a value of 0.702.
2. Seiso (Set in Order) has a positive but insignificant effect on auditor work productivity. The variable (RA1), which involves labeling the names of binders or folders, is the weakest/insignificant organizing variable with a value of 0.771.
3. Seiton (Shine) has a positive but insignificant effect on auditor work productivity. The variable (RE1), which refers to participating in maintaining the cleanliness of the audit workspace, is the weakest/insignificant shining variable with a value of 0.727.

4. Seiketsu (Standardize) has a positive and significant effect on auditor work productivity. The variable (RW1), which involves adhering to established audit procedures, is the most influential/significant standardizing variable with a value of 0.834.
5. Shitsuke (Sustain) has a positive and significant effect on auditor work productivity. The variable (RJ2), which refers to consistently implementing the 4S steps in the workspace, is the most influential/significant sustaining variable with a value of 0.893.

Based on the research results, further testing and reinforcement are necessary. Therefore, several recommendations are proposed for the relevant parties and researchers to prove the consistency of the 5S influence on the work productivity of BPK auditors. The recommendations based on these research findings are as follows:

1. There is a need for understanding the 5S concept so that the 5S culture/habits, particularly Seiketsu (Standardize) and Shitsuke (Sustain), can be implemented for BPK auditors through training organized by the HR Bureau of BPK RI and the BPK Training Center.
2. The HR Bureau of BPK RI and the BPK Training Center should conduct regular evaluations of the implementation of the 5S concept, especially Seiketsu (Standardize) and Shitsuke (Sustain), and provide recognition to auditors who effectively implement the 5S initiative.
3. Comprehensive training should be organized regarding the understanding of the 5S concept, especially on 4S and 5S—Seiketsu (Standardize) and Shitsuke (Sustain)—which have high significance levels, so that auditors can apply these concepts in their audit workspace to improve work productivity.

FURTHER RESEARCH

For future research, the following suggestions can be made:

1. In data collection from respondents, it is advisable to provide assistance so that respondents can give direct feedback on the answers provided.
2. Involve other factors in proving the influence of the 5S concept on auditor work productivity to provide a more specific picture for making recommendations regarding the research location.
3. **Number of Respondents:** An insufficient number of respondents or those who do not represent the entire auditor demographic can cause the research results to be biased and less accurate.
4. **Data Collection:** Data collection conducted over a short period may not reflect long-term trends, which can affect the validity of the findings.

5. **Limited Analysis:** This study may only utilize basic statistical analysis. Using more in-depth analyses, such as regression or path analysis, could provide a more comprehensive understanding of the relationships among variables.
6. **Subjective Measurement:** Customer satisfaction is measured based on subjective perceptions, which may introduce unavoidable perceptual bias.

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