

## The Influence of Service Standards and Work Culture on Customer Satisfaction through Employee Performance (Case Study on Public Services Recognition of Information Security Consulting Institutions and Certification Institutions at BSSN)

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**ABSTRACT:** This study examines the impact of service standards and work culture on customer satisfaction through employee performance in recognition of Information Security Consulting Institutions and Certification Institutions service at BSSN. The novelty of this research lies in the composition of variables and models used. Previous studies have analyzed the relationship between service standards, work culture, and customer satisfaction, indicating that both factors positively influence customer satisfaction and employee performance. However, no similar research has been conducted at BSSN, making this study valuable for policy improvements to enhance customer satisfaction through better service standards and provider performance. This research employs a quantitative method using primary data collected from questionnaires distributed to 70 respondents who use BSSN services. Data analysis uses variance-based SEM (PLS) with SMART PLS 3.0. The findings reveal that service standards, work culture, and employee performance positively influence customer satisfaction. All hypotheses are accepted, confirming that service standards and work culture, both individually and simultaneously, positively impact employee performance and customer satisfaction.

**Keywords:** Service Standards, Work Culture, Employee Performance, Customer Satisfaction.



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## INTRODUCTION

Information security is essential and closely related to the rapid advancement of technology. BSSN, as a government agency engaged in information security and cyber security, has the task and responsibility of coordinating the elements and stakeholders in the information security ecosystem. One manifestation of these tasks and responsibilities is reflected in the public services available at BSSN, including the recognition service for information security consulting and certification institutions. As with public services in general, public services at BSSN are also a barometer to measure the extent to which the public or customers are satisfied with BSSN's performance in these public services.

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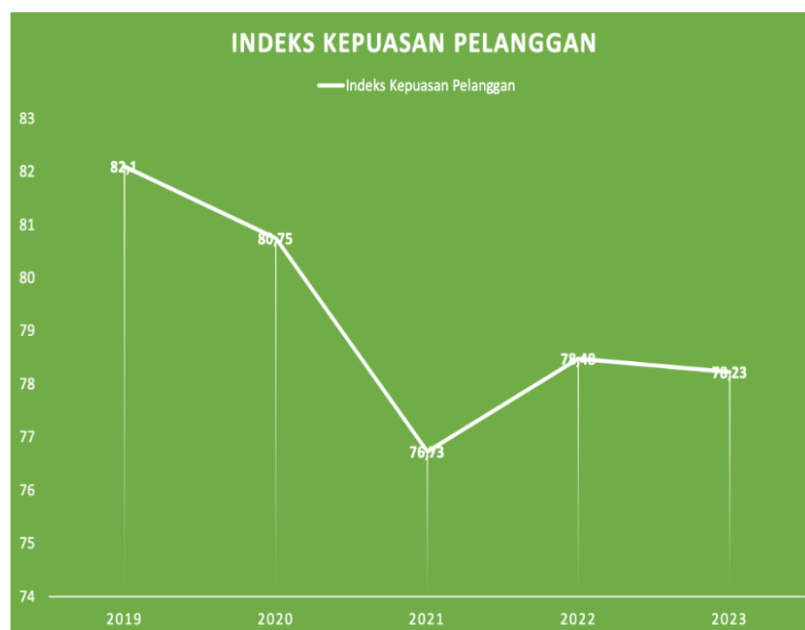
Based on existing data, it was found that the value of the public satisfaction index towards public services at BSSN tended to decline from its founding in 2018 until 2023, as stated in Table 1 and Chart 1 below.

**Table 1.** Public Satisfaction Index Data on BSSN

Year	Public Satisfaction Index
2019	82,1
2020	80,75
2021	76,73
2022	78,48
2023	78,23

Source: Data processed by researchers, October 2024

**Chart 1.** Public Satisfaction Index



Source: Data processed by researchers, October 2024

Similarly, the data related to BSSN's performance shows a declining trend. Based on the BSSN Performance Report data from 2021 to 2023, the performance scores of BSSN, which are derived from the performance of BSSN employees, show a downward trend as listed in Table 2 and Chart 2 below:

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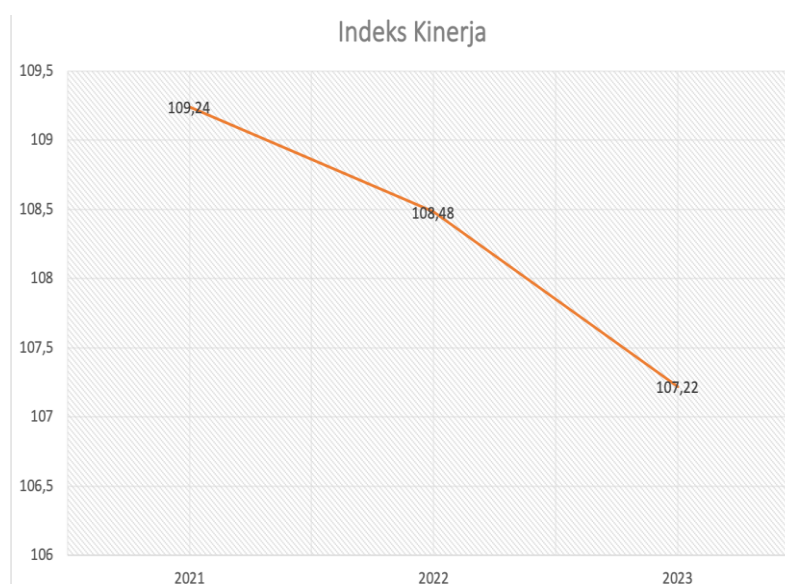
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**Table 2.** BSSN Performance Scores

Year	Organizational Performance Score
2021	109.24
2022	108.48
2023	107.22

Source: Data processed by the researcher, October 2024

**Chart 2.** BSSN Organizational Performance Scores from 2021-2023



Source: Data processed by the researcher, October 2024

We can see a decrease of 2.02 points from the three data points above. This can also be interpreted as a similar decline in the performance of BSSN employees during that period. As stated by Sriwidodo and Haryanto (2010), employees are the driving force of an institution; thus, if employee performance improves, organizational performance will also improve, and conversely, if employee performance declines, organizational performance will also decrease.

Based on the Ministry of Administrative and Bureaucratic Reform Regulation No. 3 of 2023 concerning Amendments to the Ministry of Administrative and Bureaucratic Reform Regulation No. 25 of 2020 on the Bureaucratic Reform Road Map 2020-2024, the level of compliance with service standards and the Work Culture of Civil Servants (ASN) are two indicators that form an organisation's Bureaucratic Reform score. These two indicators are reflected in the RB index data.

According to bureaucratic reform data, the Bureaucratic Reform Index (RB) of BSSN over the past two years, from 2022 to 2023, is as shown in Table 3 and Chart 3 below:

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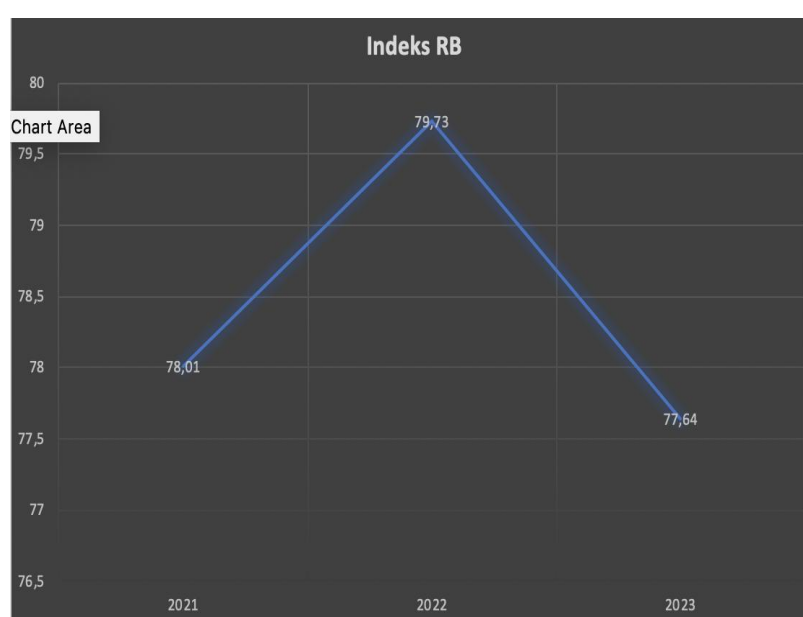
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**Table 3.** BSSN RB Index 2018-2023

Year	RB Index
2021	78.01
2022	79.73
2023	77.64

Source: Data processed by the researcher, October 2024

**Chart 3.** BSSN RB Index 2022-2023



Source: Data processed by the researcher, October 2024

Based on the data in the table and graph above, the BSSN RB Index from 2021 to 2023 shows a decrease of 0.37 points despite a rise in 2022. Thus, it is assumed that compliance with service standards and the work culture of BSSN employees follows a similar pattern, as both contribute to the emergence of the BSSN bureaucratic reform index.

Several previous studies have determined the relationship between various variables and customer satisfaction. Research aimed at understanding the impact of work culture on customer satisfaction has been carried out by Triwijayanti et al. (2022) and Sandra (2019). Both studies found that work culture directly positively affects customer satisfaction. In 2017, Mukti and Ermawanti researched the impact of service standards on customer satisfaction. Their findings indicated that service standards directly positively affect customer satisfaction.

Other studies have also examined the relationship between various variables and employee performance. Mumtazquila (2020) and Nugraheni (2014) researched to determine the impact of service standards on employee performance. Both studies concluded that service standards directly

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have a positive effect on performance. In 2020, Rivai and Dunggio researched the impact of work culture on employee performance. Their findings showed that work culture positively affects employee performance.

In addition to the aforementioned types of research, studies have also been conducted to determine the relationship between performance and customer satisfaction. These studies were conducted by Sofu (2020), Ratnasari (2021), and Winarni (2022). All three studies concluded that performance positively affects customer satisfaction.

According to Oliver (1980) Customer satisfaction is influenced by the performance of goods/services received compared to users' expectations for the goods/services. Meanwhile, the performance itself, according to [\(Judge, 2017\)](#), is influenced by work culture, while, according to Mangkunegara (2005) Work standards, or in this case, service standards, affect the quality and quantity of employee performance. Therefore, this study aims to determine the relationship between service standards and work culture to customer satisfaction through employee performance as an intervening variable. It is expected that based on the results obtained, BSSN can boost the value of the public satisfaction index towards its public services through the variables used in this study.

This study investigates the influence of service standards and work culture on employee performance and customer satisfaction in the Recognition Service of Information Security Consulting Institutions and Certification Institutions at BSSN. Specifically, it examines whether service standards and work culture each have a partial positive effect on employee performance and customer satisfaction and whether employee performance influences customer satisfaction. Additionally, the research explores whether service standards and work culture impact customer satisfaction indirectly through employee performance as an intervening variable. Furthermore, it assesses the simultaneous effects of service standards and work culture on employee performance. It evaluates the combined influence of service standards, work culture, and employee performance on customer satisfaction. Based on these research problems, the study aims to quantify the direct and indirect relationships among these variables, providing insights into how service quality and organizational culture contribute to employee efficiency and customer experience within BSSN's Recognition Service framework.

The development of hypotheses in this study is based on previous research findings and aims to examine the relationships between service standards, work culture, employee performance, and customer satisfaction in the Recognition Service of Information Security Consulting Institutions and Certification Institutions at BSSN. Prior studies by Nugraheni et al. (2014) and Maudy (2021) indicate a positive influence of service standards on employee performance, leading to the hypothesis that service standards positively affect employee performance (H1). Similarly, research by Rivai (2020), Dunggio (2020) and Riau et al., (2024) suggests that work culture enhances employee performance, forming the basis for the hypothesis that work culture positively affects employee performance (H2). Additionally, studies by Mukti (2017), Ratih (2024), Ermayanti (2017), and Sabaruddin et al., (2024) support the idea that service standards contribute to customer satisfaction, leading to the hypothesis that service standards positively affect customer satisfaction

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(H3). Further, Triwijayanti et al. (2022) and Sandra and Rahmat (2019) have shown that work culture influences customer satisfaction, forming the hypothesis that work culture positively affects customer satisfaction (H4). Moreover, research by Ratnasari et al. (2021), Lubis (2018), and Winarni and Nur Rohmah (2022) establishes a link between employee performance and customer satisfaction, leading to the hypothesis that employee performance positively affects customer satisfaction (H5). Expanding on these direct relationships, this study also examines service standards and work culture as indirect influences on customer satisfaction through employee performance, forming hypotheses H6 and H7. Additionally, the study proposes that service standards and work culture influence employee performance (H8) and that these factors, along with employee performance, simultaneously affect customer satisfaction (H9).

The significance of this research extends beyond theoretical contributions, enriching knowledge in public administration and providing a reference for future studies on service standards, work culture, and customer satisfaction. The findings can aid BSSN in refining policies to enhance consumer satisfaction through improved service standards and employee performance, support academic institutions by contributing to scientific discourse, and benefit the author by deepening their understanding and application of these theories in the Indonesia Open University Postgraduate Program.

According to the Regulation of the Minister of State Apparatus Empowerment and Bureaucratic Reform of the Republic of Indonesia Number 15 of 2014 concerning Guidelines for Service Standards, every public service provider is required to prepare, determine, and implement Service Standards and determine Service Information by considering the provider's capabilities, community needs, and environmental conditions. According to Ridwan and Sudrajat ([in Evi Satispi et al., 2018](#)), service standards are references that are enforced and must be adhered to by recipients and service providers in the context of providing services. Meanwhile, according to Law Number 25 of 2009 concerning Public Services, service standards are measures implemented in public service provision and must be adhered to by service providers and/or recipients. Based on these two definitions, we can conclude that service standards are a reference to implementing a public service activity that must be adhered to by service providers and service recipients. According to Rifdah & Hasan (2022), work culture is a philosophy based on a view of life, including values, characteristics, habits, and drives cultivated in a group. This philosophy is reflected in attitudes that develop into behavior, ideals, opinions, views, and actions manifested in work.

Meanwhile, according to Widagdo (2020) Work culture is a perspective that builds beliefs based on the values held by employees to achieve the best performance. Based on these two definitions, work culture can be interpreted as an assumption, value, and norm consistently applied by employees or employees in an organisation. Widagdo (2020) states that employee performance refers to the level or quality of a person's task implementation based on their competencies. The term performance cannot be separated from work activities because performance results from the work process. Employee performance is critical because, through this performance, we can determine how much employees can carry out the assigned tasks. Meanwhile, according to



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Armstrong (2018) Performance is an aspect of behavior that focuses on what a person does to realize core values such as concern for quality, people, equal opportunities, and operating ethically. From these two definitions, it can be concluded that employee performance is the result of motivation, ability, and perception of the role of employees in the organisation to achieve the goals expected by the organisation within a certain period.

Satisfaction is an essential indicator in service-based businesses. Satisfaction directly measures the extent to which consumers remain loyal to an organisation. Oliver (1980) links user satisfaction with ongoing behavior, and customer loyalty is often used as a reference. Kotler (2018) states that satisfaction is a feeling of happiness or disappointment that arises after comparing a product's performance (result) with the expected performance (or result). If employee performance is below expectations, users will be dissatisfied. If employee performance meets expectations, users are satisfied, and if employee performance exceeds expectations, users are very satisfied or happy.

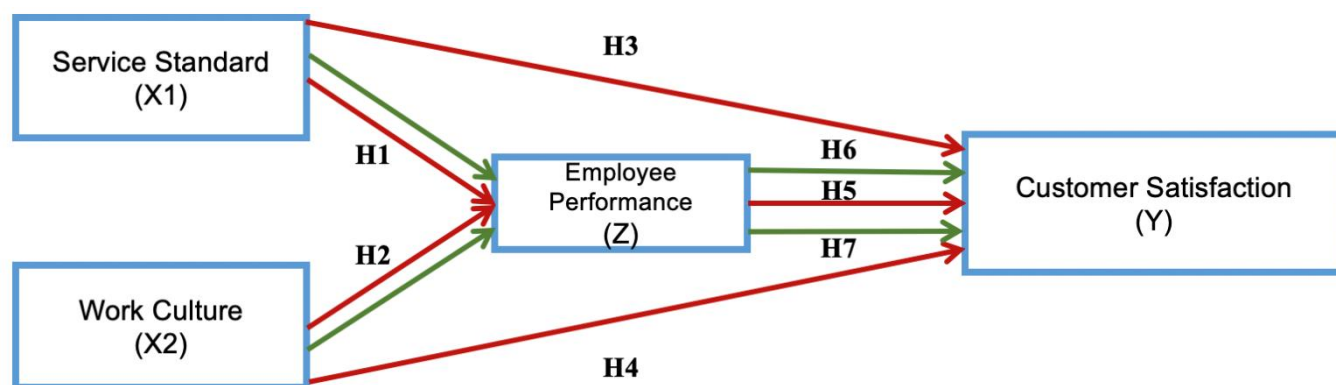


Figure 1. Research model

## Operationalisation of Variables

The operationalisation of variables is very important in determining the types and indicators of the relevant variables in this study. In addition, operationalising variables aims to establish a measurement scale for each variable, thus allowing hypothesis testing with the right tools.

1. Components of service standards that determine the quality of public service, according to Ridwan and Sudrajat ([in Evi Satispi et al., 2018](#)), include several aspects, namely:
  - a. Service procedures
  - b. Completion time
  - c. Service costs or rates
  - d. Service products
  - e. Provision of facilities and infrastructure
  - f. Officer competence
2. According to Robbins & Judge (2017), there are several dimensions and indicators in the work culture in each organisation, namely:

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- a. Innovation and risk-taking
  - b. Attention to detail
  - c. Results Orientation
  - d. Team orientation
  - e. Aggressiveness
  - f. Stability
3. The dimensions of employee performance itself, according to Edison et al. (2018), are as follows:
  - a. Target
  - b. Quality
  - c. Completion time
  - d. Compliance
4. According to ([Priansa, 2017](#)), there are several dimensions in a customer satisfaction variable, namely:
  - a. Expectations
  - b. Performance
  - c. Comparison
  - d. Experience
  - e. Confirmation

The dimensions mentioned above are detailed again by the researcher into indicators, so there are 45 indicators for the four variables. Questions will be asked about each indicator and poured into the questionnaire.

## METHOD

The research method used in this study is associative quantitative research. According to Sugiyono (2016), quantitative associative research is designed to explore the influence or relationship between two or more variables. Thus, the selection of this associative quantitative method is in line with the purpose of the study, which is to find out whether there is a relationship, partially or simultaneously, between the variables studied. In this study, data were collected using specific research tools. Data analysis was carried out quantitatively or statistically, with the primary objective being to test the previously determined hypothesis, as explained by Sugiyono (2016).

According to Sugiyono (2013), a population is a general group of objects or subjects with specific qualities and characteristics determined by researchers to study and draw conclusions. The population in this study is all Information Security Consulting Institutions and Information Security Certification Institutions registered with BSSN, totaling 70 (seventy) people representing 70 (seventy) institutions. It should be noted that this service produces an output in the form of a recognition letter from BSSN for the Information Security Consulting Institutions and Certification Institutions. After receiving recognition, these institutions will obtain registered status with BSSN. Due to the limited population and the desire to obtain accurate results, this study took



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the entire population. According to Sugiyono (2013), population research has no statistical hypothesis, only a research hypothesis. So, in proving the hypothesis in this study, there is no term "significance" (error level or confidence level). Thus, the source of information used in this study is the respondent, the PIC (Person In Charge) of all Information Security Consulting Institutions and Certification Institutions registered with BSSN.

In this study, the research location was the Directorate of Cybersecurity and Crypto Governance Policy, Deputy for Cybersecurity and Crypto Strategy and Policy, National Cyber and Crypto Agency (BSSN) because the directorate is a work unit that handles public services for the Recognition of Consulting Institutions and Information Security Certification Institutions. This research was conducted in 2024. What will be studied is the influence of Service Standards (X1) and Work Culture (X2) as independent variables on Customer Satisfaction (Y) as the dependent variable, with Employee Performance (Z) as the intervening variable.

In general, the research instrument used in this study is a questionnaire containing questions about service standards, work culture, and employee performance provided by officers providing the Information Security Consulting Institution and Certification Institution Recognition Services and questions describing customer satisfaction with the service. The questionnaire that will be given is the same type for all respondents because the questionnaire is only intended for individuals who act as service users when registering or recognising Information Security Consulting Institutions and Certification Institutions at BSSN.

In this study, data collection through questionnaires was carried out by filling out the questionnaire via computer with the following procedures:

1. The researcher compiled the questionnaire using an online platform.
2. The researcher sent a letter requesting the completion of the questionnaire along with a questionnaire filling link that respondents can access.
3. The researcher set a deadline for filling out the questionnaire.
4. Respondents filled out and sent the results of filling out the questionnaire.
5. The researcher received and processed the results of filling out the questionnaire so that further data analysis could be carried out.

This study will process the collected data using structural equation modeling (SEM) and SmartPLS software assistance. According to Hair et al. (2019), SEM is a technique that allows for separate relationships for each dependent variable in a set. The purpose of SEM is to test the relationship between one or more endogenous variables and one or more exogenous variables. The SEM method has proven successful in evaluating latent variable measurements and testing the relationship between these latent variables. This study uses the Partial Least Squares - Structural Equation Modeling (PLS-SEM) method. According to Hair et al. (2019), the PLS-SEM method is a variance-based method for estimating structural equation models that use total variance and focus on maximising the explained variance of endogenous latent variables, where the endogenous latent variable is a construct represented by the dependent variable. One or more arrows point to the endogenous construct in the path diagram. The PLS-SEM method includes the analysis section

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or measurement model (outer model) and the structural model (inner model). PLS-SEM is used in this study because PLS-SEM aims to test the predictive relationship between constructs by seeing whether there is a relationship or influence between the constructs, J. F. Hair et al., (2019). In addition, according to (Zeng et al., 2021), PLS-SEM is widely used for reasons more appropriate for research with limited samples.

PLS-SEM is chosen for its effectiveness in evaluating latent variable measurements and its ability to test predictive relationships between constructs (Hair et al., 2019). Additionally, it is particularly suitable for research with limited sample sizes (Zeng et al., 2021). Compared to SPSS, PLS-SEM offers several advantages, including the ability to conduct direct path analysis in a single test rather than step-by-step regression, greater ease in incorporating mediation and moderation variables by analyzing direct and indirect effects simultaneously, improved visualization of the research framework with clear variable positioning and data processing results, and built-in bootstrapping and loading features that enhance the assessment of model reliability and validity. These advantages make PLS-SEM a more suitable approach for this study.

## RESULT AND DISCUSSION

### Outer Model Testing

According to Chin & Dibbern (2010), data in a test will be called valid if it has an outer loading value greater than 0.7 and an Average Variance Extracted (AVE) value greater than 0.5. In addition, the AVE root value of each variable must be greater than the correlation value with other variables. To see this suitability, the following table 2 shows the results of the validity test based on the outer loading value of each indicator that forms the variable:

**Table 4.** Outer loading test results

	Work Culture	Customer Satisfaction	Employee Performance	Service Standard
X1.1				0.749
X1.10				0.750
X1.11				0.718
X1.12				0.726
X1.2				0.713
X1.3				0.730
X1.4				0.736
X1.5				0.731
X1.6				0.724
X1.7				0.744
X1.8				0.746
X1.9				0.750
X2.1	0.717			
X2.10	0.756			

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	Work Culture	Customer Satisfaction	Employee Performance	Service Standard
X2.11	0.720			
X2.12	0.745			
X2.2	0.713			
X2.3	0.705			
X2.4	0.702			
X2.5	0.702			
X2.6	0.730			
X2.7	0.739			
X2.8	0.720			
X2.9	0.711			
Y10		0.709		
Y2		0.708		
Y3		0.719		
Y4		0.725		
Y5		0.720		
Y6		0.707		
Y7		0.730		
Y8		0.714		
Y9		0.763		
Z1			0.707	
Z10			0.735	
Z11			0.726	
Z2			0.738	
Z3			0.711	
Z4			0.709	
Z5			0.731	
Z6			0.728	
Z7			0.716	
Z8			0.715	
Z9			0.705	
Y1		0.722		

Source: Data processed by researchers, October 2024

From the test results table above, we get that the outer loading value data for all question items in the questionnaire is more than 0.7. This means that all data used is valid.

## Discriminant Validity

Meanwhile, the results of the discriminant validity test in this study are as follows:

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**Table 5.** Results of construct validity and reliability tests

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
budaya kerja	0.917	0.925	0.929	0.521
kepuasan pelanggan	0.899	0.905	0.916	0.521
kinerja pegawai	0.907	0.909	0.922	0.519
standar pelayanan	0.924	0.933	0.934	0.540

Source: Data processed by researchers, October 2024

From the test results table above, we get that the outer loading value data for all question items in the questionnaire is more than 0.7. This means that all data used is valid.

## Composite Reliability

In addition, according to Chin & Dibbern (2010) Data will be reliable if it has a Composite Reliability value greater than 0.6. Table 5 above shows that the Composite Reliability value for all variables is above 0.6, indicating that all the data used is reliable.

## Cronbach Alpha

According to Chin and Dibbern (2010), data is reliable if the Cronbach Alpha and Rho A values are more significant than 0.7. The results obtained in Table 5 show that the Cronbach Alpha value for all variables is above 0.7. Thus, we can conclude that all the data used is reliable.

## Construct Equations

According to Ghazali and Latan (2015) The expected average variance extracted (AVE) value is more than 0.5 when measuring construct equations. The Table 5 test results above show that all the Average Variance Extracted (AVE) values are more than 0.5. This means that all the data used are valid.

## Inner Model Testing

Structural model testing (inner model) uses the bootstrapping function in SmartPLS. This test is carried out by looking at the path coefficients between one latent variable and another. The results of the structural model test will later be used to assess whether the hypothesis is accepted. In addition, we can also see the significance of the relationship between the latent variables by conducting a significance test. The path coefficient value between variables here is a value that indicates the level of importance and strength of the relationship between variables. This value is used to test the hypothesis. According to (J. Hair et al., 2017), the path coefficient value is between -1 and +1. The closer to the value of +1, the stronger the relationship between constructs. Meanwhile, if it is closer to -1, the relationship between constructs is negative. The following table 4 shows the results of the path coefficients in SmartPLS:

**Table 6.** Path Coefficients

Path Coefficients					
Mean, STDEV, T-Values, P-Values	Confidence Intervals	Confidence Intervals Bias Corrected	Samples		
	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
budaya kerja -> kepuasan pelanggan	0.105	0.122	0.152	0.692	0.489
budaya kerja -> kinerja pegawai	0.495	0.499	0.085	5.838	0.000
kinerja pegawai -> kepuasan pelanggan	0.369	0.346	0.180	2.052	0.041
standar pelayanan -> kepuasan pelanggan	0.171	0.201	0.159	1.076	0.283
standar pelayanan -> kinerja pegawai	0.365	0.369	0.089	4.082	0.000

Source: Data processed by researchers, October 2024

### Significance Test

We can see the significance of the relationship between latent variables through the T Statistics and P Values. According to (Abdillah & Hartono, 2015), the relationship between latent variables is significant if T Statistics > 1.96 or P Values < 0.05. Conversely, the relationship between latent variables is insignificant if T Statistics < 1.96 or P Values > 0.05. Based on the results in Table 6 above, we can find the nature and significance of the direct relationship between latent variables as follows:

#### 1) The direct influence of work culture on customer satisfaction

The coefficient for the work culture variable on customer satisfaction is 0.105. This means that work culture has a positive influence on customer satisfaction. It can also be interpreted that the higher the work culture, the more customer satisfaction will increase. An increase in one unit of work culture will increase customer satisfaction by 10.5%. Based on bootstrap calculations on SmartPLS, the work culture estimation coefficient test results on customer satisfaction from bootstrap are 0.122 with a t-value of 0.692 and a standard deviation of 0.152. Then, the p-value is  $0.489 > 0.05$ , so H4 is accepted, which means that the direct influence of work culture on customer satisfaction is partially positive but not meaningful or statistically significant. This insignificant relationship may be influenced by several factors, such as a positive work culture not always translating into satisfying customer interactions. A good internal work culture might not be sufficient to influence customer perceptions without effective communication and empathy in service. External factors such as economic conditions, market competition, and constantly changing customer expectations can also affect customer satisfaction. For instance, in difficult economic situations, customers might have higher expectations for the value they receive from the services, so the current work culture might no longer be considered adequate.

#### 2) The direct influence of work culture on employee performance

The coefficient for the work culture variable on employee performance is 0.495. This means that work culture has a positive influence on employee performance. It can also be interpreted that the higher the work culture, the more employee performance will increase. An increase of one unit of work culture will increase customer satisfaction by 49.5%. Based on bootstrap calculations on SmartPLS, the work culture estimation coefficient test results on employee performance from bootstrap are 0.499 with a t-value of 5.838 and a standard deviation of

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0.085. Then, the p-value is  $0.000 < 0.05$ , so H2 is accepted, which means that the direct effect of work culture on employee performance is partially positive and meaningful or statistically significant.

3) The direct effect of employee performance on customer satisfaction

The coefficient for the employee performance variable on customer satisfaction is 0.369. This means that employee performance has a positive effect on customer satisfaction. It can also be interpreted that the higher the employee performance, the more customer satisfaction will increase. An increase of one unit of employee performance will increase customer satisfaction by 36.9%. Based on the bootstrap calculation on SmartPLS, the employee performance estimation coefficient test on customer satisfaction from the bootstrap results is 0.346 with a t-value of 2.052 and a standard deviation of 0.180. Then, the p-value is  $0.041 < 0.05$ , so H5 is accepted, which means that the direct effect of employee performance on customer satisfaction is partially positive and meaningful or statistically significant.

4) The direct effect of service standards on customer satisfaction

The magnitude of the coefficient for the service standard variable on customer satisfaction is 0.171. This means that the service standard has a positive effect on customer satisfaction. It can also be interpreted that the higher the service standard, the more customer satisfaction will increase. An increase in one unit of service standard will increase customer satisfaction by 17.1%. Based on the Bootstrap calculation on SmartPLS, the service standard estimation coefficient test results on customer satisfaction from the Bootstrap results are 0.201 with a t-value of 1.076 and a standard deviation of 0.159. Then, the p-value is  $0.283 > 0.05$ , so H3 is accepted, which means that the direct effect of service standards on customer satisfaction is partially positive but not statistically significant. This insignificant relationship may be influenced by several factors, such as variability in the implementation of service standards, which is a major factor. Even though high service standards are set, their implementation may not be consistent across the organization. Differences in training, experience, and employee commitment can lead to variations in customer service quality. External factors such as economic conditions, market competition, and constantly changing customer expectations can also affect customer satisfaction. For instance, in difficult economic situations, customers might have higher expectations for the value they receive from services, so the same service standards might no longer be considered adequate.

5) The direct effect of service standards on employee performance

The coefficient for the service standard variable on employee performance is 0.365. This means that service standards have a positive effect on employee performance. It can also be interpreted that the higher the service standard, the more employee performance will increase. An increase in one unit of service standard will improve employee performance by 36.5%. Based on bootstrap calculations on SmartPLS, the service standard estimation coefficient test results on employee performance from bootstrap are 0.369 with a t value of 4.082 and a standard deviation of 0.089. Then, the p-value is  $0.000 < 0.05$ , so H1 is accepted, meaning that service standards' direct effect on employee performance is partially positive, meaningful, or statistically significant.



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Meanwhile, from the following table 7, we can find the nature and significance of the indirect relationship between latent variables as follows:

**Table 7.** Specific Indirect Effects

Specific Indirect Effects

Mean, STDEV, T-Values, P-Values	Confidence Intervals	Confidence Intervals Bias Corrected	Samples		
	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
budaya kerja -> kinerja pegawai -> kepuasan pelanggan	0.183	0.171	0.093	1.966	0.050
standar pelayanan -> kinerja pegawai -> kepuasan pelanggan	0.135	0.126	0.074	1.811	0.071

Source: Data processed by researchers, October 2024

- 1) Indirect influence of work culture on customer satisfaction through employee performance  
The coefficient for the work culture variable on customer satisfaction through employee performance is 0.183. This means that work culture has a positive indirect influence on customer satisfaction through employee performance. It can also be interpreted that the higher the work culture, the more customer satisfaction through employee performance will increase. An increase in one unit of work culture will increase customer satisfaction through employee performance by 18.3%. Based on Bootstrap calculations on SmartPLS, the work culture estimation coefficient test results on customer satisfaction through employee performance from Bootstrap are 0.171 with a t value of 1.966 and a standard deviation of 0.093. Then, the p-value is  $0.050 < 0.05$ , so H7 is accepted. This means that the indirect influence of work culture on customer satisfaction through employee performance is partially positive and meaningful or statistically significant.
- 2) Indirect influence of service standards on customer satisfaction through employee performance  
The coefficient for the service standard variable on customer satisfaction through employee performance is 0.135. This means that service standards positively and indirectly affect customer satisfaction through employee performance. It can also be interpreted that the higher the service standard, the more customer satisfaction through employee performance will increase. An increase in one unit of service standard will increase customer satisfaction through employee performance by 13.5%. Based on Bootstrap calculations on SmartPLS, the service standard estimation coefficient test results on customer satisfaction through employee performance from Bootstrap are 0.126 with a t value of 1.811 and a standard deviation of 0.074. Then, the p-value is  $0.071 > 0.05$ , so H6 is accepted, which means that partially, the indirect effect of service standards on customer satisfaction through employee performance is positive but not meaningful or statistically significant. Several factors may influence this insignificant relationship. Internal factors such as motivation, workload, and work environment influence employee performance as an intervening variable. If employees are not motivated or feel overwhelmed, their performance may not be optimal, even if high service standards have been set. This can reduce the positive effect of service standards on customer satisfaction.

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In addition, we can also see the nature and significance of the relationship between variables simultaneously through the R Square (R<sup>2</sup>) value. According to Cohen (1988) and Hamonangan et al. (2021) The provisions for simultaneous test results in a study are as follows:

- If R<sup>2</sup> has a value of 0.10 to 0.29, the correlation is weak
- If R<sup>2</sup> has a value of 0.30 to 0.49, the correlation is moderate
- If R<sup>2</sup> has a value of 0.50 to 1.00, the correlation is strong

The R<sup>2</sup> value in this study can be seen in Table 8 below:

**Table 8.** R Square and Adjusted R Square Values

	<b>R Square</b>	<b>R Square Adjusted</b>
<b>kepuasan pelanggan</b>	0.293	0.261
<b>kinerja pegawai</b>	0.468	0.452

Source: Data processed by researchers, October 2024

The results obtained in the R<sup>2</sup> table based on Table 8 above are as follows:

- 1) The Adjusted R Square value is 0.261, so H9 is accepted. This means that service standards, work culture, and employee performance positively affect customer satisfaction simultaneously despite a weak correlation. This weak correlation indicates that service standards, work culture, and employee performance can only explain 26.1% of customer satisfaction. Other variables outside this research model explain the remaining 73.9%.
- 2) The Adjusted R Square value is 0.452, so H8 is accepted, meaning that service standards and work culture positively affect employee performance despite a moderate correlation. This moderate correlation indicates that the combination of service standards and work culture can only explain 45.2% of customer satisfaction, while other variables outside this research model explain the remaining 54.8%.

The results obtained from this study prove that increasing service standards, work culture, and employee performance will also impact increasing customer satisfaction. However, service standards and work culture do not significantly impact customer satisfaction if they are increased partially. Factors such as a positive work culture may influence this insignificant relationship, which may not always translate into satisfying customer interactions. A good internal work culture might not be sufficient to influence customer perception without effective communication and empathy in service. On the other hand, variability in the implementation of service standards can be a significant factor. Even though high service standards are set, their implementation may not be

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consistent across the organisation. Differences in training, experience, and employee commitment can lead to variations in customer service quality.

External factors such as economic conditions, market competition, and constantly changing customer expectations can also affect customer satisfaction. For instance, in difficult economic situations, customers might have higher expectations for the value they receive from services, so the same service standards and work culture might no longer be considered adequate. Conversely, if employee performance is increased, customer satisfaction will also increase. The results of this study also show that simultaneously increasing service standards and work culture has a very weak effect on increasing employee performance. However, increasing service standards, work culture, and performance simultaneously moderately increases customer satisfaction. Thus, to increase customer satisfaction to the maximum, it is possible to simultaneously increase service standards, work culture, and performance in implementing public services to recognise consulting and information security certification institutions at BSSN.

The results obtained in this study are in line with research conducted by Nugraheni (2014) and Maudy (2021), which illustrate that service standards have a positive effect on employee performance. Rivai (2020), Dunggio (2020), Mardiana et al. (2023) and Hamonangan et al., (2021) which demonstrate that work culture has a positive impact on employee performance. Mukti (2017), Ratih (2024) Moreover, Ermayanti (2017), Humairo et al., (2023), and Kadek Budiantara & Rinayanthi (2024) which represent that service standards have a positive effect on customer satisfaction, Trijayanti (2022), Zahra Nadhira Islamy et al. (2024), Karimah et al., (2016) and Sandra (2019) which, illustrate that work culture has a positive impact on customer satisfaction. Ratnasari (2021), ([Lubis, 2018](#)), Nursiti et al. (2018) and Winarni (2022) which demonstrate that performance positively affects customer satisfaction.

This study has several limitations, namely:

1. This study was conducted only on the recognition services of consulting and information security certification institutions, not all public services in BSSN or loci outside BSSN.
2. This study uses only service standards, work culture, performance, and customer satisfaction as variables.
3. The research model used in this study consists of only two independent variables, 1 intervening variable, and one dependent variable, with the influence between variables both partially and simultaneously.

Based on these limitations, we suggest several things for future research:

1. Further research on the influence on customer satisfaction must be conducted with a locus outside BSSN.
2. Further research on customer satisfaction in the Recognition Service of Consulting Institutions and Information Security Certification Institutions at BSSN or a different research locus is expected to use additional variables, considering that the independent variables do not fully describe or represent the customer satisfaction variable.

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Further research on the influence on customer satisfaction in the Recognition Service of Consulting Institutions and Information Security Certification Institutions at BSSN or at a different research locus is expected to use other research models because the model used in this study does not meet the Goodness of Fit criteria.

## CONCLUSION

The findings indicate that both service standards and work culture positively influence employee performance, which, in turn, significantly affects customer satisfaction. Additionally, service standards and work culture also have a direct positive effect on customer satisfaction. Moreover, employee performance is a mediating factor, strengthening the relationship between service standards, work culture, and customer satisfaction. When examined collectively, service standards, work culture, and employee performance contribute positively to customer satisfaction.

Given these findings, several recommendations are proposed. First, regarding service standards, BSSN should prioritize customer needs when developing service guidelines, as the study indicates that well-designed service standards alone do not significantly enhance customer satisfaction. The results show that a one-unit increase in service standards only leads to a 17.1% improvement in customer satisfaction. Therefore, service personnel's attitude, professionalism, and service quality improvements are necessary. Second, regarding work culture, BSSN should focus on improving the accuracy, efficiency, and overall quality of service personnel's work culture, as the study reveals that a one-unit increase in work culture results in only a 10.5% improvement in customer satisfaction. Enhancing work culture is also essential for improving employee performance, significantly contributing to customer satisfaction. The findings suggest that a one-unit increase in work culture can lead to a 49.5% increase in customer satisfaction through its effect on employee performance. Therefore, fostering transparency and accountability and setting realistic performance targets are crucial. Lastly, given the declining customer satisfaction index for BSSN's public services, efforts should be made to identify and address the key factors influencing satisfaction. Ensuring that services meet customer needs and expectations is vital for maintaining and enhancing overall customer satisfaction.

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