



ปัจจัยที่มีอิทธิพลต่อผลการปฏิบัติงานของพนักงานรัฐวิสาหกิจในอุตสาหกรรมโทรคมนาคม

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บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์ 1) เพื่อศึกษาตัวแปรเชิงสาเหตุที่มีอิทธิพลต่อผลการปฏิบัติงานของพนักงานในอุตสาหกรรมโทรคมนาคม 2) เพื่อเปรียบเทียบผลการปฏิบัติงานของพนักงานในอุตสาหกรรมโทรคมนาคม 3) เพื่อศึกษาลักษณะของพนักงานในอุตสาหกรรมโทรคมนาคมที่มีแรงจูงใจใฝ่สัมฤทธิ์ และหาแนวทางพัฒนาแรงจูงใจใฝ่สัมฤทธิ์ของพนักงานในอุตสาหกรรมโทรคมนาคม และ 4) เพื่อพัฒนาและประเมินผลกระทบของโปรแกรมพัฒนาแรงจูงใจใฝ่สัมฤทธิ์ต่อผลการปฏิบัติงานของพนักงานในอุตสาหกรรมโทรคมนาคม การวิจัยแบ่งออกเป็น 3 ระยะ คือ ระยะที่ 1 เป็นการวิจัยเชิงสำรวจเพื่อตอบสนองวัตถุประสงค์ข้อที่ 1 และ 2 ระยะที่ 2 เป็นการวิจัยเชิงคุณภาพด้วยการสนทนากลุ่มและสัมภาษณ์เพื่อตอบสนองวัตถุประสงค์ข้อที่ 3 และระยะที่ 3 เป็นการวิจัยเชิงการทดลองเพื่อตอบสนองวัตถุประสงค์ข้อที่ 4 ตัวอย่างที่ใช้ศึกษาทั้ง 3 ระยะทั้งหมดเป็นพนักงานรัฐวิสาหกิจในอุตสาหกรรมโทรคมนาคมในประเทศไทย ระยะที่ 1 มีจำนวน 520 คน ระยะที่ 2 จำนวน 12 คน และระยะที่ 3 จำนวน 40 คน ผลการศึกษาพบว่า หลังจากปรับโมเดล เมื่อพิจารณาค่าสถิติของดัชนีวัดความสอดคล้องกลมกลืนพบว่า $\chi^2/df = 1.296$ ($\chi^2 = 86.82$, $df = 67$), p -value = .052, GFI = 0.980, AGFI = 0.958, NFI = 0.991, CFI = 0.998, CN = -577.407, SRMR = 0.032 และ RMSEA = 0.024 ผ่านเกณฑ์ที่กำหนดทั้งหมด สรุปได้ว่า 1) โมเดลมีความสอดคล้องกลมกลืนกับข้อมูลเชิงประจักษ์ 2) พนักงานที่มีสถานภาพสมรสและอายุแตกต่างกัน มีผลการปฏิบัติงานแตกต่างกันอย่างมีนัยสำคัญทางสถิติที่ระดับ .01 และ .05 ตามลำดับ 3) ลักษณะของพนักงานที่มีแรงจูงใจใฝ่สัมฤทธิ์คือ มีความรับผิดชอบ ทะเยอทะยาน ชอบแข่งขัน มีความรู้ในงานและวางแผนงาน แนวทางการพัฒนาแรงจูงใจใฝ่สัมฤทธิ์คือการมีพี่เลี้ยงหรือแม่แบบ และมีการจัดกิจกรรมในและนอกสถานที่ทำงาน และ 4) ผลการวิเคราะห์ด้วย Mann – Whitney U Test พบว่าหลังการทดลอง พนักงานที่ได้รับการพัฒนาแรงจูงใจใฝ่สัมฤทธิ์ด้วยการฝึกอบรมแตกต่างกัน มีผลการปฏิบัติงานแตกต่างกันอย่างมีนัยสำคัญทางสถิติที่ระดับ .01 (Mann – Whitney U = 98.500; p -value = .006) โดยพนักงานที่ได้รับการฝึกอบรมด้วยวิธีการใช้แม่แบบ มีผลการปฏิบัติงาน (Mean Rank = 25.58) สูงกว่าพนักงานที่ได้รับการฝึกอบรมด้วยวิธีการใช้กิจกรรมสำหรับกลุ่ม (Mean Rank = 15.43) และผลการวิเคราะห์ด้วย Wilcoxon Signed Ranks Test พบว่าผลการปฏิบัติงานของพนักงานมีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติที่ระดับ .01 ($Z = -5.284$; p -value = .000) โดยพนักงานมีผลการปฏิบัติงานหลังการทดลอง (Mean Rank = 56.86) สูงกว่าก่อนการทดลอง (Mean Rank = 24.14)

คำสำคัญ: แรงจูงใจใฝ่สัมฤทธิ์, ผลการปฏิบัติงาน, พนักงานรัฐวิสาหกิจ, อุตสาหกรรมโทรคมนาคม

การอ้างอิงบทความ: มานพ ชูนิล, “ปัจจัยที่มีอิทธิพลต่อผลการปฏิบัติงานของพนักงานรัฐวิสาหกิจในอุตสาหกรรมโทรคมนาคม,” วารสารวิชาการพระจอมเกล้าพระนครเหนือ, ปีที่ 28, ฉบับที่ 3, หน้า 657–676, ก.ค.-ก.ย. 2561.

Factors Influencing the Job Performance of State Enterprise Employees in Telecommunications Industry

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Received 9 April 2018; Accepted 6 June 2018; Published online: 16 July 2018

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Abstract

The objectives of this research are 1) to identify the causal factors influencing the job performance of employees in telecommunications industry; 2) to compare the job performances of employees in telecommunications industry; 3) to study the attributes of employees in telecommunications industry with achievement motivation and to identify ways to develop achievement motivation among employees in telecommunications industry; and 4) to develop and investigate the effects of programs in developing the achievement motivation and job performance of employees in telecommunications industry. This research divided into 3 phases consisting of phase 1 which was survey research conducted for objective 1 and 2, phase 2 which was qualitative research with focus group discussion and interview conducted for objective 3 and phase 3, which was experimental research conducted for objective 4. The subjects for all phases were state enterprise employees in telecommunications industry in Thailand. The subjects of phase 1, 2 and 3 were 520, 12 and 40 employees respectively. The results of the findings were as follows: 1) after modifying the model, the statistics regarding the fit of the models were $\chi^2/df = 1.296$ ($\chi^2 = 86.82$, $df = 67$), p -value = .052, GFI = 0.980, AGFI = 0.958, NFI = 0.991, CFI = 0.998, CN = 577.407, SRMR = 0.032, and RMSEA = 0.024, all of which exceeded the required criteria. It can be concluded that; 1) the model fit with the empirical data; 2) the employees who differed in marital status and age showed differences in job performance at .01 and .05 levels of significance respectively; 3) the attributes of employees with achievement motivation were responsible, ambitious, to be competitive, to have job knowledge and plans and the achievement goals of the employees would develop their achievement motivation in terms of having a mentor or role model and arranging onsite and offsite activities; and 4) the results analyzed by the Mann-Whitney U Test revealed that after the quasi-experiment, the achievement motivation of employees, in terms of different training methods, resulted in a job performance with a .01 level of significance (Mann-Whitney U = 98.500; p -value = .006). The employees trained by role models showed a higher level of job performance (mean rank = 25.58) than those who were trained using group activities. (mean rank = 15.43). The results analyzed by the Wilcoxon Signed Ranks Test showed differences in the job performance of employees at a .01 level of statistical significance ($Z = -5.284$; p -value = .000). The job performance level of the employees after the quasi-experiment (mean rank = 56.86) were higher than before (mean rank = 24.14).

Keywords: Achievement Motivation, Performance, State Enterprise Employees, Telecommunications Industry

Please cite this article as: M. Chunin, "Factors influencing the job performance of state enterprise employees in telecommunications industry," *The Journal of KMUTNB*, vol. 28, no. 3, pp. 657-676, Jul.-Sep. 2018.



1. Introduction

Telecommunications industry grows quickly in Thailand and there are both private and public organizations. The organizations need to be aware of the importance of being successful in gaining the market share of similar products, especially in a competitive market. Khajornnun [1] claimed that the dynamics of the extrinsic environment of the organization – including factors such as economics, society, politics, technology, competition and international trade to integrate the interdependent relationships that create a borderless world and mitigate the effects of globalization. It is interesting that an aspect of the job performance of employees is how to increase their job performance levels. The aspect of performance is important in terms of the benefits to the company, loss of production, ability to compete in the market, the limitations of financial loss, the ability to sell products because production output has reached the target, the time of production output based on the needs of customers and the qualifications of the products. By focusing on the perspectives of employees, those employees with a high level of job performance resulted in a high level of quantity and quality of work and relevant traits, such as initiative, neatness, enthusiasm, were proud of themselves, passed their probationary period, demonstrated high morale, received promotions and fair compensation. Many researchers have conducted studies on job performance of employees and found that the first factor that most influences job performance is leadership among the subordinate staff. Hgwu *et al.* [2] showed that transformational leadership positively predicted an in-role performance. Masa'deh *et al.* [3] revealed transformational

leadership styles had significant impact on performance. Estahbanati and Mahmoudi [4] showed transformational leadership had a significant relationship with organizational support and staff's perceived performance. Breevaart *et al.* [5] showed transformational leadership behavior contributed to followers' job performance. Geier [6] showed that in normal event firefighting contexts, transformational leadership style were the dominant predictor of followers' performance. Sellers [7] suggested that small business managers may improve employee performance using transformational leadership. Anra and Yamin [8] showed there was a direct effect of leadership on performance, a direct effect of achievement motivation on performance, and leadership on achievement motivation. Keawchum [9] revealed that transformational leadership directly influences performance.

The second factor that influenced job performance was support from the organization. Tsai *et al.* [10] showed organizational support was positively related to motivation. Grobelna [11] indicated that perceived organizational support in the service recovery context may increase employees' service performance. Afzali *et al.* [12] showed that perceived organizational support positively influenced psychological empowerment, organizational learning and job performance. Cullen, *et al.* [13] revealed perceived organizational support acted as a mediator of the relationship between employees' adaptability and performance. Guo *et al.* [14] showed the relationship between work engagement and objective task performance was moderated by perceived organizational support.

Karatepe and Aga [15] showed work engagement fully mediated the effects of organizational mission fulfillment and perceived organizational support on job performance. Karami *et al.* [16] showed organizational support related with achievement motivation of employees in Iran. Dawley *et al.* [17] showed organizational support related positively with job embeddedness in the facet of personal sacrifice and job fit.

The third factor that influenced job performance was job embeddedness. Kapil and Rastogi [18] showed job embeddedness related job performance and job embeddedness can predict job performance significantly. Greene *et al.* [19] showed research results indicated that under certain exchange conditions, job embeddedness can have effects for performance. Karatepe [20] showed coworker and family support enhanced performance via job embeddedness of frontline hotel employees. Fatima *et al.* [21] showed job embeddedness, perceived organizational support, and trust had a partial or full mediation role for human resource practices-performance relationship. Tian *et al.* [22] showed job embeddedness components of fit, links and sacrifice were found to mediate the human resource management practices-job performance relationship. Nafei [23] showed job embeddedness related with achievement motivation in the facet of job satisfaction.

The fourth factor that influenced job performance was motivation of subordinate staff. Akman [24] showed work motivation related with teacher performance. Kraus, Burtscher *et al.* [25] showed achievement motivation and other variables, such as innovation orientation, environmental

sustainability, and resource leveraging led to social performance of the firms. Pongpearchan [26] revealed that transformational leadership and high performance work system had a significant positive effect on job motivation. Furthermore, job motivation still had a significant relation to task performance.

The four variables consisted of achievement motivation, perceived transformational leadership, perceived organizational support and job embeddedness which were derived from the review of the literature and relevant to the job performance of employees, which will be used in this research.

Many variables affect job performance and it is necessary to develop further knowledge to increase job performance in organizations. Job performance in this research were defined as the results of the appraisals of the employees, with a forty-two point criteria consisting of the quantity and the quality of work and the traits of employees including initiative, neatness and emotional regulation, etc. The two state enterprise organizations that manage telecommunications services and their many employees should also be studied. The reasons that the two telecommunications industry organizations were selected for this research was due to their low performance in 2009 among nine other organizations [27]. The CAT Telecom Public Co., Ltd. was one of ten organizations with high liability and the TOT Public Co., Ltd. was one of five state enterprise organizations with critical problems [28]. The results of the research will be used to increase the job performance of employees and the productivity of organizations. As a result, these organizations will continue to grow in an increasingly competitive



world. The two companies play a major role in telecommunications industry in Thailand. This research differed from others because the current model uses mixed methods research with both quantitative and qualitative research and the three phases included quantitative research, qualitative research and quasi-experimental research. The experimental research using Latin square design was used in the last section with two types of training programs. The intentions of this training program was to develop and to investigate the effects of achievement motivation on the job performance of employees. The research used three phases to expand the details of research results. The objectives of the first phase are to identify the casual factors influencing the job performance of employees in telecommunications industry and to compare the job performances of employees in telecommunications industry.

The objective of the second phase is to study the attributes of employees in telecommunications industry with achievement motivation and to identify ways to develop achievement motivation among employees in telecommunications industry. The objective of the third phase is to develop and investigate the effects of the program in developing achievement motivation and job performance of employees in telecommunications industry.

2. Research Methodology

2.1 The first phase

2.1.1 Population and samples

The population consisted of employees who had worked at the headquarters of TOT Public Co., Ltd. and CAT Telecom Public Co., Ltd. The number

of samples were selected using an estimated free-parameter. Weston and Gore [29] claimed that the ideal number of samples for structural equation model analysis was two hundred people. Kline [30] explained that the lowest number of samples for structural equation analysis was 10 : 1, which referred to ten people per one parameter. In this phase, there were forty one parameters which made up the number of estimated free parameters. Therefore, the sample size was composed of four hundred and ten employees. However, the questionnaires were collected from six hundred and fifteen employees in order to prevent incompleteness of the information. There were five hundred and twenty returned questionnaires with fully completed information for the data analysis process. Therefore, there were five hundred and twenty respondents to the study. The researchers used convenience sampling to select employees.

2.1.2 Research instruments

In the first phase, the five parts of the questionnaire were validated by experts using the Index of Congruence (IOC). The IOC scores of each item must be equal to or higher than 0.50. Then, the questionnaire was piloted with thirty employees with similar characteristics to the samples in this phase, in order to calculate the discriminatory power using the corrected item-total correlation. After that, the items with a discriminatory power of more than $r = 0.20$ were selected [31]. The reliability of the internal consistency of the study was analyzed using Cronbach's alpha coefficient. The results showed that the Cronbach's alpha coefficients of the five parts of the questionnaire (job performance, achievement motivation, perceived organizational support, perceived transformational

leadership and job embeddedness) were at 0.985, 0.952, 0.953, 0.978 and 0.932 respectively. Also, the reliability of the raters was analyzed by collecting data from employees and using seventy five employees and their supervisor to answer the job performance questionnaire. The questionnaire consisted of two parts: Part 1, a self-evaluation by employees; and Part 2, which was an employee performance evaluation by a supervisor, using the same content as the questions. The results showed that self-evaluation and evaluation by a supervisor were related at .01 level of significance ($r = 0.443$). It showed that evaluation by a supervisor and self-evaluation were both in the same direction.

2.1.3 Data analysis

The first phase of research assumption found that observed variables were normal. The data revealed a degree of skewness from -0.39 to 0.22 and kurtosis from -0.44 to 0.75 that were in accordance with criteria of skewness of not more than three and kurtosis of not more than ten, which indicated normality [30]. A collinearity test was conducted by correlational coefficients of each pair of observed variables. The results showed that there was no collinearity because the correlational coefficients were 0.11 – 0.79 and in accordance with Prasitratasin [32], who established that collinearity occurs when correlational coefficients were over 0.8 . Confirmatory factor analysis was performed to verify the fit of the measurement model to confirm the construct validity of the instrument. It can be confirmed that the observed variables of each indicator were suitable for the latent variables. Then, the model fit indices were applied to test the factors influencing the job performance of the employees with the

empirical data. The parameters were estimated by maximum likelihood. If the model did not fit with the empirical data, modifications to the model will be conducted using modification indices. The fit indices can be evaluated by the following criteria: p -value of $\chi^2 > .05$, GFI > 0.90 , AGFI > 0.90 , NFI ≥ 0.90 , SRMR < 0.05 [33], $\chi^2/df < 2$ [34], RMSEA < 0.05 , CFI ≥ 0.90 , [35] and CN > 200 [36]. The comparison of the job performance of employees categorized by personal factors was performed using the One-way analysis of variance (ANOVA).

2.2 The second phase

2.2.1 Key informants

The key informants included supervisors and employees who worked at TOT Academic Institute of TOT Public Co., Ltd. The informants had a moderate to high achievement motivation at TOT Public Co., Ltd. The researcher contacted the manager and requested employees with moderate to high levels of achievement motivation measured by a two-point criteria; work absenteeism and completing work on time. A high, moderate and low level of achievement motivation were absent 0–1 times per month and they always completed their work on time, were absent 2 to 3 times a month, occasionally completed their work on time, were absent 4 or more times per month and never completed their work on time, respectively. Twelve of the informants, who had qualities including a fixed criteria and voluntary application, were the informants. The number of the informants in this phase accorded with the number of informants in focus group discussion mentioned by [37] or [38]. Wongkiatajorn [37] mentioned it should have 10–12 informants



in a focus group discussion, while Suintinarakorn [38] mentioned it should have 6–12 informants in a focus group discussion. The 12 informants in this phase were 7 informants who showed high level of achievement motivation and 5 informants who showed moderate level of achievement motivation. They were 9 employees and 3 supervisors. They consisted of 7 females and 5 males and their ages ranged from 32 to 57 years old.

2.2.2 Instruments

The instruments were two-item interview guidelines, with the following questions: (1) What are the attributes of employees with achievement motivation? and (2) What are ways to develop achievement motivation among employees? The focus group discussion and the interview were employed in this phase. The focus group discussion at the meeting room was implemented to collect answers from the target group. The interview session at the workplace will be applied in case the researcher requires more information. The method used to analyze the qualitative data was content analysis.

2.3 The third phase

2.3.1 Population and samples

The population consisted of employees at two telecommunications companies: TOT Public Co., Ltd. and CAT Telecom Public Co., Ltd. Purposive sampling selection was used to select 40 employees for the sample group of this phase. The employee qualifications, which depended on age and marital status, were required. The qualifications of the sample must accord with single people who were forty years old or younger, married people who

were over forty years of age, single people who were over forty years of age, or married people who were forty years old or younger. During this phase, forty employees volunteered to be the samples in this study.

2.3.2 Quasi-experimental plan

This phase used a LS-2 (Latin Square Design with a LS-2 design). The training program: Program A (training method with activities for a group) and Program B (training method with role models) was implemented according to the achievement motivation development plan. The employees were divided into four groups of ten people. With reference to the first phase, the results showed that the employees of different ages and marital status had a different job performance level, with a statistical significance. Therefore, age and marital status were used as the criteria to divide the sample into four groups in this phase. Group One consisted of single people who were forty years old or younger, and had been trained by activities for group (A_{11}). Group Two consisted of married people, over forty years of age and who have been trained by activities for group (A_{22}). Group Three consisted of single people, over forty years of age and trained by role models (B_{12}). Lastly, Group Four consisted of married people who were forty years old or younger and had been trained by the role models (B_{21}). Employees were trained in one day with program A which used group activities or program B which used role models. There was a pretest and posttest before and after the quasi-experiment and explanation of the research objectives. In program A, group activities covered three elements of achievement motivation: job satisfaction, a sense of completion and a sense of

competitiveness. The activities included games, a discussion and choosing five behaviors of motivated people with high achievement motivation in order to compare their behaviors. They will record and send them back together with a completed posttest to the researcher after two weeks of training.

Program B was similar to program A, but included role models. The role model appeared at training room and on a video monitor screen. The role model introduced themselves and gave a short summary of their life history and job performance, covering the three previously mentioned elements of achievement motivation, including overcoming obstacles. The participants selected the behaviors of the role model that they wanted to emulate and compared their own behaviors with that of the model. The participants will make a recording and send it back together with the completed posttest to the researcher within two weeks. With regard to the quasi-experiment, employees were trained with different programs: modeling or group activities, but other aspects were the same controlled conditions: training room, time, meal and break, questionnaires for pretest and posttest.

2.3.3 Research instruments

The research instruments used in phase three were divided into two parts. Part one consisted of a three-part questionnaire related to the development of the instrument. The content validity was tested by three experts using the Index of Congruence (IOC) analysis. The results of the analysis must be equal to or above 0.50. The questionnaire was piloted by thirty staff members who were not the samples in the study, in order to validate the discriminatory power by analyzing the corrected item-total correlation.

After that, items with a discriminatory power of more than $r = 0.2$ were selected [31]. The reliability of internal consistency was analyzed using the Cronbach's alpha coefficient. The results showed that the Cronbach's alpha coefficients of a questionnaire on the achievement motivation of employees and a questionnaire on the job performance of employees were 0.940 and 0.883, respectively.

Part two involved the achievement motivation development programs of both programs A and B. In order to improve the quality of the instruments, three experts were asked to validate the suitability of the activities by name, order of activities, objectives, time, media, materials, activity and activity evaluation forms. It was found that all of the experts evaluated the items as +1, meaning that all of the experts were in agreement. Therefore, the achievement motivation development program was found to be appropriate.

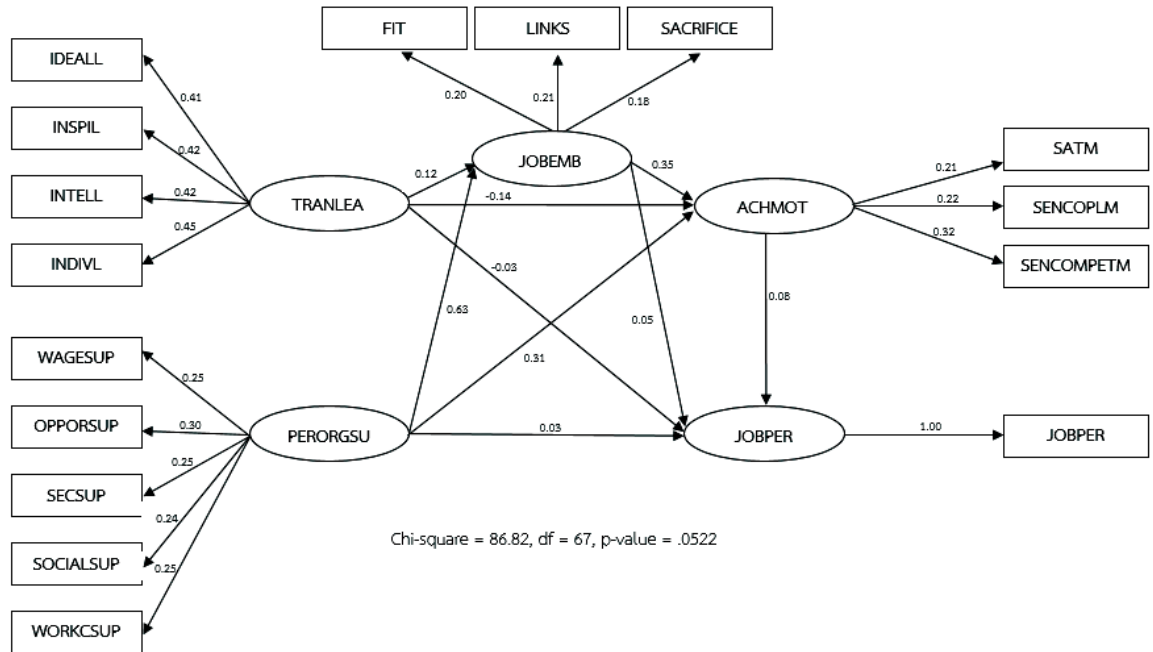
2.3.4 Data analysis

Nonparametric statistics were employed in this phase because the sample group was composed of voluntary employees.

1. The Kruskal-Wallis Test was implemented to compare the job performance and achievement motivation of the employees categorized by groups before and after the quasi-experiment.

2. After the experiment, the Mann-Whitney U Test was implemented to compare job performance, the achievement motivation of employees, categorized by age and marital status and a training program.

3. The Wilcoxon Signed Ranks Test was implemented to compare the job performance and the achievement motivation of employees before



Remarks: The numbers showing the relationship between the elements and latent variables referred to the factor-loading of observed variables, but the numbers between exogenous latent variables and endogenous latent variables referred to their effect size.

Figure 1 Causal Factors Influencing the Job Performance of Employees (After Modifying the Model).

Table 1 Comparison of the analysis results with the criteria of fit indices of the measurement model

Fit Indices and Criteria	$\chi^2/df < 2$	p-value > .05	GFI > .90	AGFI > .90	NFI $\geq .90$	CFI $\geq .90$	CN > 200	SRMR < .05	RMSEA < .05
TRANLEA	0.984	.321	0.999	0.991	0.999	1.000	3500.246	0.004	0.000
PERORGSUP	0.692	.557	0.998	0.992	0.998	1.000	2856.678	0.004	0.000
JOMEMB	0.021	.980	1.000	1.000	1.000	1.000	116539.063	0.002	0.000
ACHMOT	0.019	.891	1.000	1.000	1.000	1.000	183798.897	0.002	0.000

and after the quasi-experiment.

3. Results

3.1 Findings of the first phase

The validity of the measurement model analyzed the confirmatory factors and revealed that the value of the observed factors of perceived transformational leadership (TRANLEA), perceived organizational support (PERORGSUP), job embeddedness (JOMEMB) and achievement motivation (ACHMOT) were all

statistically significant at a level of .01. The validation of the criteria of fit indices showed that all of the factors met the criteria. Thus, the factors were valid in terms of construct validity, as indicated in Table 1.

The results of the analysis of the model and the factors influencing the job performance of employees revealed that after modifying the model (Figure 1), the fit indices met all of the criteria ($\chi^2/df = 1.296$ ($\chi^2 = 86.82$, $df = 67$), p -value = .0522,

Table 2 Direct effect, indirect effect, total effect, and regression coefficient (R^2) of variables in the causal factors influencing the job performance employee model, after modification of the model

Effect Variables	R^2	Effect	Cause variables			
			TRANLEA	PERORGSU	JOBEMB	ACHMOT
JOBEMB	0.52	Direct	0.12	0.63**	-	-
		Indirect	-	-	-	-
		Total	0.12	0.63**	-	-
ACHMOT	0.27	Direct	-0.14*	0.31**	0.35**	-
		Indirect	0.04	0.22**	-	-
		Total	-0.10	0.53**	0.35**	-
JOBPER	0.69	Direct	-0.03**	0.03*	0.05**	0.08**
		Indirect	-0.00	0.07**	0.03**	-
		Total	-0.03**	0.10**	0.08**	0.08**

Note. * p -value < .05, ** p -value < .01

GFI = 0.980, AGFI = 0.958, NFI = 0.991, CFI = 0.998, CN = 577.407, SRMR = 0.032 and RMSEA = 0.024). It can be concluded that the model fit with the empirical data. The value of the direct and indirect effects of these factors were presented in Table 2.

According to Table 2, the perceived transformational leadership directly affected the job performance of employees. The direct effect of the path coefficient was -0.03, but there was no indirect effect through job embeddedness and the achievement motivation of employees. The perceived organizational support of the employees had a direct effect on the job performance of employees. The direct effect of the path coefficient was 0.03. It had an indirect effect on employee job performance through job embeddedness and the achievement motivation of employees. The indirect effect of the path coefficient was 0.07. Job embeddedness had a direct effect on the job performance of employees. The direct effect of the path coefficient was 0.05 and the indirect effect on employee performance through

the achievement motivation of employees was 0.03. The achievement motivation of employees directly affected the performances of employees. The direct effect of the path coefficient was 0.08, as indicated in Table 2.

The comparison of personal factors, such as gender, marital status, work experience in the organization, educational level, salary range, region and type of accommodation, which impacted on job performance, was performed using a One-way analysis of variance in terms of the LSD method of pair comparison and found that employees of different ages showed statistically significant differences at a level of .05. In other words, employees who were forty-one to fifty years of age had a higher performance level than those who were twenty to thirty years of age. Furthermore, employees over fifty also had a higher performance level than those who were twenty to thirty years of age. With regard to marital status, the study showed a statistically significant difference at a level of .01.

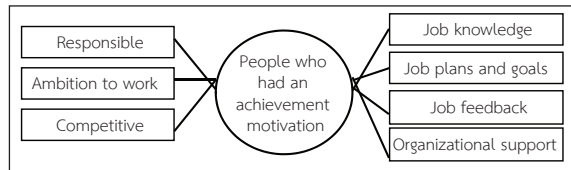


Figure 2 Attributes of employees with achievement motivation.

Employees who were married, divorced, widowed and separated had a higher performance level than those who were single. Moreover, there were no differences in terms of job performance, according to the remaining factors, including gender, work experience in the organization, educational level, salary range, region and accommodation type.

3.2 Findings of the second phase

This phase was focused on the attributes of people with achievement motivation and ways to develop achievement motivation among employees. According to the interviews with twelve participants, the findings were reported as follows:

The results revealed that people with achievement motivation (Figure 2) were responsible, ambitious, and competitive, have job knowledge, plans and goals, receive feedback from supervisors and organizational support in accordance with requests, etc.

Numerous employees with many positive attributes were found to have achievement motivation, for example, responsibility, as previously mentioned in this paper. The employees who had achievement motivation were more responsible about finishing work on time by following an expectation plan. If they lacked the knowledge to

complete their work, they would try their best to finish it. The interview results of Su, Aeoy, Nhun, and Pu were as follows; *“It is my duty to finish work on time, no reason that I am happy with it or not. It is very important to achieve each work as assignment”* (Su). *“No matter I like or don’t like this job, or even if it is not my skill job. Just try to do it. Responsibility is important than others”* (Aeoy). *“I usually specify the deadline of each work. The working plans and goals also set up”* (Nhun). *“When I have some problems or I have no idea about my work, I will consult my boss or find more information on how to do it”* (Pu).

The results showed that employees could develop achievement motivation in the following ways: having a mentor, opportunities to get the jobs they like, receiving sincere feedback from supervisors, organizing the workplace environment and climate, promoting good relationships with coworkers, arranging onsite and offsite activities, having a role model, etc. The researcher had provided the following interviews by informants about ways to develop achievement motivation for employees, as described in the examples below:

The characteristics of a role model were those people who succeeded in many things in their jobs. He or she can be external or internal people in an organization. Employees may know a role model from television or the recommendation of a friend. A role model would be someone who employees had a good impression of, remembered and wanted to be like. As the interview result from Nhun, Su, and Panom, as follows; *“Diligent people always have high motivation. I am impressed by them and want to work like them”* (Nhun). *“A role model*

who I can follow should be one who is an expert and succeeds in many things. They can be external organization employees. I never met them before, but I may watch them from television or hear from a friend's suggestion" (Su). "A role model may only influence someone who give priority to others. Models may not work with those who do not care about anything. It depends on personality of each person" (Panom).

Group activities had ice-breaking games in order to help get people to know each other and get along with other members of the group. An example of these activities were a welcome party, a sports competition, a field trip, a company outing, etc. Regarding the interview results of Auanpan, Pu, Panom, Nhun, and Da as follows; "The group activities that I need is a company outing" (Auanpan). "I need a welcome party" (Pu). "I would love the activities that encourage the harmony in company" (Panom). "I want to travel with my colleagues and have good relationships with others. It helps reduce the conflicts of each person. Also, I will have high motivation after finishing the activities" (Nhun). "Playing games or sports would be enough for me" (Da).

3.3 Findings of the third phase

The comparison between job performance and achievement motivation before the quasi-experiment, using the Kruskal-Wallis Test (H test) showed that there was no difference in terms of job performance ($H = 0.652$; p -value = .884) and achievement motivation ($H = 1.260$; p -value = .739) among A_{11} , A_{22} , B_{12} and B_{21} . After the quasi-experiment, the results showed there was a difference in terms of job performance with a statistical significance of .01

($H = 21.188$; p -value = .000) and achievement motivation with a statistical significance of .01 level ($H = 20.151$; p -value = .000). The mean rank, arranged from the high to the low job performance of group were B_{12} , A_{22} , B_{21} and A_{11} and the mean rank arranged from high to low achievement motivation of group were B_{12} , B_{21} , A_{22} and A_{11} as indicated in Table 3. The Mann-Whitney U test was used to compare each pair of groups, the results showed that there was a statistical significance of .01 in terms of job performance; $A_{22} > A_{11}$, $B_{12} > A_{11}$ and $B_{21} > A_{11}$ and in terms of achievement motivation; $A_{22} > A_{11}$, $B_{12} > A_{11}$ and $B_{21} > A_{11}$.

Table 3 Comparison between the job performance and the achievement motivation of employees categorized by group and following the quasi-experiment

Group	n	Mean Rank	df	H	p-value
Job Performance					
A_{11}	10	5.85	3	21.188**	.000
A_{22}	10	25.00			
B_{12}	10	26.65			
B_{21}	10	24.50			
Total	40				
Achievement Motivation					
A_{11}	10	6.55	3	20.151**	.000
A_{22}	10	22.05			
B_{12}	10	27.20			
B_{21}	10	26.20			
Total	40				

Note. ** p -value < .01

The comparison between the job performance of employees and achievement motivation after the quasi-experiment, in terms of age, marital status and training methods, and using the Mann-Whitney

**Table 4** Comparison between job performance and the achievement motivation of employees categorized by training program, after the quasi-experiment

Job Performance	<i>n</i>	Mean Rank	Sum of Ranks	Mann – Whitney U	<i>p</i> -value
Training Program					
- Group Activities	20	15.43	308.50	98.500**	.006
- Role Models	20	25.58	511.50		
Total	40				
Achievement Motivation					
Training Methods					
- Group Activities	20	14.30	286.00	76.000**	.001
- Role Models	20	26.70	534.00		
Total	40				

Note. ***p*-value < .01

U Test revealed the following: firstly, employees who differed in terms of age had a statistically significant difference at a level of .01 (Mann-Whitney U = 93.500; *p*-value = .004) in terms of job performance. Employees over forty had a higher level of job performance (mean rank = 25.83) than those younger than forty (mean rank = 15.18). Secondly, employees who differed in marital status showed a statistically significant difference at a level of .05 (Mann-Whitney U = 115.000; *p*-value = .021) in terms of job performance. Employees who were married had a higher level of job performance (mean rank = 24.75) than those who were single (mean rank = 16.25). Furthermore, employees who differed in age showed a statistically significant difference at a .05 level (Mann-Whitney U = 117.500; *p*-value = .025) in achievement motivation. Employees over forty had a higher achievement motivation (mean rank = 24.63) than those under forty (mean rank = 16.38). Finally, employees who differed in marital status showed a statistically significant difference at a level of .05 (Mann-Whitney U = 127.500; *p*-value = .049) in achievement motivation. Employees

who were married (mean rank = 24.13) had higher achievement motivation than those who were single (mean rank = 16.88).

The analysis using the Mann-Whitney U Test showed that after developing achievement motivation by using different training methods, the job performance indicated a statistically significant difference at a level of .01 (Mann-Whitney U = 98.500; *p*-value = .006). When the employees were trained using models (mean rank = 25.58), the level of job performance was higher than when others were trained using activities for the group (mean rank = 15.43).

After the quasi-experiment, the employees who developed their achievement motivation from different training methods showed a statistically significant difference at a level of .01 (Mann-Whitney U = 76.000; *p*-value = .001) in terms of achievement motivation. The employees who were trained by using models (mean rank = 26.70) had a higher achievement motivation than those trained by using activities for a group (mean rank = 14.30) as indicated in Table 4.

Table 5 Comparison between the job performance of employees in terms of job performance and achievement motivation before and after the quasi-experiment

Job Performance	n	Mean Rank	Sum of Ranks	Z	p-value
Before	40	24.14	965.50	-5.284**	.000
After	40	56.86	2274.50		
Total	80				
Achievement Motivation					
Before	40	23.58	943.00	-5.347**	.000
After	40	57.43	2297.00		
Total	80				

Note. **p-value < .01

Analysis using the Wilcoxon Signed Ranks Test showed that the employees revealed statistically significant differences at the level of .01 ($Z = -5.284$; $p\text{-value} = .000$) between job performance, both before and after the quasi-experiment. The employees had a higher level of job performance after the quasi-experiment (mean rank = 56.86) than before it (mean rank = 24.14).

The employees showed a statistically significant difference at .01 ($Z = -5.347$; $p\text{-value} = .000$) between achievement motivation, both before and after the quasi-experiment. The employees had higher achievement motivation after the quasi-experiment (mean rank = 57.43) than before it (mean rank = 23.58) as indicated in Table 5.

4. Discussion

The research findings in the first phase showed that the factors influencing the job performance model fit with the empirical data after modification of the model. All of the factors, including perceived transformational leadership, perceived organizational support, job embeddedness and achievement motivation had a direct effect on employee

performance. The research findings that were most relevant to the literature review was transformational leadership related, predicted or influenced to job performance [2]–[9], organizational support related or influenced to job performance [10]–[15], achievement motivation related with job performance [25] and job embeddedness affected or related with job performance [18]–[21]. Unexpectedly, perceived transformational leadership directly affected job performance, but the direct effect of the path coefficient was negative (-0.03). From the research results, it may be possible that employees perceived the transformational leadership proudly and respectfully until subordinates attempted to imitate their leadership style, with the result of these employees and their low job performance. This result may be in accordance with Keawchum [39] who suggested that transformational leadership may not be entirely applicable to the Asia context. Managers who supported only the development of their subordinates' competence could not be expected to enhance performance. The relationship between managers and followers was a significant factor for performance improvement. If the relationship



between managers and subordinates was good, they would help each other to achieve their goals.

An interesting finding was identified when comparing the overall impact of the variables on the job performance of employees. It showed that the perceived organizational support of employees was higher than the other variables; the path coefficient was 0.10. This was related to other findings, including the idea that perceived organizational support related or influenced job performance [10]–[15] because employees were supported by the organization in terms of compensation, welfare, knowledge, opportunity, job security, social psychology, and working conditions.

Job embeddedness directly affected job performance and indirectly affected through achievement motivation on job performance. This was in accordance with the other research results [18]–[23]. It was possible employees who perceived themselves to be fit with their jobs, who linked with their organizations and communities, and who lost benefits if they left their organizations influenced their job performance.

After considering the direct effect, it was shown that achievement motivation had more of an influence than any of the other variables. The effect was 0.08 of the path coefficient. This finding was related to other research indicating that motivation was associated with the job performance of the employees [24]. The factor of achievement motivation could predict the job performance of employees [25], [26]. The research findings of the first phase revealed that the age and the marital status of the employees affected job performance, which was related to the findings of the third phase,

that age and marital status similarly affected job performance. In other words, older employees had a higher job performance level than their younger employees, while married employees had a higher job performance level than even single employees. The tendency was that the older and married employees were more mature, felt engagement with their work and worked harder for both the organization and their families. Therefore, their level of job performance was higher than those who were younger and single. For expanding the knowledge of achievement motivation, the objectives of the second phase were to study the attributes of employees with achievement motivation and try to find out the ways to develop achievement motivation among employees.

The results of the second phase revealed that people with achievement motivation should be responsible, ambitious, and competitive, have job knowledge, job plans and goals, receive feedback from supervisors and organizational support in accordance with requests, etc. The findings of this phase that the employees who had motivation should have responsibility for work completion in accordance with the illustration of McClelland [40] who had the idea that people who had the need for achievement should have a strong need to set and accomplish challenging goals. Blankenship [41] explained that individuals can become quickly engaged in achievement-related tasks. Moreover, the researcher had conducted qualitative research in terms of finding ways to develop the achievement motivation of employees such as having a mentor; acquiring jobs that they liked; receiving sincere feedback from their supervisors; organizing a positive workplace environment and climate, promoting

good relationships with coworkers, arranging onsite and offsite activities and having a role model with achievement motivation for employees in order to follow them. In this sense, the organization should put these methods into action because they might enhance the achievement motivation and job performance of employees. These results inspired the researcher to conduct a quasi-experimental design to develop and investigate the effects of the program which developed achievement motivation among employees in the third phase.

The results in the third phase revealed that the employees who had been trained with role models showed a higher level of job performance than those who had been trained using group activities. The results also showed the job performance levels of the employees after the experiment were higher than before it. The findings of the third phase were in accordance with the proposition that pointed behavioral modeling can motivate poor performers [42] or support desired behaviors [43].

Another interesting point raised by the findings of the first phase of the research revealed that the factor of achievement motivation directly affected job performance. The direct effect of the path coefficient was 0.08. The second phase results showed ways to develop achievement motivation among employees, for example: participating in group activities, having role models and it was related to the findings of the third phase in that the employees showed statistically significant differences at the .01 level before and after the quasi-experiment. The employees trained by role model program had higher achievement motivation levels and higher job performance levels than the

employees trained by group activities program. The levels of job performance were higher after the quasi-experiment, which confirmed the development of achievement motivation by using a training program, which affected the job performance of the employees.

For practical recommendations, telecommunications administrators at a state enterprise should choose role models by searching employees with achievement motivation and proven track record in job performance evaluation. The employees who meet the above criteria should become role models of their organizations. Companies should encourage employees to emulate the behaviors of the role models in order to achieve similar level of performance so they may be rewarded. The employees who were inspired by the role models and achieve high levels of performance should be recognized and rewarded by their companies. When considering the personal factors, it was found that employees who were twenty to thirty years old demonstrated a lower level of job performance than those of other ages. The employees who were single had a lower job performance than those who were married. Therefore, telecommunications administrators at a state enterprise should pay attention to and improve the job performance of those employees with a lower job performance.

For theoretical recommendations, the research findings provided a lot of knowledge, but the most important factors were achievement motivation, perceived organizational support, perceived transformational leadership, and embeddedness, all of which were casual factors that influenced the job performance of employees. These four variables



directly affected the job performance of employees while two variables, perceived organizational support and job embeddedness, indirectly affected the job performance of employees. These findings will be useful for lecturers who must teach students in the topic of human performance in subjects; human behaviors in organizations, industrial and organizational psychology, and performance appraisal.

For recommendations for further research, the research should be conducted as quasi-experimental research by implementing ways to develop achievement motivation for employees (e.g., having a mentor or receiving opportunities to get the jobs that they like) in order to evaluate the job performance of the employees. In addition, it should investigate leadership among supervisors in state enterprise telecommunications companies in great detail, in order to improve the job performance of employees.

5. Acknowledgments

This research was funded by King Mongkut's University of Technology, North Bangkok: Contract No. KMUTNB-GEN-58-44

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