

Study on The Cause of Stock Out of Logistic Installation in Harapan Kita Hospital

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ABSTRACT

RSAB Harapan Kita has a logistic installation as the facility of goods storage and supply, especially medical stuff (medicines) as well as non-medical ones. The focus in this research is the cause of *stock out* of that hospital's non-medical stuff. Meanwhile, to analyze the data the author uses fishbone analysis which is also known as cause-effect analysis. The result shows five factors causing the *stock out* in the installation (warehouse): the first in the process of procurement contributing 33%, the second in the implementation of SOP contributing 27%, the third in training contributing 20%, the fourth in the coordination contributing 13%, and the last in the budget contributing 7%.

Key Words: stock out of non-medical stuff, goods procurement

Introduction

Hospital is a service institution that has a social function in improving the health quality of people. Nowadays, a hospital is not only as a facility or institution that is social-economic in its nature, but a hospital must have a function to provide health services which are promotive, preventive, curative, and rehabilitative to the patients through the existing medical staff.

In order to deliver optimum services to the patients, it needs to fulfill the needs of logistic, both medical and non-medical logistic. Logistic Management, according to KEPRES 44/45 Year 1974, is identical with the supply management. Whereas according to Aditama (2000), logistic management is a scientific knowledge about planning and determining needs, procurement, storage, distribution, and maintenance as well as writing off material/equipment. Logistic stuff in a hospital is divided into two types; medical and non-medical logistic stuff. In this case, the function of logistic consists of planning and determining needs, budgeting, procurement, storage, distribution, maintenance, writing-off, and controlling functions. Today, the logistic of hospital is growing rapidly. The old definition says: logistic is a department that provide goods and services in certain quantity, quality, and appropriate time with suitable price. However, in modern logistic, the definition has been extended to become developing reliable suppliers, building good relations with other departments, training and guiding the competent and motivated employees in good ways (Aditama, 2000). These all are carried out in order that the logistic of hospital can grow to be better and smoothen the activities in fulfilling the hospital's needs.

Of the abovementioned functions of logistic, the storage function should be paid attention as well. The aim is that the goods to be distributed stay in their quality and efficiency. It can be assertively said that

the storage function consists of receiving activities, storage, and distribution of equipment that have been procured through the previous functions and subsequently distributed to the executing unit or agency. Since it is very influential in the smoothness of goods distribution, then the storage function is like the heart of logistic management (Fajarwati, 2011). The storage location should also be based on certain codes, such as alphabetic, FIFO, FEFO, weight /volume, and fast or slow moving. It is still not enough. The storage location should be free in doing the activities (accessibility or easy movement, free of flood, have communication facilities, maintain the size of warehouse area and its security (Rahmatilah, 2004). Of course, the optimum storage will be achieved if supported by several factors, such as qualified human resources, sufficient facilities and infrastructures, procedures and forms that manage the storage activities, as well as the proper condition of place/warehouse.

In this explanation, the Logistic Installation of RSAB Harapan Kita has main jobs from goods receiving, storage, to medical and non-medical stuff distribution before being redistributed to the units that use them.

Based on the author's observation, the problem that frequently happens is that the warehouse frequently *stocks out*, especially non-medical stuff, such as stationery, household tools, and printed goods. The problem is caused by several factors, and among others is because the user's demand for one year period of stock is less than the actual need. From the perspective of management, it can be analyzed based on the dimensions of *Manpower, Machines, Methods, Money, Motivation*. This research uses fishbone method to find the causing factors and the root of problem, and finally the solutions to be implemented by the company in the future.

Analysis and Discussion

A. Characteristics of Respondents

Here is the characteristics or profile of respondents that respond the questionnaires distributed.

Respondents' Profile by Education

Based on the table 1 (below) it can be seen that the highest education is Bachelor (Strata 1) with 14 people or 47%; Senior High School with 8 people or 27%; D3 6 people or 20%; and Postgraduate (Strata 2) only 2 people or 6%. Therefore, it can be concluded that the majority of employees are Strata 1 graduates.

Respondents' Profile by Age

Based on the table 2 (below) it can

be seen that there are 4 respondents or 15% in the age of under 30 years; 20 people or 65% in the age of 31-40 years; and 6 people or 20% over 41 years.

Respondents' Profile by Gender

Based on the table 3, it can be concluded that the majority of respondents are male.

Respondents' Profile by Working Life

Based on table 4, it can be seen that there are 4 respondents or 13% with working life of 2-10 years; 2 people or 7% with 11-20 years of working life; and 24 people or 80% with more than 20 years of working life.

Table 1 Respondents' Profile by Education

Highest Education	Number of Respondents	Percentage
Senior High School	8	27%
Diploma III	6	20%
Bachelor (S1)	14	47%
Postgraduate (S2)	2	6%
Total	30	100%

Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

Table 2 Respondents' Profile by Age

Age (years)	Number of Respondents	Percentage
< 30	4	15%
31-40	20	65%
> 41	6	20%
>20		
Total	30	100%

Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

Table 3 Respondents' Profile by Gender

Gender	Number of Respondents	Percentage
Male	26	87%
Female	4	13%
Total	15	100%

Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

Table 4 Respondents' Profile by Working Life

Working Life (years)	Number of Respondents	Percentage
2-10	4	13%
11-20	2	7%
>20	24	80%
Total	15	100%

Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

B. Respondents' Opinion on the Causes of Stock Out

The initial step in finding the root of problem is done by distributing questionnaires about the causes of non-medical stuff *stock out* as seen in the table 5 (recapitulation).

After making recapitulation to find the factors that have problem, the next step is to make the percentage, weight, and rank of problem in those factors as in the table 6.

C. Analysis and Effective Solution for the Root of Problem Causing Stock Out of Non-medical Stuff in RSAB Harapan Kita's Logistic Installation

Determining the root of problem, in the author's opinion in accordance with *fishbone* theory, is to find the order/sequence of problem from the five factors as follows:

The first sequence of cause is the problematic factor of *methods* in the process

of procurement that has not run effectively.

The second sequence of cause is the problematic factor of *methods* in *Standard Operating Procedures* (SOP) that have not been implemented clearly.

The third sequence of cause is the problematic factor of *manpower* in the lack of training held for the employees to improve their work quality.

The fourth sequence of cause is the problematic factor of *manpower* in the poor coordination between the logistic installation the user.

The fifth sequence of cause is the problematic factor of *money* in the budget allocation for purchasing goods that has not been suitable with the user's need.

After determining the factors causing *stock out* in the logistic installation, the next step is that the author find the answer for the root of problem by using *Five-Why Keys*. The aim is to find out the main root of problem as described in the following tables 7,8,9,10,11.

Table 5. Recapitulation of Respondents' Opinion on the Causes of Non-medical Stuff Stock Out

No	Statement items for the type of causing factor	Answer	
		Yes	No
		(1)	(0)
<i>Manpower</i>			
1a	The employee’s working skill is suitable with the interest and field of work.	16	14
1b	Coordination between Logistic installation and <i>user</i> runs well.	10	20
1c	Trainings for employees are frequently held in order to improve the work quality.	8	22
<i>Machines</i>			
2a	IT equipment is always in good condition.	18	12
2b	The existing IT equipment is sufficient for supporting the warehousing activities.	20	10
<i>Methods</i>			
3a	The existing <i>Standard Operating Procedure</i> (SOP) is implemented clearly.	6	24
3b	The process of goods procurement runs effectively.	4	26
3c	The existing Data Input System has been in accordance with the standard.	18	12
<i>Money</i>			
4	Budget allocation has been adjusted with the need of goods to be purchased.	10	20
<i>Motivation</i>			
5	There is a reward in the form of bonus or incentive for the employees with high achievement.	22	8

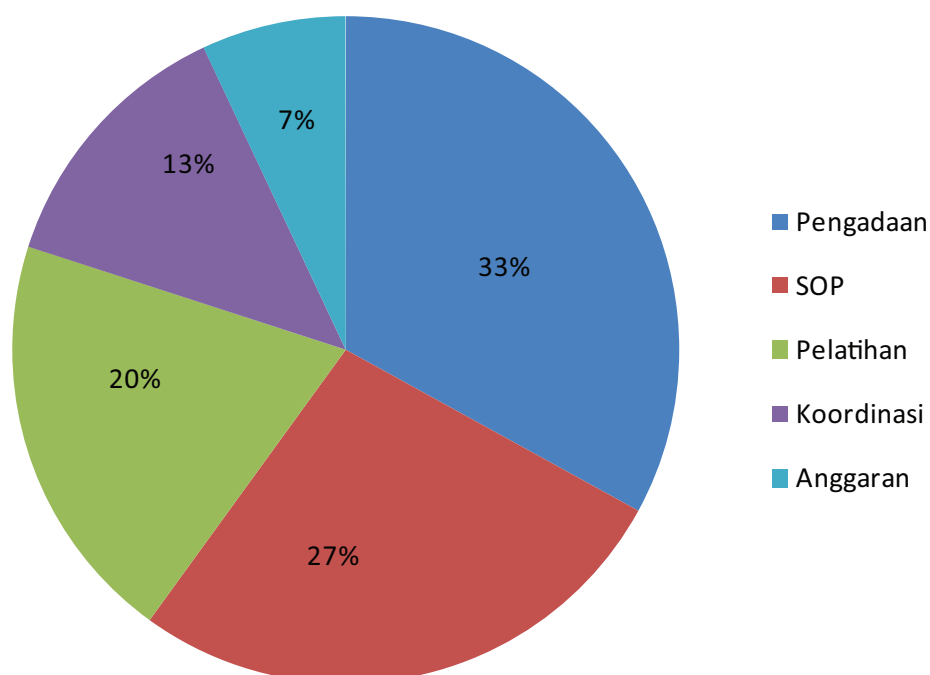
Source: Respondents of the logistic installation employees and *user* as many as 30 people in RSAB Harapan Kita, data is processed by the author (2013)

Table 6 Weighing for Ranking the Main Category Type in Problem

No.	Statement Item for the Type of Causing Factor	In Problem %	Order (1)	Goodness Order (2)	Weight and Rank Weighted Value (3)	Rank of Main Category Type (4)
1b	<i>Manpower</i> Coordination between Logistic installation and <i>user</i> runs well.	66.67	4	2	0.133	Coordination (4)
1c	Trainings for employees are frequently held in order to improve the work quality.	73.34	3	3	0.200	Training (2)
3a	<i>Methods</i> The existing <i>Standard Operating Procedure</i> (SOP) is implemented clearly.	80	2	4	0.267	SOP (3)
3b	The process of goods procurement runs effectively.	86.67	1	5	0.333	Procurement (1)
4	<i>Money</i> Budget allocation has been adjusted with the need of goods to be purchased.	66.67	5	1	0.067	Budget (5)
TOTAL			$\Sigma 1=15$		1.000	

Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

Diagram of the Main Category Type Causing Stock Out of Non-medical Stuff in RSAB Harapan Kita's Logistic Installation 2013



Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

Table 7 The Procurement Process that Has Not Run Effectively

Main Category (Big bone)	Main Type of Category (Medium Bone)	Five-Why Keys	Answer for the Root of Problem (Small Bone)
1. <i>Methods</i>	Procurement (3b)	Why hasn't the process of goods procurement run effectively?	Because the data collection process to propose purchasing non-medical stuff from the user takes fairly long time.
		Why does the data collection process to propose purchasing goods from the <i>user</i> take fairly long time?	(Root of Problem 1) Because the proposal should pass a selection phase carried out by household unit first.
		Why should the proposal pass a selection phase carried out by household unit first?	(Root of Problem 2) Because the household unit wants the purchase of non-medical stuff to be effective.
		Why does the household unit want the purchase of non-medical stuff to be effective?	(Root of Problem 3) Because the company wants to repress the expense for purchasing non-medical stuff.
		Why does the company want to repress the expense for purchasing non-medical stuff?	(Root of Problem 4) Because the company prioritizes more on purchasing medical stuff which is the company's <i>core business</i> .
			(Main Root of Problem)

Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

Table 8 Standard Operating Procedure (SOP) that Has Not Been Implemented Maximally

Main Category (Big bone)	Main Type of Category (Me- dium Bone)	<i>Five-Why Keys</i>	Answer for the Root of Problem (Small Bone)
1. <i>Methods</i>	SOP (3a)	Why hasn't the <i>Standard Operating Procedure</i> (SOP) been implemented maxi- mally?	Because many employees have not known about SOP. (Root of Problem 1)
		Why haven't many employ- ees known about SOP?	Because the company's SOP has not been well socialized. (Root of Problem 2)
		Why hasn't the company's SOP been well socialized?	Because the top management is not active in directly seeing the pro- cess until the goods are available in the logistic installation. (Root of Problem 3)
		Why isn't the top manage- ment active in directly seeing the process until the goods are available in the logistic installation?	Because the manage-ment has not done supervision well. (Root of Problem 4)
		Why hasn't the management done supervision well?	Because the employee perfor- mance audit has not run well. (Main Root of Problem)

Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

Table 9 Lack of Training to Improve the Work Quality

Main Category (Big bone)	Main Type of Category (Medium Bone)	Five-Why Keys	Answer for the Root of Problem (Small Bone)
2. Man-power	Training (1c)	Why does the labk of training happen in improving the work quality?	Because the training is considered taking much time.
		Why is the training considered taking much time?	(Root of Problem 1) Because the company feels that the training held for the employees has been enough.
		Why does the company feel that the training held for the employees has been enough?	(Root of Problem 2) Because the company worries that adding training will obstruct the current performance.
		Why does the company worry that adding training will obstruct the current performance?	(Root of Problem 3) Because when additional trainings are held, the work stops for a while because of no manpower.
		Why does the work stop for a while because of no manpower when additional trainings are held?	(Root of Problem 4) Because the company lacks expert staff in logistic installation to stand in for the work.
			(Main Root of Problem)

Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

Table 10 Poor Coordination between Logistic Installation and the User

Main Category (Big bone)	Main Type of Category (Medium Bone)	Five-Why Keys	Answer for the Root of Problem (Small Bone)
3. <i>Man-power</i>	Koordinasi (1b)	Why hasn't the coordination between logistic installation and the user run well?	Because the logistic installation is often late in giving the information on the goods stock to the user.
			(Root of Problem 1)
		Why is the logistic installation often late in giving the information on the goods stock to the user?	Because the logistic installation thinks that the user has known about the stock in the warehouse.
			(Root of Problem 2)
		Why does the logistic installation think that the user has known about the stock in the warehouse?	Because the user does not see the stock from the information system connected to the logistic installation.
			(Root of Problem 3)
		Why doesn't the user see the stock from the information system connected to the logistic installation?	Because the understanding of how to operate the system given by the logistic installation to the user is not enough.
			(Root of Problem 4)
		Why isn't the understanding of how to operate the system given by the logistic installation to the user enough?	Because it lacks socialization or training in how to operate the Logistic installation system to the user.
			(Main Root of Problem)

Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

Table 11 Budget Allocation for Purchasing the Goods Not Suitable with the Need.

Main Category (Big bone)	Main Type of Category (Medium Bone)	Five-Why Keys	Answer for the Root of Problem (Small Bone)
4. Money	Budget (4)	Why isn't the budget allocation for purchasing goods suitable with the need?	Because the company selects all goods purchases first. (Root of Problem 1)
		Why does the company select all goods purchases?	Because the company has prepared a specified budget for goods purchase.
		Why has the company prepared a specified budget for goods purchase?	(Root of Problem 2) Because the budget prepared by the company for goods purchase is limited.
		Why is the budget prepared by the company for goods purchase limited?	(Root of Problem 3) Because the company's funds have been distributed according to the service need.
		Why have the company's funds been distributed according to the service need?	(Root of Problem 4) Because the company wants the cost incurred to be effective and efficient.
			(Main Root of Problem)

Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

In line with the above explanation, the author finds out the effective solution in the form of action against the roots of problem causing stock out of non-medical stuff in the logistic installation of RSAB Harapan Kita. The following are the solutions summarized based on the field observation and the results of questionnaires.

Table 12 Effective Solutions or Actions for the Main Root of Problem

Rank of Main Category	Type of Main Category	Main Root of Problem	Effective Action/Solution
(1) <i>Methods</i>	Procurement (3b)	Priority for purchasing medical stuff as the company's <i>core business</i> .	1. The management re-evaluate the purchase of non-medical stuff to determine the right budget for non-medical needs.
(2) <i>Methods</i>	SOP (3a)	Audit on the employees' performance has not run well.	1. It is better for the management to carry out an internal audit in a routine way to maintain the performance in logistic activities. 2. It is better for the management to implement a <i>reward and punishment</i> system to the employees, so that they can keep their performance stable.
(3) <i>Manpower</i>	Training (1c)	The company lacks expert staff in the logistic installation to stand in for the work.	1. The company should add some personnels with expertise and experience in managing logistic installation.
(4) <i>Manpower</i>	Coordination (1b)	Lack of socialization or training in operating the logistic information system to the user.	1. The management is suggested to hold again socialization/ training to improve the user's ability comprehensively in operating the logistic information system. 2. The management should hold additional programs to develop the employees' potential.
(5) <i>Money</i>	Budget (4)	Because the company wants the cost incurred to be effectively and efficiently.	1. It is better for the company to set up the budget efficiently and directed to decrease the costs beyond prediction.

Source: Respondents of RSAB Harapan Kita employees, data is processed by the author (2013)

Conclusion

From the observation and research in the field, it seems clearly that in the first rank cause is the problematic factor of *methods* in the procurement process that has not run effectively yet. It is then followed by the problematic factor of *methods* in the *Standard Operating Procedure* (SOP) that has not been clearly implemented. Not only that, the third cause is the problematic factor of *manpower* in the lack of training held for improving the employees' work quality.

Next, the fourth cause is the problematic factor of *manpower*, i.e. the coordination between logistic installation and user that has not run as desired. Finally, the fifth cause is the problematic factor of *money*, i.e. the budget allocation for purchasing goods that is not suitable with the user's need.

Furthermore, referring to the above explanation or the main causing factors, it has been found the main root of problem, namely *methods* with the category of goods procurement that has not run effectively yet. The root of problem is that the company prioritize more on purchasing medical stuff as its *core business*. The same thing happens to the *methods* with the category of *Standard Operating Procedure* (SOP) implementation that has not been maximal. Here, the root of problem is that the audit of the employees' performance has not run well either.

Meanwhile, in the category of *manpower* which lacks training to improve the work quality, the root of problem is that the company lacks expert staff in the logistic installation to stand in for the work. Whereas, in the *manpower* category of poor coordination between logistic installation and the user, the root of problem lies in the lack of socialization or training about how to operate the logistic system to the user. Finally, in the *money* category of budget allocation for purchasing the goods that

have not been suitable with the need, the root of problem is that the company wants the cost incurred to be effective and efficient.

Based on the above explanation, the most appropriate measures to do immediately are: from the side of *methods*, it's time for the management to re-evaluate the purchase of non-medical stuff and decide the appropriate budget for fulfilling all the needs. subsequently, the management carries out an internal audit in a routine way to maintain the performance by implementing a *reward and punishment* system to keep the employees' performance stable. Furthermore, it will be better if from the side of *manpower*; the company adds some personnels with expertise and experience in managing a logistic installation as well as it hold again the socialization/training to comprehensively improve the ability and additional programs for developing the employees' potential. The last, from the side of *money*, it is better for the company to set up its budget (*budgeting*) efficiently and direct it to decrease the costs beyond prediction.

References

- Aditama, T. Y. 2003. *Management Administrasi Rumah Sakit*. Depok: UI-Press.
- Avianti Fontana. 2011. *Lean Six-Sigma*. Bogor: Vinchristo Publication.
- Bowersox. 2006. *Manajemen Logistic*. Bandung: Panca Sinar Utama.
- Bozart, Handfield. 2008. *Logistic Management*. Jakarta: Aditama.
- Colle, Bardi, Angley. 2006. *Material Handling*. Jakarta: Erlangga.
- Fayol, Budiono. 2004. *Manajemen*. Jakarta: PT Budi Aksara.
- Frazelle. 2002. *Warehouse Management*. Jakarta: Permana Utama.
- Gaspersz Vincent. 2007. *Fishbone Diagram*

- (Ishikawa's Diagram)*. Jakarta: Prima Pustaka.
- Handayani Ratih. 2011. *Mari Berkenalan dengan Manajemen Logistik*. Bandung: Alfabet.
- Heizer, Render. 2010. *Key Logistics*. PT Sinar Utama.
- Heni Febriawati. 2013. *Manajemen Logistik Farmasi Rumah Sakit*. Gosyen Yogyakarta.
- Indriyo Gitosudarmo, Agus. 2000. *Manajemen Pergudangan*. Yogyakarta: Nusa Utama.
- Ismail, Solihin. 2009. *Pengantar Manajemen*. Jakarta: Erlangga.
- Kamus Populer Transportasi dan Logistik*. 2011. Jakarta: PT Media Pustaka Phoenix, 5th edition.