Vol.12 (2022) No. 3 ISSN: 2088-5334

The Role of Technical Support and Effective Communication to Successful Intervention Program on Palm Oil Mills

Anizar Anizar ^{a,*}, Abdul Rahim Matondang ^a, Rizabuana Ismail ^b, Nazaruddin Matondang ^a

^a Department of Industrial Engineering, Universitas Sumatera Utara, Padang Bulan, Medan, 20155, Indonesia
 ^b Department of Sociology, Universitas Sumatera Utara, Padang Bulan, Medan 20155, Indonesia
 Corresponding author: *anizar usu@usu.ac.id

Abstract— The palm oil mills demand the workers perform manual material still managing activities, which results in pain complaints leading to possible disability. These pain complaints can be resolved by implementing an intervention program involving all parties. Most previous studies only investigated the program implementation, and few addressed workers' behavioral responses. Organizational culture, which may affect the correlation between organizational climate and the effectiveness of intervention programs, has never been properly studied. This study aims to determine how the interaction between technical support and effective management-worker communication on the effectiveness of the intervention program by considering the influence of organizational culture. Understanding worker acceptance of intervention programs can determine how to implement them effectively. All these research variables were analyzed simultaneously using Partial Least Squares Structural Equation Modeling (PLS-SEM) software, in which data were obtained from questionnaires given to 280 people working in 20 government-owned and private-owned palm oil mills in North Sumatra Province. The results show that technical support and effective communication affect the effective intervention program, but effective communication has a bigger effect. Organizational climate mediates the effects of technical support and effective communication on effective intervention programs. Organizational culture negatively moderates the correlation between organizational climate and effective intervention programs. The dimensions of organizational culture in palm oil mills are high power distance, high uncertainty avoidance, collectivism, masculinity, long-term orientation, and restraint.

Keywords—Technical support; effective communication; organizational climate; organizational culture; effective intervention program.

Manuscript received 19 May 2021; revised 24 Sep. 2021; accepted 28 Oct. 2021. Date of publication 30 Jun. 2022.

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I. INTRODUCTION

Industry in several developing countries still requires workers to perform material handling activities manually, which may cause them to develop mild to severe pain complaints. These complaints, also called musculoskeletal disorders, are caused by high physical workload, such as lifting, crouching, and spine rotating [1]. These disorders are persistent pain that reduces people's ability to work and negatively impacts the well-being of society. Moreover, these pains may seriously impact workers' daily activities [2]. These complaints are a major source of disability and loss of working time in various industries in developing countries. The World Health Organization (WHO) claims that workers' pain complaints contribute to life-long disability and promote various preventive measures [3].

This study focuses on pain complaints experienced by workers in Indonesian palm oil mills. Workers in palm oil

mills still perform some activities manually, including opening the sterilizer door, pulling lorries containing fresh fruit bunches into and out of the sterilizer, sorting fresh fruit bunches at the loading ramp station, maintaining screw press etc. [4]. In some countries, pain complaints are the most frequent disturbance reported by palm oil workers. Workers with longer tenure are in great pain than new workers. Furthermore, the pain complaints are felt in the neck, lower back, right shoulder, wrists, and buttocks of the workers. These pain complaints could remain to be felt and cannot be cured. Even though approximately 19.5 million people are working in palm oil plantations and mills spread across 22 provinces in Indonesia. So, the World Bank emphasizes that workers' pain complaints pose a problem for the sustainability of the palm oil industry in the future [5].

These pain complaints experienced by workers in palm oil mills should be alleviated by an intervention program only if conducted thoroughly and involves all parties in the workplace [6], [7]. The intervention program can be a solution to reduce the physical workload to alleviate work risks [8]. Hopefully, this improvement could contribute to the quality of workers' life because the principle of the intervention program is assigning workload adjusted to human abilities and limitations [9].

Literature provides much evidence about the positive impact of intervention programs, yet it is regarded that the program is still not so effective [10]. Most previous studies only investigated the implementation of intervention programs, and only a little addressed workers' behavioral response. However, there was no effect of the intervention program [11], [12]. Its effectiveness is influenced by various aspects, which explains why suggestions from different studies differ greatly. Diverse and complex intervention programs could be used to improve the work systems, work processes, work procedures, or machines used, depending on the problem at hand. Thus, its success is largely determined by the readiness of the organization, worker participation, knowledge, work methods, and facilities used. This condition requires a conducive organizational climate to maximize the cooperation between workers and management. An effective intervention program requires involvement and cooperation from management and workers to establish good communication to help the program run effectively [13], [14]. Therefore, pain complaints must be prevented using the organizational approach, which involves all parties, to achieve the best result. However, organizational culture needs to be considered because it can moderate the effectiveness of intervention programs, and to date, there are few study cases about it [15].

In short, the problem is how to ensure that management and workers to be actively involved in the program implemented in that organization. Thus, it is necessary to study the between technical effective correlation support, communication, organizational climate, and the effectiveness of intervention programs in the population of palm oil mill workers. Organizational culture is proposed as a moderating factor for a positive correlation between organizational climate and the effectiveness of intervention programs. This research aims to determine the effect of technical support and effective communication on the effectiveness of intervention programs in palm oil mills. Testing was also performed on the mediating role of organizational climate and the moderating role of organizational culture on the correlation between organizational climate and the effectiveness of intervention programs.

Technical support in the form of commitment could increase workers' trust in the organization and impact mutual support among workers in the workgroup. Top management is fully responsible for everything from making policies to directing organizational interactions. Strong organizational support and total participation from all stakeholders could impact the organizational climate [16]. Communication can be called effective if it allows exchanging ideas, thoughts, knowledge, and information between workers and management to achieve common goals [17]. A pleasant organizational climate could cause workers to perform optimally, which is a driving factor for the success of an organization.

Workers' participation could increase cooperation between management and workers, which could help to establish effective communication. In short, communication is a form of conversation based on shared perceptions. Effective communication plays a role in avoiding misunderstanding. In today's digital era, conducive communication can occur so that management and employees can share information. Thus, delivering messages in the organization plays an important role in implementing various planned programs.

An organizational climate supported by fully committed management could positively influence the intervention program. Technical support means management that distributes a budget, has the authority to make changes, is committed to taking further action as the program progress. The budget invested by management influences the intervention program. Cost justification can be used to enlighten the management about the benefits of the intervention program. However, the allocation of financial resources proves to be an obstacle for the organization to adopt the intervention. So, several studies state that technical support is ineffective in its impact on the intervention program. Thus, the proposed hypothesis is H1: Technical support has a direct and indirect positive effect on the effectiveness of the intervention program by organizational climate mediation.

Effective communication and organizational climate simultaneously affect the intervention. Continuously engaged management and cooperative workers could lead to good communication. However, it is found that effective communication could only impact if the change is related to promotion and vice versa if it is related to prevention programs [18]. Thus, the proposed hypothesis is H2: Effective communication has a direct and indirect positive effect on the effectiveness of the intervention program by the organizational climate mediation.

Organizational climate correlates with the intervention program, and this correlation is moderated by organizational culture. Management should provide maximum support and conducive culture to contribute to the intervention program. Effective intervention programs can be applied in different forms depending on the structure and culture of each region. Therefore, it is recommended to incorporate local culture in developing program intervention. In other words, the analytical approach of this research is inspired by the concept of "interesting culture" [19]. Intervention programs related to worker participation can be used as a work culture, which allows all organizational components to work together to perform organizational affairs until it becomes a repetitive habit and eventually becomes a behavior. From a cultural point of view, the acceptance of technology brings distinct characteristics for different countries, depending on the cultural dimension that could affect people's behavior. The value of organizational culture can be assessed using a cultural dimension measuring device since its collective nature could differentiate one organization from another [20]. The organizational culture used in this research is Hofstede's culture, which is measured in power distance, uncertainty avoidance, individualism/collectivism, masculinity/ femininity, long-term orientation/short-term orientation, indulgence/restraint. Therefore, organizational culture is included as a moderating variable, and testing was conducted

to decide whether there is a change in H1 and H2, if H3 is included. Thus, the proposed hypothesis is H3: Organizational culture positively moderates the relationship between organizational climate and the effectiveness of the intervention program.

II. MATERIAL AND METHOD

A. Participant

Participants (n = 280) are workers on the production floor of the palm oil mill, from the loading ramp station to the kernel station. Participants represent workers from the three work shifts in each palm oil mill. The population of this study is workers at 20 palm oil mills in North Sumatra Province. The palm oil mill population is obtained from the Ministry of Industry of the Republic of Indonesia website for the commodity type of palm oil [21]. There are 57 industrial companies with palm oil commodities in North Sumatra Province, consisting of 23 government-owned companies and 34 private-owned companies.

Simple random sampling is chosen as the sampling method to ensure that each element of the population has the same chance of being selected. Each palm oil mill has a distinct number of workers in this study. First, the total number of workers in each palm oil mill was calculated, and every worker was given serial numbers starting from 1, then 30% of the workers were randomly selected as respondents. This method was also applied to other palm oil mills. The next step was distributing 300 questionnaires in paper format to the participants, and among those, 280 questionnaires (93.33%) were filled out properly.

The demographic characteristics of the participants are presented in Table I - all participants are male with a mean age of 37.94 years (SD = 10.06). Most of the participants have a high school education background (75.00%), and some are still educated below (11.43%). Most of the participants (44.29%) have been working for more than 10 years, 22.86% for 5-10 years, and 32.86% for less than 5 years. The last group is the second largest group, consisting of young workers.

TABLE I
DEMOGRAPHIC CHARACTERISTICS OF THE PARTICIPANT

| Participant Characteristic | Value |
|----------------------------|--------------------|
| Age, (SD) | 37.94 (SD = 10.06) |
| Male, % | 100.00 |
| Education, % | |
| Less than high school | 11.43 |
| Highschool | 75.00 |
| College diploma | 3.57 |
| Bachelor's degree | 10.00 |
| Master's degree | 0.00 |
| Length of working, % | |
| 1-2 years | 18.92 |
| 2-5 years | 13.93 |
| 5-10 years | 22.86 |
| > 10 years | 44.29 |

Note: SD = standard deviation

B. Measurement

Technical support and good communication between management and workers could influence the effectiveness of the intervention program. This could affect the sustainability of various ergonomic programs used to alleviate workers' pain complaints in palm oil mills. Therefore, this creates a questionnaire adapted from previous research related to the exogenous research variables. This study uses a quantitative approach to collecting and analyzing data. The questionnaire used a five-point Likert scale, ranging from very negative to very positive, namely strongly disagree, disagree, neutral, agree, and strongly agree.

Technical support is measured by commitment, participation, and authority indicators, consisting of ten questions [22]. An example of a statement for commitment indicator is "Every idea that I give to improve the effectiveness of the intervention program is always supported by management". An example of a statement for participation indicator is "I have always been involved by management to help to solve problems in my workplace". An example of a statement for authority indicator is "I have always been given the authority to complete my work". The measurement results in TS receiving a high scale of reliability (Cronbach's alpha = 97.2).

Effective communication is measured by indicators of media accuracy, clarity of content, timeliness of delivery, and frequency of information, consisting of six questions [16]. An example of a statement for media accuracy is "I always receive written information to help my understanding about the intervention program". An example of a statement for clarity of content is "I completely understand the intervention program that management explains". A statement for timeliness of delivery is "I always have access to information regarding intervention program". A statement for frequency of information is "I always receive information about the implementation of intervention programs". The measurement results in EC receiving a high scale of reliability (Cronbach's alpha = 95.1).

Organizational climate is measured by innovation, responsibility, standards, appreciation, and clarity indicators, which consists of five questions [23]. A statement for innovation is "I am always encouraged to use new ideas". A statement for responsibility is "I am fully responsible for my work". A standard statement is "I always follow the established standards and procedures". A statement for appreciation is "Every achievement I make is always rewarded by a reasonable award". A statement for clarity is "I am always clear about the goals and objectives of every work I do". The measurement results in EC receiving a high scale of reliability (Cronbach's alpha = 94.7).

Effective Intervention Program is measured by indicators of safety, comfort, quality, and performance, which consists of five questions [24]. A statement for safety is "While working, I always pay attention to work safety". A statement for comfort "My work productivity is greatly influenced by the comfort of the workplace". A statement for quality "I always prioritize work quality in achieving productivity". A statement for performance is "I strongly believe that intervention program can increase productivity". The measurement results in EIP receiving a high scale of reliability (Cronbach's alpha = 94.8).

Organizational Culture is measured by indicators of power distance, uncertainty avoidance, individualism/collectivism, masculinity/femininity, long-term orientation/ short-term orientation, and indulgence/restrain, which consists of six

questions [20]. A statement for power distance "In performing my job, I always follow my boss' decision". A statement for uncertainty avoidance "I always try to solve the problems I deal with". A statement for individualism/collectivism "I feel that the success of the group is more important than my success". A statement for masculinity/femininity is "I feel that successfully achieving work performance is the most important thing". The long-term orientation/short-term orientation statement is "I feel that management is more concerned with long-term planning". A statement for indulgence/restrain is "I prioritize work over social affairs". The measurement results in OGC receiving a high scale of reliability (Cronbach's alpha = 90.7).

C. Data Analysis

For analysis, the data was modeled using Partial Least Squares Structural Equation Modeling (PLS-SEM) and then processed using software called WarpPLS version 3.0 [25]. PLS-SEM is utilized since it has allowed several variables to be tested simultaneously. PLS-SEM testing includes testing the measurement model and testing the structural model. The measurement model is assessed based on convergent validity, discriminant validity, and reliability. Convergent validity is based on the loading factor value for each indicator and the Average Variance Extracted (AVE) value, while reliability is based on Composite Reliability (CR). This research model is a reflective variable, hence the criteria that the measurement model must meet are loading values above 0.7 and p significantly lower than 0.05.

This research identifies the correlation between variables, and each variable is measured indirectly through several indicators. Thus, this research identifies the direct and indirect correlation between technical support, effective communication, and organizational climate with effective intervention programs. Moreover, organizational culture is a moderating variable in the correlation between organizational climate and effective intervention programs.

Interventional studies involving animals or humans, and other studies that require ethical approval, must list the authority that provided approval and the corresponding ethical approval code.

III. RESULTS AND DISCUSSION

A. Measurement Model Testing

Testing in this research uses Structural Equation Modeling-Partial Least Squares (SEM-PLS), which includes testing the measurement model and testing the structural model. The measurement model is assessed based on convergent validity, discriminant validity, and reliability. Convergent validity is based on the loading factor value for each indicator and the Average Variance Extracted (AVE) value, while reliability is based on Composite Reliability (CR). This research model is a reflective latent variable hence the criteria that the measurement model must meet are loading values above 0.7 and p significantly lower than 0.05.

Table II shows the loading factor values, AVE, and CR. It can be seen that the loading value for each research indicator obtained is larger than 0.7 - it meets the requirement.

TABLE II
VALIDITY AND RELIABILITY TESTING

| VALIDITY AND RELIABILITY TESTING | | | | |
|----------------------------------|------------|-----------------|-------|-------|
| Variables | Indicators | Factor Loadings | AVE | CR |
| TS | TS1 | 0.880 | 0.798 | 0.975 |
| | TS2 | 0.866 | | |
| | TS3 | 0.896 | | |
| | TS4 | 0.895 | | |
| | TS5 | 0.905 | | |
| | TS6 | 0.914 | | |
| | TS7 | 0.891 | | |
| | TS8 | 0.881 | | |
| | TS9 | 0.921 | | |
| | TS10 | 0.885 | | |
| EC | EC1 | 0.917 | 0.804 | 0.961 |
| | EC2 | 0.895 | | |
| | EC3 | 0.912 | | |
| | EC4 | 0.892 | | |
| | EC5 | 0.861 | | |
| | EC6 | 0.901 | | |
| OC | OC1 | 0.925 | 0.824 | 0.959 |
| | OC2 | 0.920 | | |
| | OC3 | 0.908 | | |
| | OC4 | 0.898 | | |
| | OC5 | 0.887 | | |
| EIP | EIP1 | 0.932 | 0.866 | 0.963 |
| | EIP2 | 0.927 | | |
| | EIP3 | 0.933 | | |
| | EIP4 | 0.931 | | |
| OGC | OGC1 | 0.837 | 0.682 | 0.928 |
| | OGC2 | 0.861 | | |
| | OGC3 | 0.815 | | |
| | OGC4 | 0.789 | | |
| | OGC5 | 0.847 | | |
| | OGC6 | 0.804 | | |

Note: TS=Technical Support, EC=Effective Communication, OC=Organizational Climate, EIP=Effective Intervention Program, OGC=Organizational Culture, AVE= Average Variance Extracted, CR=Composite Reliability.

Validity testing with the AVE approach suggests having a value above 0.5, and the results obtained are satisfactory because all AVE values are greater than 0.5. Reliability testing based on CR suggests a value greater than 0.7, and all CR values obtained are bigger than 0.7.

The discriminant validity test using the Fornell-Larcker approach shows that the square root of AVE is higher than the correlation between other variables. Table III shows that the discriminant validity of the variable, technical support is 0.893, which is larger than 0.554, 0.542, 0.661, and 0.410. The same thing also happens to the discriminant validity of the EC, OC, EIP, and OGC. The condition for discriminant validity is met.

TABLE III
DISCRIMINANT VALIDITY TESTING

| Variables | TS | EC | OC | IP | OGC |
|-----------|---------|---------|---------|---------|---------|
| TS | (0.893) | | | | |
| EC | 0.554 | (0.897) | | | |
| OC | 0.542 | 0.585 | (0.908) | | |
| IP | 0.661 | 0.677 | 0.670 | (0.931) | |
| OGC | 0.410 | 0.436 | 0.431 | 0.457 | (0.826) |

Note: TS=Technical Support, EC=Effective Communication, OC=Organizational Climate, EIP=Effective Intervention Program, OGC=Organizational Culture

B. Structural Model Testing

The stage of the structural model test includes direct, indirect, and moderating significance effect tests. The goodness of fit of this research shows that the model fit indicators, namely the Average Path Coefficient (APC), Average R-squared (ARS), and Average Variance Factor (AVIF) are fulfilled. The APC indicator of 0.274 and ARS of 0.528 are significant with a p-value of less than 0.001. The AVIF indicator of 2,577 meets the requirement, i.e., smaller than 5, the proposed model is valid.

The theoretical correlation between the endogenous and exogenous variables is tested through H1, H2, and H3 using path analysis. Path analysis is also used to analyze the role of mediation. OC plays a role in mediating the correlation between TS and EC toward EIP (H1 and H2). The model was estimated using the PLS regression algorithm and resampling bootstrapping method. The testing result of the direct effect model of TS and EC on OC shows that TS has a positive effect on OC (β = 0.305) and EC also has a positive effect on OC (β = 0.411).

And another testing result of the direct effect model of TS, EC, OC, and OGC on EIP shows that all of them have a positive effect, but EC has the greatest direct effect on EIP (β = 0.303). The role of OC as a mediator between TS and EC with EIP can be interpreted as TS and EC having a significant indirect effect on EIP. It can also be seen that OC significantly mediates both the correlation between TS and EIP (β = 0.089) and between EC and EIP (β =0.119).

The summary in Table IV shows that the hypotheses are supported for the correlation of TS-OC, TS-EIP, EC-OC, EC-

EIP, therefore H1 and H2 are accepted. The last thing shown in Table IV is that H3 proposes OGC as a moderating in the correlation between OC and EIP. The result is β = -0.041, and it is not significant with p-values of 0.397 (> 0.05). It means the correlation between OC and EIP is not significantly moderated by OGC, hence H3 is rejected.

TABLE IV
PATH COEFFICIENT AND P-VALUES

| | Intervention Program | | Organizational Climate | |
|-----------|------------------------------------|-------------|---------------------------|--|
| Variables | Direct Indirect Effects Effects | | Direct Effects | |
| _ | β | β | β | |
| TS | 0.292** | 0.089^{*} | 0.305* | |
| EC | 0.303** | 0.119* | 0.411** | |
| OC | 0.290^{*} | - | | |
| OGC | 0.041** | - 0.041 | | |

Note: $*p \le 0.05$, $**p \le 0.001$; TS=Technical Support, EC=Effective Communication, OC=Organizational Climate, EIP=Effective Intervention Program, OGC=Organizational Culture

Figure 1 provides the significant test results for direct and indirect effects. The test result shows that the value of R-squared organizational climate is 0.411, which means that the variance of organizational climate is explained by 41.1% by the variance of technical support and effective communication. The value of the R-squared effective intervention program is 0.64 means that collectively, technical support, effective communication, and organizational climate can affect an effective intervention program by 64%.

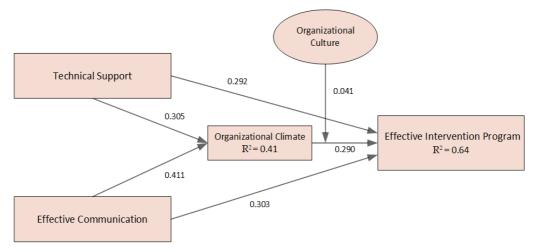


Fig. 1 Significant Test of Direct and Indirect Effects

This research perceives that a high value of technical support could improve the correlation between organizational climate and effective intervention programs. The same applies to the correlation between effective communication, organizational climate, and effective intervention programs. A high value of effective communication could increase the correlation between organizational climate and effective intervention programs.

The test result shows that technical support positively affects organizational climate. Total technical support is a condition where the management is fully committed, i.e., the management is willing to allocate enough budget, make

changes, and continue implementing their plan. This condition could affect the organizational climate to increase workers' satisfaction, improve the working process, improve the quality of products quality, and increase productivity [26]. Thus, workers' technical support and technical capabilities affect the work climate in palm oil mills. The success of the program intervention is highly dependent on the management, who makes policies related to various production problems and development activities. Workers' participation in program intervention can only be realized if the management is fully committed.

The same thing is also found in the positive correlation between effective communication and organizational climate. However, effective communication with a value of $\beta = 0.411$ has a greater influence on the organizational climate than technical support (β=0,305). Thus, effective communication could encourage employees to be actively involved in the intervention and eventually improve their performance since they know the company's expectations [27]. This means that the intensity of communication in the palm oil mill must be maintained - both among workers, and between management and workers - to ensure proper two-way communication happens and communicants understand what communicators say. Two-way communication and feedback create an honest, open, and trusting collaboration, impacting workers' actions and behavior. Good communication could aid in sharing knowledge related to program intervention.

The test results prove that technical support and effective communication affect the effectiveness of intervention programs through organizational climate. This makes hypothesis 1 and hypothesis 2 be accepted because both technical support and effective communication affect the effectiveness of the intervention program either directly or indirectly. Technical support and effective communication together affect organizational climate by 41% (R square = 0.41). Collaboration between management and workers in palm oil mills is important. The reason is good technical support, and good communication could first establish a conducive climate needed to make the intervention program effective. Workers who understand the benefits of the intervention program could accept the changes. This could reduce resistance from workers, and they could eventually participate actively in the program. Consequently, effective communication could influence workers to accept various changes and increase the effective intervention program.

Proper observation can be seen in Table IV that the inclusion of organizational climate in the correlation between technical support and effective intervention program causes a decrease in the value of β technical support from 0.292 to 0.089. The same thing also happens to the correlation between effective communication and effective intervention program the value of β effective communication decrease from 0.303 to 0.119. In short, organizational climate partially mediates the correlation between technical support-effective intervention programs and effective communication effective intervention programs. There is a significant correlation between organizational climate and effective intervention programs and between technical supportintervention effective effective programs and communication-effective intervention programs.

Another contribution of this research is finding that organizational culture has a negative moderating effect on the correlation between organizational climate and effective intervention programs – so hypothesis 3 is rejected, and this is interesting. The high value of organizational culture in palm oil mills could decrease the correlation between organizational climate and effective intervention programs and vice versa. Organizational culture in palm oil mills currently has a high value of dimension power distance, uncertainty avoidance, collectivism, masculinity, long-term orientation, and restraint.

The high dimension of the power distance index makes workers unwilling to express their opinion. Meanwhile, the high dimension of uncertainty avoidance causes workers to reject intervention programs they do not understand for different reasons. The collectivism dimension causes workers to tend to work in groups. Moreover, there is a kinship culture among workers in palm oil factories, which helps to strengthen the attachment among fellow workers. Collectivist workers tend to have loyalty and defend group interests. The cultural dimension of masculinity causes workers to give more importance to self-success in work related to income and career. The long-term orientation dimension makes workers more reward—oriented, making them more persistent and more economical. Restrain dimension causes workers to follow the rules set by the company.

The power gap that exists in palm oil mills could affect the effective intervention program. This can be solved by low profile management in communicating and delegating tasks to workers. Various problems of a production process can easily be conveyed to workers, only if there exists no distance between management and workers, therefore smooth communication could aid the realization of an effective intervention program. Generally, workers tend to avoid things they do not understand, and which success and benefits are unclear. This is supported by workers' inclination to work in groups, strong ties among workers, and kinship culture in palm oil mills. Thus, information could spread quickly among workers and rejection toward the intervention program. Therefore, it is important to give clear information about the intervention program that workers could implement. Moreover, workers consider that competence in achieving something is very important, even though what is needed is worker cooperation for the program's success.

A conducive organizational climate raises the involvement of workers to cooperate in achieving organizational goals. The organizational climate and organizational culture largely determine the effectiveness of the intervention program in the palm oil mill. If the organizational culture is strong, the workers could feel that they are part of the organization. The feeling of belonging to the organization could strengthen the determination of workers to achieve organizational goals. Organizational culture could also direct workers' behavior by applying pressure to act in a certain direction, thinking, and acting in a way that is consistent with the culture at the palm oil mill. This means that a strong organizational culture could greatly influence each organization member in realizing its goals. The results of this study are supported by previous studies that organizations with a strong work culture could affect organizational effectiveness [28].

IV. CONCLUSION

Pain complaints experienced by workers due to manual material handling in palm oil factories can be alleviated by implementing an intervention program. The success of the intervention program is strongly influenced by active involvement from management and workers. The conducted study shows that technical support and effective communication both affect organizational climate. However, since effective communication has a greater influence on organizational climate, two-way communication must be

established between management and workers. Good communication between management and workers could lead to collaboration that is honest, open and based on mutual trust. This could make the organizational climate to be conducive and influence workers to be actively involved, thus affecting the effectiveness of the intervention program. In conclusion, an intervention program requires continuous support and active involvement from all parties, ranging from workers to top management.

However, the organizational culture adopted by workers in palm oil mills also influences the effectiveness of the intervention program. The organizational culture in palm oil factories has a high value of dimension power distance, a high value of uncertainty avoidance, collectivism, masculinity, long-term orientation, and restraint. These dimensions of organizational culture require low profile management that can maintain effective communication to prevent workers' resistance in accepting the program.

Studies of effective intervention programs can be further developed using the proposed model in this research. However, this research also has its limitation: its data are collected only from workers in palm oil mills, which means that the results may be different for other industries. Further research can be expanded by considering other variables that may be barriers or facilitators related to the intervention program.

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