

## IMPROVING CORPORATE INNOVATION CULTURE IN A STATE-OWNED ENTERPRISE

Hatammimi J., Sharif O.O., Prasetyo F.A., Djadjasudarma A.D.\*

**Abstract:** Due to their nature, creating innovation in a state-owned enterprise (SOE) often becomes a big challenge. Thus, this study is conducted to examine the current innovation level in an Indonesian maritime state-owned enterprise, the result of which is expected to be the starting point for improving the corporate innovation culture. Using an innovation culture model, this study obtained the data from an online survey distributed to respondents from all levels of management, who were selected by a proportional stratified random sampling. This study aims to evaluate the innovation culture in a state-owned enterprise, define the innovation level of this enterprise, and identify the innovation elements that should be improved. This study found the perceived performance of innovation culture was still lower than its importance value. Furthermore, by considering Berg's Corporate Innovation Maturity Ladder, it is concluded that the innovation level of this enterprise is at Level 3. The results were analyzed using the Importance-Performance Matrix, and 18 items were found to be the focus of improvement. The novelty of this study is the combination of the innovation culture model and corporate innovation maturity ladder in examining an enterprise's innovation, more specifically in the state-owned enterprise. Further study is suggested to explore these 18 items and develop a detailed improvement strategy.

**Keywords:** corporate innovation, innovation culture, innovation level, state-owned enterprise

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### Introduction

A state-owned enterprise (SOE) will naturally face conflicting political and market pressures (Hua et al., 2006). This reality affects how SOEs view innovation,

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\***Jurry Hatammimi**, Associate Professor, School of Economics and Business, Telkom University, Indonesia;

✉ corresponding author: jurryhatammimi@telkomuniversity.ac.id,

ORCID: 0000-0001-8805-6954

**Osa Omar Sharif**, Assistant Professor, School of Economics and Business, Telkom University, Indonesia;

✉ email: osaomarsharif@telkomuniversity.ac.id,

ORCID: 0000-0002-3630-3981

**Fredhi Agung Prasetyo**, PT. Biro Klasifikasi Indonesia (Persero), Indonesia;

✉ email: fredhiagung@bki.co.id,

ORCID: 0000-0003-1813-5782

**Agah Dirgapatria Djadjasudarma**, PT. Biro Klasifikasi Indonesia (Persero), Indonesia;

✉ email: agahbki@gmail.com,

ORCID: 0009-0001-0077-145X

including how an innovation culture within the company is created. Nevertheless, when there is a gap between state and shareholder-centered power, an open or entrepreneurial system can be adopted, even temporarily; an SOE with a high entrepreneurial orientation will achieve better business performance through organizational learning and innovation (Sedyowidodo and Sule, 2017). Therefore, entrepreneurial orientation is needed before innovating in the company. When a manager uses practices, methods, and decision-making styles to act entrepreneurially, this is referred to as entrepreneurial orientation, as mentioned by Real et al. (2014), especially when directing the company to develop market-oriented products, act proactively, and take risks.

Innovation itself was found to be an essential aspect of growing a country's economy, as emphasized by Joseph Schumpeter in the 1930s. An innovation can be the launch of new products, methods, markets, sources of supply, and organizations. According to Dixon et al. (2014), innovation can lead a company to create a series of routines as it adapts to dynamic environmental changes; hence, it is included as an area that is covered by ISO 9004. It is widely recognized that innovation is the key to competitive advantage (Francis and Bessant, 2005; Anttila and Jussila (2021); Zemanova et al., 2022). Companies will achieve a competitive advantage through innovation by building superior customer value. It can also increase efficiency (Fenyves et al., 2019). However, Lee and AbuAli (2010) emphasize that it will be difficult for companies to achieve innovation goals if they do not have methods and tools. To achieve the desired results, there are three sequential steps of innovation: idea generation, idea development, and diffusion of the developed concept (Hansen and Birkinshaw, 2007). On another hand, innovation sometimes happens not in a linear sequence (Garud et al., 2013).

Innovation is considered to be highly contextual, and a company will be known as an innovative organization limited by its culture. Therefore, measuring the culture of innovation in a company is essential. Innovation culture has four main dimensions: intention to innovate, infrastructure, market orientation, and implementation context. A study by Dobni (2008) found that the 4 dimensions can be broken down into innovation propensity, organizational learning, organizational constituency, market orientation, employee creativity and empowerment, implementation context, and value orientation as factors to measure innovation culture in a company. Innovation measurement has developed dynamically since 1993 to find more comprehensive factors to be studied. Furthermore, innovation can be imitated as a company strategy (Posen et al., 2023; Wierzbicki and Nowodziński, 2019).

More specifically, Villaluz and Hechanova (2019) found that role models and leadership support for innovation determine innovation culture. Innovation is influenced by a leader through evaluation, strategy, and rewards. One of the most important innovations can be the social activities of the company (Glonti et al., 2020; Supeková et al., 2023) and vice versa. Social activities can open opportunities for innovation (Navickas and Kontautiene, 2013; Simanaviciene et al., 2017). One of

the best foundations for growing a business is the attention placed on the social aspect of innovative activity (Shpak et al., 2017). Another study analysing SOEs in Indonesia conducted by Soewarno and Tjahjadi (2020) found that innovation strategy mediates eco-oriented culture and financial performance.

In Biro Klasifikasi Indonesia (BKI), a state-owned enterprise in Indonesia, several activities encourage innovation, such as innovative idea contests and incubation. However, these activities are still sporadic and have not shown the expected results. Therefore, it is necessary to measure the culture of innovation first before implementing specific strategies to become an innovative company. This research was conducted in BKI to measure the culture of innovation, know the level of the enterprise's innovation, and identify innovation elements that need to be improved and given attention to enhance the enterprise's capability in innovation management.

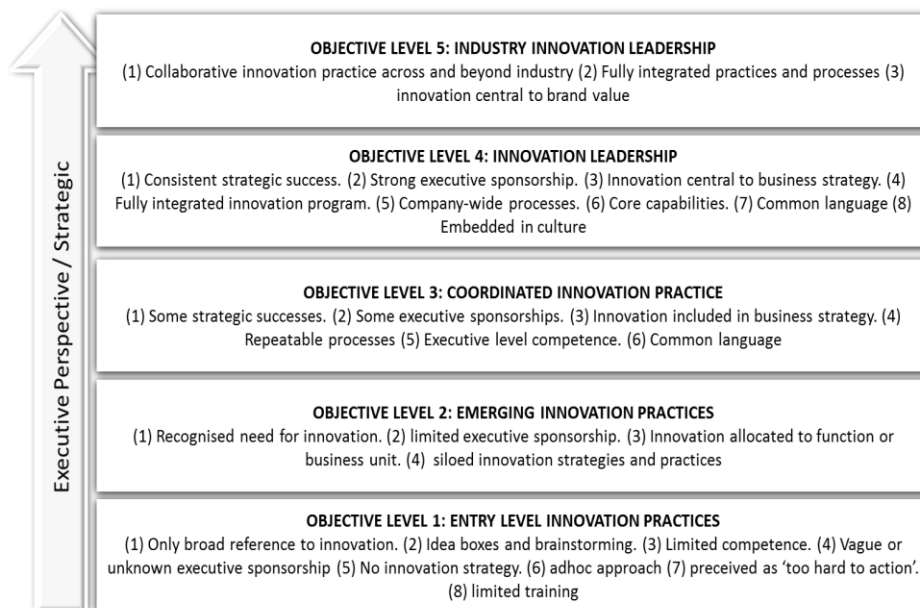
### **Research Methodology**

A volatile environment requires an organization that has an agile character, is quick to innovate, has a culture of love to experiment, and dares to take risks to explore opportunities (Utoyo, Fontana, and Satrya, 2020). These characteristics are basic for an organization to survive in an environment that always demands change. Innovation culture is one of the issues that is often discussed in measuring the readiness of an organization to make innovation an important value in the organization. Innovation culture is defined as the values and beliefs an organization holds that shape how the organization innovates (Drechsler et al., 2021; Ivanov, 2022). Innovation culture is also related to organizational transformation, seeing new opportunities and threats (Schaefer et al., 2022). In addition, the values embraced by employees must align with the values embraced by the organization to align strategic orientation and innovation in the organization (Ivanov, 2022). Therefore, this research is very important to understand how the culture in SOEs supports innovation.

The theory that is used as a reference for the discussion of innovation culture is the model proposed by Rao and Weintraub (2013), which has six building blocks, 18 factors, and 54 elements. The six building blocks of this model are Values, Behaviors, Climate, Resources, Processes, and Success. This study utilized the innovation culture model (Rao and Weintraub, 2013) because: 1. The model has been tested for validity and acceptability for 2 years; 2. The model has been tested as a diagnostic and follow-up tool for innovation culture; 3. The model has been applied to 1026 executives and managers; and 4. The model has been tested in 15 corporate headquarters in the US, Europe, Latin America, and Asia.

Furthermore, this study discusses innovation levels using a model called Corporate Innovation Maturity Ladder presented by Berg Consulting Group (Berg, 2013). This model discusses the maturity level of each level in the organization and its strategic focus and capabilities (Achi et al., 2016). The innovation level based on this model consists of five levels, as seen in Figure 1 below.

The instrument in the form of a questionnaire was prepared with reference from the innovation culture model and is broken down into 59 statement items. Respondents must choose a 5-point Likert scale for perception and perceived importance for all these items. This study used a probability sampling method with a proportional stratified random sampling technique. It provides equal opportunities for all population members to become respondents (Sekaran and Bougie, 2016) by considering the existing strata/units to be represented according to their proportion. Furthermore, the sample size of this survey was determined by utilizing the Krejcie and Morgan (1970) model. With this table, if the total population of eligible employees as respondents was known to be 786 people, then the number of possible samples with a significance level of five percent ranges from 238 to 243 people.



**Figure 1: Corporate Innovation Maturity Ladder**

Source: Berg, 2013

To find the number of samples compared to the previous Krejcie and Morgan Table, the authors used a formula explored by Cochran (1977). Using the Cochran formula and a five percent significance level, the minimum number of respondents for this survey was 267 people.

The BKI's employees were divided into eight grades and various structural and functional positions. After being categorized, the number of employees included in the low-level category was 339, the mid-level was 406, and the top-level was 29. Using the proportional stratified random sampling technique, the results show that the minimum number of respondents for the low-level category was 117, the mid-

level was 140, and the top-level was 10. The details of the targeted sample are presented in Table 1.

**Table 1. Respondent Composition based on Proportional Stratified Random Sampling**

Position / Division Classification	Number of employees				Number of Respondents			
	Low	Mid	Top	Total	Low	Mid	Top	Total
<b>Head Office</b>								
Classification Operations Department	0	7	1	8	0	2	0	2
Commercial Operations Department	0	5	1	6	0	2	0	2
Finance Division	10	13	1	24	3	4	0	7
Human Capital Management Division	4	15	1	20	1	5	0	6
Risk Management and Business Control Division	5	7	1	13	2	2	0	4
Strategic Management Division	3	8	3	14	1	3	1	5
Materials and Components Division	3	8	1	12	1	3	1	5
Marketing and Customer Relations Division	7	8	1	16	2	3	1	6
Design and Construction Approval Division	5	34	1	40	2	12	1	15
Research and Development Division	1	23	2	26	0	8	1	9
Corporate Secretary Division	9	6	1	16	3	2	0	5
Statutory Division	4	19	1	24	1	7	0	8
Survey Division	4	11	1	16	1	4	0	5
Information Services and Technology Solutions Division	7	7	1	15	2	2	0	4
General Division	8	10	1	19	3	3	0	6
Internal Monitoring Unit	2	3	1	6	1	1	0	2
Holding Management Department	1	11	1	13	0	4	1	5
<b>Branch office</b>								
37 offices	266	211	9	486	94	73	4	171
<b>TOTAL</b>	<b>339</b>	<b>406</b>	<b>29</b>	<b>774</b>	<b>117</b>	<b>140</b>	<b>10</b>	<b>267</b>

To ensure the validity of the distributed questionnaires, three methods were conducted before distributing the questionnaires: 1. Face validity test by the BKI's RandD Team – this face validity resulted in the improvement and adjustment of statement items in almost all elements; 2. Face validity test to two BKI employees outside the RandD Team – this face validity resulted in the five items that were adjusted; 3. Statistical validity and reliability tests – this validity and reliability test was carried out on all 59 questionnaire statement items which were distributed to 30 respondents. This test was done by looking at the Pearson correlation value (t-count)

which must be greater than the t-table value = 0.361. The validity test results showed that all items were valid (have a t-count value greater than the t-table). Meanwhile, Cronbach's alpha value must be greater than 0.7 to test reliability. The reliability test results show that all statement items were reliable when measuring each building block. Fortunately, 307 respondents filled out the questionnaire, consisting of 138 from low-level management, 159 from the mid-level, and 10 from the top level. This exceeds the previously set target of 267 respondents. All answers from these 307 respondents were included in the data processing. The data were collected from July to November 2022.

### Research Results

Table 2 shows the detailed performance (P) and importance (I) scores for all building blocks, factors, and elements.

**Table 2. Performance and Importance Level of Innovation Culture**

Building blocks	Factor	Element	Element		Factor		Building Blocks		Total	
			P	I	P	I	P	I	P	I
Values	Entrepreneurial	Hungry	3.77	4.12	3.56	3.94	3.62	3.99	3.51	4.06
		Ambiguity	3.43	3.85						
		Action-oriented	3.47	3.85						
	Creativity	Imagination	3.88	4.16	3.7	4.02				
		Autonomy	3.65	4.03						
		Playful	3.56	3.88						
	Learning	Curiosity	3.74	4.04	3.61	4				
		Experiment	3.5	3.95						
		Failure OK	3.59	4.01						
Behaviors	Energize	Inspire	3.62	4.09	3.55	4.04				
		Challenge	3.56	3.98						
		Model	3.48	4.06						
	Engage	Coach	3.41	4.02	3.45	4.06				
		Initiative	3.53	4.05						
		Support	3.41	4.1						
	Enable	Influence	3.54	4.11	3.59	4.09				
		Adapt	3.57	4.05						
		Grit	3.66	4.11						
Climate	Collaboration	Community	3.55	4.03	3.74	4.11				
		Diversity	3.87	4.14						
		Teamwork	3.8	4.17						
	Safety	Trust	3.99	4.21	3.82	4.17				
		Integrity	3.99	4.28						
		Openness	3.48	4						
	Simplicity	No bureaucracy	3.32	4.08	3.64	4.1				
Accountability		3.9	4.13							

		Decision Making	3.71	4.09					
Resources	People	Champions	3.71	4.11	3.57	4.08	3.45	4.07	
		Experts	3.4	4.07					
		Talent	3.58	4.06					
	Systems	Selections	3.25	4.03	3.5	4.08			
			3.16	4.01					
		Communications	3.63	4.12					
		Ecosystem	3.57	4.14					
	Projects	Time	3.36	4.06	3.27	4.04			
		Money	3.16	4.05					
Space		3.31	4.02						
Processes	Ideate	Generate	3.49	4.04	3.52	4.09	3.38	4.05	
		Filter	3.49	4.1					
		Prioritize	3.58	4.14					
	Shape	Prototype	3.25	4.04	3.29	4.01			
		Iterate	3.37	4.07					
		Fail Smart	3.24	3.93					
	Capture	Flexibility	3.32	3.98	3.34	4.03			
		Launch	3.35	4.08					
		Scale	3.35	4.03					
Success	External	Customers	3.35	4.09	3.29	4.1	3.39	4.08	
		Competitors	3.16	4.07					
		Financial	3.35	4.13					
	Enterprise	Purpose	3.37	4.06	3.42	4.07			
			3.4	4.08					
		Discipline	3.4	4.08					
			3.44	4.1					
	Capabilities	3.45	4.02						
		3.48	4.07						
	Individual	Satisfaction	3.48	4.01	3.46	4.07			
Growth		3.63	4.14						
Reward		3.28	4.06						

From Table 2, the perception of BKI's employees towards the performance level of innovation culture in general is 3.51, while the level of importance is 4.06. From this value, it can be indicated that the culture of innovation within BKI still must be improved, considering that the perception of the level of performance is still below the level of importance.

Furthermore, to determine the category of each item tested within the scope of the company, the value of the performance level and the level of importance per item is entered into the Importance Performance Analysis (IPA) matrix. The creation of the IPA matrix begins by determining the average value of the perceived performance level and the level of importance of all items. It was found that the average perceived performance level was 3.51, and the average level of importance was 4.06. These



two average values are used as quadrant delimiters on the X-axis for perceived performance levels and quadrant delimiters on the Y-axis for the level of importance in the IPA matrix. The average perceived performance level value of 3.51 is positioned on the X-axis, and the average importance level value of 4.06 is positioned on the Y-axis. Once the quadrant delimiters are in place, the perceived performance level and importance level values of the 59 elements are entered into the IPA matrix. The IPA matrix for the scope of the company is shown in Figure 2 below.

From the IPA matrix in Figure 2, 59 elements are divided into four quadrants. However, since the focus of this study is to identify the room for improvement, the explanation of the IPA Matrix is only focused on items with a perceived level of importance higher than the average but a lower-than-average level of performance. The position of these items is in quadrant A (the top left quadrant).

For all element items that fall into this quadrant A, the IPA matrix recommendation is "Concentrate Here". Especially for items in quadrant A, the items are arranged in order of priority. Priority is determined based on the difference between the importance level value and the performance level value. The greater the difference between the importance level value and the performance level, the greater the priority given to the item to be followed up because it indicates a high level of importance but a low level of performance. 18 element items fall into quadrant A as seen in Table 3.

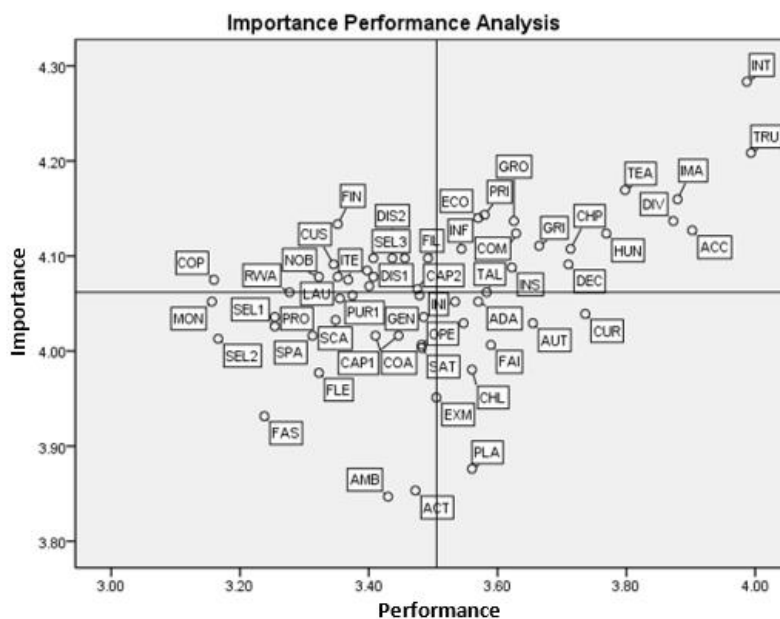


Figure 2: IPA matrix of the Innovation Culture based on items of element

Table 3. Elements in the quadrant A



No.	Element	No.	Element	No.	Element
1	Competitors	7	Iterate	13	Experts
2	Financial	8	Time	14	Discipline 2
3	Rewards	9	Support	15	Selections 3
4	No bureaucracy	10	Purpose 1	16	Filter
5	Customers	11	Purpose 2	17	Capabilities 2
6	Launch	12	Discipline 1	18	Model

Furthermore, from the survey results, it is known that the total level of perception of the performance of BKI's innovation culture is 3.51. Considering that the assessment scale since the data collection stage using a questionnaire is 5 Likert Scale levels, then with a value of 3.51, the innovation culture of BKI is included in level 3 (Coordinated Level).

### Discussion

After the measurement results of the innovation culture survey are known, the next step is to discuss the survey results. The first discussion compares the perceived value of performance levels based on management levels. Table 4 shows the difference between low, mid, and top management levels in assessing the performance level of innovation culture.

**Table 4 Comparison of Perceptions of Innovation Culture Performance Levels based on management level**

Management Level	Innovation Culture Performance
Low	3.59
Mid	3.43
Top	3.59

It can be seen in Table 4 that there is a significant difference in the perception of innovation culture performance between top and low management levels and mid-management. The top and low management levels rated the performance at 3.59, while mid-management rated 3.43.

The second discussion compares the perceived value of performance levels based on length of service. Table 5 shows the differences between employees with less than 10 years of service, between 10 years and close to 20 years, between 20 years and close to 30 years, and 30 years and over in assessing the performance level of innovation culture.

**Table 5. Comparison of Perceptions of Innovation Culture Performance Levels based on employee years of service**

Years of Service	Innovation Culture Performance
$Y < 10$	3.58
$10 \leq Y < 20$	3.46

$20 \leq Y < 30$	3.57
$Y \geq 30$	3.27

Table 5 shows that there is a significant difference between perceptions of innovation culture performance based on tenure. Employees with less than 10 years of service have the most outstanding value. However, there is no significant difference in the perception of employees with more than 10 years of service towards the performance of innovation culture. The best perception of performance is from employees who are classified as long-standing.

The third discussion compares the perceived value of performance levels based on employee age. Table 6 shows the difference between employees aged 20 to 60 years in assessing the performance level of innovation culture. There is no significant difference between perceptions of innovation culture performance for all employee age groups.

**Table 6. Comparison of Perceptions of Innovation Culture Performance Levels based on employee age**

Age	Innovation Culture Performance
$20 < X < 29$	3.44
$30 \leq X \leq 39$	3.49
$40 < X < 49$	3.53
$50 \leq X \leq 59$	3.56

The fourth discussion compares the perceived value of performance levels based on employees' latest education. Table 7 shows the differences between employees with high school, diplomas, bachelor's degrees, master's degrees, and doctoral degrees in assessing the performance level of innovation culture.

**Table 7. Comparison of Perceptions of Innovation Culture Performance Levels based on employee education**

Education	Innovation Culture Performance
Senior High School	3.56
Diploma	3.44
Bachelor	3.55
Master	3.25
Doctor	2.97

It can be seen in Table 7 that there is a significant difference between the perception of the performance of the culture of innovation of employees with master's and doctoral degrees. Doctoral degree employees perceive the performance of a culture of innovation to be much higher. However, there is no significant difference between employees with high school diplomas and bachelor's degrees in terms of the performance of innovation culture.

The following is a discussion concerning BKI's innovation at level 3, as mentioned in the findings section. According to Rao and Weintraub (2013), most companies have done a better job of managing resources and processes and measuring innovation success than they have the building blocks of more people-oriented innovation. As many managers already know, anything involving people's values and behaviors and workplace climate is more intangible and difficult to handle.

At level 3, one of the characteristics is that the company has established innovation practices and strategies with some strategic success. These practices can be seen from the perception of the performance level of the climate, values, and behaviors building blocks, which are above the average level of performance perception. The higher performance of these three building blocks compared to the other three building blocks (Resources, Processes, and Success) indicates that BKI's innovation culture already has a fairly good foundation. This is because Climate, Values, and Behaviors are fundamental building blocks, while Resources, Processes, and Success are more operational.

Based on the aggregate calculation of the elements that make up the Climate building block, the perception of performance is 3.74. This value is the highest compared to the other building blocks and has the most difference from the average value of 3.51. Climate is the content of life in the workplace. An innovative climate fosters engagement and enthusiasm, challenges people to take risks in a safe environment, encourages learning, and promotes independent thinking. The factor from the climate building block with the highest average level of performance is the safety factor, which has a value of 3.82. The elements of this factor are Trust, Integrity, and Openness. The factor from the climate building block with the second highest level of performance is collaboration, which has a value of 3.74. The elements of this factor are Community, Diversity, and Teamwork. The community is in line with the understanding of Glonti et al. (2020) and Supeková et al. (2023). Furthermore, the third highest performance factor is Simplicity, with a score of 3.64. The elements of this factor are accountability, decision-making, and lack of bureaucracy. However, as the lack of bureaucracy element is still below the average with a value of 3.32, it can contradict Fenyves et al. (2019) statement that innovation can also increase efficiency. Details of Building Block Climate are shown in Table 8 below.

**Table 8. Level of Perception of Building Block Climate's Performance**

Building block	Performance Level	Factor	Performance Level	Element	Performance Level
Climate	3,74	Safety	3,82	Trust	3,99
				Integrity	3,99
				Openness	3,48
		Collaboration	3,74	Diversity	3,87
				Teamwork	3,80
				Community	3,55
		Simplicity	3,64	Accountability	3,90

				Decision Making	3,71
				No bureaucracy	3,32

**Note:** the performance level values of openness and no bureaucracy are below average

Furthermore, the second highest building block for performance is Value, which has a value of 3.62. Values drive priorities and decisions, which are reflected in how a company spends its time and money. Truly innovative companies spend more time and money on something entrepreneurial, encouraging creativity and continuous learning. The factor of the Value building block with the highest average level of perception of the performance is the Creativity factor, with a value of 3.70. The elements of this factor are Imagination, Autonomy, and Playfulness. The factor that is considered the second highest average performance is learning, which has a value of 3.61. The elements of this factor are Curiosity, Failure OK, and Experiment. Lastly, the third largest average performance factor is Entrepreneurial, with a value of 3.56. The elements of this factor are Hungry, Action-oriented, and Ambiguity. The perceived level of performance for the Building Block Value is shown in Table 9 below.

**Table 9. Level of Perception of Building Block Value's Performance**

Building block	Performance Level	Factor	Performance Level	Element	Performance Level	
Value	3.62	Creativity	3.70	Imagination	3.88	
				Autonomy	3.65	
				Playfulness	3.56	
		Learning	3.61		Curiosity	3.74
					Failure OK	3.59
					Experiment	3.50
		Entrepreneurial	3.56		Hungry	3.77
					Action-oriented	3.47
					Ambiguity	3.43

**Note:** the performance level values of experiment, action-oriented and ambiguity are below average

Moreover, the innovation practices and strategies set by BKI are also shown based on the perception of the performance level of the Behaviors building block. Behaviors are the building block with the smallest performance value but are still above average, with a value of 3.53. Behaviors describe how people act to innovate. For leaders, such actions include a willingness to kill existing products with new and improved ones, energizing employees with a clear picture of the future, and cutting red tape. For employees, actions to support innovation also include persistence in

overcoming technical barriers, optimizing resources when budgets are tight, and listening to customers.

The factor from the Behaviors building block with the highest average level of performance is the Enable factor, with a value of 3.59. The elements of this factor are Grit, Adapt, and Influence. The factor with the second highest average level of performance is the Energize factor, with a value of 3.55. The elements of this factor are Inspire, Challenge, and Model. Model has the smallest level of performance with a score of 3.48, which is also below average. The model relates to the ability of company leaders to be an example of innovative behavior so that their employees can follow. Lastly, the factor with the smallest average level of performance is the Engage factor, with a value of 3.45. This factor is the only factor in the Behavior building block that has a below-average score. The elements of this factor are Initiative, Coach, and Support. The level of perception of performance for building block behaviors is shown in Table 10 below.

**Table 10. Level of Perception of Building Block Behaviors' Performance**

Building block	Performance Level	Factor	Performance Level	Element	Performance Level
Behaviors	3.53	Enable	3.59	Grit	3.66
				Adapt	3.57
				Influence	3.54
		Energize	3.55	Inspire	3.62
				Challenge	3.56
				Model	3.48
		Engage	3.45	Initiative	3.53
				Coach	3.41
				Support	3.41

**Note:** the performance level values of engage factor, model, coach, and support elements are below average

At level three, company leaders/executives support innovation, but it is more about directing than encouraging innovation. The lack of executive encouragement towards innovation can be seen from the survey results on six elements: Model, Coach, Support, Time, Money, and Space. First, the Model element has a perception level of performance with a value of 3.48, which is still below average. The Model element relates to the ability of company leaders to model innovative behavior for their employees to follow. The next indication is the Coach and Support elements, which have a value of 3.41 and are below the average. Coach relates to the ability of company leaders to provide time to guide and provide input for innovations that employees do. Meanwhile, Support relates to providing support from leaders to employees in times of success or failure. These three elements relate to the understanding of innovative capability that can impact organizational performance, as found by Masoomzadeh et al. (2019).

Although the survey results show that the aggregate level of perception of the performance of BKI's innovation culture is 3.51, the Resources building blocks in the Time, Money, and Space elements show a low value. Even the Money element is the element with the lowest value among all 59 elements. The Money element, which shows the company's ability to provide the appropriate budget and financing for innovation, is only rated 3.16. Furthermore, the Space element, which shows the company's ability to provide physical and/or virtual space for innovation, is rated 3.31. The Time element, which indicates the allocation of specific time to develop and realize innovative ideas, was rated 3.36.

On the other hand, indications that executives are more directive in innovation can be seen from the survey results on the three elements of Champions, Inspire, and Challenge. Champions, which relate to the commitment of company leaders to become champions of innovation in business development and enrichment, have a perception level of performance of 3.71. Inspire, which relates to the ability of company leaders to inspire employees by providing a view of the future and explaining various opportunities for the company, has a value of 3.62. Challenge, which relates to the ability of company leaders to challenge employees to think and act with innovative or entrepreneurial thinking, has a score of 3.56. Some evidence of executive support is the organization of several innovation-related activities, including NICE Celebration and NICE Incubator.

The use of the Innovation Maturity Model initiated by Berg (2013) as a reference for increasing the level of innovation of BKI confirms Achi et al. (2016), who stated that this model can identify priority actions. According to Achi et al. (2016), measurement of innovation factors is needed to improve critical elements and achieve a higher level of maturity. Attention to 18 items is expected to further internalize the culture of innovation, as mentioned by Drechsler et al. (2021) and Ivanov (2022). It needs greater involvement of all employees, as emphasized by Zemanova et al. (2022).

## Conclusion

To conclude, the innovation culture of BKI must still be improved as its perceived level of importance (worth 4.06) is still higher than the perceived level of performance (worth 3.51). Referring to Berg's Corporate Innovation Maturity Ladder, the survey results in the form of a perception of performance level of 3.51 can be considered to indicate the corporate innovation at level 3. Furthermore, there are 18 elements within the scope of the company, as another study's result and recommendation show that the main concern of the company is to improve the culture of innovation. The 18 elements are: Competitors, Financial, Reward, No Bureaucracy, Customers, Launch, Iterate, Time, Support, Purpose 1, Purpose 2, Discipline 1, Experts, Discipline 2, Selections 3, Filter, Capabilities 2, and Model. Since the limitation of this study is the availability of the stakeholders to conduct some more discussions for the improvement strategy, therefore further study is suggested to explore these 18 items and create a detailed improvement strategy.

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## POPRAWA KULTURY INNOWACJI KORPORACYJNYCH W PRZEDSIĘBIORSTWIE PAŃSTWOWYM

**Streszczenie:** Tworzenie innowacji w przedsiębiorstwie państwowym (SOE) ze względu na swój charakter często staje się dużym wyzwaniem. Dlatego też niniejsze badanie ma na celu określenie obecnego poziomu innowacyjności w indonezyjskim przedsiębiorstwie morskim będącym własnością państwa, a jego wynik ma stanowić punkt wyjścia do poprawy kultury innowacji w przedsiębiorstwie. Wykorzystując model kultury innowacji, w niniejszym badaniu uzyskano dane z ankiety internetowej rozesłanej do respondentów ze wszystkich szczebli zarządzania, którzy zostali wybrani w drodze proporcjonalnego losowania warstwowego. Celem niniejszego badania jest ocena kultury innowacyjności przedsiębiorstwa państwowego, określenie poziomu innowacyjności tego przedsiębiorstwa oraz wskazanie elementów innowacyjności, które wymagają poprawy. Badanie to wykazało, że postrzegane wyniki kultury innowacji są nadal niższe niż jej wartość ważności. Ponadto, biorąc pod uwagę drabinę dojrzałości innowacji korporacyjnych Berga, stwierdza się, że poziom innowacyjności tego przedsiębiorstwa kształtuje się na poziomie 3. Wyniki przeanalizowano za pomocą Matrycy Ważności-Wydajności, i stwierdzono, że 18 elementów wymaga poprawy. Nowością tego badania jest połączenie modelu kultury innowacji z korporacyjną drabiną dojrzałości innowacji w badaniu innowacyjności przedsiębiorstwa, w szczególności przedsiębiorstwa państwowego. Sugeruje się dalsze badania w celu zgłębienia tych 18 elementów i opracowania szczegółowej strategii poprawy.

**Słowa kluczowe:** innowacyjność przedsiębiorstw, kultura innowacji, poziom innowacyjności, przedsiębiorstwo państwowe