

# Nurturing Organizational Characteristics to Maximize Training Impact on Teamwork Effectiveness: The Malaysian Sample

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## Abstract

Employee training is an important program of human resource development to maintain and maximize organizational effectiveness. Since employees are working under specific unit/department, training should improve the department's effectiveness or teamwork effectiveness because it contributes to the organizational effectiveness; this needs mutual support from the whole organization. Ironically, previous researches have only focusing on organizational characteristics affecting individual training transfer among employees; in which, little is known about organizational characteristics that can nurture teamwork effectiveness when employees have transferred their learned skills and knowledge from training. In fact, previous researchers have highlighted the importance of training motivation affecting training effectiveness; however, it is still a vague whether training motivation is also beneficial to improve the teamwork effectiveness. Therefore, the objective of this article is to determine organizational characteristics nurturing teamwork effectiveness, the effect of training motivation on teamwork effectiveness, and mediation effect of training motivation. Using a longitudinal research, a survey was done among 203 Malaysian Public Service Officers attended seven training programs organized by The Malaysian National Institute of Public Administration; data were analyzed using SEM-AMOS. Results indicated that job support followed by cultural support, management support, and social support were important characteristics of organization to nurture teamwork effectiveness in supporting training effectiveness. Additionally, employees' training motivation significantly affect teamwork effectiveness and played role as a mediator with partial mediation effect. Research implications are further discussed.

**Keywords:** Organization Characteristic, Training Motivation, Training Effectiveness, Human Resource Development, Public Sector, Malaysia, Teamwork Effectiveness, Employee Training, Human Resource, Human Development, Sem-Amos, Mediation Effect, Longitudinal Survey

### **Introduction**

Employee training is an important program of human resource development to maintain and maximize organizational effectiveness (Ismail, Foboy, Abdullah, Mat & Makhbul, 2014; Noe, 2019; Assen, 2021). Employee training is organized to provide employees with the right competencies in terms of knowledge, skills and attitude in order to improve employees' job performance or individual effectiveness (Kraiger & Salas, 1993; Al-Hawary & Al-Kumait, 2017; Aziz & Derasol, 2020). The use of competencies learned in training to increase employees' individual effectiveness is referred to as training transfer (Baldwin & Ford, 1988; Han, Cho, Cho & Park, 2021). With high training transfer impact on employees' individual effectiveness, it is expected to affect the department or teamwork effectiveness, and finally the organizational effectiveness (Aguinis & Kraiger, 2009; Aziz & Ibrahim, 2020). Hence, it is important to make sure training is effective by providing supportive organizational characteristics because organizational environment has been proven as important antecedent of effective training transfer (Burke & Hutchins, 2007; Aziz, 2018a; Saha, 2021). Hence, a large number of researches have been done to determine organizational characteristics supporting training effectiveness (e.g., Rouiller & Goldstein, 1993; Grossman & Salas, 2011; Salamon, Blume, Orosz, & Nagy, 2021).

Despite the fact that there is a large number of researches focusing on organizational characteristic affecting training effectiveness, little is known whether the organizational characteristic is useful to improve the department's effectiveness. This is because employees are working under specific unit/department; hence, training should improve the department's effectiveness or the teamwork effectiveness before it can contribute to the organizational effectiveness (Aguinis & Kraiger, 2009; Aziz & Zakaria, 2019). In fact, some researchers, such as Vermeulan (2009), and Nikandrou, Brinia and Bereri (2009) find that there is no guarantee for training effectiveness if training is transferred to the workplace but the organizational characteristics including employees' supervisor within the department did not give their sanction for training transfer. Additionally, some researchers, such as Sloth, Christensen, Jensen, De Win, Seyer-Hansen and Christensen (2020) find that the same training given to employees in different department have different level of effectiveness; in which, those departments with low organizational support has resulted in low training effectiveness as compared to departments with high organizational support. Hence, mutual support from the whole organization is needed not only to improve training transfer but also teamwork effectiveness. Unfortunately, research reporting organizational characteristics supporting teamwork effectiveness is very limited.

Further, previous researches, including Colquitt, LePine and Noe, (2000), Aziz (2018a), and Salamon et al. (2021) find that employees' training motivation mediated the relationship between organizational characteristics and employees' training transfer; this implies that organizational characteristics should also stimulate training motivation in order to increase employees' teamwork effectiveness. In fact, a lot of researchers, such as Blume, Ford, Baldwin and Huang (2010), and Alsalamah and Callinan (2020) find that the most influential reason affecting ineffective training transfer was unmotivated trainees; this implies the importance

of providing supportive organizational characteristics to stimulate training motivation in order to improve teamwork effectiveness as a result of effective training. However, it is still a vague whether training motivation is also beneficial to improve the teamwork effectiveness as effective as a stimulator for training transfer. Therefore, the objective of this article is to determine organizational characteristics nurturing teamwork effectiveness, the effect of training motivation on teamwork effectiveness, and mediation effect of training motivation using the Malaysian sample.

### **Literature Review**

A large number of researches was done to determine the interaction between organizational characteristics, training motivation and training effectiveness; in which, previous researches find that training motivation had significant mediation effect on the relationship between organizational characteristics and training effectiveness (e.g., Colquitt et al., 2000; Aziz, 2018a; Salamon et al., 2021). Based on theoretical literature, Colquitt et al. (2000) have done a meta-analysis of 20 years research and find that training motivation was a significant mediator on the relationship between various independent variables and various measurement of training effectiveness; in which, organizational characteristics including workplace climate, manager support and peer support were some of the independent variables. However, the training effectiveness measured by Colquitt et al. (2000) were learning outcomes, training transfer and job performance; in in which, the effect of these organizational characteristics on teamwork effectiveness were not determined yet. In fact, latest researchers including Kontoghiorghes (2004), Aziz (2018a), and Salamon et al. (2021) have also focusing on similar measurement of training effectiveness; hence, it is still a vague whether training motivation is also beneficial to improve employees' teamwork effectiveness.

### **Teamwork Effectiveness**

Training effectiveness is a determination of the outcomes and benefits of training to employees and organization (Aguinis & Kraiger, 2009; Noe, 2019; Israr, Asad & Victor, 2021). There are various models of training effectiveness developed by previous researchers explaining how to measure and determine training effectiveness from different perspectives; however, only few models highlighted the impact of training on department/teamwork effectiveness (Aziz, 2018b).

The most popular model used to evaluate training effectiveness is "The Four Levels of Training Evaluation" by Kirkpatrick (1959/1996) because the model is simple and easy to understand (Giangreco, Carugati, Denmark & Sebastiano, 2010; Reio, Rocco, Smith & Chang, 2017; Shariff, Abidin, Zainol & Abdullah, 2021). The model suggests that training effectiveness should be evaluated using four levels including positive reaction, followed by learning improvement, behavioral changes (or training transfer), and results on organizational performance (Kirkpatrick 1996; Shariff et al., 2021). Unfortunately, the model received a large number of criticisms from researchers and scholars due to its limitation in providing significant evident of training effectiveness evaluation (e.g., Alliger & Janak, 1989; Holton, 1996; Reio et al., 2017). As a result, various training effectiveness models were developed to evaluate training effectiveness from different perspectives (Aziz, 2018b).

Further, Aguinis and Kraiger (2009) developed a new perspective to determine training effectiveness by explaining that training effectiveness should be evaluated based on its

impact on individual employees, followed by employees' group/ department/ teamwork, organization, and finally the society. They also argue that it is impossible for any employee training to affect organizational effectiveness directly without affecting employees' individual effectiveness at the first place; in which, the employees' individual effectiveness will then affect their teamwork effectiveness and finally affect organizational effectiveness (Aziz, 2018b). Unfortunately, research reporting the effect of training on teamwork effectiveness is rarely discussed because the instrument to measure the impact of training on teamwork effectiveness is very limited (Aziz, 2018b). In fact, Aguinis and Kraiger (2009) have challenged future researcher to develop a measurement of teamwork effectiveness as a part of training effectiveness evaluation. Hence, Aziz and Zakaria (2019) have taken the challenge and developed an instrument named Teamwork Training Impact Scale (TTIS).

Aziz and Zakaria (2019) developed TTIS by extending and adapted the training effectiveness model named Learning Outcomes by Kraiger, Ford and Salas (1993); in which, the model explains that learning outcomes should be evaluated based on employees' individual effectiveness in terms of cognitive, skill and affective outcomes. Hence, Aziz and Zakaria (2019) adapted the model by interpreting learning outcomes into employees' teamwork effectiveness; in which, the impact of training on teamwork effectiveness is comprised of three components including to improve the teamwork's knowledge, skills and attitude. Then, Aziz and Zakaria (2019) adapted instrument measuring teamwork innovation by Subramaniam and Youndt (2005) to measure teamwork's knowledge, instrument measuring teamwork performance by Budijanto (2013) and Weimar (2013) to measure teamwork's skill, and instrument measuring teamwork quality by Budijanto (2013) and Weimar (2013) to measure teamwork's attitude. The TTIS development was reported by Aziz and Zakaria (2019) and tested using several studies with acceptable level of reliability, content validity and factor loading using Exploratory Factor Analysis (EFA). Using empirical study, Aziz and Zakaria (2019) also find that employee training had significant impact on teamwork effectiveness among the Government Civil Servant officers at multiple government agencies at Putrajaya, Malaysia. Hence TTIS can be used to measure teamwork effectiveness as a result of training outcomes on the employees' department effectiveness.

### **Organizational Characteristics**

Organizational characteristic is referred to employees' workplace environment that influence employees' job performance and can be seen from the job design, management procedure, organizational policy, and social interaction among employees (Tracey & Tews, 2005; Aziz, Samah, Noah, Ahmad & Abiddin, 2011; Aziz, 2018a). Some researchers, such as Tracey and Tews (2005), Holton (2005), and Tews, Hoefnagels, Jolly and Stafford (2021) refer to it as training/transfer climate; some researchers, such as Russ-Eft (2002), Alsalamah and Callinan (2020), and Yaqub et al., (2021) refer to it as environment/workplace climate. Aziz et al. (2011) find that there were various organizational characteristics affecting training effectiveness as researched by previous researchers; in which, some of the characteristics were the same characteristics but previous researchers have referred to it using different terms. Hence, Aziz et al. (2011) and Aziz (2018a) concluded that these organizational characteristics can be grouped into job support, management support, cultural support, and social support.

Job support is defined as "the degree to which jobs are designed to promote continuous learning and provide flexibility for acquiring new knowledge and skills that may facilitate

training and related efforts by signaling their importance as well as by providing opportunities to experiment and utilize newly acquired knowledge and skills” (Tracey and Tews, 2005, p. 358). Some components of job support were empirically tested to be significant factor for training effectiveness including job enhancement (e.g., Kontoghiorghes, 2004; Tews et al., 2021), career enhancement (e.g., Facteau, Dobbins, Russell, Ladd & Kudisch, 1995; Sharma, Arora, Sinha, Akhtar & Mehra, 2021), authorization to practice (Burke & Hutchins, 2007; Sloth et al., 2020), and job design (Tharenou, 2001; Hanafi, 2016). Hence, the job support is important to increase training effectiveness.

Further, management support is defined as “the organizational system that corresponds to policies, procedures and practices that demonstrated the development efforts’ importance, such as reward systems and resources to acquire and apply learned skills” (Tracey & Tews, 2005, p. 358). Some components of management support were empirically tested to be significant factor for training effectiveness including top management commitment (e.g., Switzer, Nagy & Mullins, 2005; Tews et al., 2021), sufficient resources (e.g., Tracey & Cardenas, 1996; Na-Nan, Chaiprasit & Pukkeeree, 2017), providing exciting training program (Mohamad, Ismail & Nor, 2020a), and rewards and recognition for using the newly learned skills (e.g., Cheng & Ho, 1998; Yaqub et al., 2021). Hence, the management support is also important to increase training effectiveness.

Furthermore, organization’s cultural support is defined as the shared perceptions of employees concerning the norms and behaviors in an organization (Aziz et al., 2011; Brion, 2020). Some components of cultural support were empirically tested to be significant factor for training effectiveness including continuous learning culture (e.g., Chiaburu & Tekleab, 2005; Assen, 2021), innovative culture (e.g., Kontoghiorghes, 2004), initiative culture (Li, Li & Liu, 2021), and leadership practices (e.g., Scaduto, Lindsay & Chiaburu, 2008; Sinha & Sengupta, 2020). Hence, the organization’s cultural support is also important to increase training effectiveness.

On the other hand, social support is defined as “drawing on the emotional and interpersonal encouragement provided by others in the workplace setting” (Steele-Johnson, Narayan, Delgado, & Cole, 2010, p. 251). Some components of social support were empirically tested to be significant factor for training effectiveness including social support from managers (Mohamad, Ismail & Nor, 2020b), supervisors (e.g., Liebermann & Hoffmann, 2008; Salamon et al., 2021), peers (e.g., Chiaburu & Marinova, 2005; Guterresa, Armanu & Rofiaty, 2020; Hughes, Zajac, Woods & Salas, 2020), and subordinates (e.g., Facteau et al., 1995; Abudlhabib & Al-Dhaafri, 2020). Hence, social support in organization is also important to increase training effectiveness.

### **Training Motivation**

Further, various researchers including Colquitt et al. (2000), Kontoghiorghes (2004), Aziz (2018a), and Salamon et al. (2021) have done research to determine factors affecting training effectiveness; findings indicated that training motivation mediated the relationship between organizational characteristics and training effectiveness. These previous researchers also find that different sample could lead to different prioritization of organizational characteristic affecting training effectiveness with the role of training motivation as a mediator. If a variable



plays role as mediator, it strengthens the relationship between independent variables and dependent variables (Hair, Babin, Anderson & Black, 2018; Collier, 2020).

Nonetheless, previous researches have been using different types of training motivation to determine its mediation effect on training effectiveness until it is confusing which types of training motivation is the most significant (Alvarez, Salas & Garofano, 2004; Aziz & Ibrahim, 2020). Hence, Aziz (2018c) has redefined training motivation into essential training motivation that comprises of two components including the motivation to learn and motivation to transfer training to determine training motivation; instrument measuring the training motivation was also developed and tested in empirical study. Using the new measurement of training motivation developed by Aziz (2018c), some researchers including Aziz and Ibrahim (2020) as well as Aziz and Derasol (2020) also find that training motivation mediated the relationship between independent variables and training effectiveness. Therefore, instrument developed by Aziz (2018c) can be used to measure the mediation effect of training motivation.

On the other hand, it can be seen that literature review shows that the prioritization of organizational characteristics affecting training effectiveness is different if tested using different sample. For example, using sample among employees working at the Information Technology Division in a large automaker company in the United States, Kontoghiorghes (2004) finds that positive learning transfer climate was the most influential organizational characteristic affecting training transfer as the measurement of training effectiveness; in which, training motivation was a significant mediator. Meanwhile, using sample from employees in eight different companies attended a leadership training in the United States, Salamon et al. (2021) find that supervisor support had almost medium effect size on training transfer as the measurement of training effectiveness with  $\beta = 0.47$ ,  $p = 0.000$  (this is based on cut-off point suggested by Ferguson, 2016, p. 533); in which, training motivation was a significant mediator. In addition, using sample from academic staffs from a large Malaysian public university attended 17 training programs within a year, Aziz (2018a) find that job characteristic was the most influential organizational characteristic affecting learning performance as the measurement of training effectiveness; in which, training motivation was a significant mediator.

Taken together, training motivation mediated the relationship between organizational characteristics and training effectiveness; however, most of previous researches did not measure training effectiveness by using the measurement of training impact on department/teamwork effectiveness. Therefore, the objective of this article is to determine organizational characteristics nurturing teamwork effectiveness, the effect of training motivation on teamwork effectiveness, and mediation effect of training motivation on the relationship between organizational characteristic and teamwork effectiveness using the Malaysian sample.

### **Research Hypothesis**

Based on the literature review, a hypothesized research framework is developed (see Figure 1) and alternative hypotheses are constructed as follows:

H1: Organizational characteristic significantly affects teamwork effectiveness

H2: Training motivation significantly affects teamwork effectiveness

H3: Training motivation significantly mediates the relationship between training characteristics and teamwork effectiveness

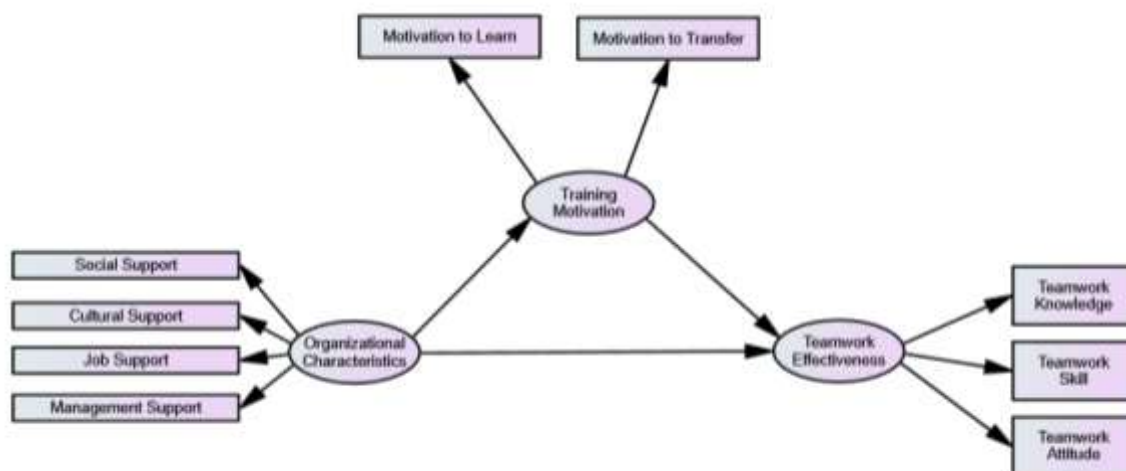


Figure 1: Research Framework

Based on the research framework, teamwork effectiveness is dependent variable, training motivation is a mediator, and organizational characteristic is independent variable. Training motivation is hypothesized to mediate the relationship between organizational characteristics and teamwork effectiveness with partial mediation effect. Organizational characteristic comprises of social, cultural, task, and management support. Training motivation comprises of motivation to learn and motivation to transfer. Teamwork effectiveness comprises of teamwork knowledge, teamwork skill and teamwork attitude.

### Methodology

To achieve research objectives as well as to test research hypotheses, a quantitative research design using a longitudinal survey was used.

### Respondents

Using census technique, all Public Service Officers attended seven training programs organized by The Malaysian National Institute of Public Administration (INTAN) in 2016 were involved as respondents (see Table 1). The INTAN is a formal government's organization that provides training for Public Service Officers in Malaysia. From 210 collected questionnaires, only 203 were used in this research due to outliers, matching paired, and usable questionnaire.

Table 1

*Proportion of Respondents*

Num.	Training Name	Total Participants	Available Respondents
1.	Financial Management Based on Performance Course ( <i>Kursus Pengurusan Kewangan Berasaskan Prestasi</i> )	34	33
2.	Information Security System Management Course, ISO/IEC 27001: 2013 ( <i>Kursus Pengurusan Sistem Keselamatan Maklumat, ISO/IEC 27001:2013</i> )	36	34
3.	Enhancing Service Delivery Series: Effective Customer Service ( <i>Siri Meningkatkan Penyampaian Perkhidmatan Pelanggan: Perkhidmatan Pelanggan Efektif</i> )	22	22
4.	Outcome Based Budget Course ( <i>Kursus Bajet Berasaskan Outcome</i> )	26	26
5.	Business Management Course ( <i>Kursus Pengurusan Perniagaan</i> )	30	28
6.	Kursus Perakaunan Akruan : Peringkat Asas ( <i>Accrual Accounting Course: Basic Level</i> )	33	31
7.	Kursus Kepimpinan Transformatif dan Pengurusan Organisasi ( <i>Transformative Leadership and Organizational Management</i> )	29	29
TOTAL		210	203

**Questionnaire**

Questionnaires used to measure each variable were adopted from previous researches; these questionnaires were developed with acceptable reliability and content validity by previous researches. All questionnaires were in positive statements and structured in dual language (Malay and English). Respondents need to give scores based on five Likert scales; in which, scale 1 represents Strongly Disagree and scale 5 represents Strongly Agree.

To measure teamwork effectiveness, 24 items from questionnaire named TTIS (Teamwork Training Impact Scale) developed by Aziz and Zakaria (2019) was adopted. The questionnaire measuring teamwork effectiveness was based on three components including teamwork's knowledge with 6 items, teamwork's skills with 8 items, and teamwork's attitude with 10 items. Meanwhile, to measure training motivation, 6 items from questionnaire developed by Aziz (2018c) was adopted. The questionnaire measuring training motivation was based on two components including motivation to learn with 3 items and motivation to transfer with 3 items. Additionally, to measure organizational characteristics, 12 items from questionnaire developed by Aziz (2018a) was adopted. The questionnaire measuring organizational characteristics was based on four components with 3 items for each component including for social support, cultural support, job support, and management support.

Hair et al. (2018) suggested to report at least four fit indices to determine acceptable model for SEM (Structural Equation Modelling) either for Confirmatory Factor Analysis (CFA), measurement model, or structural model. These include Chi-Square divided by degrees of freedom (CMIN/df or  $\chi^2/df$ ) with cut-off point  $1 < \chi^2/df < 5$ , Goodness-of-fit index (GFI) with cut-off point GFI > .90, Comparative fit index (CFI) with cut-off point CFI > .90, and Root mean



square error of approximation (RMSEA) with cut-off point  $RMSEA < .08$  with  $PCLOSE > .05$ . Hence, based on CFA for TTIS, the current research found that only 17 items were suitable to measure teamwork effectiveness; the model also fits the data with  $\chi^2(116) = 18.315$  with  $p = 0.000$ ,  $\chi^2/df = 1.554$ ,  $GFI = 0.906$ ,  $CFI = 0.979$ ,  $TLI = 0.975$ , and  $RMSEA = 0.052$ . Meanwhile, for organizational characteristics, the 12 items developed by Aziz (2018a) to measure organizational characteristics remained 12 items in the current research; the CFA model also fits the data with  $\chi^2(50) = 105.842$  with  $p = 0.000$ ,  $\chi^2/df = 2.116$ ,  $GFI = 0.919$ ,  $CFI = 0.963$ ,  $TLI = 0.951$ , and  $RMSEA = 0.074$ . Additionally, for training motivation, the 6 items developed by Aziz (2018c) remained 6 items in the current research; the CFA model also fits the data with  $\chi^2(8) = 12.648$  with  $p = 0.000$ ,  $\chi^2/df = 1.581$ ,  $GFI = 0.980$ ,  $CFI = 0.994$ ,  $TLI = 0.988$ , and  $RMSEA = 0.054$ .

### Procedure

A longitudinal research using survey was used to collect data from respondents to reduce common method bias effect that usually emerge in SEM-AMOS analysis (Podsakoff, MacKenzie, Lee & Podsakoff, 2003; Deng, Feng, Yao, Yang, Jiang, Wang, Lin, Zhong & Xia, 2021). Three time frames of data collection were performed in the longitudinal research including before, right after, and three months after the completion of training. Questionnaire measuring organizational characteristics were collected at time 1, which was before each training program was organized. Meanwhile, questionnaire measuring training motivation was collected at time 2, which was right after the completion of each training program. In addition, questionnaire measuring teamwork effectiveness was collected at time 3, which was three months after the completion of each training program; in which, respondents were contacted using emails. Additionally, respondents were mandated to give their formal email address for each questionnaire. Then, each questionnaire in the three different time frames were matched using the same email address.

### Data Analysis

Data were analyzed using SEM-AMOS (Structural Equation Modelling – Analysis of Moment Structures). According to Arbuckle (2013), Hair et al. (2018), and Collier (2020), SEM-AMOS is a powerful software to analyze multivariate analysis with advanced feature including correlation, regression, confirmatory factor analysis, analysis of variance, mediation effect, moderation effect, path analysis, and diagram to illustrate causal model determination. Hence, SEM-AMOS was used to test research hypotheses as well as to achieve research objective. In addition, to determine mediation effect, suggestion by Preacher and Hayes (2008), and Hair et al. (2018) was followed by determining significant effect of independent variable on dependent variable, followed by significant effect of mediator variable on dependent variable, and significant effect of mediator variable on the relationship between independent variable and dependent variable with bootstrap technique. Additionally, Hair et al. (2018) added that mediation effect emerged when the total effect value is more than 0.08.

### Findings and Discussion

Findings indicated that all research's alternative hypotheses were fully accepted; in which, organizational characteristic significantly affect teamwork effectiveness, training motivation significantly affect teamwork effectiveness, and training motivation significantly mediated the relationship between organizational characteristics and teamwork effectiveness. Additionally, it is found that job support followed by cultural support, management support,

and social support were important characteristics of organization nurturing teamwork effectiveness in supporting training effectiveness. All hypotheses were tested at 0.05 level of significant.

Figure 2 shows the measurement model and Figure 3 shows the structural model as results of SEM-AMOS analysis. These models also fit the data with  $\chi^2(24) = 53.998$  with  $p = 0.000$ ,  $\chi^2/df = 2.249$ , GFI = 0.945, CFI = 0.971, TLI = 0.957, and RMSEA = 0.079. All variables had significant relationship; in which,  $R = 0.42$  with  $p = 0.000$  for the relationship between organizational characteristics and teamwork effectiveness,  $R = 0.43$  with  $p = 0.000$  for the relationship between training motivation and teamwork effectiveness, and  $R = 0.75$  with  $p = 0.000$  for the relationship between training motivation and organizational characteristics. Finding is consistent with previous researches, such as by Colquitt et al. (2000), Kontoghiorghes (2004), Aziz (2018a), and Salamon et al. (2021) that find organizational characteristics, training motivation and training effectiveness had significant correlation with each other. Additionally, the current research contributes to the field of study by indicating that organizational characteristic and training motivation also had significant relationship with teamwork effectiveness as one of the training effectiveness measurement.

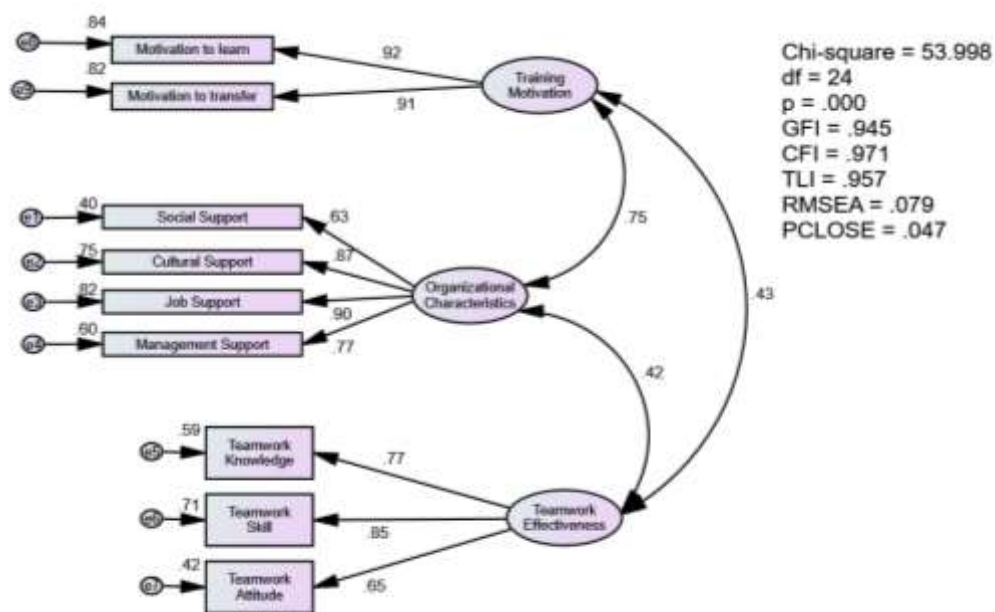


Figure 2: Measurement Model

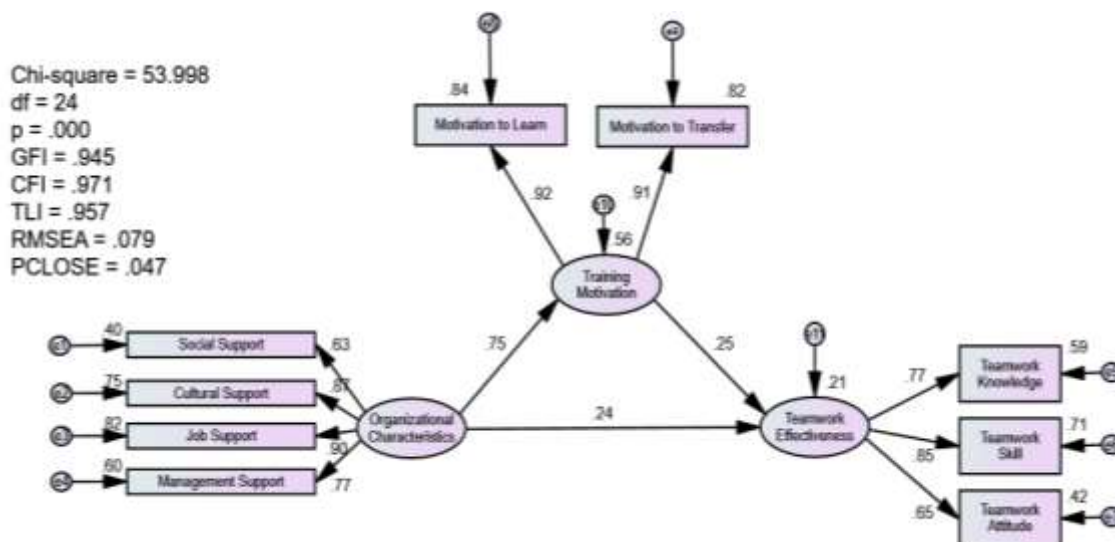


Figure 3: Structural Model

Further, Table 2 shows the results of SEM-AMOS. Hence, hypothesis H1 is fully supported; in which, the direct model’s results shows that organizational characteristics affected teamwork effectiveness significantly. In addition, H2 is also fully supported; in which, the direct model’s results shows that training motivation affected teamwork effectiveness significantly. Additionally, H3 is also fully supported; in which, the structural model’s results shows that training motivation mediated the relationship between training characteristics and teamwork effectiveness significantly with partial mediation effect. Furthermore, Table 3 shows the test result of mediation effect; in which, it is confirmed that training motivation was a significant mediator for the relationship between training characteristics and teamwork effectiveness.

Table 2

Results of SEM-AMOS

Model	Hypothesized path	Standardized regression weights estimates	SE	CR	P value
Structural Model	TM <--- OC	.750	.131	8.313	***
	TE <--- TM	.245	.096	1.933	.033
	TE <--- OC	.240	.140	1.872	.041
Direct Model	TM <--- OC	.750	.131	8.301	***
	TE <--- TM	.426	.064	5.051	***
	TE <--- OC	.419	.095	4.709	***

\*\*\*Significant at 0.0001. TM: Training Motivation, OC: Organizational Characteristics, TE: Teamwork Effectiveness, SE: Standard error, CR: Critical ratio, P: significant level

Table 3

*Testing the mediation effect*

Dependent variable	Regression	Independent variable	Mediator	Total effect	Mediation effect (>0.08)
Teamwork Effectiveness	←	Organizational Characteristics	Training Motivation	0.24 + (0.75x0.25) =0.4275	Yes

According to Ferguson (2016, p. 533) the effect of regression determination with  $R^2 = 0.04$  is considered as small effect,  $R^2 = 0.25$  is considered as medium effect, and  $R^2 = 0.64$  above is considered as strong effect. Ferguson, (2016) also mentioned that the effect of regression coefficient with  $\beta = 0.2$  is considered as small effect,  $\beta = 0.5$  is considered as medium effect, and  $\beta = 0.8$  above is considered as strong effect. Hence, findings of the current research indicated that organizational characteristics had medium effect on training motivation with  $R^2 = 0.56$  and  $p = 0.000$ ; meanwhile, both organizational characteristics and training motivation had small effect on teamwork effectiveness with  $R^2 = 0.21$  and  $p = 0.000$ . In addition, without the existence of training motivation as mediator, organizational characteristics had small effect on teamwork effectiveness with  $R^2 = 0.18$  and  $p = 0.000$ ; however, the effect increased to  $R^2 = 0.21$  and  $p = 0.000$  with the existence of training motivation as mediator. Meanwhile, the partial mediation effect model demonstrated that although training motivation increased the effect of organizational characteristics on teamwork effectiveness (from  $R^2 = 0.18$  to  $R^2 = 0.21$ ) with small effect size ( $\beta = 0.25$ ,  $p = 0.033$ ), organizational characteristics can affect teamwork effectiveness directly without the influence of training motivation with small effect size ( $\beta = 0.24$ ,  $p = 0.041$ ).

Findings have demonstrated that training motivation is an important element that not only affects employees' individual training transfer but also plays a role to stimulate teamwork effectiveness in supporting training effectiveness. Finding is consistent with previous researches, such as by Colquitt et al. (2000), Kontoghiorghes (2004), Aziz (2018a), and Salamon et al. (2021) that find training motivation mediated the relationship between organizational characteristics and training effectiveness. However, the current research contributes to the field of study by indicating that training motivation also plays a role as a mediator on the relationship between organizational characteristic and teamwork effectiveness as one of the training effectiveness measurements.

Further, findings also indicated that all organizational characteristics had significant effects with medium to large effects; in which, the most important organizational characteristic was job support with  $\beta = 0.90$  and  $p = 0.000$ , followed by cultural support with  $\beta = 0.87$  and  $p = 0.000$ , management support with  $\beta = 0.77$  and  $p = 0.000$ , and social support with  $\beta = 0.63$  and  $p = 0.000$ . Finding is consistent with researches by Burke and Hutchins (2007), Tews et al. (2021), and Sloth et al. (2020) that find job support as the most important organizational characteristic affecting training motivation and training effectiveness; for example, if employees' jobs do not allow employees to apply what they learned from training, such as insufficient time to apply and no sanction to apply from upper management, training will be ineffective. These imply that job support is the most important factor affecting training motivation and training effectiveness, specifically to improve the department/teamwork effectiveness.

Inconsistently, several researches indicated different findings in terms of the prioritization of organizational characteristics affecting training effectiveness. For example, Scaduto et al. (2008), Brion (2020), and Sinha and Sengupta (2020) find that organization's cultural support, such as effective leadership was the most significant organizational characteristic affecting training effectiveness. Meanwhile, some researchers find that social support was the most significant organizational characteristic affecting training effectiveness; this includes peer support (e.g., Chiaburu & Marinova, 2005; Na-Nan et al., 2017; Hughes et al., 2020; Guterres et al., 2020) and supervisor support (e.g., Liebermann & Hoffmann, 2008; Salamon et al., 2021). Meanwhile, Cheng and Ho (1998), and Yaqub et al. (2021) find that management support, such as transfer reward was the most significant organizational characteristic affecting training effectiveness. This implies that employees in different types of organizations (public/private, etc.), industries (education, government, business, medical, etc.), region (Asian/Western, etc.), and other demographic variables might have different prioritization of organizational characteristics affecting training effectiveness.

Furthermore, all components of training motivation had significant large effect including motivation to learn with  $\beta = 0.84$  and  $p = 0.000$ , and motivation to transfer with  $\beta = 0.82$  and  $p = 0.000$ . This implies that various components of training motivation are not only important for training transfer but also to improve training effectiveness by maintaining the training outcomes. This is consistent with researches by Chiaburu and Marinova (2005), Aziz and Derasol (2020), and Israr et al. (2021) that training motivation had significant effect to organizational effectiveness. However, the current research contributes to the field of study by indicating that training motivation also beneficial to teamwork effectiveness as one of the training effectiveness measurement. Additionally, all components of teamwork effectiveness had significant effect with medium to large effect; in which, the most important components of teamwork effectiveness were teamwork skill with  $\beta = 0.85$  and  $p = 0.000$ , followed by teamwork knowledge with  $\beta = 0.77$  and  $p = 0.000$ , and teamwork attitude with  $\beta = 0.65$  and  $p = 0.000$ . This implies that organizational characteristics has significant effect on training motivation and the department/teamwork effectiveness; in which, teamwork effectiveness can be seen as a new measurement of training effectiveness.

### Research Implication

Findings of the current research indicated that organizational characteristics were significant independent variables nurturing teamwork effectiveness, training motivation was significant predictor that beneficial for teamwork effectiveness, and training motivation mediated the relationship between organizational characteristics and teamwork effectiveness; in which, the teamwork effectiveness is a new measurement of training effectiveness. Hence, there are several implications especially to the Organizational Management, Human Resource Management, Human Resource Development, Organizational and Industrial Psychology, and Human Development field of study.

First, the current research finds that teamwork effectiveness was a potential measurement of training effectiveness evaluation. From the perspective of Human Resource Development field of study, the evaluation of training and development activities effectiveness should consider a more logical evaluation; such as by using the model of training impact evaluation suggested by Aguinis and Kraiger (2009). The model suggest that training and development effectiveness should be evaluated based on its impact on individual employees, followed by

employees' group/ department/teamwork, organization, and finally the society. In fact, it is impossible for any employee training to affect organizational effectiveness directly without affecting employees' individual effectiveness at the first place; in which, if training has improved employees' individual effectiveness, it will then affect their department/teamwork effectiveness and finally affect organizational effectiveness. Hence. It can be seen that teamwork effectiveness is bridging the impact of training on employees' individual effectiveness to organizational effectiveness. Unfortunately, literature review of training effectiveness evaluation has shown very limited research was done to determine the impact of training on this evaluation's components. Hence, future researchers should do more research to investigate the impact of training on this evaluation's components.

Second, the current research finds that organizational characteristics were significant independent variables nurturing teamwork effectiveness; hence, these characteristics should be used to create supportive training effectiveness climate. Interestingly, job support was found to be the most important organizational characteristic affecting the department/teamwork effectiveness. Hence, from the perspective of Organizational Management field of study, the management should prioritize job support in order to make sure that training outcomes could contribute to the achievement of department/teamwork's objective. For example, employees' job should be designed to have the authorization to practice knowledge, skills and attitude learned in training (Burke & Hutchins, 2007; Sloth et al., 2020). In fact, employees' job should also be designed to enhance employees' career development (Facteau et al, 1995; Sharma et al., 2021) and job enrichment (Kontoghiorghes, 2004; Tews et al., 2021).

Further, other organizational characteristics including organization's cultural support, social support and management support were also found to be significant factor for training effectiveness in nurturing the department/teamwork effectiveness. Hence, from the Organizational and Industrial Psychology field of study, the upper management should practice the right attitude to stimulate the right organization's culture in supporting the department/teamwork performance to maximize training effectiveness. For example, by stimulating continuous learning culture (e.g., Chiaburu & Tekleab, 2005; Assen, 2021), innovative culture (e.g., Kontoghiorghes, 2004), initiative culture (Li, Li & Liu, 2021), and leadership practices (e.g., Scaduto et al., 2008; Sinha & Sengupta, 2020).

Furthermore, from the perspective of Human Development field of study, a warm social support among employees should be encouraged in any department to make sure the employees' continuous growth especially in supporting the department/teamwork performance to maximize training effectiveness. Each employee should be encouraged to support their colleagues regardless their role, either as supervisors (e.g., Liebermann & Hoffmann, 2008; Salamon et al., 2021), peers (e.g., Chiaburu & Marinova, 2005; Guterresa et al., 2020; Hughes et al., 2020), or subordinates (e.g., Facteau et al., 1995; Abudlhabib & Al-Dhaafri, 2020).

Meanwhile, from the perspective of Human Resource Management field of study, an intervention should be done to create ideal transfer climate especially by creating the management support to improve the department/teamwork performance in order to maximize training effectiveness. This can be done by convincing the top management to have



positive attitude and commitment on employees' training and development activities (Switzer et al., 2005; Hanafi, 2016; Tews et al., 2021), providing sufficient resources so that employees could apply learned knowledge and skills from training (Tracey & Cardenas, 1996; Na-Nan et al., 2017), and providing rewards and recognition for using the newly learned skills (Cheng & Ho, 1998; Yaqub et al., 2021).

Third, the current research found that training motivation was a significant mediator on the relationship between organizational characteristics and teamwork effectiveness; however, the measurement of training motivation should be redefined into essential training motivation. This is because previous researches have a mix and confusing term of training motivation used in investigating factors affecting training effectiveness (Alvarez et al. 2004; Aziz, 2018c; Aziz & Ibrahim, 2020). The terms motivation to learn, motivation to transfer, pre-training motivation, and post-training motivation were used to refer the same training motivation; however, the motivation to learn and motivation to transfer were the most influential types of training motivation used by previous researches (Colquitt et al., 2000; Burke & Hutchins, 2007; Saha ,2021; Gegenfurtner, Knogler & Schwab, 2020). Hence, Aziz (2018c) redefined the measurement of training motivation into essential training motivation that comprise of the motivation to learn and motivation to transfer. In fact, it is obvious that employees attended training program not only to learn but also to transfer or apply what they have learned in their respective workplaces. Therefore, future researchers should use essential training motivation as the measurement of training motivation to investigate factors affecting training effectiveness. Additionally, the effect of this new measurement of training motivation should be tested among employees' online training since the nature of training organization has moving forward to online medium since the world is affected by pandemic COVID 19.

### **Conclusion**

Previous researches were done to investigate organizational characteristics affecting training effectiveness; in which, training motivation was found to be a significant mediator. Ironically, previous researches have only focusing on organizational characteristics affecting individual training transfer among employees; in which, little is known about organizational characteristics that can nurture employees' department effectiveness or teamwork effectiveness when employees have transferred their learned skills and knowledge from training. However, research to determine the effect of training to improve teamwork effectiveness is very crucial because it bridges the training impact on employees' individual effectiveness to the organizational effectiveness. In fact, previous researchers have highlighted the importance of training motivation affecting training effectiveness; however, it is still a vague whether training motivation is also beneficial to improve the teamwork effectiveness. Therefore, the objective of this article was to determine organizational characteristics nurturing teamwork effectiveness, the effect of training motivation on teamwork effectiveness, and mediation effect of training motivation. Using a longitudinal research, a survey was done among 203 Malaysian Public Service Officers attended seven training programs organized by The Malaysian National Institute of Public Administration; data were analyzed using SEM-AMOS. Findings indicated that job support followed by cultural support, management support, and social support were important characteristics of organization to nurture teamwork effectiveness in supporting training effectiveness. Additionally, employees' training motivation significantly affect teamwork effectiveness and

played role as a mediator on the relationship between organizational characteristics and teamwork effectiveness with partial mediation effect. Findings also have several implications especially to the Organizational Management, Human Resource Management, Human Resource Development, Organizational and Industrial Psychology, and Human Development field of study.

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