

Analysis of Layout Production Facilities and Work Supervision Effect on Mawar Bakery Production Employee Productivity

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Abstract: Every company always wants quality human resources as a valuable asset that is consistently sought and maintained. A company must be able to optimize supporting factor from employee productivity itself to get the optimal result of work. One factor that can improve productivity includes the layout of production facilities and supervision of work that exist in a company. This study aims to determine and analyze the effect of the layout of production facilities and supervision of existing work on production employees of Mawar Bakery. It involves the addition of motivation as a moderating variable to produce good productivity from existing production employees. This research is quantitative descriptive research, and the nature of the research is explanatory. Population includes production employees located at Mawar Pinang Baris, Mawar Setia Budi and Mawar Gatot Subroto involving 132 employees with a sample of 100 employees taken by simple random sampling. Data collection techniques were conducted by documentation studies and distributing questionnaires. The technique of data analysis by using regression analysis of Moderating Regression Analysis (MRA). The result of the test without the effect of moderation indicates that layout of the production facility and work supervision respectively have the positive and significant effect to work productivity of production employees. Work supervision becomes the dominant factor in increasing productivity compared to the layout of production facilities. Test results with moderation effects indicate that motivation is not as a variable that can moderate the influence of job control variables on work productivity of production employees. Thus productivity of production employees will increase if the layout of available facilities and work supervision applied to Mawar Bakery has been following the needs so that production employees can work efficiently.

Keywords: Production Facility Layout, Work Supervision, Motivation, Work Productivity.

INTRODUCTION

Every company established has to hope that someday will experience a very rapid development within the scope of business of the company [1]. The company wants to achieve high productivity in its field of work [3]. In efforts to achieve these goals, it is necessary to increase employee productivity. Work productivity essentially includes an attitude that always has the view that today's working methods should be better than yesterday's work methods, and tomorrow's results should be more or better quality than today's results. Work productivity is the ratio between the output achieved with the role of labor (input) per unity of time [4]. Work productivity is an economic motive to obtain maximum results with a specific cost wherein the implementation of productivity many lies in the factor as the executor of company activities that is, the members, employees or workers.

A company or organization cannot achieve its goals efficiently and effectively if employee productivity is low. Therefore, productivity becomes crucial that always want to be improved because it can describe the level of work efficiency of employees. In achieving the target productivity, human resources play an essential role, because the activities of the company may not be done properly without the support of human resources. So needed a stimulus to improve work productivity, to obtain results to achieve corporate goals. Regarding increasing productivity of the work, a stimulus can be a motivation, where differences in behavior among employees make managers must understand the motivation of each employee, how to motivate employees, which in turn can improve employee productivity. It will be seen through employee behavior. An employee will carry out his duties with the maximum if he has strong motivation. Otherwise, he will not be serious in carrying out his

duties and even commit violations if he does not have a strong motivation. Siagian [5] states that in organizational life, the perfect aspect of motivation gets serious attention from the leaders.

Another critical factor in improving productivity is job oversight, where every company requires supervision from the manager. The manager performs this supervision as an attempt to compare whether what is done by the established plan. It also means that supervision is an action or activity of a manager who seeks to have the work done by the established plan or the desired work. Manullang [6] describes supervision can be defined as a process to determine what work standards will be implemented, assessed, and need to correct with the intention that the implementation of work by the original plan. It is an appropriate form of concern so that employees feel valued, feel responsible for their work until finally, they feel inner satisfaction. The company should conduct better supervision again to avoid the occurrence of irregularities or things that are not desirable. Implementation of supervision is essential in a company, especially to employees. Every instruction submitted to subordinates should be supervised by the leadership so that the leadership can take action if there is a mistake, negligence will be the task undertaken by its employees so that employee productivity is increasing. One of the factors affecting the increase in productivity is the layout of production facilities. Planning the layout of production facilities is an essential aspect because it is very influential on the smoothness of the production process, efficiency and effectiveness of the company's work both in the long term and short term.

Layout planning is a phase included in the design of a production system. The purpose of the layout is to develop the production system, to achieve the needs of capacity and quality with the most economical plan. Planning a good layout can help the production to lower the cost which means the company more efficient. A layout is one of the decisions regarding the layout of production facilities for the efficiency of company operations in the long term. Problems in layout settings can result in employee inconvenience at work and disrupt production flows in an enterprise. The layout design needs to be viewed as a dynamic. It means considering small, easy-to-move and flexible equipment so that it can respond quickly and efficiently to changes that may occur during the production process. A cross-training of employees is required to gain flexibility in the layout. The needs of employees in the production process activities will produce optimal productivity in these employees.

Mawar Bakery always provides a variety of quality products for all consumers. Currently available over 400 types of products are served with good quality

and always fresh from the oven every day. In the process of production process employees are required to be able to produce with good quality, that is from taste and product form by standard operational procedures company. Besides, employees are required to finish their products quickly. Thus, products that are quickly resolved can be immediately sold to consumers. The main tasks cause constraints on production process activities. It is due to the condition of production space is too small. In the production process, Mawar Bakery uses a layout type that is set by combining the layout based on product flow and layout based on process flow. Through the survey conducted the layout of the production facility is less effective and efficient. It is marked by the inconvenience of production employees at work, the condition of production field activities are on different floors that is for Mawar Pinang Baris and Mawar Setia Budi production room is on the 2nd floor and the 3rd floor, while Mawar Gatot Subroto is on the 2nd floor. Differences the production floor causes a high level of fatigue occurs in production employees. The production volume of each product type is small; the product variation is large, the length of the production process of each kind of product is rather long, besides the material transfer is done manually not using specialized tools. It is causing fatigue in production employees.

Motivation causes a person to have a specific purpose in doing a job, with enthusiasm and full of spirit included in the achievement of ideals that cool. Interest and motivation have a close relationship because motivation is the impetus or mover for a person in achieving something desired and directly related to something that became his interest. The results of a brief interview with production employees said that they are motivated to work because of moral and material responsibilities. The desire for success, the desire to make family happy, the desire to be rewarded, besides sometimes with praise from their superiors feel happy, causing excitement/spirit in work. According to Armstrong [19] motivation is the power that evokes, directs and sustains behavior. The term motivation relates to the goals of the individual, how individuals achieve their goals, and how others attempt to change their behavior.

In this study using motivation as a moderating variable, the search results have not found previous research that discusses work supervision has an effect on work productivity with motivation as moderating variable. So, in this case, the author is interested in adding motivation as a moderating variable. The addition to the motivational variable gives a tangible contribution as a supporter of action, thus causing a person to have the readiness to perform a series of activities. High motivation will arouse individuals to perform specific activities that are more focused and more intensive in the process of quality, and vice versa,

so high motivation of individual self can arouse how much desire in behavior or sooner slow to a job. Motivation is a state in a person that encourages the desire of individuals to carry out specific activities to achieve goals. Individual motivation arises because of the needs of a person who demanded satisfaction in meeting those needs. Needs are met then it will motivate employees to work better which ultimately work productivity of employees will increase [7,12].

Theories

Mawar Bakery

The idea of starting this business started from the hobby of cooking the wife of the business owner, Mrs. Mawar. By adopting the name of his wife directly, then founded Mawar Bakery in 2003 at Jalan Pinang Baris. The initial production of Mawar Bakery is plain bread which became the icon of Mawar Bakery & Cake Shop in every branch. Thanks to his wife's expertise in processing food, Mawar Mawar's bread got a place in the hearts of the people. As the business grows, the types of bread produced vary, by entrusting the experts to each type of product produced.

Mawar Bakery started flapping its wings by opening a new branch on Setia Budi Street in 2005, and head office moved here, the next branch in Brigjen Katamso street in 2008, Gatot Subroto road in 2012, Jamin Ginting road in 2014 and Medan- Tanjung Morawa in 2017. Until now Mawar Bakery has some employees of approximately 700 people. Mawar Bakery has several subsidiaries including Chocolate, Coffee, Ice Cream and Restaurant. Also, by 2013 the company will expand by opening Supermarket under the name "Óke Supermarket" located at Gaperta Ujung street, Gatot Subroto-Binjai road, Jamin Ginting road and Medan-Tanjung Morawa road. In each of the branches of Mawar Bakery has a production activity in Pertanggungngung replied to the Head of Production and Supervisor, so that the company has the motto "fresh from the oven." Because all products do not use preservatives, then this company is always reminded in the motto "Buy enough." All kinds of Mawar products have obtained permission from LPPOM MUI, POM and Health Department. So this product is guaranteed safety from raw materials used, the process until the finished product.

Supervision

A control is to determine what is accomplished, evaluate it, and apply corrective measures, if needed, to ensure results in keeping with the plan. Supervision can be interpreted as a process to determine what work standards will be implemented, assessed, and need to correct with the intention that the implementation of work by the original plan. Stoner [8] states that the control is the process of ensuring that actual activities conform to planned activities, more

fully mention that the supervisory function in management is a systematic effort in setting performance standards of planned objectives, designing feedback information systems, comparing performance achieved with predefined standards, determining whether deviations and significance levels of any such deviations, and taking necessary action to ensure that all power companies are used effectively and efficiently in achieving company goals. Supervision is vital for every company. Supervision aims for the results of the implementation of the work obtained in an efficient and effective by predetermined plans. Supervision is the activity of managers who work to get the jobs done by the established plan and desired results. Yahya [9] said that supervision means the discovery and application of ways and equipment to ensure that the plan has been implemented by the established. It can be concluded that supervision is a systematic effort to establish the standard of implementation with planning objectives, designing a feedback information system, comparing real activities with predefined standards, determining and measuring deviations and taking corrective action necessary to ensure that all the company's resources are used in the most effective and efficient way to achieve the company's goals.

The supervisory process consists of specific actions that are fundamental to all managerial oversight. The main steps include:

- Determination of standard size or guidelines. A standard must first be set. It is nothing but a model or a provision that has been accepted or determined by the competent authority. Standards are useful, among other things, as a benchmark in surveillance, a gauge to answer the question of how much activity or a result has been carried out, as a tool to foster a quicker understanding between supervision and the supervised, as a means of improving uniformity.
- Assessment or measurement of work that has been done. It may be done through, among other things: reports (oral or written), the diary about the schedule chart or production chart, inspection or direct supervision, meeting/conferences with the officers concerned, surveys conducted by staff on specific agencies.
- Comparison between the implementation of work with the size or standard guidelines that have been set to know the deviations that occur. It is done for comparison between the results of the measurements with the standard, to determine whether there is a difference and if there is any difference, then to determine whether the difference needs to be corrected or not.
- Repair or correction of deviations that occur so that the work was by what has been planned. If the analysis results indicate any corrective action, this action should be taken. Corrective action can be

taken in various forms. Standards may be changed, execution is fixed, or both are done together.

Motivation

Every individual has an internal condition, where the condition plays a role in his daily activities. One of these internal conditions is "motivation." Motivation is a primary impulse that drives a person to behave [1]. This impulse lies in a person who moves to do something that suits his inner drive. Therefore, the actions of a person based on a particular motivation contain a theme by the underlying motivation. Motivation can also be said as the difference between being able to implement and willing to implement. Motivation is closer to willing to carry out the task to achieve the goal. Motivation is the power, both from within and from outside that encourages a person to achieve individual predetermined goals, or in other words, motivation can be interpreted as a mental boost to individuals or people as members of society. Motivation can also be interpreted as a process to try to influence the person or persons he leads to perform the desired job, by a specified predetermined objective. According to Hamzah [10], work motivation is one factor that helps determine one's performance. The magnitude of the influence of motivation on one's performance depends on how much motivation intensity is given.

According to Sopiah, by looking at the three main characteristics of motivation above motivation can be defined as circumstances in which the effort and willpower of a person are directed to the achievement of specific results or goals. The results can be productivity, attendance, and work behavior. In the discussion of motivational theories, there are some quite prominent. There are several motivational theories:

- The hygienic motivational theory proposed by Herzberg, with the belief that an individual's relationship to work is fundamental and that one's attitude toward work will determine its success or failure. According to this theory, motivation is emphasized on job performance, influence, control, dependency, development, and affiliation.
- The theory of Abraham Maslow, dividing the human need in the hierarchy of needs, that human motivation is related to the five needs, physiological need, security of safety need, social need, esteem need, and self-actualization need. The need for pride as a need to enhance the potential possessed, maximum self-development, creativity, self-expression, and so forth.
- McGregor's theory, proposing two different views of man. Someone is negative, named X Theory and the other is positive, named Theory Y.
- McClelland and his colleagues have proposed three relevant or relevant key motives or needs in the workplace

- Theory of Goal Setting (Locke). This theory states that intentions expressed as goals can be a major source of work motivation. The specific goals can improve performance and goals that are difficult to achieve if accepted, result in higher performance than achievable goals.
- Reinforcement Theory (B.F. Skinner). This theory has a behavioral approach that states that reinforcement shapes behavior.
- Theory of Equity or Fairness (Pearson). Stating that employees compare what they get from the job (outcome) and then compare their input-outcome ratio to the peer-to-peer input-outcome ratio. If they consider the ratio of input-outcomes to be equal to others, the situation is considered fair. If the ratios are not the same, a sense of injustice arises, meaning that employees tend to see themselves less rewarded. If an injustice occurs, the employee will attempt to make corrections.
- Expectation Theory (Vrooms). The theory of expectations states that the strength of the tendency to act in a certain way depends on the strength of a hope that the action will be followed by a particular result

Positive Motivation is a process to try to influence the activities of others to run something we want by giving the possibility to get a reward. Gifts here can be money addition, provision of award facilities and so forth. The use of positive motivation will be more successful in the long run. Employees will have a high spirit so that can increase work productivity in the long term. Negative Motivation is a process to influence a person to want to do something we want but the basic technique used is through threats, i.e., if someone does not do something may get a penalty or loss something. Various studies show that the use of threats often gives more results, in the form of increased labor productivity in the short term. So the provision of negative motivation influences increasing productivity and decreasing the spirit in the short term.

Work Productivity

Work productivity comes from English, product: result, outcome grows into productive word, which means to produce, and productivity: having the ability make or create [3]. The word is used in the Indonesian language into productivity which means strength or ability to produce something. Viewed regarding productivity psychology shows the behavior as the output (output) of a process various psychological components that lie behind him. Productivity is nothing other than talking about human or individual behavior, that is, productivity behavior. More specifically in the field of work or work organization [11]. According to Chase, *et al.* [14] That Productivity is a standard measure of how a country, industry, or business unit is using its resources or factors of production. Productivity is a standard

measure of a country, industry, or business unit. According to Rander and Heizer [15], Productivity is the ratio between the output (goods and services) divided by input (resources, such as labor and capital). In another opinion, productivity is an increase in the production process, an improved comparison between the number of resources used and the number of goods and services produced. Employees are the essential input for the company, so the level of labor productivity will determine the success and success of the company. A company or industry increases its productivity, in general, can be divided into two broad categories: improving operations and increasing employee engagement [13]. Productivity improvement can be grouped in four ways such as:

- Reduction of few resources to obtain the same amount of production.
- Reduction of resources to obtain larger production amount.
- Use of the same amount of resources to obtain larger quantities of production.
- Use of larger amounts of resources to obtain even greater quantities of production.

The source of labor productivity is human as a workforce, both individually and in groups, wholly focused on seeking ways that enable people to increase their productivity in work, especially about quality improvement in their work. A job is said to be productive, if the use of materials and other equipment is not too much wasted and the price is not too high, without reducing the quality of the results achieved, and the work is said to be frugal [11]. International Labor Organization (ILO) cited by Hasibuan [16], reveals that more simply the purpose of productivity is the computation of the arithmetic between the amount produced and the amount of each source used during production. Several factors can affect work productivity of employees, such as:

- Training. The workout is intended to equip employees with the right skills and ways to use work tools. Therefore, vocational training is necessary not only as a compliment but at the same time to provide the basics of knowledge. Because with training means employees learn to do things with the right and proper, and can minimize or leave mistakes that had been done.
- Mental and physical abilities of employees. The mental and physical condition of employees is critical to be a concern for the organization because the physical and mental state of employees has a very close relationship with employee productivity.
- The relationship between superiors and subordinates. It will affect the activities of the day-to-day. How does the superior's view of subordinates, how far the subordinates are included

in goal setting? The intertwining attitude has been able to increase employee productivity in working. Thus, if employees are treated well, then the employees will participate well in the production process so that it will affect the level of work productivity [17].

Related Works

Widianty [18] in a study entitled: "Analysis of Plant Layout Change Plan Judging from Estimation of Its Influence on Productivity (Case Study of PT XYZ)." The purpose of this study is to identify indicators and causes of problems in layout design now. It is also to evaluate alternative layout designs (proposed layout changes) to see how far the proposal can solve the problem and will benefit the increase in productivity and analyze the cost consequences of layout changes. The analyzer in this research: a matrix of importance between the elements of the source of the problem of layout planning of production facility by paired comparisons method. Create a form to chart material flow. Create a form to chart the distance between facilities. Calculate Material Handling Cost (MHC). The findings of this study: those changes in location and distance between facilities. It is estimated to potentially increase efficiency by lowering material handling cost on manufacturing parts by 26%, 22.1% assembling, and Treatment & Painting of 66.8%, and improving physical performance factories and work environments for the better, thus providing the potential for increased productivity of production.

Ridwan [20] in a study entitled "The Effect Analysis of Machinery Layout on Productivity Employees PT Nusira Crumb Rubber Medan." The research objectives are to know and analyze the layout of production machines consisting of placement of machine, the number of the machine, and wide of production area to employee productivity at PT. Nusira Crumb Rubber Medan and to know and analyze the effect of machine performance and machine maintenance on the quality of production at PT. Nusira Crumb Rubber Medan. The results of this study concluded that 1) simultaneous layout of production machines consisting of machine placement, the number of machines and the area of production has a significant effect on employee productivity. It means that the layout of production machines consisting of machine placement, number of machines and the area of production used in the pre-cleaning and milling machine production layout is crucial to employee productivity. 2) Simultaneously the layout of production machines consisting of machine performance and machine maintenance has a significant effect on the quality of production.

Aghazadeh, *et al.* [21] in a study entitled "The Influence of Work-Cell and Facility Layout on the Manufacturing Efficiency." The purpose of this study

was to analyze the use of product-oriented layouts and work cells to maximize efficiency. The analysis shows the overall layout of the company has many shortcomings; the company must build a new factory with redesign the layout will be more efficient than the present. Statistical analysis shows that there is a direct correlation between capacity and variable labor costs and distance.

Dewi [22] in a study entitled "Influence Motivation against Work Productivity Employees Production Part at PT. Konverta Mitra Abadi in South Lampung". The purpose of this paper is to determine the effect of motivation on employee productivity and as a contribution of thought to the company to improve employee productivity. The result of count test is 7,331 bigger than the table for error rate 5% = 2.010, so H_0 is rejected and H_a accepted which means that independent variable is motivation have the positive effect to work productivity of employee of PT Konverta Mitra Abadi. R. Square Coefficient of regression result of 0,523. It shows free variables can explain 5.23% of the dependent variable, while the rest is explained by other

causes factors coming from outside the regression model.

METHODOLOGY

Validity Test

Validity test is aimed to find out whether the instruments listed in the questionnaire is feasible to be used to produce accurate data by the size of the goal. If the instrument is valid, it can be used to measure what should be measured in the research. The number of respondents for the trial is recommended to be done on 30 people so that the distribution of values is closer to the standard curve. Validity testing is done outside of the sample number, in this case, taken as many as 30 production employees.

An instrument or questionnaire is valid if r-count Positive or r-count > r-table then the instrument items are declared valid and fit to be used for testing the next research hypothesis. If the r-count Negative or r-count < r-table then the instrument is declared invalid and cannot be used for testing the next research hypothesis. The following test results validity of research variables can be seen in the following table.

Table-1: Validity test result

No	Statement	r-count	r-table	Result
Variable of Production Facility Layout				
1.	The machines used are now placement because the job can be done quickly.	.549	.361	Valid
2.	The equipment used in the production process really suits your needs in producing a product.	.837	.361	Valid
3.	The distance between the raw material warehouse and the production room is very close together.	.648	.361	Valid
4.	The presence of adequate facilities in transporting raw materials to the production room.	.740	.361	Valid
5.	The area of the production room is completely in accordance with the number of employee placements to work.	.898	.361	Valid
6.	The temperature / temperature of the production room is completely appropriate so it feels comfortable in working.	.910	.361	Valid
7.	Air circulation in the production room is very convenient to work.	.864	.361	Valid
Variable of Work Monitoring				
1.	All employees are familiar with the work standards to be achieved.	.522	.361	Valid
2.	All employees are aware of company policies that must be followed.	.565	.361	Valid
3.	The operational standards set by the company are highly suited to the needs of the work.	.711	.361	Valid
4.	The products that have been produced are examined by the leader with great care.	.738	.361	Valid
5.	The production head always oversees the level of employee compliance with the instructions given.	.879	.361	Valid
6.	Head of production always supervise the level of understanding of employees in completing the work.	.863	.361	Valid
7.	If there is a mistake the solution given by the leader is very appropriate in solving the problem.	.854	.361	Valid
8.	Warning given the leadership is very appropriate against the deviations made by employees, so that employees do not re-digress.	.775	.361	Valid
9.	Sanctions given leadership is very appropriate with the level of mistakes made by employees.	.852	.361	Valid
Variable of Motivation				
1.	I try to give maximum results for the leaders to give praise for my work.	.503	.361	Valid
2.	I will try to make the best quality product because for me this job is really very fun.	.642	.361	Valid
3.	I work hard to get a promotion.	.818	.361	Valid

4.	I try to finish the job given by the leader as best as possible because I want to remain part of this company.	.594	.361	Valid
5.	I try to keep working in this company because for me this job is really very interesting.	.557	.361	Valid
6.	My leadership is very motivating to work better.	.842	.361	Valid
7.	The company rewards outstanding employees that motivate me to work better.	.855	.361	Valid
8.	The amount of compensation I have received so far makes me more enthusiastic in working.	.778	.361	Valid
9.	Strict sanctions for employees who commit offenses, encourage me to work better.	.647	.361	Valid
10.	I am increasingly motivated in working because I feel justice for the performance assessment given to me by the leadership.	.816	.361	Valid
Variable of Work Produktivity				
1.	In completing the job the ability of employees tailored to the expertise of each employee, so the work can be completed properly.	.590	.361	Valid
2.	Achievement of production produced by employees is in accordance with the company's planned production targets.	.651	.361	Valid
3.	The quality of the products produced by employees really meet the standards set by the company.	.597	.361	Valid
4.	In the production process skilled employees use the necessary means of production.	.774	.361	Valid
5.	Production employees are really capable of completing production quickly.	.776	.361	Valid
6.	In making the product is in accordance with the hours given by the company.	.492	.361	Valid
7.	In the production process employees are very able to use raw materials in a frugal manner.	.654	.361	Valid
8.	The number of defective products decreases due to employees' understanding of operational standards in work.	.670	.361	Valid

Based on Table 1, it is known that the r-count value of each item is greater than the r-table value of 0.361 ($r\text{-count} > r\text{-table}$). Thus it can be concluded that each item statement of each variable Layout Production Facilities, Work Supervision, Motivation and Work Productivity declared valid and can be used in research.

Realibility Test

Reliability indicates the extent to which an instrument can deliver consistent results if the

measurement is repeated. This reliability test is only performed on valid items, obtained by validity test. To see the level of data reliability, SPSS provides facilities for measuring reliability, if Cronbach Alpha > 0.6 then question reliability is acceptable. To see the results of the reliability test of the layout of production facilities, work supervision, motivation and work productivity used SPSS (Statistical for the Sciences) 20.0 for windows program by looking at the value of Cronbach Alpha.

Table-2: Realibility test result

No.	Variable	Cronbach's Alpha	N of items	Result
1.	Production Facility Layout (X1)	.895	7	Reliabel
2.	Work Supervision (X2)	.899	9	Reliabel
3.	Motivation (Z)	.885	10	Reliabel
4.	Work Productivity (Y)	.794	8	Reliabel

Table 2 shows that the results of all research variables have Cronbach's Alpha value greater than the r-table value of 0.60. Thus it can be concluded that the variable layout of production facilities, work supervision, motivation and work productivity is reliable so that all items worthy of use in research.

Normality Test

According to Ghozali [23], the purpose of the normality test is to find out whether each variable is normally distributed or not. Normality test is required because to perform other variable tests by assuming that the residual value follows the normal distribution. If

this assumption is violated, then the statistical test becomes invalid, and the parametric statistics cannot be used. The statistical test used to test the normality of data in this study is the normality test or Kolmogorov-Smirnov sample. The results of this analysis are then compared with the critical value. Santoso [24], explains the decision-making guideline based on the output test of normality, that if the significance number ($\text{sig} > \alpha = 0.05$), then the data is typically distributed. Whereas if the number of significance ($\text{sig} < \alpha = 0.05$) then the data is not normally distributed. The other way to detect whether the residual is usually distributed or not is by graph analysis. According to Santoso [24], the method

used is visual testing with standard image method Probability Plots in the SPSS program that compares the cumulative distribution of the normal distribution. In principle, normality can be detected by looking at the spread of data (dots) on the diagonal axis of the graph. Basic decision-making such as:

- If the data spread around the diagonal line and follows the direction of the diagonal line indicating a normal distribution pattern, then it can be concluded that the regression model meets the assumption of normality.
- If the data spread far from the diagonal line and does not follow the direction of the diagonal line does not show the normal distribution pattern, it

can be concluded that the regression model does not meet the assumption of normality.

RESULTS AND DISCUSSION

Description of Layout of Production Facilities Variable Respondent (X1)

The layout of production facilities meets the needs of employees of Mawar Bakery. Nevertheless, previous information indicates that there is an indicator of the layout of production facilities that need to be considered again so that the layout of production facilities can are functioned correctly. A summary of the mean scores on each indicator is summarized in the following figure.

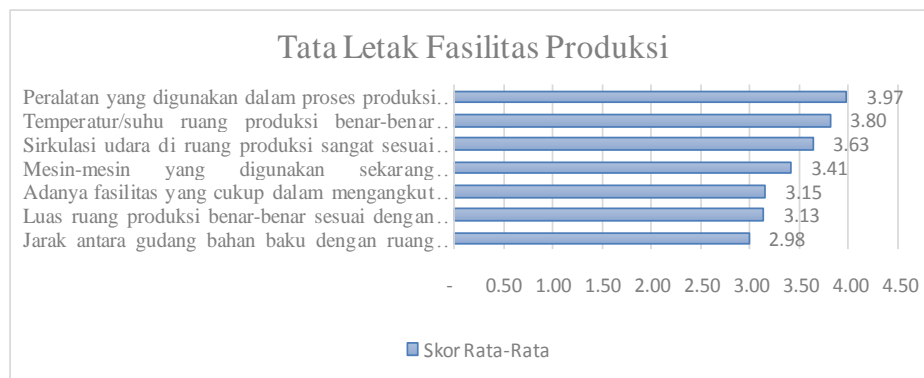


Fig-1: Average of production facilities layout indicator variable

Figure 1 indicates that although in general the layout of production facilities is well-felt and by the needs of production employees in work, there are still some indicators that require more attention, to encourage better layout of production facilities. The main problem is material handling in the production process that is the distance between the raw material warehouses with the production room located on different floors. Also, the area of production space that has not been by the needs of employees in production

process activities and facilities to transport raw materials is not adequate.

The variable of production facility layout (X1) is measured based on the employee's response to the composition of supporting facilities of production activities, material handling, and physical environment condition of the production room. The variables of production facility layout were measured using seven indicators. Respondents' answers can be seen in the following table.

Table-3: Respondent answer to production facilities layout variable (X1)

No	Statement	Production Facility Layout (X ₁)					Mean	M I N	M A X	Category
		SS (%)	S (%)	N (%)	TS (%)	STS (%)				
1.	The machines used in the placement are appropriate so the work can be completed quickly	6	44	35	14	1	3.41	1	5	Agree
2.	The equipment used in the production process really suits the needs of the employees	24	53	19	4	0	3.97	2	5	Agree
3.	The distance between the raw material warehouse and the production room is very close together	6	23	40	25	6	2.98	2	5	Neutral
4.	The presence of adequate facilities in transporting raw materials to the production room	5	20	47	24	4	3.15	1	5	Neutral

5.	The area of the production room really suits the needs of employees in the work	4	30	42	23	1	3.13	1	5	Neutral
6.	Temperature / temperature of the production room is completely in accordance with the normal conditions so it feels comfortable in working	19	43	37	1	0	3.80	2	5	Agree
7.	Air circulation in the production room is very convenient to work	13	47	32	6	2	3.63	1	5	Agree
Employee Response Score on Production Facility Layout							3.55			Good

Production employees considered that the layout of production facilities applied by the company had been categorized well with an average of 3.55. In general, the composition of production facilities, material handling, and the physical environment is well perceived and by the needs of employees in work. There is still much production space that needs to be considered and improvised. The needs of employees are fulfilled so that employees in work feel comfortable. Respondents answer on the placement of production machines that support the production activities show that on average employees agree with the given statement (average = 3.41). It indicates that the production employees assess the layout of the machines is the appropriate placement. In more detail, as many as 44% of employees agree with the statement given, only 6% of them stated strongly agree with the statement given. However, there are 14% of employees who disagree, and 1% stated strongly disagree with the

statement submitted. It means that the layout of the machine that is used is not by the needs of employees and production process activities. Some of the machines that are available are placed on different floors, while the machines used in the product processing are used for various types of products. Due to the limited number of machines, the placement is conditioned by the room available. So there are some products in the process employees have to back and forth to finish production.

Description of Work Supervision Variable Respondent (X2)

Work supervision variables (X2) are measured based on employee perceptions on standard setting of work, measurement of work and correction/corrective action. Work monitoring variables were measured using nine indicators. Respondents' answers can be seen in the following table.

Table-4: Respondent answer to work monitoring variable (X2)

No	Statement	Work Monitoring (X ₂)					Mean	M IN	M A X	Category
		SS (%)	S (%)	N (%)	TS (%)	STS (%)				
1.	Know the working standards to be achieved	18	68	10	4	0	4.00	2	5	Agree
2.	Know the company's policies to be followed	30	62	8	0	0	4.22	2	5	Agree
3.	The operational standards set by the company are very suitable to the needs	20	53	21	5	1	3.86	1	5	Agree
4.	The products that have been produced are examined by the leader with great care	2	73	11	14	0	3.63	2	5	Agree
5.	The production head always oversees the level of employee compliance with the instructions given	3	70	11	13	3	3.57	1	5	Agree
6.	Head of production always supervise the level of understanding of employees in completing the work	15	48	22	15	0	3.63	2	5	Agree
7.	The solution given by the leader is very appropriate in solving the problem	23	52	12	13	0	3.95	2	5	Agree
8.	Warning given the leadership is very appropriate against the deviations made by employees,	24	47	20	7	2	3.84	1	5	Agree
9.	The sanction given by the leadership is very appropriate with the error rate	20	58	17	5	0	3.93	2	5	Agree
Employee Valuation Score on Work Supervision							3.84			Good

Table 4 provides information that in general employee perceptions of the level of supervision work

done by Mawar Bakery is right with an average score of 3.84. In each of the proposed indicators, there is no

general opposition to the proposed statement. It indicates that employees of Mawar Bakery assess the supervision of work done not burdensome employees, but direct employees to work appropriately that encourages their productivity in general. Respondents' answers to the standard working knowledge to be achieved indicate that the average employee agrees with the given statement (average = 4.00). It indicates that the production have known the work standard applied by the company, thus helping employees to achieve a good working standard. In more detail, 68% of employees agree with the statement given, especially 18% of them stated strongly agree with the statement given. A total of 10% stated neutrally with the statement. However, there are 4% of employees who disagree with the statement submitted. It means there are still some employees who do not know the working standards to be achieved. This working standard is an

employee guide during general work. Respondents' answers to company policy knowledge to be followed indicate that on average the employees agree with the statement given (average = 4.22). It indicates that production employees have been aware of the company policy set, the policy must be obeyed by each employee. In more detail, as many as 62% of employees agree with the statement given, especially 30% of them stated strongly agree with the statement given. As many as 8% stated neutrally with the statement. No respondent rejected the proposed statement. It means that the company policy applied to Mawar Bakery is to the needs of employees. The company policy is in the form of rules applicable to Mawar Bakery. High and low understanding of employees about the rules affect employee productivity in work.

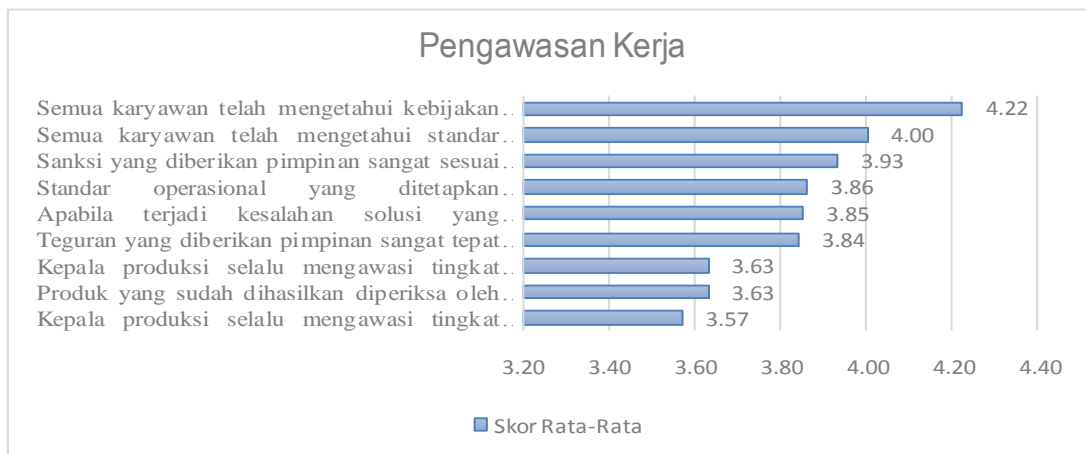


Fig-2: Average of monitoring indicators variable

Figure 2 provides information that although each indicator is well valued by employees indicated by an average score above 3.40; there is still room to improve employee supervision. The highest indication is given by indicators around clear employment standards given to employees. The lowest indicator of the employee is the supervision of the head of the production that has not been maximally felt by the employee.

Description of Motivation Variable Respondent (Z)

The motivation variable (Z) is measured based on the employee's appraisal of the inherent factor of the employee (intrinsic) or the external driving factor (extrinsic). Motivation variable is measured by using ten indicators. Respondents' answers can be seen in the following table.

Table-5: Respondent answer to motivation variable (Z)

No	Pernyataan	Motivasi (Z)					Mean	M I N	M A X	Kategori
		SS (%)	S (%)	N (%)	TS (%)	STS (%)				
1.	Trying to give maximum results for the leader to give praise	17	46	28	9	0	3.71	2	5	Agree
2.	Trying to make the best quality product because this job is really very fun	28	47	22	3	0	4.00	2	5	Agree
3.	Work hard to get a promotion	26	14	48	19	3	3.29	1	5	Neutral
4.	Complete the job given by the leader as best as possible	30	66	4	0	0	4.26	3	5	Strongly Agree
5.	Trying to keep working in this company because this job is really very interesting	29	52	18	1	0	4.09	2	5	Agree
6.	Leaders are very motivating to work better	17	55	18	10	0	3.79	2	5	Agree
7.	The company rewards outstanding employees	11	47	26	16	0	3.48	2	5	Agree
8.	The amount of compensation makes more enthusiasm in work	8	40	26	12	14	3.16	1	5	Neutral
9.	Strict sanctions for employees who commit offenses, encourage to work better	15	60	24	1	0	3.89	2	5	Agree
10	Motivated in working because of feeling the fairness of performance appraisal given leadership	5	45	26	12	12	3.19	1	5	Neutral
Employee Assessment Score on Motivation							3.69			Good

Table 5 concludes that the current production employee considers that the motivation applied by the company has been categorized well with an average of 3.69. In general, intrinsic and extrinsic driving factors are well valued by employees. Nevertheless, the motivation that has been given needs to be considered and more improved so that the real spirit in the production employee the better. Respondents' answers try to give maximum results for the leader to give praise shows that the average employees agree with the statement given (average = 3.71). It indicates that

employees of Mawar production expect praise from the leadership by providing maximum work. In more detail, as many as 46% of employees agree with the statement given, especially 17% of them stated strongly agree with the statement given. A total of 28% stated neutrally with the statement. However, 9% of employees said they disagreed with the statement. It means there are some employees do not expect praise from the leadership even though they are working optimally, merely carrying out duties and responsibilities in work.

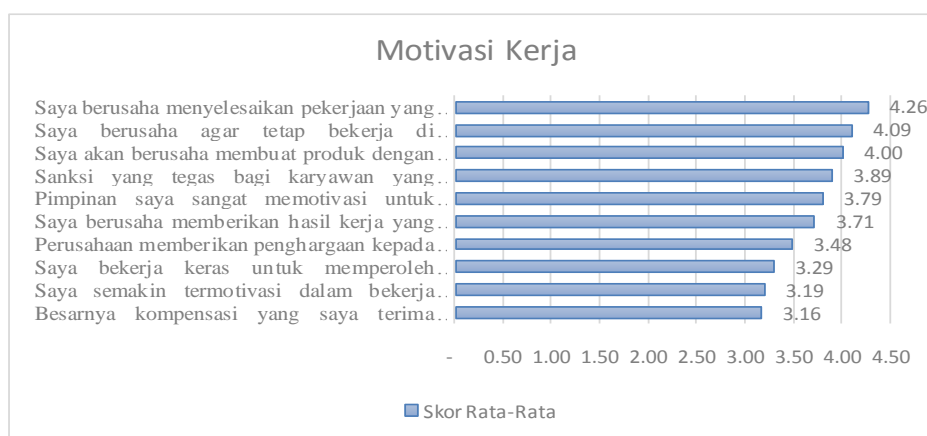


Fig-3: Average of motivation indicators variable

Figure 5 provides information that although overall employee motivation is considered highly categorized, more specifically three motivational indicators still need to be considered, namely motivation derived from compensation, work fairness, and promotion opportunities provided by the Mawar Bakery. It should be noted. However, that internal motivation indicates high work motivation.

Description of Work Productivity Variable Respondent (Y)

Employee productivity variable (Y) in research is measured based on two main aspects, work effectiveness, and work efficiency. Overall, employee productivity variables are measured using eight indicators that explain each dimension of measurement. Respondents' answers can be seen in the following table.

Table-6: Respondents answer to work productivity variable (Y)

No	Statement	Work Productivity (Y)					Mean	M I N	M A X	Category
		SS (%)	S (%)	N (%)	TS (%)	STS (%)				
1.	The ability of employees is tailored to the skill	19	64	14	3	0	3.99	2	5	Agree
2.	Achievement of production is in accordance with production targets	21	40	37	2	0	3.80	2	5	Agree
3.	The product quality meets the specified standards	27	61	11	1	0	4.14	2	5	Agree
4.	Skillful use of production tools	22	62	16	0	0	4.06	3	5	Agree
5.	Able to complete production quickly	29	60	10	0	1	4.16	1	5	Agree
6.	Make the product according to working hours	25	66	7	2	0	4.14	2	5	Agree
7.	Able to use raw materials sparingly	10	49	29	3	9	3.48	1	5	Agree
8.	The number of defective products decreases due to an understanding of operational standards	18	38	42	2	0	3.72	2	5	Agree
Employee Assessment Score on Work Productivity							3.94			Good

Table 6 summarizes that currently, employees of production assume that an average of 3.94 well categorizes employee productivity. In general, productivity factors regarding effectiveness and efficiency are well perceived by employees. High and low employee productivity is crucial to the success of the company. Respondents' answers on the ability of employees tailored to the expertise show that on average employees agree with the statement given (average = 3.99). It indicates that production employees assess the ability to make products have been tailored to the expertise of employees so that the product can be appropriately completed. In more detail, 64% of employees agree with the statement given, especially 19% of employees stated strongly agree. There are 14% declared neutral, and 3% of employees declare disagree with the proposed statement. It means that there are still

employees who feel in their workability is not tailored to the expertise that is owned by the expertise in making the appropriate product. Respondents' answers on the achievement of production produced by the planned production targets show that on average the employees agree with the statement given (average = 3.80). It indicates that Mawar Bakery production employees can achieve the production target as planned by the company. In more detail, as many as 40% of employees agree with the statement given, especially 21% of them stated strongly agree with the statement given. However, there are 37% declare neutral and 2% of employees who declare disagree over the proposed statement. It means that there are still employees who have not achieved the production results with the target set by the company.

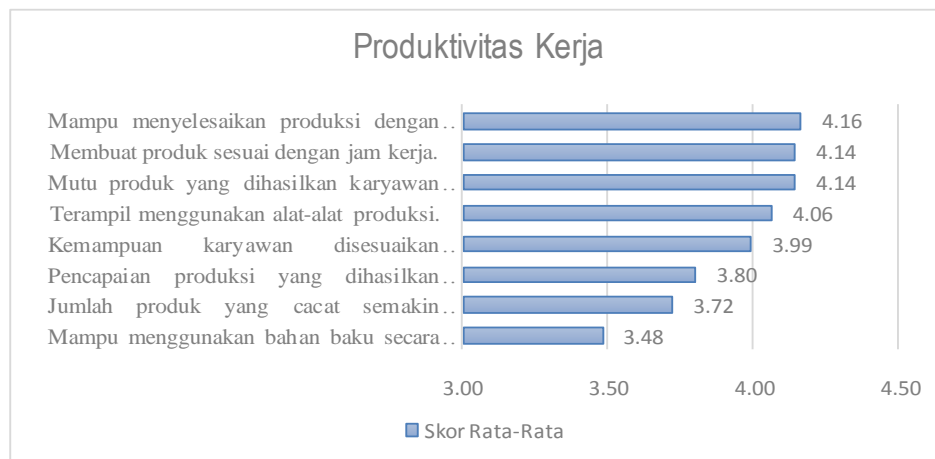


Fig-4: Average of work productivity indicators variable

Figure 4 provides information that although in general, all employee productivity indicators provide good scores, it should be noted that in general employees have not been able to use raw materials economically, the understanding of operational standards is minimal so often produce defective products. Also, the achievement of production employees has not reached the target.

The results provide empirical evidence that there is a positive and significant influence of the layout of production facilities on employee productivity. These results indicate that if the employee's needs in working on the facility's layout improve, their productivity will increase. Conversely, if the production employee who feels the layout of facilities provided incriminating, this will lower the level of employee productivity. For example, if the placement of equipment and machinery used for the production process is not by the needs of employees in work. The temperature of the production space is felt very hot, and the limited air circulation into the production room this will reduce employee productivity.

Supervisors must continually monitor the level of employee compliance, pay attention to their needs, examine product results periodically and oversee employee understanding in completing its processed products to keep the product's quality maintained. Work supervision in this research is measured based on three aspects, namely work standard, work result, and correction action. In general, employees consider that the work supervision they feel is good enough, especially in the delivery of policies/work standards and related to the provision of punishment as an act of correction of violations committed by employees. When employees make mistakes, direct supervisors are not allowed to leave alone and provide punishment by the level of error without any element of differentiating employees from each other. All of these activities are prepared for the production plan to run properly.

CONCLUSIONS

The layout of production facilities has a positive and significant effect on work productivity of employees of Mawar Bakery production. The layout of the production facility has a positive and significant effect on the productivity of the production employee. If employees feel the layout of production facilities given the better and by the needs of employees in work, then employee productivity will increase. Supervision has a positive and significant impact on the production employees. If the employee adequately assesses the supervision provided, in the sense that the supervisor consistently takes care of the employees on the instructions given, the employee's understanding in completing the production and periodically checking the resulting product, the employee's work productivity will increase. Work motivation can not significantly strengthen the influence of supervision on employee work productivity. The work for Mawar Bakery employees is considered to be a responsibility to be performed regardless of their sources of motivation. Production employees already understand company policies, standards of work and receive corrective action when employees make mistakes. Thus, the high or low motivation of work does not affect the influence of supervision on production employees.

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