Effect of Managers Support in Technology based Training on Training Transfer

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ABSTRACT: In today’s competitive world, organizations have widely adopted technology-based training to improve their expertise and experience in defending and achieving their strategies and goals. Some of the challenges managers face when implementing technology-based training programs are how to communicate concerns to workers, provide quality development training, coordinate training and reassure employees to encourage them to attain higher levels of skills, knowledge and positive attitude when performing daily work. The study therefore aims to assess managers’ interest in technology-based training programs and relationships with the training transfer. A total of 100 questionnaires had been distributed to the Federal Government Agencies of Malaysia for data collection. The SmartPLS software was used to determine the questionnaire’s data quality and evaluated the study’s hypotheses. The results of an analysis of the SmartPLS route model show that the effect of manager support on technology-based training is affected by training transfer. The results of this study can be used as a reference by practitioners to consider the dynamics of managerial support in technology-based training and to establish strategic action plans to improve leadership coaching skills in an environment of globalization and knowledge-based economy; where these can be used to meet and sustain organizational objectives and strategies. In furtherance, this research offers discussion, implications and conclusions that may be applicable.

Keywords: Technology based training, managers’ support, training transfer, SmartPLS.

Abbreviations: TBT, training based technology; VIF, Variance Inflation Factor; AVE, average variance extracted.

I. INTRODUCTION

Training-based technology (TBT) is a critical subject and is frequently being discussed in commercial and non-commercial organizations [1-3]. In terms of organizational perspective, TBT is often seen as a technique for conducting informal and adhoc training programs to overcome obstacles, boost daily work efficiency and implement proactive organizational objectives based on technology. For example, TBT is useful in helping employees’ access to training information, promote organization’s online learning training techniques, web-based training and e-learning [3, 4, 5]. The implementation of the TBT aims to create a more dynamic and responsive educational learning environment to improve employees’ quality, access minimal delivery costs, improve employee performance and manage globalization challenges today [3, 4, 6, 7].

There are two important types of TBT that offer both on and off the job training. First, on the job training is often defined as software-based activities, strategies and techniques designed by organizations for their employees such as simulations, demos, tutorials, presentations and DVDs. Mean while, off the job training is defined as strategies and techniques designed by the organizations to help employees to reduce their stress level by using game-based learning [6, 7]. This allows employees to learn anywhere, anytime where employees are able to access training-related materials, determine appropriate training and obtain training feedback quickly [4, 5, 8].

Past studies on organizational training indicated that TBT program will not achieve its aims if managers are unable to provide effective support in organizations [8-11]. Therefore, managers play a vital role in planning objectives, content, methods, policies and procedures of training program to help employees to update their skills and capabilities, as well as gain informed knowledge, emotional and cognitive capabilities, and positive attitudes. The ability of the employees to master these aspects may inspire them to accomplish their organizations’ strategy and objectives [9-11].

Effective training support in TBT consists of two elements: morale support and material support [10, 11]. Moral support in TBT is usually referred to as the willingness of managers to understand employees’ modes of work and demands, as well as show compassion and maintain good social relationships in order to attract employees to attend, and appreciate the benefits of training programs [3, 10, 11]. On the other hand, material support in TBT is often referred to as the readiness of managers to extend greater commitments in developing and distributing organizational resources such as managing budgets, providing good physical facilities and creating comfortable climate regarding training programs [8, 11, 12]. Moreover, TBT has been viewed as a remarkable issue in successful organizations. Many TBT literature circulated in the 21st century disclosed that the managers’ ability to correctly
undertake morale and material support may give a significant impact on employee outcomes, particularly training transfer [11, 13]. In the context of organizational training, training transfer is usually described as the ability of employees to apply competencies (skills, knowledge, behaviors) that they gained from training sessions to overcome daily job obstacles, improve daily job performance and achieve their objectives in organizations [3-15].

Even though the relationship has been observed and examined, the role of managers’ support as an important antecedent is not thoroughly being discussed in the TBT management literature [13, 16, 17-19]. Thus, this circumstance has stimulated the researchers’ interest to extend the literature by measuring the effect of managers’ support in TBT on training transfer. This research has two primary objectives: firstly, to investigate the relationship between morale support in TBT and training transfer. Secondly, to investigate the relationship between material support in TBT and training transfer.

This research evaluates the practice of managers’ support implemented in Malaysian Federal Government Central Agencies. It is a very important form of human-oriented training and technology that enhances knowledge-based productivity to deliver transparent and prompt service to work [20]. To achieve this goal, managers are actively involved in evaluating training needs, outlining annual training plans, budgeting and providing instrumental support to encourage employees to become self-sufficient, develop knowledge and create positive behaviors while working within the organization [20]. The exposures gained by the managers can increase their confidence in guiding subordinates through mentoring (such as providing guidance, sharing techniques on the job, providing advice) and providing feedback (such as reporting performance, assessing training competencies, assessing performance fairly) to create and maintain organizational well-being based on TBT [20].

II. LITERATURE REVIEW

The Relationship between Morale Support in TBT and Training Transfer: Influence of morale support in TBT on changing human behavior is consistent with the principal meaning of Graen and Uhl-Bien’s Leadership Exchange Theory [21]. This theory proposes two important elements of leadership that may positively affect employee behavior: physical characteristics (e.g., source of material) and emotional characteristics (e.g., guidance, communication and support). The principal meaning of the theory has received strong support from research articles in training management. For example, numerous surveys using different samples had been conducted in different organizational settings, such as perceptions of 163 military personnel in Peninsular Malaysia [16], perceptions of 160 staff in the public sector in Malaysia [17], 182 retail organizations [22] and 128 users registered in the ERP-OSS projects [23]. Those surveys found that the capability of managers in TBT to provide adequate morale support (encouragement, enthusiasm, openness, encouragement, communication, caring) has led to higher training transfer in the studied organizations [16, 17, 22]. Therefore, it can be hypothesized that:

H1: Morale support in TBT has a positive relationship with training transfer.

The Relationship between Material Support in TBT and Training Transfer: The role of material support in TBT in influencing human behavior is consistent with the essence of Path-Goal Theory [24]. This theory explains that the two contingency elements of leaders are environment support (e.g., task structure, locus of control) and employee characteristics (e.g., performance, satisfaction). These elements can enhance that positive behavior (e.g., motivation) of employees in their career development. The essence of this theory has gained strong support from studies in training management. Many surveys using different samples were conducted in different types of organizations, such as perceptions of 350 employees in the manufacturing industry in Myanmar [18], perceptions of 8787 US sales staff [13], perceptions of 149 employees of a heavy industry in Allahabad, India [19]. The results of these surveys reported that the ability of managers in TBT to appropriately provide adequate material support (budget, physical facilities, training program information) has led to a greater training transfer in the respective organizations [13, 18, 19]. Thus, the hypothesis tested is:

H2: Material support in TBT has a positive relationship with training transfer.

The literature has been used as the basis in establishing a conceptual framework. Fig. 1 shows that managers’ support in TBT is an important antecedent of training transfer.

Manager’s Support in TBT

### Measures

This study was conducted at Federal Government Central Agencies in Malaysia. A cross-sectional research design was chosen as a procedure to collect data for this study. This procedure is useful for collecting relevant, accurate, and high-quality data [25, 26]. To improve the reliability and validity of the instrument, a back-translation method was applied to translate the survey questionnaire into Malay and English languages [24, 26]. A purposive sampling technique was employed to collect 100 usable questionnaires from employees of the Central Agencies. This sampling technique was chosen because the agency heads had not provided the list of registered employees for confidentiality reasons. This situation does not allow the researchers to use a random method in choosing respondents. All respondents had given their consent and participations were on voluntary basis.

### Measures

The survey questionnaire has three parts: First, morale support in TBT has 5 items adapted from the training program of related morale support literature [27-29]. Second, material support in TBT contains 4 items adapted from the training programs of related...
material support [27-29]. Third, training transfer consists of 6 items adapted from the training application literature [14, 30]. “All the items were assessed using a likert scale of 7 items ranging from "strongly disagreeable / unsatisfied" (1) to "strongly agreed / satisfied" (7). Demographic variables were used as controlling variables because this research looks into employee attitudes.

**Data Analysis:** The SmartPLS was used to evaluate the validity and reliability of the instrument and test the research hypotheses. The key advantage of using this package is that it allows the researchers to assess reflective or/and formative models, handle less normal data, measure the nature and effect size, and manage small sample size [31, 32]. The procedure of data analysis is: First, research hypotheses are evaluated based on standardized values of beta (β), t statistic and R². If the β value is greater than 1.96, the relationship between variables of interest is significant [32, 33]. Second, R² value is used as an indicator of the overall strength of model. The strength of model is determined based on the following criteria: 0.02 (weak), 0.13 (moderate) and 0.26 (strong) [33, 34]. Third, f² value is used as a parameter to determine the effect size model is determined based on the following criteria: 0.02 (small), 0.15 (medium) and 0.35 (strong) [35]. Finally, Q² value is used to measure predictive accuracy of exogenous latent variable. The exogenous construct indicates predictive accuracy if the Q² value is more than zero [33].

**IV. RESULTS RESPONDENT PROFILE**

Most of the respondents were female employees (76%), aged from 34 to 39 years (40%), Malays (95%), Muslims (97%), diploma holders (46%), supporting employees (64%), job grades from 19 to 26 (47%), length of services between 0 and 5 years (30%) and married employees (76%).

**Measurement Model Analysis:** Table 1 indicates the finding of convergent validity. The correlation between the items with the study constructs contained an outer loading of more than 0.70, and the item reliability showed that all the constructs exceed 0.50. Meanwhile, each construct has an average variance extracted (AVE) value greater than 0.50 [36]. These constructs have met the convergent validity standards. On the other hand, each study construct has reliability values of composite reliability of more than 0.80 [35], indicating that the constructs have fulfilled the construct reliability criteria.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>No. of Item</th>
<th>Outer Loading &gt;0.70</th>
<th>Item Reliability &gt;0.50</th>
<th>AVE &gt;0.50</th>
<th>Composite Reliability &gt;0.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morale Support</td>
<td>5</td>
<td>0.816-0.912</td>
<td>0.665</td>
<td>0.788</td>
<td>0.949</td>
</tr>
<tr>
<td>Material Support</td>
<td>4</td>
<td>0.711-0.901</td>
<td>0.505</td>
<td>0.728</td>
<td>0.914</td>
</tr>
<tr>
<td>Training Transfer</td>
<td>6</td>
<td>0.750-0.846</td>
<td>0.562</td>
<td>0.658</td>
<td>0.920</td>
</tr>
</tbody>
</table>

Table 2 shows the discrimination validity. The value of heterotrait-monotrait ratio (HTMT) for each construct is less than 0.85, and the confidence interval in parentheses for each construct is less than the value 1, meaning that the study construct has attained discriminant validity.

**Table 2: Findings of the HTMT Discriminant Validation Test and Confidence Interval.**

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Morale Support</th>
<th>Material Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morale Support</td>
<td>0.742</td>
<td></td>
</tr>
<tr>
<td>Material Support</td>
<td>0.297 (0.172, 0.456)</td>
<td>0.414 (0.266, 0.532)</td>
</tr>
</tbody>
</table>

**Note:** In brackets the confidence interval values are 2.5% and 97.5%

Table 3 shows the basic of statistical analysis and variance inflation factor (VIF). The mean value of each study construct ranged from 5.217 to 5.816, meaning that morale support, material support and training transfer in TBT are among the high (5) and very high (7).

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morale Support</td>
<td>5.638</td>
<td>0.833</td>
<td>1.846</td>
</tr>
<tr>
<td>Material Support</td>
<td>5.217</td>
<td>0.961</td>
<td>1.864</td>
</tr>
<tr>
<td>Training Transfer</td>
<td>5.816</td>
<td>0.581</td>
<td></td>
</tr>
</tbody>
</table>

**Structural Model Analysis:** Table 4 presents the findings of hypothesis testing using the Smart PLS software route analysis model. These test results show two important findings. First, morale support in TBT is significant with training transfer (β = 0.289, t = 4.031), hence H1 is supported.
Second, material support in TBT is significant with training transfer ($\beta = 0.383, t = 5.668$), meaning H2 is supported. In contrast, the result for rate of change in the independent variable (morale support and material support in TBT) is 20 percent change in the dependent variable (training transfer). This indicates that the value of $R^2$ exceeds 0.13, meaning that this model has a moderate effect [35].

Subsequently, the test of model suitability, size effect and the predictive relevance were performed separately based on bootstrapping and blindfolding procedures. The $f^2$ value for morale support in TBT is 0.091, with training transfer. This value is greater than 0.02, meaning that the effect size is small [34]. Mean while, the $f^2$ value for material support in TBT with training transfer is 0.272, larger than the value of 0.15, meaning that the effect size is moderate [32]. Furthermore, expected accuracy testing shows a $Q^2$ value of 0.046 for morale support in TBT, and 0.081 for material support in TBT, the value is greater than zero, meaning that the construct has met the predictive relevance level [35].

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>$B$</th>
<th>$t$</th>
<th>$R^2$ (%)</th>
<th>$f^2$</th>
<th>$Q^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Morale Support in TBT and Training Transfer</td>
<td>0.289</td>
<td>4.031</td>
<td>0.20</td>
<td>0.091</td>
<td>0.046</td>
</tr>
<tr>
<td>H2: Material Support in TBT and Training Transfer</td>
<td>0.383</td>
<td>5.668</td>
<td>0.20</td>
<td>0.272</td>
<td>0.081</td>
</tr>
</tbody>
</table>

Note: Significance level $t > 1.96$ (one-tail test)

V. DISCUSSION

The results of this research prove that managers' support in TBT is an important predictor of training transfer. Most respondents felt that the echelons of material support, morale support and transfer of training in TBT are high. This situation explains that the ability of managers in TBT to appropriately implement emotional and material aids may enhance employees' training transfer in organizations.

This study provides three important implications. In terms of theoretical implications, the results of this study are in line with the Exchange Leader-Member Theory and The Goal Theory [21, 24]. The theories posit that the willingness and determination of managers to provide morale support in TBT (encouragement, motivation, guidance) and material support in TBT (financial assistance, physical facilities, important information) can enhance the employees' ability to perform training transfers. The main ideas of this theory are strongly supported by the empirical study conducted by [13, 16, 17, 18, 19, 22, 23].

Meanwhile, in terms of methodological implications, the questionnaire used in this research has achieved a high degree of validity and reliability. This has the potential to improve the accuracy and reliability of the findings obtained. Next, for implications to practitioners, the outcome can be used as a basis for practitioners to improve practice transfer practices. Organizational objectives can be realized if management is able to pay specific care to the following aspects. First, the manager should have a follow-up session after an employee has finished a TBT. For example, employees need to interact and share their experiences and challenges in applying the knowledge to their jobs after the training session. Second, managers should prepare the steps to organize, encourage and educate the employees in delivering the benefits learned from the TBT to other employees. This method is cost effective. Additionally, it is an effective way to reinforce learning in the organization. Third, the content of the training should be updated frequently to ensure that the levels of skills and knowledge are transferred especially in completing employee's daily tasks. This situation can encourage employees to use high intellectual property while performing tasks and respecting the needs of another employees, increasing their potential and developing future careers. Fourth, managers' ability should be used best to identify employees' needs, morale and physical support in TBT and to manage training materials sufficiently and effectively to enhance and maintain the ability of employees to implement training transfer practices. If such strategies are given due consideration, it can offer employees greater motivation to maintain their productivity in the organization.

VI. LIMITATION

Several conceptual and methodological limitations existed. First, the cross-sectional method only reflects the perception of respondents who are public sector employees. Second, a measure of relationship between the dimensions of independent variables and dependent variables was not conducted. Third, the study was conducted at the head quarters of the Federal Government Agencies of Malaysia. Fourth, the sampling technique cannot control the response bias of the study's respondents. This limitation may, therefore, decrease the ability to generalize the findings of this study to organizations of different backgrounds.

VII. CONCLUSION

This study confirms that the managers' support in TBT (morale support and material support) has a noteworthy impact on the transfer of training. This finding has also strengthened and disseminated the most recently published studies in Western countries. Thus, it is suggested that managers' readiness to offer adequate morale and material support in TBT can enhance the employees' ability to identify and encourage their participation in TBT and practice transfer training in organizations. Fortunately, these conditions can also influence the behavior of employees in maintaining high organizational competitiveness in this age of global competition and unpredictability.

VIII. FUTURE SCOPE

This study may offer several suggestions for future research. First, some important characteristics of respondents such as gender, age and the service groups, ministries need to be considered as they can predict respondents' similarities and differences in the survey model. Second, future studies should apply...
comparative methods to measure the effectiveness of managers’ role as effective predictor variable in public and private organizations. Third, a larger sample size should be considered so that it represents the population of the study. Fourth, a specific dimension of supervisor guidance such as instrumental support needs to be emphasized as it is a topic of intense discussion in past studies related to organizational training. Finally, the motivational features have to be explored, such as extra role and in-role as they are important aspects of the relationship between managers’ support in TBT and training transfer. Hence, the above recommendations should be given due consideration in improving future studies.

**Conflict of Interest.** No.

**REFERENCES**


