INDIVIDUAL COMPETENCY CAUSAL FACTORS AFFECTING PERFORMANCE OF ACADEMIC PERSONNEL IN HIGHER EDUCATION INSTITUTION

Chanyaphak Lalaeng

Faculty of Business Administration, King Mongkut's Institute of Technology Ladkrabang Prince of Chumphon Campus, Thailand, chanyaphak.la@kmitl.ac.th

Mallika Subongkod

Faculty of Business Administration, King Mongkut's Institute of Technology Ladkrabang Prince of Chumphon Campus, Thailand, mallika.su@kmitl.ac.th

Abstract: *The objective of this research was to test an individual competency causal model affecting performance of personnel in higher education institutions. The study was conducted among education institutions in the upper southern of Thailand. The instrument used in the study was questionnaire. Data analysis was conducted using descriptive statistics, Pearson's correlation coefficient, confirmatory factor analysis, and causal factor analysis.*

The findings from the study found that 1) the individual competency causal model had an effect on performance of personnel in higher education institutions. It was consistent with the empirical data, considered from $\chi^2 = 994.860$, df = 249, p = 0.000, $\chi^2/df = 3.99$, CFI = 0.94, TLI = 0.93, RMSEA = 0.06, SRMR = 0.04. Individual competency causal factors had an effect on performance of personnel with statistical significance. All predictor variables in the model could describe variance of performance, core competency, and job competency by 70.0%, 83.0% and 88.0% respectively.

1. Introduction

Rapid and continuous technology changes have an effect on public sector and private sector organizations, encouraging them to make a great effort to adapt themselves for achieving survival in competition by improving production efficiency and process, product development, and services. However, such improvement is not enough to enable organizations to gain competitive advantage over other competitors. Therefore, numerous organizations give importance to competency of organization personnel increasingly since it is the most significant factor in a competition and organization development. Competency allows people to express their behaviors leading to favorable performance and business performance of organizations. Personnel are

considered intellectual capital important to success or failure of organizations, and intellectual cost that organizations make an attempt to work on potential and capability development in a higher degree. As a consequence, a concept about competency plays a greater role and is employed in organizations more and more including education institutions. Since organizations need to improve their own self-management capacity by improving organization structure to build connection and driving force between strategies and operations, making business executives wish to induce capacity hidden within their organizations to come out. Such capacity is related to capability of personnel in organizations because capability or competency hidden inside them enables organizational performance to succeed (Nisada Vechayanon, 2010). According to McClelland (1999), competency is a personality that is hidden within the individual that can push the individual to the greater results. Individual competency is originated from knowledge, skill, self-concept, and attributes having great influence on work achievement of the individual. Competency induces individuals to express their work behaviors and good work-related achievement as required by organizations, contributing to particular capability of organizations. Morgan (1999) describes that in the past employees' capabilities were viewed in the form of possessing skills and specific capabilities only, but today capabilities cover development of attitude, value, and conceptual framework that help people understand, access, and cope with organization problems. Besides, a study conducted by McCelland (1973) found competency is the best factor predicting success at work of an individual in a certain position. Thus, competency should be used to predict individual performance, which is supported by Boyatzis (1982) who said that "individual traits are associated with work performance" by showing relationship between individual competency and organizational performance in the contingency theory of action and job performance that shows that good organizational performance is caused by relationships of 3 factors, namely, individual, job, and organization. The relationship of factors of individual competency will drive individuals to express specific behaviors that make the work under their responsibility achieve best performance under organization vision and their own work culture and organizational work culture.

In the context of educational institutions, where academic personnel are the main driving mechanisms for quality education, there are research findings that instructor competencies affects the success of educational institutions through the knowledge management process to develop skills, knowledge and ability to perform tasks (Priyanuch Chaikongkiat, 2008; Pattamawan Singsri, 2015). Instructors have main duties according to higher education missions about producing quality graduates, conducting research to create new bodies of knowledge, applying knowledge for academic services to society, and preserving arts and culture. The Directions of Thailand National Education Plan (B.E. 2560-2574) is a long-term strategic plan for education-related agencies. The vision of the National Education Plan has been defined, which is to focus on building a quality and efficient education system as a key mechanism for developing human capital potential and capacities and support education, learning, and challenges that are the dynamics of the 21st century world (Education Council Secretariat, 2016). Developing personnel's potential in higher education institutions to have academic and professional standards must have competencies that cover both the competencies necessary for the teaching profession, focusing on the development of academics and professionals to be proficient in a specific field in order to have knowledge, expertise and be able to perform better.

From the foregoing, the researcher would like to study the causal factors of individual competencies affecting the performance of personnel in higher education institutions by

conducting a study with educational institutions in Upper South of Thailand. The objective of this research was to test the causal model of individual competencies affecting the performance of personnel in higher education institutions for academic benefit, causal relationship model, and individual competencies affecting performance of personnel in higher education institutions. Practical benefits can be a good way to properly implement the competency system of higher education personnel. These lead to the development of performance and policy benefits in order to apply the research findings to use in the planning of personnel development policies and lead to the good performance of educational institutions or other interested agencies.

2. Literature Review

2.1 Concept of Core Competencies

The concept of competency originated with the personality test of McClelland, a psychologist at Harvard University, to study the attitudes and habits of highly effective individuals. McClelland (1973) defines competence as a hidden personality trait within a person that can drive that person to perform well or meet certain criteria in the job for which he or she is responsible. This is described by the Iceberg model that describes the differences between individuals like an iceberg. The less visible and easily developed are those that float above the water. That is the body of knowledge and skills that a person possesses can be easily developed through study and research resulting in knowledge and practice resulting in skills. Most of the hard-to-see below the surface, which is difficult to develop because it is hidden within the person, such as motivation, character, inner image, and role played in society. All of these are called attributes. This submarine greatly affects a person's working behavior, in other words, the skills, abilities, and behaviors necessary to accomplish a task (Mirabile, 1985). Burgoyne (1989) defines competence as the ability and willingness to accomplish tasks. Armstrong (1998) proposed the definition of competence and competency in a manner consistent with Woodruff (1991) that competences refer to what a person needs to perform at a good level, which is focused on the outcome of the job. Competency refers to the dimension of behavior that leads to good performance. Thus, competencies are defined as behaviors that enable people to perform tasks that are not directly related to their work.

The development of the teacher's performance requires that performance assessment is a tool and one of the components of the joint implementation of management. The linkage between performance appraisal and institutional development is a key factor in driving higher education institutions to achieve their goals effectively. This is because a good and efficient assessment of the performance will result in the instructors being able to perform their duties efficiently and in accordance with the set goals (Piyathida Thongaram, 2009). In this regard, Tasanee Boonchuwit (2009) has studied the core competencies of 10 universities in the United States, Canada, and Australia, namely University of California, California State University, University of Calgary, Yale University, York University, University of Wollongong, Charles. Darwin University, Boston College, University of Pennsylvania, and Michigan State University. It was found that the competencies that higher education institutions were consistent in the top 10 were teamwork, followed by communication, program, process, and time management, knowledge and technical skill, diversify, leadership, development of people, customer focus, service orientation, decision making, problems solving, and open to change and adaptability. According to a literature review on the core competencies of Thai higher education institutions published on the implementation of competencies of all eight Thai higher education institutions ranked in the QS World University

Rankings 2015, it was found that all public higher education institutions were consistent with the competence for all Thai civil servants, including the Office of the Higher Education Commission (OHEC) established for civil servants under the Office of the Higher Education Commission. There are five core competencies: achievement motivation, service mind, expertise, integrity, and teamwork. In addition, these competencies are consistent with the top 10 performance groups of higher education institutions in particular countries, especially Teamwork, Knowledge and Technical Skill, and Customer Focus or Service Orientation. While overseas higher education institutions have different and diverse sets of core competencies. Therefore, in this research, the researcher determined the core competencies of academic personnel of higher education institutions in Upper South of Thailand, which consist of achievement motivation, service mind, expertise, integrity, teamwork and open to change and adaptability.

2.2 Concept of cultural competencies

Gertsen (1990) defines cultural competencies as the ability to act effectively with people of different cultures. It is in line with Diller and Moule (2005) that cultural competency is the use of a person's ability in one culture to understand, communicate, operate, and optimize service to individuals in another culture. It was called "cross-culturally". Cross et al. (1989) defined cultural competencies as a set of coherent behaviors, attitudes, and policies that engage in organizational systems or groups of experts in order to be able to work effectively in multicultural situations. Ford and Whiting (2008) define cultural competencies in education as self-awareness, which means understanding culture, which has the following hierarchy: The first step is self-awareness. The next step is cultural exchange where one must be able to identify the values of one's own culture and the culture of others and be able to accept and respect the culture of others. The final step is to assess the cultural value of others from a literature review of cultural competencies. The researcher therefore synthesized the components and behavior indicators of cultural competencies at the individual level to be competencies that promote the competencies required in the performance of academic personnel in higher education institutions which are divided into 3 components as follows:

1. Cultural awareness refers to a person's sense of perception, thinking, and expressing intentional behaviors and needs to be corrected in the face of a culture that differs from one's own culture.

2. Cultural knowledge and understanding means that a person has the cultural knowledge and understanding that is capable of living with another culture, is ready, and has the ability to learn and understand other cultures.

3. Cultural skill refers to behavior that demonstrates the ability to live in a culturally heterogeneous society happily, accepting, perceiving, and adapting through social interactions.

2.3 Concepts of position competence of academic personnel in higher education institutions

Job competence refers to a behavioral trait defined as the ability that a person holding a job position with a similar job group or job description must have the same capability in order to properly perform their responsibilities and maximum efficiency. Group competencies are competencies that are assigned to specific workgroups to encourage civil servants to show behavior appropriate to their duties and to promote better performance of government which consists of 20 competencies, namely: analytical thinking, conceptual thinking, caring &

developing others, holding people accountable, information seeking, cultural sensitivity, interpersonal understanding, organizational awareness, proactiveness, concern for order, self-confidence, flexibility, communication & influencing, leadership, aesthetic quality, visioning, strategic orientation, change leadership, self-control, and empowering others. The Office of the Civil Service Commission has set 3 competencies for each work group. From the literature review on the competency of the work group, the position competencies of academic personnel in higher education institutions is analytical thinking, capacity development, and potential to lead change.

2.4 Concept of performance appraisal

Performance is the result of desirable behavior (Ivancevich & Matteson, 1999). It can be said that performance is defined as behavior or action in relation to what is being done to achieve organizational goals (McCloy, Campbel, & Gudeck, 1994). Davis and Newstrom (1985) concluded that performance appraisal refers to the process of evaluating worker performance, consistent with Bedeian (1993), defined performance appraisal as the process of determining whether the worker is performing the task effectively. Whereas Dessler (2000) has proposed that performance appraisals are assessments of current or past employee performance in comparison to performance standards. Gomez-Mejia, Balkin and Cardy (2001) argue that performance appraisals define or systematize measurements based on job analysis by measuring performance as good or bad and that it can be used in management of the performance of personnel in the organization. From the literature review it can be concluded that performance appraisal is the process of systematically evaluating the performance of individuals in an organization compared to the standard of work in that position and apply the results as a guideline for organizational management to be more effective. In this regard, the researcher has synthesized the performance indicators of academic personnel in higher education institutions for use in this research into 5 indicators as follows: 1) Assignment of tasks in responsibilities 2) work planning 3) functional development 4) Conducting oneself as a role model 5) Offering and performing special or proactive tasks.

2.5 Relationship between performance and performance

McCelland (1973) has found that competence is the best predictor of a person's job success in a given position, competence should be used to predict a person's performance. Later, Boyatzis (1982) brought the concept of McCelland to study. It was found that the characteristics of the person were related to the effectiveness of work performance. The relationship between human competence and performance is shown in the contingency theory of action and job performance, which shows that good organizational performance is caused by the relationship of three factors: the person, the job, and the organization. The relationship of individual competency components drives that individual to exhibit specific behaviors that contribute to high-performing work within the organization's vision and own work culture and organization. Boyatzis (1982); Boyatzis, Goleman, & Rhee (2000); Boyatzis & Sala (2004); Seal, Boyatzis, & Bailey (2006); Boyatzis (2008); Boyatzis & Ratti (2009); Boyatzis (2011) explained that the individual factor is vision, values, philosophy, knowledge, competencies or abilities, life/ career stages, style, and interests must have a relationship that is appropriate or consistent with the requirements of the job's role, task, and specific task functions and roles of job demands and organizational environment, which includes the culture and climate, structure and system, maturity of the industry & strategic position of the organizational, and larger context. The relationship of all three factors can predict the

outcome of an organization. Adaptation to meet the suitability between people, job requirements, and organizational environment will create core competence and result in best fit. Success comes from the point where a person is motivated by job influences and organizational environment to be able to work willingly and feel challenged to work efficiently and with maximum performance. In addition, Spencer and Spencer's (1993) definition of competence can be considered a clear definition of the link between performance and performance. Spencer and Spencer define competence as "the trait inherent in an individual that logically correlates with referenced criteria and makes the individual highly productive", and further explains that the competence of an individual must have an intent, the driving force behind the behavior that leads to good performance, which characterizes a rational relationship and also demonstrates that the competency component is the origin of individual competencies is directly related to performance.

From the literature review involved in the study of the causal model of individual competencies affecting the performance of academic personnel in higher education institutions, the research framework can be formulated as follows:
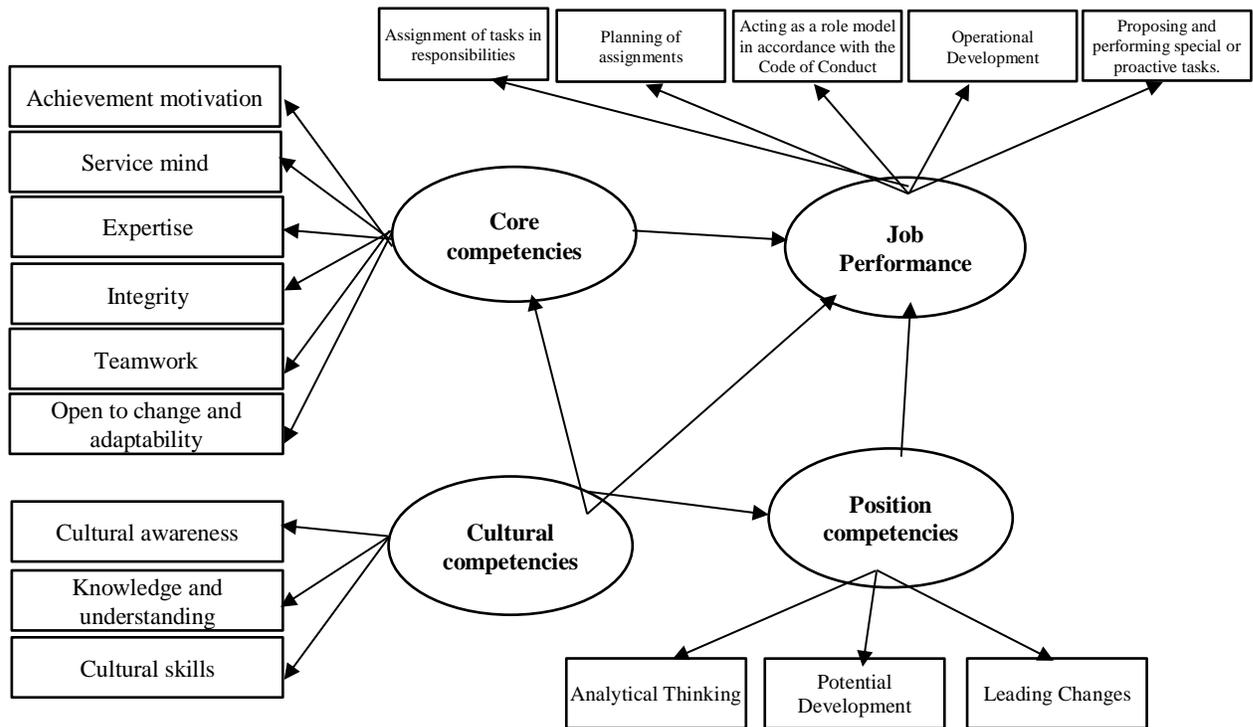

Figure 1: Research Framework

3. Methodology

The population used in this research was academic personnel in higher education institutions in in the upper southern area of Thailand. Determination of samples using G*Power software, a program created with Cohen (1977) and has been inspected and certified for accurate and up-to-date sample size by several researchers (Howell, 2010 and Nongluck Wiratchai, 2012). The model has 17 observable variables, $Df = 17(17+1)/2 = 153$, Effect Size = 0.5 (Faul, F. et a, 2007), power of test = 0.80 (Hair, J. et al, 2010) and large effect size = 0.5 the sample size was 196 sample

This research uses purpose-built questionnaires, conceptual frameworks, and action definitions which are divided into 3 parts: 1) Questions about personal information 2) Questions about personal competencies of academic personnel in higher education institutions covering 3 competencies as follows: (1) Core competencies (2) Position competencies (3) Cultural competencies. 3) Questions about the performance of academic personnel in higher education institutions.

Quality Testing Instrument 1) Content validity was found to have a content validity index of the entire instrument (S-CVI/Ave) of 0.99 which met the accepted criteria. Lynn (1986) and Polit & Beck (2006) suggested that the S-CVI/Ave value should not be lower than 0.90. 2) Reliability was found to be between 0.842-0.900 and more than 0.70 is acceptable (Nunnally, 1978; George & Mallery, 2010). 3) Discrimination power by using the correlation method between the question and the item-total correlation was found to be between 0.340-0.868, consistent with Nunnally & Bernstein (1994) that should be 0.30 or higher. 4) Reliability, it was found that Cronbach's alpha coefficient was 0.928, which is greater than 0.70 (Nunnally, 1978; George & Mallery, 2010) to be considered valid. Cronbach's alpha coefficient reliability criteria are based on the rules of thumb given by George and Mallery (2010).

4. Results and Discussion

4.1 Measurement Model Results

The correlation coefficient analysis to test the correlation between the observed variables revealed that the correlation was between 0.410–0.712, which is less than 0.80 (Cooper & Schindler, 2006). It was shown that observables have no correlation. The results of the confirmation component analysis showed a structural validity of less than 5.00 was therefore acceptable (Wheaton, Muthén, Alwin & Summers, 1977) and consistent with the CFI and TLI analysis results of more than 0.900. The RMSEA and SRMR index values were less than 0.08, thus recognizing that the model was harmonious with the empirical data (Bentler, 1990; Browne, et al., 1993; MacCallum, Browne & Sugawara, 1996; Hu & Bentler, 1999; Diamantopoulos & Siguaw, 2000) (The details are shown in Table 1.)

Table 1 Items Loading, AVE and Composite Reliability for the Measurement Model

Observable variables	Items loading	AVE	CR
1. Core competencies			
1.1 Achievement motivation	0.70		
1.2 Service mind	0.72		
1.3 Expertise	0.75	0.68	0.92
1.4 Integrity	0.84		
1.5 Teamwork	0.78		
1.6 Open to change and adaptability.	0.81		
2. Cultural competencies			
2.1 Cultural awareness	0.79	0.65	0.89
2.2 Knowledge and understanding	0.87		
2.3 Cultural skills	0.82		
3. Position competencies			
3.1 Analytical Thinking	0.73	0.60	0.85
3.2 Potential Development	0.84		
3.3 Leading Changes	0.85		
4. Job Performance			

4.1 Assignment of tasks in responsibilities	0.73		
4.2 Planning of assignments	0.74		
4.3 Acting as a role model in accordance with the Code of Conduct	0.79	0.61	0.88
4.4 Operational Development	0.84		
4.5 Proposing and performing special or proactive tasks.	0.80		

4.2 Structural Model Results

The validity analysis of the causal model showed that the model was consistent with the empirical data when considering χ^2/df values of less than 5 and the CFI and TLI analysis results that were close to 1 (>0.90). RMSEA index values and SRMR index values lower than 0.08 (Hu & Bentler, 1999) indicate that the main hypothesis is accepted that the theoretical model is consistent with the empirical data or that the model is valid. When considering the size of the direct influence of the predictor variable affecting the performance of academic personnel in higher education institutions, it was found that the core competencies had a positive direct influence size coefficient of 0.356 ($\beta = 0.356$) with statistical significance at the .01 level. Cultural competencies directly affecting performance had a positive influence size coefficient of 0.526 ($\beta = 0.526$) at the .01 level as well.

The results of the estimation analysis of the component weights of the observed variables in the causal model were consistent with the corroborative component analysis. The component weight coefficients in the form of standard scores for all observed variables were statistically significant at the .01 level (statistical value $Z > 2.58$). This shows that the observable variables of the five latent variables are the key elements that indicate that components, including the performance variables and the observed variables of performance all have similar importance, i.e. they have values between 0.786 and 0.816.

When considering the direct influence size of the predictor variables affecting core competencies, it was found that position competencies resulted in a statistically significant increase in core competencies at the .01 level with a magnitude coefficient of influence of .01. plus equal to 0.612 ($\beta = 0.612$). In addition, cultural competencies resulted in a statistically significant increase in core competencies at .05 ($|Z| > 1.96$) with a positive magnitude coefficient of 0.298 ($\beta = 0.298$). In addition, cultural competencies had a statistically significant direct influence on position competencies at the .01 level with a positive influence size coefficient of 0.940 ($\beta = 0.940$).

In terms of indirect influence through core competencies, it was found that position competencies and cultural competencies indirectly influenced the performance of academic personnel in higher education institutions statistically at .01 and .05 (Z value > 1.65), respectively, with positive magnitude coefficients of 0.210 and 0.310 ($\beta = 0.210$ and $\beta = 0.310$), respectively. Cultural competencies also had an indirect influence on performance through job placement performance that delivered statistically significant core competencies at the .01 level (Z value > 1.96) with a positive magnitude coefficient of 0.567 ($\beta = 0.567$). This means that having a good level of cultural competencies will result in a higher level of core competencies and position competencies, which will contribute to better performance of academic personnel in higher education institutions.

When considering the overall influence on job performance, core competencies, and position competencies, it was found that the most influential variable was cultural competencies

with total influence size coefficients of 0.836, 0.865, and 0.940 (p<.01), respectively. This means that academic personnel in higher education institutions have cultural competencies in good performance, which will result in both core competencies, position competencies, and higher levels of performance (Table 2 and Figure 2).

Table 2 The magnitude of direct influence, indirect influence, and overall influence in the causal model of variables.

predictor variable	effect size								
	PER			COR			FUN		
	DE	IE	TE	DE	IE	TE	DE	IE	TE
1. Core competencies	0.356**	-	0.356**	-	-	-	-	-	-
2. Cultural competencies	0.526**	0.310**	0.836**	0.298*	0.567**	0.865**	0.940**	-	0.940**
3. Position competencies	-	0.210**	0.210**	0.612**	-	0.612**	-	-	-
χ^2 = 994.860, df = 249, p = 0.000, χ^2/ df = 3.99, CFI = 0.94, TLI = 0.93, RMSEA = 0.06, SRMR = 0.04									

* mean $p < .05$ ** mean $p < .01$

The results of the analysis concluded that all observed variables in the performance measurement model of academic personnel in higher education institutions were of similar importance. The most important observed variables were performance improvement (β = 0.816), followed by model behavior (β = 0.812), assignment of responsibility (β = 0.786), proposing and performing special or proactive tasks (β = 0.764), and planning assignments (β = 0.752), respectively. All observable variables were important to the performance of academic personnel in higher education institutions. All predictors in the model capable of explaining the performance variance, core competencies, and position competencies were 70.0%, 83.0%, and 88.0% (R^2=0.70, 0.83, 0.88), respectively. (Table 2 and Figure 2)
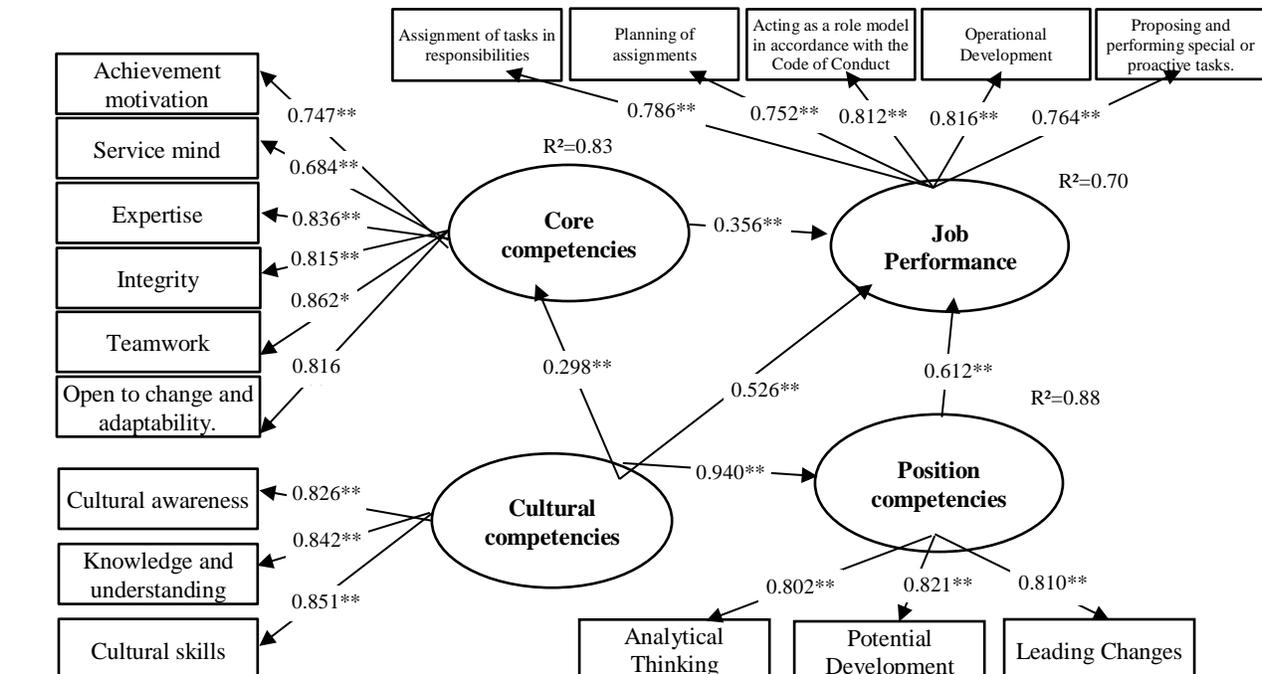
$$\chi^2 = 994.860, df = 249, p = 0.000, \chi^2/df = 3.99, CFI = 0.94, TLI = 0.93, RMSEA =$$

Figure 2. Measurement Model

5. Conclusion

According to the analysis result, the individual competency causal model affecting performance of academic personnel in higher education institutions, developed from theoretical hypotheses, is consistent with the empirical data as core competency, job position competency, and cultural competency are vital factors and related to one another to increase performance at work. It is consistent with the contingency theory of action and job performance of Boyatzis (1982); Boyatzis, Goleman, & Rhee (2000); Boyatzis & Sala (2004); Seal, Boyatzis, & Bailey (2006); Boyatzis (2008); Boyatzis & Ratti (2009); Boyatzis (2011) showing good organizational performance comes from relationship of 3 factors, i.e. individual, job, and organization. Individual factors comprise vision, value, work philosophy, knowledge, individual skills or competency, occupation, lifestyle, and interest that need to be appropriately related to or consistent with requirements of job role, mission and duty, and consistent with organizational environment that consists of organizational climate and culture, system structure, overall situation of the industry and context. Relationship of the 3 factors can predict organizational performance and can be adopted to achieve appropriates among individuals, job requirement, and organizational environment, resulting in best performance (best fit). Additionally, different organizational environment is important. In order to work and achieve good performance, academic personnel in higher education institutions need to have cultural competency comprising cultural awareness, knowledge and understanding in culture, and cultural skills, as a significant basis at work. Cultural competency gives a direct effect on good performance, it enhances academic personnel in higher education institutions to have increasing core competency and job position competency, resulting in best performance. It is consistent with a study conducted by Chutinan Chantarasenanon (2010) on development of a cultural competency scale for secondary school students; the study proposed that cultural competency or cultural capability should be promoted among individuals, organizations or agencies to reduce cultural problems resulted from cultural inequality. Suh (2004) studied the model of cultural competence through an evolutionary concept analysis and additionally proposed and supported that teachers teaching in bilingual schools with cultural diversity should possess cultural competency which includes efficient communication skills, awareness of cultural differences of students, awareness of one's own culture, knowledge of students' culture, and adaptability skills among cultural diversity. Cross et al. (1989) concluded the importance of cultural competency that cultural competency is a group of behaviors and attitudes coming together, enabling persons who have cultural capability or cultural competency to work efficiently.

6. Suggestions

1. From the findings that cultural competencies are important competencies that affect all competencies and performance of academic personnel in higher education institutions. Therefore, for academic personnel to be able to perform well in their work, it is imperative to be aware of the cultural differences of the area. Therefore, local culture should be emphasized as it leads to the success of personnel performance.

2. From the findings that core competencies are competencies that improve the performance of academic personnel in higher education institutions. Therefore, it can be said that

core competencies are competencies that are necessary in performance because they are competencies that are linked to the vision, values, and mission of the organization to achieve the organization's objectives set or better, focusing on the 6 competencies which will focus on performance to achieve success, namely achievement motivation, service mind, expertise, integrity, teamwork and open to change and adaptability.

3. From the findings that the position competencies of academic personnel in higher education institutions promotes an increase in core competencies and also results in an increase in performance, including analytical thinking, capacity building, and bringing change. Therefore, the Institute of Higher Education should apply these three competencies to be useful in improving the performance of academic personnel in many aspects, such as being used in the recruitment process, helping to assess the potential of personnel, helping to develop performance, helping to develop or strengthen organizational culture, etc.

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