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COMPARATIVE ANALYSIS OF WORK PRODUCTIVITY THROUGH THE OVERALL EQUIPMENT EFFECTIVENESS (OEE) METHOD

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ABSTRACT

In an effort to increase employee work productivity, not only rely on the quality of the products produced, but companies or institutions also need to pay attention to factors that influence employee work productivity at PT. XYZ Serang Banten, such as labor and the work environment. Labor is one of the factors that contributes to increasing productivity, with quality labor the production process activities will run as expected by the company, if the labor does not work well then the production process will be disrupted and the results achieved by the company will not be optimal or less productive. By paying attention to factors that can influence the level of employee work productivity, companies can better know and understand the needs and desires of their employees so that employees can feel more satisfied or more cared for and can carry out their work activities optimally.

The aim of the research is to compare productivity between work teams in the assembling division PT. XYZ Serang Banten using the OEE (Overall Equipment Effectiveness) method. Where the results per lot that have been worked on are recorded and entered into the OEE data table.

The method used in collecting this data is a descriptive method, where the problem solving procedure that is investigated is by describing the condition of the subject or object in the research, which can be people, institutions, society and others which are currently based on visible facts or what they are. This method carried out through surveys, where investigations are carried out to obtain facts from existing phenomena and seek factual information, whether about the social, economic or political institutions of a group or region. And the type of data is qualitative because this data can use words to describe facts and phenomena observed from primary data obtained through interviews and observations.

The research results of each team of the 3rd shift assembling division PT. XYZ Serang Banten on the preparation of kraft and decor paper which the operators arranged for one month using the OEE method calculation results were an

average productivity of 70%. The highest average productivity was obtained by team C with a total average productivity of 74% , and 73% was obtained by teams B and D. Meanwhile, the lowest average productivity was obtained by team A.
Keywords* : *Work Productivity, Overall Equipment Effectiveness (OEE) Method

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A. INTRODUCTION

Productivity is one of the components that an institution or company must have if it wants to achieve the goals that have been set. In its activities the institution or company must be able to increase productivity from time to time, because this concerns the performance of the institution.

Productivity measurement is the best way to evaluate the ability of a resource to provide a better product standard. By evaluating these resources, the company will obtain information about the productivity achievements in each unit of the company's resources. The results of this information are used by the company to assist in determining repairs and improvements to unproductive units, with the aim of increasing the productivity of these resources.

In an effort to increase employee work productivity, not only rely on the quality of the products produced, but companies or institutions also need to pay attention to factors that influence employee work productivity, such as labor and the work environment. Labor is one of the factors that contributes to increasing productivity, with quality labor the production process activities will run as expected by the company, if the labor does not work well then the production process will be disrupted and the results achieved by the company will not be optimal or less productive. And the work environment has an important role in increasing employee work productivity in the company. Because the work environment is one of the things that can motivate employees to work very well. By paying attention to the factors that can influence the level of employee work productivity, the company can know better and understand the needs and desires of its employees so that employees can feel more satisfied or more cared for and can carry out their work activities optimally.

PT. XYZ Serang Banten is one of the largest distributors of High Pressure Laminates (HPL) which always prioritizes quality and quantity in all its production activities. Especially in the production section of the assembling division, this section is filled with mostly women, whose main activity is arranging the kraft and decor paper into several lots. In the assembling division, there are several work teams divided into several shifts. So one of the productivity measurement tools used by the production section of the assembling division is OEE (Overall Equipment Effectiveness). The results per lot that have been worked on are recorded and entered into the OEE data table. This data can later be useful for comparing productivity between work teams. So this measurement is useful for knowing productivity between work teams. In this OEE there are descriptions of problems that hinder the achievement of the targets of the assembling work team. This information

can be used as evaluation material for superiors and even employees regarding the problem so that superiors and employees discuss to find a solution.

B. METHODS

The method used in collecting this data is a descriptive method, where the problem solving procedure that is investigated is by describing the condition of the subject or object in the research, which can be people, institutions, society and others which are currently based on visible facts or what they are. This method carried out through surveys, where investigations are carried out to obtain facts from existing phenomena and seek factual information, whether about the social, economic or political institutions of a group or region. And the type of data is qualitative because this data can use words to describe facts and phenomena observed from primary data obtained through interviews and observations.

Overall Equipment Effectiveness (OEE) was developed in the 1960s as a metric to evaluate how effectively manufacturing operations are optimized. Overall Equipment Effectiveness or OEE is a calculation carried out to determine the effectiveness value of the available machines or equipment. As a rule, OEE can be used as an indicator of machine or system performance. Meanwhile, the main purpose of OEE is to be able to assess the performance of the maintenance system.

The OEE formula is as follows:

OEE (%) = *Availability* (%) x *Performance efficiency* (%) x *Rate of Quality Product* (%)

In the OEE Assembling division there is data that has been determined by a formula in Ms.Excel, the results of which include daily income per team. This data corresponds to what each team is doing.

The following data is input in OEE:

1. Date
2. Shifts
3. Team
4. Line
5. Stacking operator code
6. Working hours
7. Arranging the décor
8. Kraft preparation

9. AF setup
10. Description of constraints

Table 1: Calculation of OEE (productivity) shift for 3 assembling division teams

Tgl	Shift	Team	Line	Nama OP Susun		Act Susun	Penyusunan Décor: Printing + Overlay	Penyusunan Décor: Metalic	Penyusunan Décor: AF	Penyusunan Kraft: D1 D4	Penyusunan Kraft: D2	Penyusunan Kraft: D3	OEE	Reject: SWS	Reject: LL	Reject: Total	Keterangan
						Jam	Sheet	Sheet	Sheet	Sheet	Sheet	Sheet	%	sheet	sheet	sheet	
Tangga	Shi	Tea	Lin	ama	lama (	Act Su	Printi	Metal	Colu	Kraft D1	Kraft I	Kraft	% OE	eject	rejec		Keterangan
14-Feb-22	3	D	K1	D7	D10	4				2568			88.1%			0.00	
14-Feb-22	3	D	K1	D7	B9	3				1548			70.8%			0.00	
14-Feb-22	3	D	K2	D1	D2	7				3642	768	448	99.8%			0.00	
14-Feb-22	3	D	K3	D5	D9	7				5760			112.9%			0.00	
14-Feb-22	3	D	D2	D6	D8	6	1920						74.1%			0.00	MASUK PRESS, STRERILISASI
15-Feb-22	3	D	D1	C1	D10	7	1124	312					42.9%			0.00	MASUK PRESS, STRERILISASI
15-Feb-22	3	D	K1	D6	D8	7				4578			89.7%			0.00	TIDAK ADA RAMA
15-Feb-22	3	D	K2	D7	D10	7				2238	384		49.5%			0.00	TRAIL RND TRAIL PRODUKSI
15-Feb-22	3	D	K3	D1	D2	7				1440	3840		84.7%			0.00	GANTI PLANING
15-Feb-22	3	D	D1	D5	D9	7	832	1689					58.5%			0.00	NUNGGU ITEM
16-Feb-22	3	D	D2	D3	C6	7	1841	295					66.3%			0.00	NUNNGUNITEM DECO DAN OVL LKT
22-Feb-22	3	B	K1	D7	D8	3				2124			97.1%			0.00	NUNGGU PALET PLASTIK LENGKET
22-Feb-22	3	B	D1	B8	B10	7	1508	156					52.7%			0.00	NUNGGU OVL TIDAK ADA ITEM
22-Feb-22	3	B	K1	B7	B9	7	350			3114			72.6%			0.00	
22-Feb-22	3	B	K2	B2	B4	7				3348	768		76.9%			0.00	NUNGGU RAMA ANTRI REACHTRUCK
22-Feb-22	3	B	K3	B6	B5	7				3696			72.4%			0.00	BONGKAR KRAFT TRIAL NUNGGU PLASTIK
22-Feb-22	3	B	K3	A4	A6	3				980			44.8%			0.00	
23-Feb-22	3	B	K1	B5	B6	7				4734			92.8%			0.00	ANTRI REACHTRUK
23-Feb-22	3	B	K2	B3	B2	7				4368			85.6%			0.00	ANTRI REACHTRUK
23-Feb-22	3	B	K3	B4	A7C10	7				2784	504	448	79.1%			0.00	ANTRI REACHTRUK
23-Feb-22	3	B	D1	B8	B10	7	1763						58.3%			0.00	
23-Feb-22	3	B	D2	B7	B9	7	808	2116					65.6%			0.00	
24-Feb-22	3	B	K1	B6	B5	7				4116			80.7%			0.00	TRIAL RND ANTRI RECHTRUK
24-Feb-22	3	B	K2	B2	B3	7				2976	1152	224	83.8%			0.00	ANTRI REACHTRUCK
24-Feb-22	3	B	K3	B4	C1D2	7				3132		490	80.1%			0.00	ANTRI REACHTRUCK
24-Feb-22	3	B	D1	B7	B9	7	1720	324					62.8%			0.00	NUNGGU ITEM 1 JAM OV LENGKET
24-Feb-22	3	B	D2	B8	B10	7	1620	256					58.3%			0.00	NUNGGU PALET GANTI GANTI LINE
25-Feb-22	3	B	K1	B5	B6	7				3815			74.8%			0.00	BONGKAR KRAFT AF TRIAL
25-Feb-22	3	B	K2K	B3	A4	7				2688	1536	224	83.8%			0.00	ANTRI REACHTRUCK
25-Feb-22	3	B	K3	B4	C10D10	7				3840			75.2%			0.00	NUNGGU RAMA KRAFT LENGKET
25-Feb-22	3	B	D1	B7	B9	7	888	904					46.0%			0.00	NUNGGU ITEM
25-Feb-22	3	B	D2	B8	B10	7	1672	192					58.8%			0.00	OV LENGKET BANYAK SOBEK
26-Feb-22	3	B	K1	A3	B3	4				1440			49.4%			0.00	TIDAK ADA KRAFT
26-Feb-22	3	B	K2	B3	B10	2				576		560	114.5%			0.00	TIDAK ADA KRAFT
26-Feb-22	3	B	D1	B10	B8	2	320	320					57.6%			0.00	TIDAK ADA ITEM
26-Feb-22	3	B	D2	B6	B10	1	252						58.3%			0.00	TIDAK ADA ITEM
26-Feb-22	3	B	D3	B7	B9	7	1664	512					64.4%			0.00	TIDAK ADA ITEM
17-Feb-22	3	C	K1	C5	C7	7				5142			100.8%			0.00	ANTRI REACHTRUCK
17-Feb-22	3	C	K2	C2	C10	7				1920	768		48.9%			0.00	TRIAL QC
17-Feb-22	3	C	K3	C3	C8	7				3114		451	78.3%			0.00	NUNGGU KRAFT
17-Feb-22	3	C	D1	C4	C6	7	1494	512					58.8%			0.00	OP KE PRESS, NUNGGU ITEM
18-Feb-22	3	C	D1	B6	C9	3	972						75.0%			0.00	OP KE PRESS, OP PULANG SAKIT
18-Feb-22	3	C	D2	C4	C6	7	1792	198					62.9%			0.00	STOCK OPBAME, NUNGGU PALET
18-Feb-22	3	C	K3	C3	A9	7				4028			78.9%			0.00	NUNGGU PALET,
18-Feb-22	3	C	K2	C2	C10	7				2880	768		67.7%			0.00	BONGKAR KRAFT YANG DISUSUN
18-Feb-22	3	C	K1	C5	C7	7				5310			104.1%			0.00	
19-Feb-22	3	C	D1	B7	C9	7	1994						65.9%			0.00	ANTRI REACHTRUCK, DECO STATIS
19-Feb-22	3	C	D2	C4	B4	7	2528						83.6%			0.00	DECO LKT
19-Feb-22	3	C	K1	C5	C7	4				1302			44.7%			0.00	OP PULANG, NUNGGU KRAFT
19-Feb-22	3	C	K2	C2	C10	7				3456			67.7%			0.00	NUNGGU KRAFT
19-Feb-22	3	C	K3	C3	B2	7				1932		770	67.3%			0.00	BONGKAR SUSUNAN
20-Feb-22	3	C	K1	C7	D5A7	7				4860			95.2%			0.00	
20-Feb-22	3	C	K2	C3	B6	7				4998			97.9%			0.00	
20-Feb-22	3	C	K3	C2	C10	7				4188	768		93.4%			0.00	
20-Feb-22	3	C	D1	C1	C9	7	2056						68.0%			0.00	
20-Feb-22	3	C	D2	C4	B7	7	1250	1266					64.6%			0.00	
21-Feb-22	3	C	K1	C7	A5D10	7				4686			91.8%			0.00	NUNGGU PALET, ANTRI REACHTRUCJ
21-Feb-22	3	C	K2	C2	C10	7				1496	768		40.6%			0.00	NUNGGU RAMA, ANTRI REACHTRUCK, NUNGGU HASIL
21-Feb-22	3	C	K3	B6	B10	7				3756			73.6%			0.00	NUNGGU KRAFT, ANTRI REACHTRUCK
21-Feb-22	3	C	D1	C1	C9	7	1620	640					65.3%			0.00	DECO LENGKET
21-Feb-22	3	C	D2	C4	C6	7	1526	266					55.3%			0.00	DECO LENGKET, ANTRI REACHTRUCK, KE FINISHING
27-Feb-22	3	A	K1	A2	A10	6				3552			81.2%			0.00	MASUK PRESS 1 JAM
27-Feb-22	3	A	K3	A1	B1	7				4056	384	224	93.7%			0.00	
27-Feb-22	3	A	K2	A5	A6	6				1128	384	630	60.5%			0.00	MASUK PRESS 1 JAM, PRESS CLEAN 124 PCS
27-Feb-22	3	A	D2D3	A3	A8	6	1152	312					51.1%			0.00	MASUK PRESS 1 JAM, DECO BOLONG
1-Mar-22	3	A	K1	A2	A10	6				2880	768		79.0%			0.00	MASUK PRESS 1 JAM, PLASTIK LENGKET
1-Mar-22	3	A	K2	D3	A1	6				3936	384	224	106.6%			0.00	MASUK PRESS 1 JAM
1-Mar-22	3	A	D1	A7	A9	7		1756			306	840	68.9%			0.00	NUNGGU DECO
1-Mar-22	3	A	D2	A3	A8	6	219	28					9.0%			0.00	NYUSUN PRESS CLEAN, MASUK PRESS, TRIAL
2-Mar-22	3	A	K3	A4	A1	6				2880	960		82.3%			0.00	MASUK PRESS, ANTRI REACHTRUCK
2-Mar-22	3	A	D2D3	A3	A8	7	2007	56					67.4%			0.00	NUNGGU ITEM
2-Mar-22	3	A	K2	A5	A6	7				2976	1152	224	83.8%			0.00	NUNGGU REACHTRUCK
2-Mar-22	3	A	D2	A7	A9	6	554	384					29.6%			0.00	MASUK PRESS
4-Mar-22	3	D	D2	A4	D2	7	458	128		2460		112	70.0%			0.00	ANTRI REACHTRUCK,DECO LENGKET
4-Mar-22	3	D	K3	D7	D8	7				3576			70.1%			0.00	KRAFT LENGKET
4-Mar-22	3	D	K2	D6	D5	7				4398	1536	112	113.0%			0.00	
4-Mar-22	3	D	D1	D3	D10	7	2128	256					75.1%			0.00	TIDAK ADA ITEM
5-Mar-22	3	D	D1	D3	B4	7	1920						63.5%			0.00	DECO LENGKET DAN OVERLAY
5-Mar-22	3	D	D2	D7	D8	7	1640	440					62.3%			0.00	OVERLAY LENGKET DAN NUNGGU DECO
5-Mar-22	3	D	K2	D4	D2	7				3684			72.2%			0.00	
5-Mar-22	3	D	K3	D5	D6	7				2880	28880		480.9%			0.00	
6-Mar-22	3	D	D1	D5	D6	7	2367	324					84.2%			0.00	
6-Mar-22	3	D	D2	D7	D8	7	1892	156					65.4%			0.00	NUNGGU OVERLAY
6-Mar-22	3	D	K3	D2	D4	7				3258			63.8%			0.00	KRAFT LENGKET DAN NUNGGU RAMA
6-Mar-22	3	D	K1	D9	D10	7				4170	972		96.0%			0.00	NUNGGU RAMA
6-Mar-22	3	D	K2	D1	D3	7				3336	1152	224	90.9%			0.00	MINDAHIN PLANING,BONGKAR KRAFT
7-Mar-22	3	D	K2	D9	D10	7				2856	768		67.3%			0.00	NUNGGU IK,BONGKAR 30 MENIT CLEANING
7-Mar-22	3	D	D2	D4	D2	7	1280						42.3%			0.00	NUNGGU ITEM BANYAK OPT,DPT LENGKET ANTRI REACJTRCUK
7-Mar-22	3	D	K3	D1	D3	7				3728			73.1%			0.00	BONGKAR LENGKET,NUNGGU KRAFT
7-Mar-22	3	D	K1	D7	D8	7				3888			76.2%			0.00	NUNGGU KRAFT IK CEK TRIAL CLEANING 30 MENIT
7-Mar-22	3	D	D1	D5	D6	7	1156	1505					65.9%			0.00	
8-Mar-22	3	C	D1	C2	C4	7	1364	508					54.4%			0.00	DECO BANYAK REJECT
8-Mar-22	3	C	D2	C5	C6	7	1881	648					74.1%			0.00	GANTI2 DECO
8-Mar-22	3	C	K3	C4	C8	7				4416			86.5%			0.00	NUNGGU KRAFT BONGKAR LINE
8-Mar-22	3	C	K2	C1	C7	7					4938		72.6%			0.00	BONGKAR KRAFT
8-Mar-22	3	C	K1	C3	C10	7				3888			76.2%			0.00	NUNGGU KRAFT
8-Mar-22	3	C	D1	C2	C4	7	1364	508					54.4%			0.00	DECO BANYAK REJECT
8-Mar-22	3	C	D2	C5	C6	7	1881	648					74.1%			0.00	GANTI2 DECO
8-Mar-22	3	C	K3	C4	C8	7				4416			86.5%			0.00	NUNGGU KRAFT BONGKAR LINE
8-Mar-22	3	C	K2	C1	C7	7					4938		72.6%			0.00	BONGKAR KRAFT
8-Mar-22	3	C	K1	C3	C10	7				3888			76.2%			0.00	NUNGGU KRAFT
9-Mar-22	3	C	D1	C5	C6	7	1881	166					65.3%			0.00	GANTI GANTI DECO
9-Mar-22	3	C	D2	C2	C9	7	1626	256					58.5%			0.00	NUNGGU PLAN, TIDAK ADA ITEM
9-Mar-22	3	C	K1	C3	C10	7				3888			76.2%			0.00	NUNGGU KRAFT, ANTRI REACHTRUCK
9-Mar-22	3	C	K2	C8	D7	7				3090	1434		81.6%			0.00	NUNGGU RAMA, BONGKAR XY
9-Mar-22	3	C	K3	C1	C7	7				3984			78.1%			0.00	NUNGGU KRAFT
10-Mar-22	3	C	D1	C5	C6	4	704	262		768			75.5%			0.00	NUNGGU DECO
10-Mar-22	3	C	K3	C8	A1	7				4140			81.1%			0.00	NUNGGU PLASTIK, NUNGGU KRAFT
10-Mar-22	3	C	D2	C9	A4	6	256	1268					37.1%			0.00	NUNGGU DECO, PLAN
10-Mar-22	3	C	K1	C3	C10	7				3900		402	91.8%			0.00	NUNGGU PLASTIK, NUNGGU KRAFT
10-Mar-22	3	C	K2	C1	C7	7				2136	2784	224	91.3%			0.00	NUNGGU PALET
11-Mar-22	3	C	K1	C1	C7	7				3660	768	336	95.9%			0.00	NUNGGU RAMA, BONGKAR KRAFT
11-Mar-22	3	C	K2	C3	C10	7				4218			82.7%			0.00	NUNGGU KRAFT, ANTRI REACHTRUCK
11-Mar-22	3	C	K3	C4	C8	7				4530			88.8%			0.00	NUNGGU KRAFT, ANTRI REACHTRUCK
11-Mar-22	3	C	D1	C5	C6	7	1938	270					69.0%			0.00	NUNGGU ITEM, PALET
11-Mar-22	3	C	D2	C2	C9	7	1876	28					62.6%			0.00	NUNGGU ITEM, PALET
11-Mar-22	3	C														0.00	
13-Mar-22	3	C	K1	B8	C10	7				3888			76.2%			0.00	NUNGGU KRAFT
13-Mar-22	3	C	K2	C1	C7	7				3780	1152		91.0%			0.00	NUNGGU KRAFT BONGKAR
13-Mar-22	3	C	K3	C4	C8	7				2880	1920		84.7%			0.00	NUNGGU KRAFT 45 MENIT (RAMA TURUN)
13-Mar-22	3	C	D2	C2	C9	7	1482	440					57.1%			0.00	NUNGGU PALET ANTRI REACHTRUCK STATIS,KE FINISHING
13-Mar-22	3	C	D1	C5	C6	7	1716	640					68.5%			0.00	DECO STATIS ANTRI REACHTRUCK
14-Mar-22	3	B	K1	B4	B5	7				5333			104.5%			0.00	
14-Mar-22	3	B	K2	B8	B6	6				2826	1152	224	94.4%			0.00	OP SAKIT
14-Mar-22	3	B	K3	B9	C7	7				2904	1206		74.6%			0.00	ANTRI REACHTRCUK,PLASTIK LENGKET
14-Mar-22	3	B	D1	B1	B2	7	1780	273					63.9%			0.00	201 LENGKET,OVERLAY LENGKET
14-Mar-22	3	B	D2	C1	B10	7	2116	156					72.8%			0.00	DECO STATIS,OVL LENGKET

C. RESULTS AND DISCUSSION

Based on the data above in Table 2, the average productivity of each shift 3 assembly division team is 70%. The resulting productivity can be obtained from the results of calculations in the OEE for preparing the kraft and decor paper that the operator arranges for one month. The highest average productivity in this month was obtained by team C with a total average productivity of 74% and 73% obtained by teams B and D. Meanwhile, the lowest average productivity was obtained by team A. This average calculation is influenced by many factors that determine the size and level of productivity of each team in one month.

Table 2 : Average daily income for each team on shift 3

Date	Team A	Team B	Team C	Team D
14-Feb-22				89%
15-Feb-22				65%
16-Feb-22				66%
17-Feb-22			72%	
18-Feb-22			78%	
19-Feb-22			66%	
20-Feb-22			84%	
21-Feb-22			65%	
22-Feb-22		69%		
23-Feb-22		76%		
24-Feb-22		73%		
25-Feb-22		68%		
26-Feb-22		69%		
27-Feb-22	72%			
28-Feb-22	OFF			
1-Mar-22	66%			
2-Mar-22	66%			
3-Mar-22	OFF			
4-Mar-22				82%
5-Mar-22				170%
6-Mar-22				80%
7-Mar-22				65%
8-Mar-22			73%	
9-Mar-22			72%	
10-Mar-22			75%	
11-Mar-22			80%	
12-Mar-22			72%	
13-Mar-22			75%	
14-Mar-22		82%		
Average	68%	73%	74%	73%

It can be seen from the OEE shift 3 calculation data above, there is information about the obstacles which contain the problems faced by the assembling division operators in the process of preparing kraft and decor paper which affect the achievement of daily targets. There are many factors that cause these problems, including:

1. Production raw materials
2. Queue to use the reach truck
3. Unavailability of kraft and decor paper for assembling so assembling operators are waiting for it to be available again

D. CONCLUSION

Operations Management is a series of activities that produce value in the form of goods and services by converting inputs into outputs. So operations management is the application of management science to manage operational activities effectively and efficiently. Meanwhile, productivity is a comparison between the results achieved (output) and the overall resources used (input) and is related to a mental attitude that is always looking for improvements to what already exists. . A belief that one can do a job better today than yesterday and tomorrow better than today.

Comparison of calculating productivity levels is different from calculating work targets. The productivity level calculation is the total of all targets achieved by each team within a certain time period. This calculation consists of a target for preparing kraft and decor paper which is put together by considering aspects related to achieving the target, for example the availability of raw materials, the minimum time wasted by reach truck drivers. Meanwhile, targets are the limits set by the company to be achieved every day. This target determines the level of team work productivity and is one of the evaluation materials for superiors assessing operator performance.

The average productivity of each team in the 3rd shift assembling division for preparing kraft and decor paper that operators arrange for one month, resulting from calculations via OEE is 70%. The highest average productivity in this month was obtained by team C with a total average productivity of 74% and 73% obtained by teams B and D. Meanwhile, the lowest average productivity was obtained by team A. This average calculation is influenced by many factors. which determines the size and level of productivity of each team in one month.

In the results and discussion of the report, there were teams that did not achieve the target, so the productivity their team achieved was the smallest. After looking at the OEE productivity data, there were several things that caused the team not to achieve its work targets, there is a problem with the raw materials to be prepared :

1. Scarcity of pallets, which are equipment for arranging crafts and décor
2. Queue the reach truck

Based on the problems above, here are several things that need to be improved which are expected to provide benefits for the company and employees, especially in the Assembling Division:

1. In the preparation process, it is best to check early on raw materials that have just been processed in the Treating Division, especially decor paper which is prone to sticking, so that it can be used as soon as possible to avoid excessive stickiness and wasted time.
2. Put together a small amount of kraft and decor paper into one special place, so that the palette can be used
3. Adding reach trucks and drivers prioritizing the more important lines or in the order of those most needed.

DAFTAR PUSTAKA

Assauri, Sofjan. (2016). *Manajemen Operasi Produksi : Pencapaian Sasaran Organisasi Berkesinambungan,* Edisi 3, PT. Raja Grafindo Persada, Depok.

Diandra Maulidina, Astrid, Erry Rimawan, & Muhammad Kholili, (2016), *Analisa Total Productive Maintenance Terhadap Produktivitas Kapal/Armada Menggunakan Metode Overall Equipment Effectiveness Pada PT. Global Trans Energy International*, Journal of Industrial Engineering & Management Systems, JIEMS , Vol. 9, No 1, February 2016

Dwi Cahyono, Sigit, Fourry Handoko & Nelly Budiharti, (2020), *Penerapan Efektivitas Mesin Debarker Menggunakan Overall Equipment Effectiveness (Studi pada PT. Tri Tunggal Laksana Unit Blitar)*, Jurnal Teknologi dan Manajemen Industri, Vol. 6 No. 2, Agustus 2020

El-Dairi, M., & House, R. J. (2019). Optic nerve hypoplasia. In *Handbook of Pediatric Retinal OCT and the Eye-Brain Connection* (pp. 285–287). https://doi.org/10.1016/B978-0-323-60984-5.00062-7

Hafiz Khoirul & Erwin Martianis, (2019), *Analisa Overall Equipment Effectiveness (OEE) pada Mesin Caterpillar Type 3512B di PT. PLN (Persero) ULPLTD Bagan Besar PLTD Bengkalis, SINTEK JURNAL: Jurnal Ilmiah Teknik Mesin, Vol. 13 No. 2, Desember 2019.*

Heizer, Jay, Barry Render, & Chuck Munson, 2017, *Operations Management: Sustainability and Supply Chain Management*, 12th Edition, Publisher : Pearson; 12th edition (January 21, 2016)

Herjanto, Eddy, (2007), Manajemen Operasi, Edisi 3, Grasindo , Jakarta:

Hesti Triwardani, Dinda, Arif Rahman, & Ceria Farela Mada Tantrika, (2013), *Analisa Nilai*

Overall Equipment Effectiveness (OEE) dalam Meminimalisi Six Big Losses pada Mesin Produksi Dual Filer DD07, (Studi kasus : PT. Filtrona Indonesia, Surabaya, Jawa Timur), Jurnal Rekayasa dan Manajemen Sistem Industri, Vol. 1 No. 2 (2013)

Lukmandono, Enik Sulistyowati, Ni Luh Putu Hariastuti, *Pendekatan Overall Equipment Effectiveness dan Response Surface Methodology dengan Pertimbangan Root Cause Failure Analysis untuk Meminimalkan Six Big Losses*, https://id.scribd.com/document/623301269/1439-3766-1-SM

Maitsa Zulfatri, Muthi, Judi Alhilman, & Fransiskus Tatas Dwi Atmaji, (2020), *Pengukuran Efekivias Mesin dengan Menggunakan Metode Overall Equipment Effectiveness (OEE) dan Overall Resources Effectiveness (ORE) pada Mesin PL1250 di PT.XZ.* JISI: JURNAL INTEGRASI SISTEM INDUSTRI, Volume 7 No 2 Agustus 2020

Mustaqimah, Atika, (2009), Pengukuran Nilai Overall Equipment Effectiveness (OEE) sebagai Dasar Usaha Perbaikan Proses Manufaktur pada Lini Produksi (Studi Kasus pada PT Indo Furnitama Raya, Pasuruan), https://dspace.uii.ac.id/handle/123456789/18711

Oktaria Susanti, (2011), *Perhitungan dan Analisa Nilai Overall Equipment Effectiveness (OEE) pada Proses Awal Pengolahan Kelapa Sawit (Studi Kasus PT X)* , Program Sudi Teknik Industri, Universitas Indonesia, file:///C:/Users/User/Downloads/digital_20295993-S1813-Perhitungan%20dan-1.pdf

Rahman, Arif dan Surya Perdana, (2019), Analisis Produkivias Mesin Perceakan Perfec Binding dengan *Metode OEE dan FMEA, Jurnal Ilmiah Teknik Industri (2019), Vol. 7 No. 1, 34 – 42*

Reksohadiprodjo, Sukanto, & Indriyo Gitosudarmo, (1991), *Manajemen produksi,* ed. 4,cet.3, BPFE, Yogyakarta.

Suliantoro, Hery, Novie Susanto, Heru Prastawa, Iyain Sihombing, & Anita M**., (2017),** *Penerapan Metode Overall Equipment Effectiveness (OEE) dan Fault Tree Analysis (FTA) untuk Mengukur Efektifias Mesin Reng,* J@ti Undip: Jurnal Teknik Industri, Vol. 12, No. 2, Mei 2017

Tisnawati Sule, Ernie & Kurniawan Saefullah, (2017), *Pengantar Manajemen* (1st ed.). Kencana, Jakarta.

Wahid, Abdul, **(2020),** *Penerapan Total Productive Maintenance (TPM) Produksi Dengan Metode Overall Equipment Effectiveness (OEE) Pada Proses Produksi Botol (PT. XY Pandaan – Pasuruan)*, Jurnal Teknologi dan Manajemen Industri, Vol. 6 No. 1, Februari 2020

Wuryan**o,** Abdul Wahid, (2018), *Analisis Predictive Maintenance dengan Metode OEE (Overall Equipment Effectiveness) Guna Meningkatkan Performa pada Mesin Husky (PT. X Gempol),*

Journal Knowledge Industrial Engineering (JKIE), Vol. 5, No.1. 2018