

## Design of Corporate Project Performance and Labor Productivity at PT Vitra Graha Interia

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### Abstract

To achieve good project performance, the company must meet three indicators: the project must be completed on time and on budget, at a cost that does not exceed the budget, and with quality that meets specifications or agreements. Labor productivity factors, according to some studies, can have an impact on project performance. This study will thus investigate the impact of labor productivity factors such as education, experience, remuneration, materials, and design on project performance. With an R<sup>2</sup> value of 0.215, productivity has a significant positive effect on project performance, implying that variables in this study contribute 21.5% to project performance, while the remaining 78.5% is influenced by other factors. All PT Vitra Graha Interia employees who are directly involved in Bank BTPN's sharia projects from September 2019 to January 2020 are included in this study. The sample was drawn from the entire population (saturated sample). Eighty of the 270 distributed questionnaires were returned in full and could be analyzed. IBM SPSS 25 Applications will then be used to process the data. Testing revealed that educational, remuneration, and design factors are among the labor productivity factors that influence project performance. Meanwhile, at PT Vitra Graha Interia, experience and material factors have no effect on project performance. Meanwhile, with an R<sup>2</sup> value of 0.215, labor productivity has a significant positive effect on project performance at PT Vitra Graha Interia.

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## INTRODUCTION

A project can be said to be successful if the entire scope of work can meet the expected quality, according to the realization with the schedule, with the minimum cost and can be completed on time that has been agreed upon. Therefore, identify time, cost and quality as the three most important indicators to measure project performance (Meng 2012). However, due to the size and complexity of this industry, construction project implementation often has poor performance and is a concern among practitioners and academics (Thomas and Sudhakumar 2015). In its implementation projects often run inefficiently such as delays or delays in time, cost overruns, low productivity, poor quality and inadequate customer satisfaction (Eriksson and Westerberg 2011). Labor productivity is an important part of various construction plans related to project schedules, quality, and costs (Pawiro, Tjakra, and Arsjad 2015).

Productivity is a term in production activities as a comparison between output and input, the higher the productivity, the higher the level of project accuracy and the lower the wastage of costs that will occur. Productivity can also be interpreted as the level of efficiency in producing a good or service (Hernandi and Tamtana 2020). Efforts to produce better performance and increase productivity require an understanding of various productivity factors as a way to understand project performance (Soekiman et al. 2011). Factors that affect labor productivity need to be reviewed in various forms because in each project the factors that affect labor productivity are different, so in planning the workforce should be equipped with productivity analysis and indications of influencing variables. Thus the workforce can carry out their activities as expected (Pawiro, Tjakra, and Arsjad 2015). Poor project performance such as delays is caused by a lack of skills and expertise of the workforce where this workforce has low productivity so it takes a long time to complete a job on a project (Messah, Widodo, and Adoe 2013). Lack of workforce experience can cause a project to be judged to be running slowly (I. P. and Rini and Tenriajeng 2014). Poor performance is also found in companies where the determination of the number of wages and the time of receiving wages cannot meet workforce satisfaction, so it is following .

Maslow's theory of needs where if remuneration cannot meet the physiological needs of workers, they tend to have low productivity (Hatmoko 2014). Then another labor productivity factor that is seen to affect project performance is material. material factors are the most influential factors on project performance, delays in materials will cause unavailability of materials needed by workers, so workers are forced to stop/postpone work where this will interfere with labor productivity and affect the overall schedule (Margareth and Simanjuntak 2010). And the design factor has a fairly high influence value, especially in large-scale companies (Soekiman et al. 2011).

PT Vitra Graha Interia is a company engaged in Furniture and Interior Design. As a contractor, PT Vitra Graha Intera is the party responsible for the procurement of furniture for construction projects. The implementation of company projects is often delayed. Where project delays experienced by this company resulted in project cost overruns. One of them is a project owned by the Bank BTPN sharia project period from September 2019 to January 2020. The delay in project completion at PT Vitra Graha Interia was caused by several obstacles including material procurement problems, obstacles in the design process, workers who were unable to complete the project on time, then the quality of the project results are not following the agreed specifications so there must be rework. So based on these problems, this study aims to analyze labor productivity factors, especially the factors indicated to contribute to project performance problems at PT Vitra Graha Interia including education factors, experience factors, remuneration factors, material factors and design factors.

## LITERATURE REVIEW

### Labor Productivity

Productivity is a measure that states how to manage and utilize resources to achieve optimal results. Productivity can be used as a measure of the success of an industry in producing goods or services. So the higher the ratio, the higher the product produced (Harris, Alam, and Wibowo 2017). There are two measurements of productivity, the first measurement is the measurement of productivity in a wider angle called multifactor productivity or total factor productivity (TFP) where the product/service (output) is compared to many or all of the resources (input) (Haizer, Render, and Munson 2017). Multifactor productivity/total factor productivity (TFP) can be expressed in the following equation:

$$TFP = \frac{\text{Total Output}}{\Sigma(\text{Labors} + \text{Material} + \text{Equipment} + \text{Energy} + \text{Capital})} \quad (1)$$

Data for calculating Multifactor productivity/total factor productivity is relatively difficult to obtain, but in the process of measuring productivity, it can be done more easily and under control by using single-

factor productivity/partial factor productivity (PFP), namely the comparison of products/services (output) compared to specific one resource (input). One of the most commonly used PFP measures is labor productivity, which is defined as the ratio of output to labor input; the output is the quantity of products/services produced by the workforce, and the input is the labor time (Thomas and Sudhakumar 2015). Labor productivity is expressed in the following equation:

$$\text{Labor productivity} = \frac{\text{Output Quantity}}{\text{Working hours}} \quad (2)$$

Productivity is a term in production activities as a comparison between output and input, the higher the productivity, the higher the level of project accuracy and the lower the waste of costs that will occur. Productivity can also be interpreted as the level of efficiency in producing a good or service (Hernandi and Tamtana 2020).

### Factors of Labor Productivity

Labor productivity factors are all factors that affect productivity which is seen as a subsystem to show where the productivity potential and reserves are stored (Hendra, 2013). In another study, labor productivity factors were identified as key factors usually used by stakeholders in each to formulate strategies to improve their industry performance (Soekiman et al. 2011). The factors of labor productivity are based on several studies, namely research from (I. P. Rini 2017), (I. P. and Rini and Tenriajeng 2014), (Hatmoko 2014), and (Berk 2016) and indicators of influence on project performance are as follows:

#### 1. Educational Factor

Education is an activity to improve the ability of the workforce by increasing knowledge and understanding of general knowledge and economic knowledge in general, including increasing mastery of decision-making theory in dealing with organizational problems. While training is an activity to improve the ability of employees by increasing knowledge and operational skills in carrying out a job (Masram and Mu'ah 2015). Based on several studies, the indicators in this factor are the educational background / final level of the workforce, the knowledge, and ability of the workforce in each type of work, and training that is carried out periodically by the company to improve the ability of the workforce.

#### 2. Experience Factor

Experience is a measure of the length of time or period of work that the workforce has taken in understanding the tasks of a job and has carried it out well. The wider a person's work experience, the more skilled a person is in acting to achieve the goals set (Rizkie, Ani, and Hartanto 2019). Based on several studies, the indicators in this factor are the length of the workforce working in the same field, the skills of the workforce, and the experience of the project manager

#### 3. Remuneration Factor

A remuneration is a form of imbalance received by the workforce for their distribution to the organization (Jawad and Iqbal 2018). The focus of financial remuneration indicators on this factor is the number of wages received by workers who have met the needs of the workforce, the number of wages received by workers according to or commensurate with their work, and the timeliness of payment of labor wages.

#### 4. Material Factor

Material is the main component of the construction. Material is an item (goods) that is processed to make another item (Labombang and Qamaria 2012). The indicators for this factor are the availability of material that is maintained, the quality of the material is the best material quality, the scheduling/duration of time in material procurement so that the supply system is maintained and the material supplier is the chosen partner or supplier trusted by the company.

#### 5. Design Factor

One of the important documents in project activities is the Design document. A design document is a communication tool between the planning consultant and the contractor related to the design to be built. Design documents are generally submitted in the form of construction drawings and specifications (RKS) (Mahirudin 2010). Indicators of these factors are a complete design, clearly legible design drawings, no errors in the design, no changes to the design, duration of time for revision and distribution of design money, duration of time for approval of changes to the scope of work, rework resulting from design changes or production errors, and impractical designs.

### Project Performance

Project performance is a measure of how well a project is carried out in terms of objectives, time and budget constraints, and organizational policies and procedures (Institute 2017). Each project, as a distinct set of activities, has a specific goal to achieve. Limits have been established in the process of achieving these objectives, namely the amount of cost (budget) allocated, time/schedule, and quality limits that must be met. The triple constraint refers to these three constraints. These three constraints are critical parameters

for project implementation and are frequently linked to project goals. Because the three limits are mutually exclusive, it is generally followed if you want to improve the performance of the product that has been agreed upon in the contract. Project performance is a measure of how well a project is carried out in terms of objectives, time and budget constraints, and organizational policies and procedures (Institute 2017). Each project, as a distinct set of activities, has a specific goal to achieve. Limits reached in the process of achieving these objectives are typically followed by an increase in quality, which in turn increases costs that exceed the budget. On the other hand, if you want to cut costs, you usually have to sacrifice quality or timeliness. From a technical standpoint, the extent to which these three objectives can be met is the measure of project success (Dharmayanti, Adnyana, and Nugraha 2020).

### **Project Performance Indicator**

The level of success in carrying out tasks and the ability to achieve the goals that have been set is referred to as performance. If the desired goals are met correctly, performance is deemed good and successful. Many performance indicators related to various dimensions can be used to measure and evaluate project performance. such as time, cost, quality, customer satisfaction, client change, business performance, health, and safety. time, cost, and quality are the dominant dimensions of performance evaluation, which can be defined as follows:

#### **1. Time Performance**

Time performance is one element of a project's performance indicator is construction time. Time performance is the comparison between the agreed time between the owner and the contractor with the actual time of project completion. In this case, to achieve good project performance, the company must be able to carry out and complete the project on time according to the agreed schedule.

#### **2. Cost Performance**

Cost performance is an important criterion in project success. Cost performance is the most important indicator of project success that is used by many parties. This performance not only presents the profitability of the company but ut also the productivity of the organization at any time during the project process. Poor project cost performance is a major concern of customers. Based on the consequences above, the company must be able to ensure that the costs incurred for project work are the most optimal costs, do not experience swelling, and exceed the agreed budget.

#### **3. Quality Performance**

A quality performance is considered as a function of the procedures applied during the construction process. Quality is an important element for sustainable customer satisfaction. In the project, the contractor's quality performance is considered important for customer satisfaction. The company must be able to ensure that it can complete the project with results by the specifications agreed upon by the customer (Agsarini and Wiguna 2015).

## **METHOD**

PT Vitra Graha Interia, Jalan Manis Raya No. 13, Manis industrial area, Tangerang Regency, Banten, conducted this study. And the project under consideration is the Bank BTPN Sharia project, which will run from September 2019 to January 2020. This study's population is the workforce at PT Vitra Graha Interia, which is directly involved in The Bank BTPN sharia project from September 2019 to January 2020, totaling 270 workers from various positions ranging from top management to workers from all divisions. The sample in this study is drawn from a saturated sampling technique, or it is drawn from the entire existing population. Sugyono (2013) The independent variable (X) and the dependent variable (Y) were the variables in this study (Y). The independent variables are labor productivity factors based on the results of the literature study and adjusted to the research problem in this article, while the dependent variable is project performance. The variables used in this study are presented in the following figure :

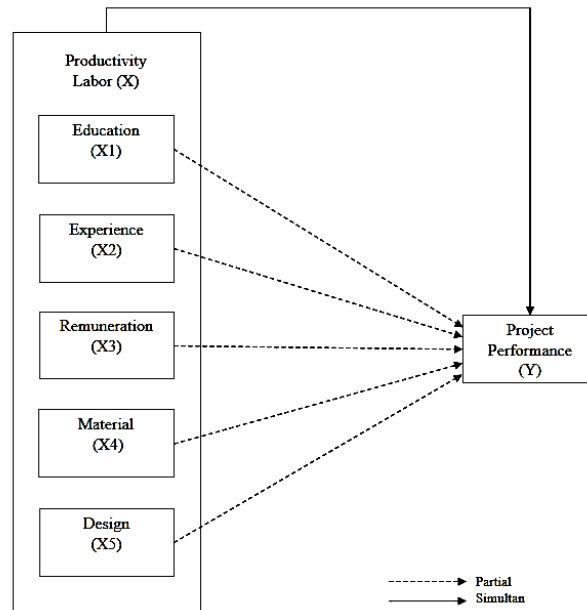


Figure 1. Variable

The types of data needed in this research are secondary data and primary data. Secondary data is obtained from literature studies, both previous research through journals or books, and project time schedule reports from companies. Primary data were obtained through interviews and distributing questionnaires directly to respondents. The scale used in the questionnaire is the Likert scale. Where the Likert Scale is used to measure attitudes, opinions, and perceptions of a person or group of people about social phenomena. Using a Likert scale, each respondent's answer is scored as follows:

Table 1. Likert Scale

| Qualification Answer     | Score |
|--------------------------|-------|
| <b>Strongly disagree</b> | 1     |
| <b>Disagree</b>          | 2     |
| <b>Neutral</b>           | 3     |
| <b>Agree</b>             | 4     |
| <b>Strongly agree</b>    | 5     |

A validity test is used to measure the validity or validity of a questionnaire. A valid instrument or questionnaire has a high level of validity. The instrument can be said to be valid if it can measure what is desired, able to reveal data from the variables studied appropriately. Using the SPSS 25 ordinal data application, the test is carried out by analyzing the correlation coefficient with the decision criteria if  $r > 3\%$  with a significant level of 5% (Sugiyono 2013). Reliability is a tool to measure the questionnaire which is an indicator of a variable. A questionnaire compiled can be said to be reliable or reliable if a person's answers to questions can be stable from time to time (Ghozali 2013). Calculation of reliability using the SPSS 25 application by looking at the reliability coefficients on alpha, the interpretation can be said to be reliable if the Cronbach alpha value  $> 0.6$  (Sugiyono 2013). This study uses data with an ordinal scale, so it is necessary to transform the data into data with an interval scale using the successive interval method. The successive method is used to change the data that was originally in the form of ordinal data into interval data. Several studies stated that the Likert scale is included in the ordinal scale (Suliyanto 2011). An ordinal data must be converted into an interval first as a condition to be able to perform mathematical procedures such as regression (Wahyuni 2021). Data analysis carried out in this research is a multiple linear regression analysis. Multiple regression analysis to determine the effect of each variable X (labor productivity factors) on variable Y (project performance) at PT Vitra Graha Interia. Data analysis was carried out with the help of the SPSS 25 application.

**RESULTS AND DISCUSSIONS**

Of the 270 questionnaires that have been distributed, as many as 85 questionnaires were returned, 80 questionnaires were answered completely and could be analyzed, as many as 5 questionnaires were not

answered properly, and as many as 185 questionnaires were not returned. With the number of questionnaires returned complete and can be analyzed, namely 80 questionnaires, the number of samples in this study has met the requirements of the right sample size. Based on Roscoe's opinion in (Sugiyono 2013), namely the number of samples in research with multivariate analysis (correlation or multiple regression), the minimum number of sample members is 10 times the number of variables studied. Where in this study there are 6 variables used (5 independent variables and 1 dependent variable), then the number of sample members is at least  $10 \times 6 = 60$ .

**Validity Analysis.** The instrument used in this study was declared feasible, as evidenced by the results of the following reliability and multicollinearity tests. The results of the validity test on all variables are as follows:

Table 2. Validity Test Results

| Variable                | Indikator | Correlation coefficient (r statistic) |
|-------------------------|-----------|---------------------------------------|
| Education (X1)          | x1-1      | 0.698                                 |
|                         | x1-2      | 0.786                                 |
|                         | x1-3      | 0.804                                 |
| Experience (X2)         | x2-1      | 0.851                                 |
|                         | x2-2      | 0.827                                 |
|                         | x2-3      | 0.719                                 |
| Remuneration (X3)       | x3-1      | 0.813                                 |
|                         | x3-2      | 0.835                                 |
|                         | x3-3      | 0.466                                 |
|                         | x3-4      | 0.620                                 |
| Material (X4)           | x4-1      | 0.800                                 |
|                         | x4-2      | 0.853                                 |
|                         | x4-3      | 0.847                                 |
|                         | x4-4      | 0.741                                 |
| Design (X5)             | x5-1      | 0.766                                 |
|                         | x5-2      | 0.641                                 |
|                         | x5-3      | 0.808                                 |
|                         | x5-4      | 0.855                                 |
|                         | x5-5      | 0.850                                 |
|                         | x5-6      | 0.793                                 |
|                         | x5-7      | 0.852                                 |
|                         | x5-8      | 0.771                                 |
| Project Performance (Y) | y1-1      | 0.900                                 |
|                         | y1-2      | 0.874                                 |
|                         | y1-3      | 0.695                                 |

Source : Primer 2021

Based on Table 2 above, it can be seen that all items or indicators of the variables studied, both the independent and dependent variables have a correlation coefficient value  $> 0.3$ . So it can be concluded that all of the instrument items are declared valid.

**Reliability analysis.** The results of the reliability test on all variables are as follows:

Table 3 Reliability Test Results

| Variable                | Alpha Cronbach | Result   |
|-------------------------|----------------|----------|
| Education (X1)          | 0.611          | Reliable |
| Experience (X2)         | 0.698          | Reliable |
| Remuneration (X3)       | 0.643          | Reliable |
| Material (X4)           | 0.822          | Reliable |
| Design (X5)             | 0.913          | Reliable |
| Project Performance (Y) | 0.770          | Reliable |

Source : Primer 2021

Based on Table 3 above, it can be seen that all items or indicators of the variables studied, both the independent and dependent variables have Cronbach's alpha values  $> 0.6$ . It is concluded that all variables are declared reliable.

**Demographic Characteristics of Respondents.** Based on data processing, several profiles of respondents were obtained which were presented with several groupings of respondents' characteristics, namely based on position/work section, length of work, and last education which can be seen in the following table:

Table 4. Respondents Work Section

| Work section          | Frequency | Percentage |
|-----------------------|-----------|------------|
| Top Management        | 16        | 20.0%      |
| Staff                 | 3         | 3.8%       |
| Div. Production       | 38        | 47.5%      |
| Div. Glass            | 1         | 1.3%       |
| Div. Metal            | 4         | 5.0%       |
| Div. finishing        | 7         | 8.8%       |
| Div. Sofa             | 9         | 11.3%      |
| Div. Fiber and marble | 1         | 1.3%       |
| Div. Packing          | 1         | 1.3%       |
| Div. Set up           | 0         | 0%         |
| Div. shipment         | 0         | 0%         |
| Total                 | 80        | 100%       |

Source : Primer 2021

Based on the table above, it can be seen that most of the respondents were from the production division, namely 38 people or 47.5% of the total respondents. Then in the second place the most respondents were from the top management as many as 16 people or 20% of the total respondents. Furthermore, in the third place, namely from the sofa division, as many as 9 people or 11.3% of the total respondents. In fourth place, namely the finishing division, there were 7 people or 8.8% of the total respondents. Then in fifth place are respondents from the metal division 4 people or 5% of the total respondents. Then the staff ranks sixth, namely 3 respondents or 3.8% of the total respondents. Then the seventh place is the glass division, fiber & marble division, and the packing division with 1 respondent or 1.3% of the total respondents. Finally, the part where there are no respondents is from the setup division and the shipping division.

Table 5. Respondents Length Of Work

| Length of work  | Frequency | Percentage |
|-----------------|-----------|------------|
| 1-9 years       | 34        | 42.5%      |
| 10-19 years     | 27        | 33.8%      |
| 20-29 years     | 15        | 18.8%      |
| $\geq 30$ years | 4         | 5.0%       |
| Total           | 80        | 100%       |

Source : Primer 2021

Based on the following table, the number of respondents with the most length of work is in the range of 1-9 years having worked, namely 34 people or 42.5% of the total respondents. Then in second place the most are respondents with 10-19 years of work experience with a total of 27 people or 33.8% of the total respondents. Then in the range of 20-29 years of work there are 15 people or 18.8% of the total respondents and the group with the least number of respondents is in the range of 30 years with a total of 4 people or 5% of the total respondents.

Table 6 Respondents Education

| Education          | Frequency | Percentage |
|--------------------|-----------|------------|
| Bachelor degree    | 8         | 10%        |
| Senior High School | 64        | 80%        |
| Junior High School | 8         | 10%        |
| Total              | 80        | 100%       |

Source : Primer 2021

Based on the table, it is known that most respondents have the latest Senior high school education with a total of 64 people or 80% of the total respondents. Then the respondents whose last education was Bachelor degree and Junior High School had 8 people or 10% of the total respondents.

**Multiple Linear Regression Analysis.** The results of the analysis of this study through the multiple linear regression method obtained several results. First, the direction of the influence of productivity factors (X) on Project Performance (Y) both positively and negatively through Unstandardized Coefficients (B) analysis which forms the regression model equation. Second, testing the effect of variable X on variable Y partially through t-test with Criteria  $t_{\text{value}} > t_{\text{table}}$ ,  $\text{sig} < 0.05$  and simultaneously through F test with Criteria  $F_{\text{value}} > F_{\text{table}}$ ,  $\text{sig} < 0.05$ . Then the third, the large percentage of the contribution of the influence of Productivity Factors on project performance through the value of the coefficient of determination. All outputs can be seen in the following table:

Table 7 Multiple Linear Regression Results

| Variable          | Unstandardized Coefficients (B) | $t_{\text{statistic}}$ | Sig   |
|-------------------|---------------------------------|------------------------|-------|
| Constant          | 2.709                           | 4.060                  | 0.000 |
| Education (X1)    | 0.222                           | 2.508                  | 0.014 |
| Experience (X2)   | -0.087                          | -0.012                 | 0.991 |
| Remuneration (X3) | 0.291                           | 3.036                  | 0.003 |
| Material (X4)     | -0.239                          | -0.813                 | 0.418 |
| Design (X5)       | 0.117                           | 2.257                  | 0.027 |
|                   | $F_{\text{statistic}} = 5.329$  |                        |       |
|                   | $\text{Sig} = 0.000$            |                        |       |
|                   | $R^2 = 0.215$                   |                        |       |

Source : Primer 2021

Based on table 7, it is found that the multiple regression model equation is  $Y = 2.709 + 0.222X_1 - 0.087X_2 + 0.291X_3 - 0.239X_4 + 0.117X_5$ . The value of Unstandardized Coefficients (B) / regression coefficient shows that from the 5 variables studied 3 variables have a positive effect, namely Education, remuneration, design; and 2 other variables have a negative effect, namely experience and material. Variable The positive value of the regression coefficient means that changes in the X variable will have a unidirectional effect on the Y variable. In this case study the increase in project performance by education is 22.2%, remuneration is 29.1%, and Design 11.7%. While the variable with a negative value of the regression coefficient can be interpreted that changes in the X variable will have the opposite effect on the Y variable. In this case study, the decline in project performance by experience is 8.7% and material is 23.9%.

Testing the influence of labor productivity factors on project performance simultaneously through the F test found that labor productivity has a significant positive effect on project performance, this can be seen through the test results, namely the calculated F value  $> F_{\text{table}}$  ( $5.329 > 0.226$ ) and the significance value  $< 0.05$  ( $0.000 < 0.05$ ), it can be concluded that all variables (education (X<sub>1</sub>), experience (X<sub>2</sub>), remuneration (X<sub>3</sub>), material (X<sub>4</sub>), and design (X<sub>5</sub>)) have a significant positive effect. simultaneously on project performance. Then based on the t test, the labor productivity factor that proved to have a significant effect on project performance was education with a t statistic value  $> t_{\text{table}}$  ( $2.508 > 1.993$ ) and a significance



value of  $< 0.05$  ( $0.014 < 0.05$ ). Remuneration with statistical  $t$  value  $> t$  table ( $3,036 > 1,993$ ) and its significance value  $< 0.05$  ( $0.003 < 0.05$ ). And a design with a static  $t$  value  $> t$  table ( $2.257 > 1.993$ ) and a significance value of  $< 0.05$  ( $0.027 < 0.05$ ). Then the result of the coefficient of determination ( $R^2$ ) is 0.189 or 18.9%, it can be concluded that the value of the dependent variable, namely project performance can be explained by the regression equation of 21.5% while the remaining 78.5% is explained by other variables outside the model. regression equation in this study.

Through this research it was found that labor productivity factors can affect performance, in this case study these factors are education, remuneration, and design. The results of this study are in line with research from Permono (2015) that the formal education of the workforce is an important indicator in the placement of workers on a project. In addition, formal education also influences the achievement of project quality. The level of knowledge and skills of the workforce is also important for project performance, while in the study of Noumeiry and Aqli Mursadin (2017) where the resource factor indicators of the quality and skills of the workforce have a high influence on project performance. then, at PT Vitra Graha Interia project work is a job that is done manually and relies on the ability of each workforce. Workers are required to have high skills in carrying out their work, so every ability must continue to be honed to increase knowledge which will increase effectiveness and efficiency in work, in line with research from Djukardi and Semiawan (2018) where periodic training has a significant impact on overall project performance. The results of a person's work based on his ability can be seen directly in the quality of project results.

Then through this study, it can be, from the number of wages received and the time of receiving the wages can have an impact on the workforce, in line with research Hatmoko (2014) where workers who are not satisfied with the wages given compared to the workload tend to reduce their productivity which will interfere with project work. As a contractor, PT Vitra Graha Interia must always ensure that every product is following what the project owner wants, then the limited work time puts pressure on the workforce plus wages that are considered not following the workload and payment of wages that are often not following the workload. The schedule is one of the causes of the low motivation of the workforce working this is in line with research from Rini and Tenriajeng (2014) where the lack of motivation in the workforce can have an impact on the productivity of the workforce so that it will cause delays in project completion

Design factors can affect project performance in this case study, it can be seen in how the company conducts business. As a company that produces goods with a custom system that requires a high level of art, design drawings of course become important items for the running of the project. at PT Vitra Graha Interia, the project will start running if the design drawings have been approved by all parties, the changes, approval of the design drawings will affect the project implementation time. Then, incomplete images, unclear images even design errors and others of course will affect the results of the product considering that the product made will be adjusted to what the customer wants through the design drawing. This is in line with the results of research from Ferdian et al. (2018) the design factor shows a very high relationship and becomes the dominant factor that affects project quality performance. Then it is also supported by research from Kartika, Robial, and Agung (2020) that changes in design will affect project performance and based on research Soekiman et al. (2011) where based on the value of the Relative Importance Index (RII) the design has a high influence on project performance.

## CONCLUSION

At PT Vitra Graha Interia, labor productivity has a significant positive impact on project performance. The labor productivity factors tested in this study, namely education, remuneration, and design factors, had a significant positive effect on project performance, whereas experience and material factors had no significant positive effect. Labor productivity factors, as independent variables, can explain 21.5% of project performance as the dependent variable, with the remainder explained by variables outside of this study.

The identification of labor productivity factors can be used by the company as a strategy to improve project performance. Companies can effectively create change by paying more attention to labor productivity factors that are considered capable of influencing or in this discussion improving project performance. Based on the results of this study, companies need to pay attention to the education factor of the workforce, ensuring that the workforce has sufficient education and skills that are continuously honed. To achieve the desired project performance, the company must also ensure the satisfaction of the workforce with the remuneration they receive and at the same time pay attention to the design factors in each project activity that has been running well.

Projects are unique activities and different circumstances in each company can be influenced by different productivity factors, so further research is expected to add to the variables tested. Then it can also add data and test on other types of respondents and a wider scope of research.

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