Examining workers motivation in construction project with structural equation modelling

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Abstract: This research examined workers’ motivation in construction projects with structural equation modeling (SEM) for optimal performance. It also determined the influence of independent variables, such as workers’ pay, workers’ performance, communication, employer, local cultural, trust, work experience, and job satisfaction, on the dependent variable, including the work motivation of project workers. The sample consists of 31, 9, 23, 5, and 32 respondents in West Java, Central Java, East Java, Yogyakarta, and Jakarta, respectively. The collected data were analyzed using Structural Equation Modelling. The results showed that the independent variable, namely workers’ pay, workers’ performance, communication, employer, local culture, work experience, and job satisfaction, had a positive effect on work motivation. Meanwhile, the trust had a negative effect.

Subjects: Engineering Management; Engineering Project Management; Civil, Environmental and Geotechnical Engineering

Keywords: work motivation; local cultural; communication; trust; work experience

1. Introduction

The motivation of construction workers is described as the work spirit possessed and exhibited when handling a particular project. This must be known because it closely relates to work productivity or output. The motivation of construction workers needs to be examined due to the relevance of human resources. For example, in circumstances where these are lacking, the project would not be smoothly executed it can even lead to its abortion. The number of human resources at a project site is usually quite large, ranging from the workers, builders, chief craftsmen, foremen, implementing assistants, executors, and site engineers. In addition, the experts and project managers all work together to ensure the entire process is executed correctly. Most of the human resources are artisans, the project manager is only one person, and the site engineers are few. According to Farashah et al. 2019, during building construction, assuming there are no workers at the site, the structure would not be realized, and this means that the least of them is valuable.

Human resources, including construction workers, are unique factors of production and when properly nurtured, they can produce added value. Therefore, they are the focus of development in general and construction to be specific.

PUBLIC INTEREST STATEMENT

The work motivation for construction project companies is the enthusiasm of workers to produce a maximum performance for more significant benefit with guaranteeing employee welfare. This research determined the dominant and non-dominant variables influencing the work motivation of construction project workers. The result showed that local culture and work experience dominate the workers’ motivation in the construction project, while trust and communication were insignificant.
Work motivation is the workers’ enthusiasm desired by the company to achieve its objectives, including maximum work output. In other words, it simply implies the realization of high productivity to guarantee the firm’s stability. Barg et al. (2014) stated that motivation is one of the key factors influencing productivity.

Workers need to be guaranteed conducive working conditions to boost productivity, specifically considering the tired ones. Some experiments proved that the proposed physical fatigue assessment method automatically evaluates the level of tiredness. Furthermore, a series of experiments demonstrated a potential method for assessing the level of physical fatigue under various construction tasks such as site layout and work break schedules (Yu et al., 2019).

Workers’ motivation or enthusiasm must always be maintained to realize high productivity and ensure the project is completed earlier than the specified schedule. Janette et al. (2016) stated that high motivation has a better perception of health and work outcomes.

Several preliminary research were carried out on managers’ motivation, and only a few have been investigated at workers’ level. It is also important to discern workers’ level of morale or work motivation. This enables the innumerable construction workers to be addressed based on their work productivity. It is also critical to boost project managers’ motivation, which has become a major concern for organizations. This research developed and evaluated an integrated model, namely “Motivational Factor Inventory” (MFI). Interestingly, it was used to determine the factors that influence the motivation of project managers (Seiler et al., 2012).

Artisans are human resources whose jobs are the meanest compared to the other workers, besides it is impossible to erect a magnificent building without them. Most often, only those at the expert and managerial levels are trained to obtain a certificate of expertise. Project management (PM) is one of the numerous professional and voluntary certifications (Blomquist et al., 2018).

Work spirit or motivation does not usually receive enough attention in obtaining a certificate, compared to the project manager, leader, etc. Based on this reason, it is high time workers’ enthusiasm was made known, and their morale was revealed in this research. It was discovered that the motivation to lead is related to formal leadership guidance achieved through increased self-efficacy (Joo et al., 2018).

The morale or work motivation of the construction workers is not solely financial intensive, which is necessary because everyone needs money, although it is not the main issue. Observers of this industry touted the use of financial incentives as motivators and commitments to projects, evidently it is less important than relationship improvement initiatives (Rose & Manley, 2011). Incidentally, Rose and Manley (2011) only examined the relationship between four variables, namely financial incentives, project environment, motivation, and performance, although this research reviewed many more attributes.

The analysis carried out on motivation and financial incentives are basically unprofitable, because these are also affected by other variables. Meanwhile, continuous motivation triggered by financial incentives is one of the most frequently discussed consequences. There are also slight potentials that are perceived as being unfavorable from a performance-based financing perspective (Lohmann et al., 2018).

It was discovered that nurses who have high intrinsic and extrinsic motivation actually have better perceptions of health and work outcomes. This means that the individuals are less likely to say they will leave, are fatigued, and experience negative physical symptoms than those who are prosaically motivated and are more likely to report work fatigue (Janette et al., 2016).
Based on the aforementioned description, it was summarized that the dependent and independent variables are work motivation, financial incentives, project environment, performance, work fatigue, relationship improvement, and leadership initiatives.

According to previous research, the dependent variable is work motivation, while the independent ones are financial incentives, project environment, work fatigue, performance, relationship improvement initiatives, and leadership. Furthermore, these are summarized as follows financial incentive is included in the worker’s payment variable. Fatigues, and project environment, are categorized under the artisans’ performance variable. The performance is included in the Builder’s Performance variable. The relationship improvement initiative is categorized under the communication variable. The leadership attribute is placed in the managers’ superior variable. According to previous research, the independent variables were summarized into 4 four, namely Handyman, Performance, Communication, and Managers’ superior.

This present research is based on the dependent variable work motivation, while the independent ones reported in preliminary research are four, namely worker payment, performance, communication, and supervisor handyman. However, new variables were added, such as local cultural, trust, work experience, and job satisfaction.

The purpose of this research was to determine the positive relationship between the independent variables, namely Local cultural (X1), foreman (X2), communication (X3), Trust (X4), work experience (X5), payment worker (X6), Job satisfaction (X7), and performance variables (X8), and the dependent one, namely: work motivation variable (Y). In addition, the dominant and non-dominant variables that influence the dependent one, namely work motivation, were also determined.

2. Literature review
The success of a construction project is primarily determined by a minimum of five resources, namely human, financial, material, equipment, and work methods. Human resources play an essential role and dominate the other four. However, assuming the project is completed on time, cost-effective, and of good quality, it is assumed to be successful. According to Al-Hajj and Zraunig (2018), this also depends on the practitioners and human factors.

2.1. Workers salary variable
Salaries are not sufficient to earn a living, therefore, people have to find other means of survival in order to adapt to the successive or varying constraints encountered at each stage of their lives (Darwin, 1895). In accordance with another example, the ruler for membership records is mutable. Payment can only be made when complete attendance data can be accounted for, and indexes provide much classified information. For instance, the index for Social Security Numbers (SSN) provides all social security numbers. The salary index provides unique values and a list of multiple occurrences primarily centered on those earning a certain amount (GORMAN, 1991).

This research provides new evidence of gender disparities in behavioral and salary negotiations between recent college graduates and prospective managers and the subsequent outcome. It was concluded that there was a slight gender gap, although it is worth noting the homogeneity of the sample. In particular, this research highlights the importance of negotiating behavior to account for lesser salary demands for reduced or even gender pay gap (Säve-Söderbergh, 2019).

The major reason people work is to make money to meet daily needs. This is because everything is bought with money, and without it, life becomes unsustainable. However, good relations between the workers take precedence. Observers of the construction industry touted the use of financial incentives as a motivator and commitment to the project, which is less compared to the relationship improvement initiatives (Rose & Manley, 2011).
The construction workers, in addition to needing money for certain expenses, are also expected to improve their skills and expertise to obtain an increase in wages. Furthermore, it is necessary to provide training and development needs for workers. Performance appraisals were carried out based on providing information about the performance of the ranks, decisions regarding salary revisions, confirmations, promotions, and demotions (Marawar et al., 2013).

2.2. Handyman performance variable
Anyone can start a handyman business, although it takes diligence to start a successful one. This research reveals the secrets to unlocking success in this type of business. These are made up of four hard-learned truths that, when understood and applied, no one can stand between the owner and success. However, these are bound to help one jumpstart this business as well as aids them to become better people. Starting a handyman business can be scary. Implementing these four secrets can help one face and overcome certain fears that have been holding them back from making that leap. This information has the power to equip one with the necessary resources to not only start a handyman business but take it to the next level (Lee, 2018).

Development as a form of controlling the consequences of human error is a more productive approach than striving to eliminate it, and this is because the impact of education and experiences of construction craft workers in Indonesia reduces its outcome. According to industry leaders, managers, and construction stakeholders, one of the fundamental solutions to chronic problems such as high mortality rates during these projects is investing in recruitment processes, educational programs, rigorous training, and craft containment workers (Karimi & Taghaddos, 2019).

There is a need to understand the job demands of task-level, resources, burnouts, and performances of unskilled construction workers. The essence is to determine how task demands and personal resources affect construction workers’ productivity due to their unskilled performances and safety. High fatigue and engagement indicate absolute productivity and low safety performance. Therefore, fatigued workers have a greater chance of failing to comply with safety (Lee et al., 2020).

2.3. Communication variable
Communication is an important variable because the construction project organization is a complex one, and it involves numerous resources. This includes the relations amongst workers and their colleagues, superiors, outsiders, etc. On-site communication problems are minimized by observing measures to reduce noise, honesty between workers and supervisors, reduction of on-site intimidation, as well as encouragement and creativity. Furthermore, communication is helpful for companies, developers, construction and project managers, etc, to boost productivity and profits (Olanrewaju et al., 2017).

Communication is necessary for completing construction projects, specifically jobs that are fundamental, and complex in the sense that the number of work items is also large. It is needed for its explanation and to ask certain questions. Besides, it is needed to effectively communicate the areas of cost, scope and time, and quality. Communication is a function that integrates cost, scope, and time to achieve quality products, and perceived as having basic functions (BG Zulch 2014).

2.4. The workers’ supervisor (foreman)
Transparency and regular communication is an ideal solution. Presently, there are huge differences in the bureaucratic or administrative sector in various companies. A supervisor who does not engage and communicate with workers is bound to lose to a more nimble company (Luthans, 2009).

There is a need to identify the important characteristics that a construction project manager must possess to ensure successful communication. Its knowledge and leadership styles contribute to solving certain problems usually encountered. The project manager needs to be able to
summarize the situation and then adjust his leadership style to suit the particular circumstance (Benito Zulch 2014).

Project management, which includes recognizing that leadership can contribute to successful project outcomes, has stopped short of specifically identifying leadership traits as significant contributors to project success. Meanwhile, relevant leadership characteristics involve identifying effective communication, accessibility, intelligence, and competence. But the challenge is how to integrate these qualities to deliver a project. Construction project managers are always instructed to try to intuitively adopt different leadership traits to suit the various jobs and people (Ekung, Ekung, & Ujene 2014).

2.5. Local cultural variables
Having a good company culture is extremely important. This is because culture usually evolves together with the people who created it, therefore, the Trust You family members were asked to define its meaning (Jakob, 2016).

Local development and community wellbeing are central to many of these cultural case research and a keen sense of “place” These examples reveal the ways in which policy and strategies are developed (Gibson et al., 2013).

A collection of culture-led policies in small towns and rural communities, to research how local culture-led policies are constructed as a collection of mobile global policy discourses mixed and translated through local traditions, local practices, materialization, and institutionalization. The dynamic tension needs to be analyzed to understand the construction of local cultural policies (Lysgård, 2019).

Engineering resilience into a system is largely about directing the development of its culture towards a better ability to anticipate, monitor, respond, and learn. The concept of safety is the focus because it is widely used in the construction industry and bridges scientific and practical interests (Oedewald & Gotcheva, 2015).

2.6. Trust variable
This research aims to investigate how trust can be built in the relationship between a project developer and its stakeholders (Karlsen et al., 2008). The original publication Building Trust in Diverse Teams: The Toolkit for Emergency Response was produced as part of Phase I of the Emergency Capacity Building (ECB) Project, a collaborative effort of the seven organizations of the Inter-agency Working Group on Emergency Capacity: CARE International, Catholic Relief Services, the International Rescue Committee, Mercy Corps, Oxfam GB, Save the Children, and World Vision International. These agencies and their partners jointly address issues of staff capacity, accountability, and impact measurement, including disaster risk reduction, to improve the speed, quality, and effectiveness of the humanitarian community in saving lives, safeguarding livelihoods, and protecting the rights of people affected by unforeseen circumstances. A five-year second phase of the ECB Project commenced in August 2008 (Smith et al., 2019).

Building trust in construction partnership projects requires exploring the concept and review literature on inter-organizational relationships. This research also described its relations to risk control, performance, and how certain initial conditions and expectations can lead to a positive or negative cycle, thereby boosting or reducing one's confidence. It was concluded that the initial conditions for this project alliance are conducive to trust, both in terms of opportunities and incentives (Laan et al., 2011).

2.7. Work experience variable
It is assumed that people are expected to learn from this research, enjoy the process, and then apply what they have learned. The concepts and models aid in producing more effective workers, managers, trainers, and human resources professionals (Werner & DeSimone, 2012).
In terms of security, it was reported that over the past few decades, the construction industry has suffered a disproportionately significant fatality rate compared to another establishment. It is a widely accepted fact that human error is one of the major contributors to accidents in this company. In situations where the workers are highly educated, a much lower risk of fatal injury is recorded. However, the mortality rate is significantly reduced when they are highly experienced. This shows that education and experience are independent of each other, therefore, the two variables are not in conformity with the desired goals (Karimi & Taghaddos, 2019).

2.8. Job satisfaction variable
Locke comprehensively defined job satisfaction as a cognitive, affective, and evaluative reaction or attitude. It is also described as “a pleasurable or positive emotional state that results from the appraisal of one’s job or experience”. 101 stated that it is the employees’ perception of how well their job provides those things that are viewed as necessary. In organizational behavioral field, job satisfaction is generally the most important and frequently studied workers’ attitude (Luthans, 2009). Workers’ strong customer orientation also increases their job satisfaction and commitment, specifically when they are usually in contact with their clients (Kotler & Lane Keller, 2016).

3. Research methods

3.1. Population and sample
This descriptive research aims to define relevant allies to obtain the actual representation. The population comprises mostly of construction project workers in Java, Indonesia. This includes 31, 9, 23, 5, and 32 respondents from West Java, Central Java, East Java, Yogyakarta, and Jakarta, respectively.

3.2. Research data
Data was obtained through questionnaires distributed to the respondents, mostly construction project workers who have background skills or expertise (masons, carpenters, electricians, etc). They have varied educational background from Primary to Junior and Senior High School, as well as others, as shown in Figure 1.

In addition, they also have varying work experiences, relatively 57%, 24%, 13%, and 6% have 5 to 10 years, 11 to 15 years, 16 to 20 years, and > 20 years experience, respectively, as clearly shown in Figure 2.

In this research, questionnaires were distributed to 120 respondents, however, 100 of them were returned and processed, and the remaining 20 were not returned.

3.3. Data collection
Data collection was carried out using the questionnaire method, which was distributed to the respondents, mainly workers of construction projects undertaken by contracting companies. The
accepted physical value varies in magnitude and informants were selected according to the size of the project. These are dependent on its value, when it was > 10 billion, within 3 to 10 billion, and <3 billion approximately 34%, 13%, and 3% of respondents were selected, as shown in Figure 3.

After the data has been collected, it was further processed statistically using the structural equation modeling (SEM) analysis, which is useful for solving emergent problems.

3.4. Data analysis
Field data were collected through the distributed questionnaires while SEM were used to analyze the responses obtained from 100 respondents (Ferdinand, 2006). Furthermore, questionnaires were distributed at intervals of one to five, thereby converting the originally qualitative data to quantitative information. Figures 1-5 show that the weight of the statement is very does not affect, does not affect, doubt, influence, greatly affect.

The essence of the distributed questionnaires is to explore the factors that influence the work motivation of construction project workers. It was then followed by determining the dominant and non-dominant ones that have an impact on this variable. These factors were obtained by using the SEM method.

4. Analysis and discussion
After the data has been collected and entered into the SPSS version 16 program, a prerequisite test was conducted. The essence is to ascertain which items suitably represent the independent variables in this research. SEM analysis is further carried out to determine the causality relationship between these variables.
4.1. Validity and reliability tests
Validity test is intended to determine whether the questions are representative. The second test (questionnaire) is reliability, which is an index that shows the extent to which the measuring instrument is reliable or can be trusted. It is also a degree of the internal consistency of the indicators of a constituted variable.

In this research, composite (construct) reliability with a minimum cut-off value of 0.7 was adopted. The validity and reliability tests were carried out on each latent variable using the confirmatory factor analysis and AMOS 16. Incidentally, the results showed that all of them were valid and reliable.

4.1.1. Validity test
The results of the Convergent Validity Test, and Average Variance Extracted (AVE), are Local culture (X1), Foreman (X2), Communication (X3), Trust (X4), Work experience (X5), Payment worker (X6), Job satisfaction (X7), Artisan performance (X8), and Work motivation (Y) are 0.748, 0.810, 0.822, 0.802, 0.664, 0.807, 0.796, 0.873, and 0.617, respectively. Where (X1)—(X8) are the independent variables and (Y) is the dependent one. To indicate an item has convergent validity, the loading factor needs to be at least 0.5 (Hair Jr et al. 200). The results showed that the outer loading of all indicators on this questionnaire is greater than 0.5, therefore, all are valid. Meanwhile, based on AVE, all latent variables have a value of > 0.5, meaning they are all valid.

4.1.2. Reliability test
The reliability test was carried out to ascertain the extent to which a measuring instrument can give relatively the same results when repeated measurements are made on the same subject (Hair et al., 2006). The results showed that the construct reliability of each variable is Local culture (X1), Foreman (X2), Communication (X3), Trust (X4), Work experience (X5), Payment worker (X6), Job satisfaction (X7), Performance (X8), and Work motivation (Y), are 0.931, 0.903, 0.927, 0.952, 0.834, 0.925, 0.931, 0.970, and 0.881, respectively. Each variable has an indicator of at least 0.7 (Hair et al., 2006), and a construct reliability of > 0.7. It was concluded, that these indicators are reliable for measuring the constructs of Local culture (X1), Foreman (X2), Communication (X3), Trust (X4), Work experience (X5), Payment worker (X6), Job satisfaction (X7), Performance (X8), and Work motivation (Y) variables.

4.2. Structural equation model (SEM)
The hypotheses were tested with the SEM analysis. However, several requirements need to be met before usage. This includes the model must meet the goodness of fit, and the evaluation criteria are reported as follows.

4.3. Multivariate outlier evaluation
Outliers are data that have unique characteristics which seem different from other observed information. Both single and combined variables usually have extreme values. The outliers in this research were evaluated using a multivariate analysis based on the value of Mahalanobis distance. However, assuming either P1 or P2 is less than 0.05, then the observation number point contains an outlier.

In circumstances where there are several observational numbers, and some have P1 and P2 values less than 0.05, it can be ascertained that the observation number contains an outlier. Any observation number value that contains an outlier in the research must be removed. This is because it is bound to affect univariate and multivariate normality results. According to Ferdinand (2006), assuming there are outliers at the multivariate level, it will not be eliminated from the analysis because the data illustrates the real situation, and there is no specific reason in respect to the respondent’s profile that causes it to be excluded. Therefore, observation numbers, including with and without outliers, were used as the samples because these are used to describe the actual conditions in this research.
4.4. Data normality test

The testing of subsequent data is used to analyze the normality level of those used in this research. Its assumptions need to be met for the data to be further processed using SEM modeling. The univariate normality is tested by observing the value of skewness and kurtosis used. However, assuming the values of CR on skewers and kurtosis data is within the range of ± 2.58, it is presumed to be normal. The univariate and multivariate normality data were used during the SEM analysis.

Based on the CR Kurtosis of each indicator with a value within the range of ± 2.58, it was concluded that most of the indicators are normally distributed with respect to the univariate analysis. Meanwhile, the multivariate test has a standard CR value of 27.045, and where it is greater than 10.000, it was concluded that the resulting data are abnormally distributed. Therefore, the acquired results are distributed univariately and not multivariate.

This is due to the outlier tests carried out at the multivariate level. However, they were not eliminated from the analysis because the acquired data describes the actual situation, thereby resulting in a normal distribution.

4.5. Multicollinearity and singularity

The determinant of the covariance matrix detects multicollinearity and singularity. Meanwhile, an extremely small value implies there are multicollinearity and singularity problems.

Table 1 shows that the determinant value of the sample covariance matrix is equivalent to 0.000. Based on this, it was concluded that there were no indications of multicollinearity and singularity problems in the analyzed data. In addition, multicollinearity can be detected through the condition number (CN) covariance matrix statistics. CN statistics are identified as the ratio of the maximum to the minimum eigenvalue. When its coefficients exceed 1000, it simply implies the presence of multicollinearity among the variables studied. It was further presumed that the data used lacks multicollinearity and singularity.

4.6. Goodness of fit model suitability test

After the model had been formulated, the modification indices were determined, and a covariance value path was suggested. A fit index value is obtained using a covariance error constrained by a two-way arrow which is the cause of the model’s lack of fit. The goodness of fit results after the modification indices are shown in Table 2.

The suitability of the research model is used to test the goodness of fit. The test results in Table 2 were determined from nine existing criteria, three of them are categorized under the marginal fit, while five of them are fit. Overall, it was stated that the research model has a fairly good level of goodness of fit.

The next evaluation is the SEM analysis used to test the models and hypotheses developed in this research. In this process, two tests were carried out, namely the suitability of the model

| Table 1. Sample covariances (group number 1) |
|-----------------------------------------------|
| Condition number (CN): 941.931               |
| Eigenvectors:                                |
| 10.293 3.593 3.368 2.568 2.143 1.261 1.108 .914 .828 .686 .623 .489 .479 .447 .413 .370 .343 .338 |
| .295 .252 .244 .234 .199 .171 .169 .161 .144 .142 .119 .115 .109 .093 .081 .081 .066 .061 .056 .052 |
| .047 .042 .039 .035 .030 .025 .022 .019 .014 .011 |
| Determinant of sample covariance matrix: .000 |
analysis and the significance test of causality realized through the regression coefficient evaluation.

After it was determined that the model met the stipulated requirements, the regression weight test was conducted. The essence is to determine the rejection or acceptance of the hypotheses, as shown in Table 3.

Based on the data processing results, the model is either accepted or rejected by comparing the Critical Ratio (CR) and Probability (P) values. However, assuming the results obtained have a CR value greater than 1.96 and P less than 0.05, the proposed hypothesis is accepted. The testing of the six proposed hypotheses were discussed in the following stages.

H1: local culture influences work motivation.

Hypothesis 1 states that local culture influences work motivation. Based on data processing, it was evident that the CR and P values are 4.153 and 0.000, respectively. These results indicated a CR and P values are greater than 1.96 (4.153 > 1.96) and less than 0.05 (0.000 < 0.05), respectively. This showed that local culture influences work motivation, therefore, hypothesis 1 (H1) is accepted. Surprisingly, this variable is a new finding that does not exist in previous research, and the results are significant.

H2: masons’ superiors (foremen) affect work motivation.

| Variable | Estimate | S.E. | C.R. | P  |
|----------|----------|------|------|----|
| Work motivation ← Local Culture (X1) | .799 | .192 | 4.153 | *** |
| Work motivation ← Foreman (X2) | .231 | .059 | 3.880 | *** |
| Work motivation ← Communication (X3) | .255 | .098 | 2.606 | .009 |
| Work motivation ← Trust (X4) | −.264 | .091 | −2.908 | .004 |
| Work motivation ← Work Experience (X5) | .389 | .097 | 3.997 | *** |
| Work motivation ← Salary (X6) | −.113 | .077 | −1.461 | .144 |
| Work motivation ← Job satisfaction (X7) | −.117 | .088 | −1.327 | .184 |
| Work motivation ← Performance (X8) | .028 | .060 | .464 | .642 |
Hypothesis 2 states that masons’ superiors affect work motivation. Based on the data processing, it was evident that the CR and P values are 3.880 and 0.000, respectively. This showed that the CR and P values are greater than 1.96 (3.880 > 1.96) and less than 0.05 (0.000 < 0.05), respectively. It simply implied that mason’s superiors (foremen) affect work motivation, therefore, hypothesis 2 (H2) is accepted. The foremen test results are in line with the previous research carried out by Joo et al. (2018).

H3: communication influences work motivation.

Hypothesis 3 states that communication influences work motivation. Based on data processing, it was evident that the CR and P values are 2.606 and 0.009, respectively. These results indicated that the CR and P values are greater than 1.96 (2.606 > 1.96) and less than 0.05 (0.009 < 0.05). This showed that communication influences work motivation, therefore, hypothesis 3 (H3) is accepted. The communication test results are consistent with the previous research carried out by Rose and Manley (2011).

H4: Trust from superiors or foremen influences work motivation.

Hypothesis 4 states that the belief in superiors or foremen influences work motivation. In accordance with the data processing technique, it was evident that the CR and P values are −2.908 and 0.004, respectively. These results indicated that the values of CR and P are greater than 1.96 (2.908 > 1.96 or −2.908 < 1.96) and less than 0.05 (0.004 < 0.05), respectively. This showed that the trust from superiors or foremen influences work motivation, therefore, hypothesis 4 (H4) is accepted. Unfortunately, when this variable is negative, it reduces work motivation. The trust variable is a new finding that does not exist in previous research, and the results are significant.

H5: masons work experience influences work motivation.

Hypothesis 5 states that the artisans’ work experience influences work motivation. With respect to the data processing technique, it was evident that the CR and P values are 3.997 P and 0.000, respectively. These results showed that the CR and P values are greater than 1.96 (3.997 > 1.96) and less than 0.05 (0.000 < 0.05), respectively. This indicated that the workers’ work experience influences work motivation, therefore, hypothesis 5 (H5) is accepted. The work experience variable is a new finding that does not exist in previous research, and the results are significant.

H6: The salary or payment of masons influences work motivation.

Hypothesis 6 states that an artisans’ salary or payment influences work motivation. Referring to the data processing technique, it was evident that the CR and P values are −1.461 and 0.114, respectively. These results indicated that the CR and P values are less than 1.96 (1.461 < 1.96 or −1.461 > 1.96) and greater than 0.05 (0.114 > 0.05), respectively. This showed that the workers’ salary or payment does not affect work motivation, therefore, hypothesis 6 (H6) is rejected. The workers’ salary test results are inconsistent with the previous research carried out by Lohmann et al. (2018).

H7: job satisfaction affects work motivation.
Hypothesis 7 states that job satisfaction influences work motivation. Based on the data processing, it was evident that the CR and P values are -1.327 and 0.184, respectively. These results indicated that the CR and P values are less than 1.96 (1.327 < 1.96) or (-1.327 > 1.96) and greater than 0.05 (0.184 > 0.05), respectively. This showed that job satisfaction does not affect work motivation, therefore, hypothesis 7 (H7) is rejected. The job satisfaction variable is a new finding that does not exist in previous research, and the results are insignificant.

H8: artisans’ performance influences work motivation.

Hypothesis 8 states that the workers’ performance influences work motivation. Considering the data processing technique, it was evident that the CR and P values are 0.464 and 0.642, respectively. These results indicated that the CR and P values are less than 1.96 (0.464 < 1.96) and greater than 0.05 (0.642 > 0.05), respectively. This showed that workers’ performance does not affect work motivation, therefore, hypothesis 8 (H8) is rejected. The artisans’ performance test results are inconsistent with the previous research carried out by Yu et al. (2019).

5. Research and discussion
The results of direct influence of each independent variable on the dependent one, namely work motivation or morale, are shown in Table 4.

Based on the data in Table 4, the independent variables such as the artisans’ superiors (foreman), local culture, communication, trust from superiors, and work experience directly influences the dependent one, namely work motivation. The magnitude of each effect is shown in Figure 4, 35.30%, 56.5%, 27.76%, –27.76%, and 45.80%. The variables that insignificant affect motivation are salary or payment, worker satisfaction, and performance, which then no longer used.

5.1. Local cultural variable
From Table 4 and Figure 5, the direct influence of each variable is determined. The first variable that mostly influences work motivation is local cultural, contributing to 56.5%. For example, when a marriage or burial ceremony is held in the village of one of the workers, all his colleagues do not go to work. These activities usually disrupt the project. The local culture variable is a new finding that does not exist in previous research, and the results are significant. It positively affects work motivation, meaning that the better the local culture, the higher the work motivation.

5.2. Works experience variable
Second, work experience influences the dependent variable by contributing 45.8%. Experienced workers are absolutely aware of how to face certain challenges when executing their tasks, thereby triggering motivation and productivity. The work experience is a new finding that does

| Table 4. Direct effects of independent variables on dependent variables |
|--------------------------|----------------|
| Variable                  | Direct Influence |
| Local culture (X1)        | 0.565            |
| The supervisor of the workers (foreman) (X2) | 0.353 |
| Communication (X3)        | 0.277            |
| Trust from superiors x4)  | -0.276           |
| Workers’ work experience (X5) | 0.458 |
| Salary or payment artisan (X6) | -0.159 (no effect) |
| Worker’s satisfaction (X7) | -0.136 (no effect) |
| Artisan’s performance (X8) | 0.036 (no effect) |
not exist in previous research, and the results are significant. It positively affects work motivation, meaning that the better the work experience, the higher the motivation.

5.3. Local cultural variable
Third, the managers’ supervisor (foreman) influenced work motivation by contributing 35.3%. In this case, foreman greatly impacts workers, for example, by supervising and directing them,
thereby boosting their enthusiasm. The foreman test results align with the previous research by Joo et al. (2018).

5.4. Communication variable
Fourth, the communication variable had an impact of 27.7%. Healthy communication between the superiors and fellow workers is needed to boost progress, specifically regarding complicated work. The communication test results are consistent with the previous research carried out by Rose and Manley (2011).

5.5. Trust variable
Finally, the fifth variable of trust from superiors contributed −27.6% and had a negative impact. This causes confidence to reduce work motivation, meaning that excessive trust from superiors reduces the dependent variable, specifically when there is no supervision.

The trust from superiors’ variable is a new finding that does not exist in previous research, and the results are significant. It has a negative effect on work motivation, meaning that the higher the trust, the lesser the work motivation.

6. Conclusion
This research showed that the following factors positively affect the work motivation of construction project workers, namely local culture, work experience, managers (foreman), and communication, which has an impact of 56.5%, 45.8%, 35.3%, and 27.7%, respectively. The following factors negatively affect the work motivation of construction project workers, namely trust from superiors, which contributed −27.6%.

However, local culture and work experience are the most dominant factors influencing motivation compared to the others. Communication and trust are the least dominant in influencing workers’ motivation. Finally, it is expected that this research creates awareness and recommends practitioners in construction projects always consider workers’ motivation for the success.

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