Level of Competency Needs Assessment Based on Permenhub No. PM 7 of 2018 Concerning the Master Plan for Skkni Development Transportation Sector

Marihot Simanjuntak[1]*, April Gunawan Malau[2]

[1]Nautika Study Program, School of Shipping, Jakarta, Indonesia, [2]Management and Port Study Program, School of Shipping, Jakarta Jl. Marunda Makmur No.1 Cilincing, North Jakarta, Jakarta 14150, Indonesia. *Email: marihot_simanjuntak@dephub.go.id

ABSTRACT

The determination of the key performance indicator (KPI) can be used to measure the level of competency needs of the transportation sector based on Permenhub No. PM 7 of 2018. In determining the KPI, weighting each statement in the questionnaire is first done, then recapitulating the total value of each respondent, ranking the competency according to the respondent's answer and presenting it in the form of a frequency distribution table. This study aims to determine the level of need from the implementation of the master plan for the development of Indonesia's national work competency standards (SKKNI) in the transportation sector. The results of the study showed that the port operators that were used as respondents really needed the competence of the non-regulator sea transportation sector ports, as evidenced by the results of the average level of competency requirements in the category of need and very need. Then the application of the transportation sector SKKNI based on Permenhub No. PM 7 of 2018 must be implemented so that operators at the port have competencies in the form of knowledge and skills as well as attitude/or behavior in implementing.

Keywords: Scout Officer, Training, Compete
JEL Classifications: L62, R41, R42

1. INTRODUCTION

Indonesia as an archipelago based on marine life has about 17,000 islands spread throughout the country (Amanah et al., 2018). In an effort to unite the economic, social and government life in this country, the unification of the state based on the provision of sea transportation services plays a very important role. But this is not something that is easy to implement because need so great resource as input in forming a reliable process of transportation services in the country (Siswantini et al., 2014).

Sea transportation development which is carried out by providing and constructing sea transportation facilities and infrastructure, requires not only capital investment but also the provision of human resources, which will manage it in accordance with the set of implementing regulations prepared as guidelines for the

management of sea transportation (Perera and Soares, 2017). Of the hundreds of ports that have been built in Indonesia spread all over the country, quality resources are also needed to be able to not only reach the level of sea transport services that meet in quantity but also meet quality, so as to create safe and comfortable sea transportation effectively and efficiently according to what has become the main target in the operation of the national transportation system (Amanah et al., 2018; Perera and Soares, 2017).

Ministry of transportation in an effort to improve the quality of human resources communications sector has issued regulation of the minister of transportation number PM. 7 of 2018 concerning the master plan for the development of Indonesian national work competency standards in the transportation sector (Blinch et al., 2011). The purpose of this regulation is to identify and map

the competency units of the transportation sector through the productive function analysis approach to activities in the field of road transportation, railways, shipping, aviation and multimodal transportation management, both concerning service business competencies, as outlined in the RIP-SKKNI transportation sector (Chaudhary et al., 2012; Kuo and Chen, 2009).

While the target of the minister of transportation regulation no. PM. 7 of 2018 are:
1. The compilation of maps of transportation sector competencies that are owned by achieving the objectives of the implementation of traffic and road transportation, railways, shipping, aviation and management of multimodal transportation that is effective and efficient
2. Based on the competency mapping identified basic competency units that reflect the work competency needs in the transportation sector, based on the description of the required competency units, an SKKNI description is set which needs to be developed based on priorities for the next 5 years up to 2020
3. Regional and international mutual recognition (mutual revision agreement) between certification bodies/accreditation bodies to regulate the official entry and exit of transportation personnel from other countries to Indonesia and vice versa.

Considering that the SKKNI development of the transportation sector is targeted to reach 2020, it is necessary to evaluate the level of need for the application of this regulation in terms of linking the objectives of making this regulation with conditions in employment in the transportation sector, especially in the sea transportation sector by personnel in ports in Indonesia (Wardley, 2008).

Based on the description above, the formulation of the problem to be discussed is "What is the Indonesian minister of transportation's regulation PM number 7 of 2018 concerning the master plan for the development of Indonesian national work competency standards in the transportation sector in accordance with the needs and what level of needs in the field ?".

The objectives of this study are as follows:
1. Disclose findings about the level of need for implementing this policy
2. Provide academic recommendations for implementing this policy.

2. METHODOLOGY

This study is a quantitative descriptive research with research design using a survey method (non-experimental) (Celik et al., 2009). The process is carried out through the analysis of existing and actual data and information and the selection of respondents' opinion through a questionnaire related to efforts to determine the level of competency requirements regarding the master plan for the development of Indonesian national work competency standards in the transportation sector.

The population of this research is all business operators in the port environment and other relevant stakeholders or agencies. Sampling

was carried out by random sampling in the area of Jakarta's tanjung priok port and the belawan port area of Medan. The number of samples taken was 180 respondents.

The instrument was in the form of a closed questionnaire with statements in accordance with the minister of transportation's regulation PM Number 7 of 2018. Quantitative descriptive data analysis is done by recapitulating the total value of each respondent, then ranking the competencies according to the respondents' answers, presenting in the form of a frequency distribution table and then determining the level of competency needs using the key performance indicator (KPI) (Chaudhary et al., 2012).

3. RESULTS AND DISCUSSION

The characteristics of the respondents are presented in the following Table 1:

From Table 1, it can be seen that respondents are predominantly male. Then the age of respondents tendency is adult so it makes it easier to fill out the questionnaire (Crainic, 2005). Furthermore, most respondents are the owners of goods with a background of at most undergraduate levels or more so that the results of the questionnaire filled out are more qualified.

Then to recapitulate the respondents' answers presented in the following Table 2.

From Table 2 can be grouped using the frequency distribution Table 3 as below.

From Table 3 above quantitatively that the respondents or operators at the port that are the object of research in relation to the competencies needed in improving work state that they are needed and needed.

Table 1: Characteristics of respondents

Characteristics of respondents	Total	Percentage
Gender		
Man	128	71
Girl	52	29
Age		
<20 years old	0	0
21-30 years	32	18
31-40 years old	51	28
41-50 years	67	37
>50 years old	30	17
Work		
Shipping company	19	11
Agency company	0	0
Unloading company	0	0
Freight forwarder	22	12
Transportation management services	17	9
Owner	65	36
Etc	57	32
Education		
Elementary school	0	0
JSS	28	16
SLTA	53	29
Bachelor/More	99	55

Table 2: Recapitulation of respondents' answers

Basic competency function	Total value of each respondent	Ranking
Implementing port technology information system	797	6
Develop promotion, investment, and port concession materials	787	14
Develop a port key performance indicator	794	10
Operate a container terminal	765	31
Operate the passenger terminal	789	13
Operating conventional terminals	758	38
Operating the RORO terminal	751	42
Operating the oil tanker terminal	732	48
Operate the gas tanker terminal	781	23
Operate the chemical tanker terminal	769	30
Operate the chemical tanker terminal Performing Port facility security Officer (PSO)	755	40
Carrying out the port area general security task	783	19
Carry out the function of implementing ship removal (Mooring unmooring gang)	744	45
Operating kepil ship	744	46
Operate field and warehouse	785	16
Operate cargoes at each station	793	11
Serving docks	787	15
Carry out port facility safety checks	784	17
Conduct port checking equipment safety checks	817	1
Carry out container loading	758	39
Serving passenger embarkation/debarkation	795	8
Carrying out loading and unloading of goods at a conventional dock	770	29
Carry out loading and unloading goods on RoRo ships	804	4
Carry out the loading and unloading of oil tankers	777	25
Carry out the loading of the gas tanker	779	24
Carry out loading and unloading chemical tankers	747	44
Handling port safety facilities	783	20
Operate container loading and unloading equipment	772	27
Operating passenger loading and unloading equipment	784	18
Operating conventional unloading equipment	761	35
Operating RoRo loading and unloading equipment	782	21
Operate oil tanker unloading equipment	702	49
Operate gas tanker unloading equipment	763	33
Operating chemical tanker unloading equipment	759	37
Operate special vehicles at the port	797	7
Carrying out unloading dangerous goods	793	12
Carry out loading and unloading cold cargo	765	32
Carry out the task of packaging and labeling services goods	774	26
Carry out operation of waste storage facility	808	3
Carry out freshwater filling to ships	795	9
Carry out fuel filling	798	5
Carry out porter service tasks	782	22
Carry out loading and unloading of goods at the container terminal (stevedoring, cargodoring and receiving)	743	47
Carry out loading and unloading from and to the port (rede transport)	761	36
Carry out the operation of container depots outside the port	752	41
Carry out operation of a warehouse outside the port	750	43
Carry out packing supervision and make labels of dangerous goods	811	2
Carry out port financial activities	771	28
Carrying out cargo transfer	762	34

The level of competency requirements of the transportation sector for management information systems (MISs) is presented in the following table.

Based on Table 4 for groups of competencies MIS port with competency requirements to implement information technology systems harbor, preparing promotional materials, investment and port concessions obtained KPI by an average of 4.4 which is in the interval level competency needs need and really need.

The level of competency requirements of the transportation sector for the operation of the container terminal is presented in the following Table 5.

Table 3: Distribution of frequency ranking of competencies according to respondents' answers

Interval	Quality score	Frequency
782-910	Urgently needed (SB)	26
546-781	Required (B)	23
364-545	Less needed (KB)	0
182-363	Not needed (TB)	0
1-181	Very not needed (STB)	0

Based on Table 5 for groups of competence operation of container terminals with competency requirements operating container terminals, carry out the loading of the container, operate the loading and unloading of containers, carry out loading and

unloading the terminal container (stevedoring, cargodoring and receiving), carry out the operation of the depot containers outside the port based on an average of 4.2 are at the intervals of the level of competency needs need and very need.

The level of competency requirements of the transportation sector for passenger terminal operation is presented in the following Table 6.

Based on Table 6, the competency groups operating passenger terminals with the need to operate passenger terminals, serve

passenger embarkation/debarkation, operate passenger loading and unloading equipment, carry out porter service tasks based on an average of 4.3 being at the interval of competency level needs of needs and needs.

The level of competency requirements of the transportation sector for conventional dock operations is presented in the following table.

Based on Table 7, the competency groups of conventional dock operations with the need to operate conventional terminals carry

Table 4: Level of management information system competency needs

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Implementing port technology information system	1		4	91	84
Develop promotion, investment, and port concession materials		2	14	79	85
Develop port key perfomance indicator		3	16	65	96
Number of respondents	1	5	34	235	265
Total weight of the rating score	1	10	102	940	1325
Total scoring rating weight			2378		
Average score results weight scores			4.4		

Table 5: Competency level requirements for operation of container terminals

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Operate a container terminal		12	11	77	80
Carry out container loading	1	13	17	65	84
Operate container loading and unloading equipment	1	13	12	61	93
Carrying out containerized goods loading and unloading (stevedoring, cargodoring and receiving)	2	17	12	74	75
Implement operation container depots d i outer harbor		14	18	70	78
Number of respondents	4	69	70	347	410
Total weight of the rating score	4	138	210	1388	2050
Total scoring rating weight			3790		
Average score results weight scores			4.2		

Table 6: Level of competency requirement for passenger terminal operation

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Operate the passenger terminal		2	5	95	78
Serving passenger embarkation/debarkation	1	3	2	88	86
Operating passenger loading and unloading equipment	1	4	11	78	86
Carry out porter service tasks		4	17	72	87
Number of respondents	2	13	35	333	337
Total weight of the rating score	2	26	105	1332	1685
Total scoring rating weight			3150		
Average score results weight scores			4.3		

Table 7: Level of competency needs for conventional dock operations

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Operating conventional terminals	1	13	17	65	84
Carrying out loading and unloading of goods at a conventional dock		14	18	52	96
Operating conventional unloading equipment		13	16	68	83
Carry out loading and unloading from and to the port (rede transport)		14	17	63	86
Number of respondents	1	54	68	248	349
Total weight of the rating score	1	108	204	992	1745
Total scoring rating weight			3050		
Average score results weight scores			4.2		

out loading and unloading of goods at conventional docks, operate conventional loading and unloading equipment, carry out loading and unloading transport to and from the port (rede transport) based on an average of 4.2 at intervals the level of competency needs need and very need.

The level of competency requirements of the transportation sector for RoRo terminal operations is presented in the following Table 8.

Based on Table 8 the competency groups operating RoRo terminals with the need to operate RoRo terminals, carry out loading

Table 8: Level of competency needs for RoRo terminal operations

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Operating RoRo terminals		7	30	68	75
Carrying out unloading goods on RoRo ships		3	8	71	98
Operate loading and unloading equipment on RoRo ships		3	16	77	84
Number of respondents		13	54	216	257
Total weight of the rating score		26	162	864	1285
Total scoring rating weight			2337		
Average score results weight scores			4.3		

Table 9: Level of competency requirements for operating oil tanker terminals

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Operating the oil tanker terminal		11	17	101	51
Carry out the loading and unloading of oil tankers		3	10	94	73
Operate oil tanker unloading equipment	3	13	38	71	55
Number of respondents	3	27	65	266	179
Total weight of the rating score	3	54	195	1064	895
Total scoring rating weight			2211		
Average score results weight scores			4.1		

Table 10: Level of competency needs for tanker gas terminal operations

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Operate the gas tanker terminal		3	13	84	80
Carry out the loading of the gas tanker		3	14	84	79
Operate gas tanker unloading equipment		9	11	88	72
Number of respondents		15	38	256	231
Total weight of the rating score		30	114	1024	1155
Total scoring rating weight			2323		
Average score results weight scores			4.3		

Table 11: Level of competency requirements for operating chemical tanker terminals

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Operate the chemical tanker terminal		10	8	85	77
Carry out loading and unloading chemical tankers		13	20	74	73
Operating chemical tanker unloading equipment		4	19	91	66
Number of respondents		27	47	250	216
Total weight of the rating score		54	141	1000	1080
Total scoring rating weight			2275		
Average score results weight scores			4.2		

Table 12: Level of competency needs enforcement/application of ISM/ISPS code

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Performing port facilitysecurityofficer (PSO) duties		17	13	68	82
Carrying out the port area general security task		7	17	62	94
Handling port safety facilities	1	14	12	47	106
Number of respondents	1	38	42	177	282
Total weight of the rating score	1	76	126	708	1410
Total scoring rating weight			2321		
Average score results weight scores			4.3		

and unloading of goods on RoRo vessels, operate loading and unloading equipment on RoRo ships based on an average of 4.3 being at the interval of competency level needs need and very need.

The level of competency requirements of the transportation sector for the operation of the oil tanker terminal is presented in the following Table 9.

Based on Table 9 groups the competency of operating oil tanker terminals with the need to operate oil tanker terminals, carrying out oil tanker loading and unloading, operating oil tanker loading and unloading equipment based on an average of 4.1 is at the intervals level of competency requirements. Need and very need.

The level of competency requirements of the transportation sector for the operation of the tanker gas terminal is presented in the following Table 10.

Based on Table 10, the competency groups operating gas tanker terminals with the need to operate gas tanker terminals, carrying out gas tanker loading and unloading, tanker gas loading equipment based on an average of 4.3 are at the intervals of the competency level needs of the need and very need.

The level of competency requirements of the transportation sector for the operation of the chemical tanker terminal is presented in the following Table 11.

Based on Table 11, the operation of chemical tanker terminals with the need to operate chemical tanker terminals, carry out chemical tanker loading and unloading, operate chemical tanker loading and unloading equipment based on an average of 4.2, are at the intervals of the competency level needs of the need and very need.

The level of competence of the transport sector needs to pembe rlakuan/application of ISM/ISPS code are presented in the following Table 12.

Based on Table 12, enforcement/application of ISM/ISPS code with the need to carry out the duties of port facility safety security (PSO), carry out general security tasks in the port area, handle port safety facilities based on an average of 4.3 are at intervals at the level of competency needs need and very need (Trucco et al., 2008).

The level of competency needs of the transportation sector for the selection competence is presented in the following Table 13.

Based on Table 13, the competence grouping with the need to operate field and warehouse operations, operating a ship based on an average of 2.1 is in the interval of the level of competency requirements do not need.

The level of competence of the transport sector needs to competency enforcement/application of ISM/ISPS are presented in the following Table 14.

Based on Table 14, enforcement/implementation of the ISM/ISPS needs stints port facility security officer (PSO), operate the load on each station the ship docked, carrying out security checks of port facilities, carry out safety checks of equipment loading and unloading ports, carry out the operation of the warehouse outside the port, perform cargo transfer within the port based on an average of 4.3 is at the interval of the level of competency needs need and very need (Blinch et al., 2011).

The level of competency requirements of the transportation sector for the ship bunker competency is presented in the following Table 15.

Based on Table 15, groups of ship bunker competencies with the need to carry out fresh water replenishment to ships, carry out fuel filling based on an average of 4.4 are at the intervals of the level of competency needs need and very need.

The level of competency needs of the transportation sector for the competency of operating special vehicles at the port is presented in the following Table 16.

Table 13: Level of competency needs for competence in competition

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Operate field and warehouse	1	18	50	36	75
Operating kepil ship		4	43	58	75
Number of respondents		22	93	94	150
Total weight of the rating score		8	129	232	375
Total scoring rating weight			744		
Average score results weight scores			2.1		

Table 14: Level of competence requirements enforcement/application of ISM/ISPS

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Performing port facilitysecurityofficer (PSO) duties		7	13	68	92
Operate cargoes at each station	1	4	13	65	97
Ship docked	1	4	7	83	85
Carry out port facility safety checks	2	4	17	62	95
Conduct port checking equipment safety checks	1	1	2	72	104
Carry out operation of a warehouse outside the port	1	3	25	87	64
Carrying out cargo transfer		11	10	85	74
Number of respondents	6	34	87	522	611
Total weight of the rating score	6	68	261	2088	3055
Total scoring rating weight			5478		
Average score results weight scores			4.3		

Based on Table 16, the competency groups operating special vehicles at the port with the need to operate special vehicles at the port based on an average of 4.4 are at the interval of the level of competency needs of the need and very need ("Industry News," 2018).

The level of competency requirements of the transportation sector for the loading and unloading of dangerous goods competency at the port is presented in the following Table 17.

Based on Table 17, competency groups unloading of dangerous goods with the need to implement the loading and unloading of dangerous goods by an average of 4.4 is in the interval level of competence needs and highly need (Hoffert et al., 1998).

The level of competency requirements of the transportation sector for loading and unloading competencies at the port is presented in the following Table 18.

Based on Table 18, groups of loading and unloading competencies with the need to carry out cold loading and unloading based on an average of 4.3 are at the intervals level of the needs of the need and very need competencies (Crainic, 2005).

The level of competency requirements from the transportation sector for packaging and labeling competencies at the port is presented in the following Table 19.

Based on Table 19, groups competency packaging and labeling needs services accomplish their tasks packaging and labeling of goods, supervise the packing and labeling of dangerous goods by an average of 4.4 is in the interval level of competence needs and highly need (Orinda, 2013).

The level of competency needs of the transportation sector for waste management competencies at the port is presented in the following Table 20.

Based on Table 20, competency groups handling waste at the port with the need to carry out the operation of waste collection facilities based on an average of 4.5 are at the intervals level of competency needs need and very need (Naylor et al., 2000).

Table 15: Level of ship bunker competency needs

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Carry out freshwater filling to ships		3	8	80	89
Carry out fuel filling		1	7	85	87
Number of respondents		4	15	165	176
Total weight of the rating score		8	45	660	880
Total scoring rating weight			1593		
Average score results weight scores			4.4		

Table 16: Level of competency needs for special vehicle operations at the port

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Operate special vehicles at the port		3	8	78	91
Number of respondents		3	8	78	91
Total weight of the rating score		6	24	312	455
Total scoring rating weight			797		
Average score results weight scores			4.4		

Table 17: Level of competency needs for unloading dangerous goods

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Carrying out unloading dangerous goods		3	8	82	87
Number of respondents		3	8	82	87
Total weight of the rating score		6	24	328	435
Total scoring rating weight			793		
Average score results weight scores			4.4		

Table 18: Level of unloading competency needs

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Carry out loading and unloading cold cargo		3	23	80	74
Number of respondents		3	23	80	74
Total weight of the rating score		6	69	320	370
Total scoring rating weight			765		
Average score results weight scores			4.3		

Table 19: Levels of packaging and labeling competency needs

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Carry out the task of packaging and labeling services goods		2	17	86	75
Carry out packing supervision and make labels of dangerous goods		1	9	68	102
Number of respondents		3	26	154	177
Total weight of the rating score		6	78	616	885
Total scoring rating weight			1585		
Average score results weight scores			4.4		

Table 20: Level of competency needs for waste management at the port

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Carry out operation of waste storage facility		1	5	79	95
Number of respondents		1	5	79	95
Total weight of the rating score		2	15	316	475
Total scoring rating weight			808		
Average score results weight scores			4.5		

Table 21: Level of competency needs for port financial handling

Competence	Level of competency needs				
	STB	TB	KB	B	SB
Carry out port financial activities		1	31	64	84
Number of respondents		1	31	64	84
Total weight of the rating score		2	93	256	420
Total scoring rating weight			771		
Average score results weight scores			4.3		

The level of competency requirements of the transportation sector for port financial handling competencies is presented in the following Table 21.

Based on Table 21, the competency group in handling port finance with the need to carry out port financial activities based on an average of 4.3 is at the interval of the level of competency requirements, need and need (Celik et al., 2009).

4. CONCLUSION

Based on the results of the analysis and discussion, the research team concluded as follows:
1. That the port operator used as the respondent or the object of research really needs the non-regulator port competency of the sea transportation sector, as evidenced by the results of the average level of competency requirements in the category of need and very need
2. That the application of the Indonesian national work competency standard in the transportation sector is based on Permenhub no. PM 7 of 2018 must be implemented so that operators at the port have competencies in the form of knowledge and skills and attitudes/or behavior in carrying out their work.

From the results of this study, it can be recommended as follows:
1. Implementation of Indonesia's national work competency standards in the transportation sector according to Permenhub no. PM 7 of 2018 for operators at the port must be implemented
2. The technical implementation unit (UPT) of education and training is required to open education and training in accordance with the Indonesian national work competency standards in the transportation sector based on Permenhub no. PM 7 of 2018.

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