



Structural equation modeling of best practice-based high-performance public organizations in Thailand

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Abstract

Due to the expansion of government affairs and the creation of a special agency to implement national policy, studies investigating the proper factors responsible for successful performance in specialist missions are necessary to establish the most efficient high-performance organizational model for public organizations or quasi-government agencies. This study proposes best practices based on a high-performance organizational model with six causal factors. Employing a quantitative methodology, this study constructed a structural equation model based on a sample of 477 people working in two public organizations in Thailand. To analyze the data, structural equation modeling was performed using the LISREL software. The research findings revealed a good fit of the empirical data to the theoretical model. Culture and engagement had indirect effects on people and change management, resulting in strong organizations. High-performance organizations (HPOs) were indirectly affected by employee and design management. Therefore, employee management, which was a crucial mediator variable in the full excellent organizational model, must be approached and established for successful management according to this study. Furthermore, leadership, culture and engagement, and change management that had indirect effects on HPOs via employees, must be developed to achieve excellent agencies with employee management allowing public organizations to provide general public services. This study revealed best practices for implementing a model consisting of the causal-effect factors shown in this study.

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Introduction

Currently, the concept of high-performance organizations (HPOs) has been introduced to assist organizational management in achieving greater success. Generally, an HPO is defined as a prosperous agency that achieves exceedingly greater financial and non-financial results than other organizations in its peer group over a period of five years or more by focusing on what really matters to the organization in a disciplined manner (Waal, 2012). The

HPO concept can be implemented at all dimensions and levels of the organization to achieve the highest productivity.

In the modern world, public organizations or quasi-government agencies have arisen due to the reform of the state sector or the reinventing of government as observed in developed countries, such as the Etablissement Public of France, the Executive Agency of the United Kingdom, the performance-based organizations (PBOs) of the United States of America (USA), and the Crown Entities of New Zealand (Roberts, 1997; Secretariat of the House of Representative, 2015). These organizations have become more businesslike (Dart, 2004) and perform the role of a

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government department that is treated as managerially and budgetarily independent, to perform a certain executive function of the state.

In Thailand, public organizations were officially established in 1999 by the Act of Parliament of Public Organizations and became flexibly operated during the reform of the government system. The resolution of the Council of Ministers on September 7, 2004 divided public organizations into three groups; the first group involved the development and implementation of specific policies of government affairs, the second group provided technical services or performed interdisciplinary missions, and the third group provided general public services. This type of organization tends to replace the government sector in missions that require flexible national policy implementation without a complex bureaucratic process.

Theoretical Background and Research Framework

To establish the hypothetical model and data synthesis, the author created a hypothesis framework using a structural equation model (SEM) of high-performance public organizations providing general public services in Thailand. This study examined six related theoretical factors as shown in Figure 1, each section comprises the following crucial elements:

- 1) The section on culture and engagement focuses on the two elements of culture and engagement (American Management Association, 2007; Banerjee & Kamener, 2009; Bhalla et al., 2011; Hewitt Association, 2009; Lussier & Achua, 2007).
- 2) The section on leadership focuses on the three elements of teams of leaders, future leaders, and middle managers (American Management Association, 2007; Bhalla et al., 2011; Lussier & Achua, 2007; Pickering & Brokaw, 2012; Waal, 2012).
- 3) The section on change management focuses on the two elements of disciplined cascade and evolutionary organizations (Bhalla et al., 2011; Walz, 2006).
- 4) The section on people focuses on the three elements of employer branding, critical roles and key talents, and strategic human resource management (Armitage & Allen, 2007; Bhalla et al., 2011; Ulrich & Allen, 2014; Waal, 2012).
- 5) The section on design focuses on the four elements of structure and resource allocation; few layers and wide spans of control; accountabilities, decision rights, and collaboration; and matched role requirements (American Management Association, 2007; Bhalla et al., 2011; Davison, 2003; Pickering & Brokaw, 2012).
- 6) The section on HPOs focuses on the six elements of shared information and open communication;

compelling vision, purpose and values; ongoing learning; the focus on customer results; energizing system and structure; and shared power and high involvement (Blanchard, 2010; Pickering & Brokaw, 2012; Waal, 2012).

These six factors were merged into one hypothesis model because no previous studies have examined public organizations in this context, and few studies have investigated the alignment of these six variables. Thus, understanding the causal factors affecting HPOs performing general public services for public organizations in Thailand is achieved by developing a structural equation model (SEM) to inform excellent best practices.

Methodology

A quantitative research method was applied in the current study, and the procedural design was separated into two phases. In the first phase, the study framework was developed based on acknowledged studies investigating the causal factors of public organizations using an initial outline of a SEM. Subsequently, the appropriateness of the constructed model was verified, and the model was adjusted according to expert recommendations regarding the draft model. In the second phase, quantitative data were collected using a questionnaire consisting of a five-rating scale to acquire empirical data and assess the consistency between the empirical data and the SEM of the study framework.

Population and Samples

The population comprised 1,046 employees employed at excellent public organizations performing general public services who had attitudes regarding the traits reflecting high competencies. The two selected agencies had shown superiority according to annual performance evaluations of certified operations at a high level for no less than 5 years and had been categorized as HPOs. The calculated sample size was 530 people, and the sample was obtained using multistage sampling and stratified sampling, including a reserved sample. The sample was approximately 20 times greater than the number of variables (Aungsuchod, Vichitwanna, & Pinyopanuwat, 2011; Kline, 1998). The sample consisted of 451 people from Banphaeo General Hospital (public organization), and 26 people from the Thai Film Archive (public organization).

Study Instrument

A questionnaire was used as the study instrument. The six elements of the latent variables and 20 experimental variables were addressed by the questions. A rating scale using five levels was used for opinion-based questions. The quality of the content was verified and validated by five experts. Cronbach's Alpha was employed to contemplate

and corroborate the reliability of the values, and the range of reliability fluctuated between .837 and .922.

Data Collection

Prior approval for the data collection was obtained from the Research Ethics Committee of Mahidol University in July 2016. The data were studied and collected from July to September of 2017. Of the self-administered questionnaires distributed, 477 completed questionnaires were returned; this sample was considered adequate according to the sample size requirements for commonly applied SEMs (Kline, 1998).

Data Analysis

The quantitative data analysis process included an analysis of the descriptive statistics using the SPSS statistical program (Statistical Package for the Social Sciences for Windows) in Mahidol University of Thailand (SPSS version 20; SPSS Inc., Chicago, IL, USA) to describe the general information. Furthermore, the SEM and HPO models of general public services in Thailand were assessed using a continuity measurement index of the SEM and empirical data. This process investigated the causal impact and confirmed the legitimacy of the SEM using empirical data and the LISREL program (Linear Structural Relations, Jöreskog & Sörbom, 2006) in Mahidol University of Thailand.

Results and Discussion

All pairs of variables were statistically significant at the .01 level and positive in the range.443–.812. The 20 variables under review were correlated in a positive direction. The HPO model included the values of the causal factor analysis as shown by the high values of the factor loading of the six latent variables (Tables 1 and 2 and Figure 1). The developed auxiliary condition model had a good fit with the exact information in the abnormal state after model alteration. The model was a good fit for the observational information to an abnormal state based on the

Table 2
Effect size in the adjusted structural equation model (continued)

Dependent variable	Independent variable					
	DE		IE	TE	TE	
	ETA2	ETA3				
ETA1	—	—	—	—	—	—
ETA2	—	—	—	—	—	—
ETA3	.90** (.07)	—	.90** (.07)	—	—	—
ETA4	.55** (.13)	.30** (.07)	.85** (.10)	.34** (.09)	—	.34** (.09)

$\chi^2 = 76.08$, $df = 61$, $p = .092$, $\chi^2/df = 1.247$, $CFI = 1.00$, $GFI = .98$, $AGFI = .95$, $RMSEA = .023$, $SRMR = .013$ (Lisrel 8.80 Standardized estimates)

Remark: 1. * $p < .05$, ** $p < .01$ and $|t| > 1.96$ indicate $p < .05$, and $|t| > 2.58$ indicates $p < .01$.

2. DE = Direct effect, IE = Indirect effect, TE = Total effect

3. The value in parentheses () = Standard error

4. KS11 = Culture and engagement, KS12 = Leadership, ETA1 = Change management, ETA2 = People, ETA3 = Design, ETA4 = High-performance organization

measurements of the legitimacy trial of the model, namely, $\chi^2 = 76.08$, $df = 61$, $p = .092$, $\chi^2/df = 1.247$, $CFI = 1.00$, $GFI = .98$, $AGFI = .95$, $RMSEA = .023$, $SRMR = .013$. All qualities were consistent with the criteria of Bollen (1989), Diamantopoulos and Siguaw (2000), and Kaplan (2000). Tables 1 and 2 present the significant effect size in the adjusted SEM related to Figure 1. Thus, Figure 1 shows the paths of causal-effect factors consisting of the six elements of the latent variables and 20 experimental variables. The results of the adjusted SEM led to the following deductions.

The markers of each factor in the estimation model were critical for anticipating the reliant variable as shown in Figure 1, Tables 1 and 2. The most essential variable was energizing system and structure (Y14; .90). This distinctive point places the group's performance in line with Blanchard (2010) who pointed out that an HPO required systems, structures, processes, and practices to support the organization in terms of goals, values, strategic direction,

Table 1
Effect size in the adjusted structural equation model

Dependent variable	Independent variable								
	KS11			KS12			ETA1		
	DE	IE	TE	DE	IE	TE	DE	IE	TE
ETA1	.23* (.11)	—	.23* (.11)	.69** (.11)	—	.69** (.11)	—	—	—
ETA2	.22* (.12)	.11 (.07)	.33** (.13)	.29* (.15)	.33** (.12)	.62** (.14)	.47** (.14)	—	.47** (.14)
ETA3	—	.29** (.09)	.29** (.09)	—	.55** (.09)	.55** (.09)	—	.43** (.09)	.43** (.09)
ETA4	.11 (.10)	.26** (.08)	.37** (.10)	.06 (.14)	.47** (.11)	.53** (.10)	-.09 (.16)	.41** (.11)	.32** (.11)

$\chi^2 = 76.08$, $df = 61$, $p = .092$, $\chi^2/df = 1.247$, $CFI = 1.00$, $GFI = .98$, $AGFI = .95$, $RMSEA = .023$, $SRMR = .013$ (Lisrel 8.80 Standardized Estimates)

Remark: 1. * $p < .05$, ** $p < .01$ and $|t| > 1.96$ indicate $p < .05$, and $|t| > 2.58$ indicates $p < .01$

2. DE = Direct Effect, IE = Indirect Effect, TE = Total Effect

3. The value in parentheses () = Standard error

4. KS11 = Culture and engagement, KS12 = Leadership, ETA1 = Change management, ETA2 = People, ETA3 = Design, ETA4 = High-performance organization

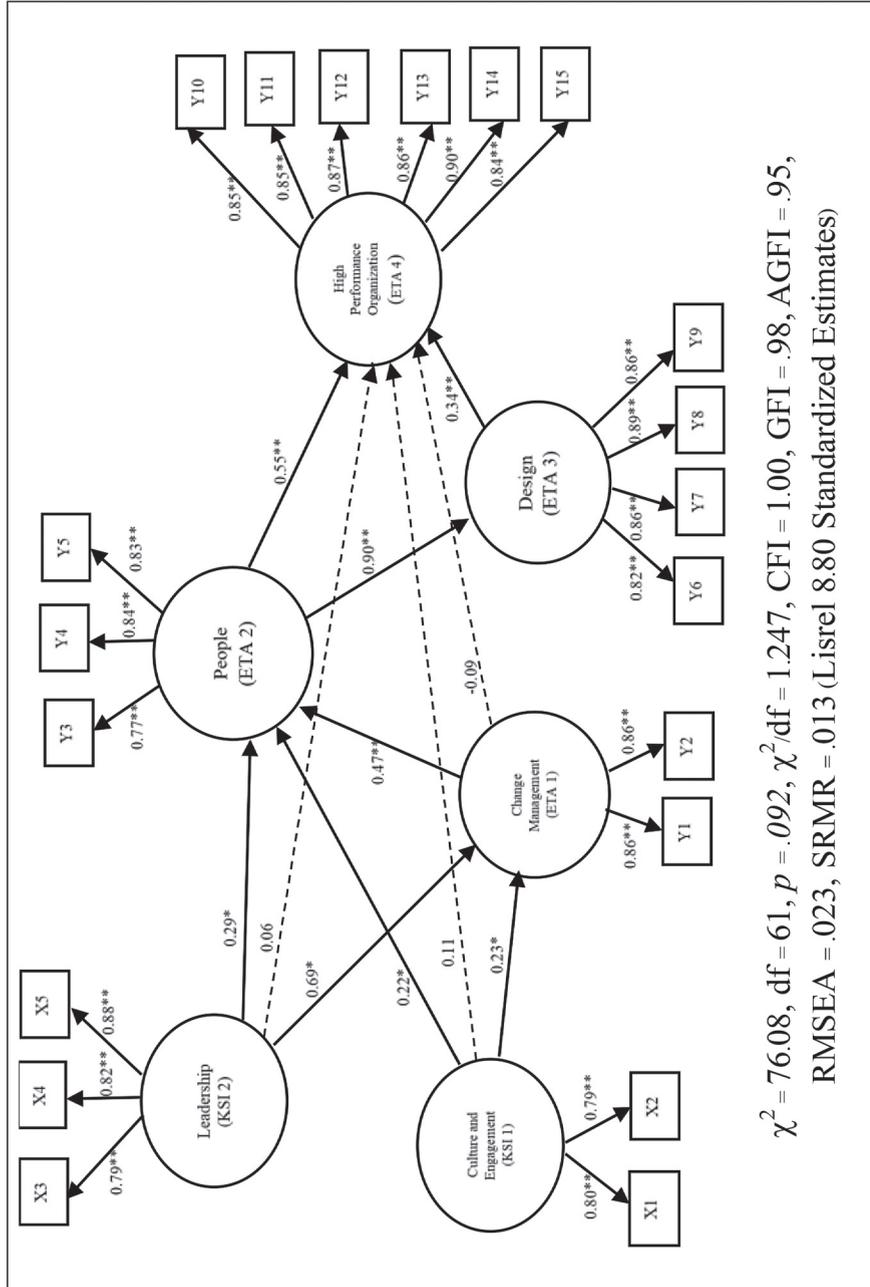


Figure 1 Structural equation model of high-performance organizations performing general public services of public organizations. **Remark:** 1. * $p < .05$, ** $p < .01$ and $|t| > 1.96$ indicate $p < .05$, and $|t| > 2.58$ indicates $p < .05$. 2. Variable detail: 2.1) Latent variable; KSI1 = Culture and engagement, KSI2 = Leadership, ETA1 = Change management, ETA2 = People, ETA3 = Design, ETA4 = High-performance organization 2.2) Observed variable; X1 = Culture, X2 = Engagement, X3 = teams of leaders, X4 = Future leaders, X5 = Middle managers, Y1 = Disciplined cascade, Y2 = Evolutionary organizations, Y3 = Employer branding, Y4 = Critical roles and key talents, Y5 = Strategic HR, Y6 = Structure and resource allocation, Y7 = Few layers and wide spans of control, Y8 = Accountabilities, decision rights, and collaboration, Y9 = Matched role requirements, Y10 = Shared information and open communication, Y11 = Compelling vision, purpose and values, Y12 = Ongoing learning, Y13 = Focus on customer results, Y14 = Energizing system and structure, Y15 = Shared power and high involvement

and objectives to facilitate employees to work successfully. The following most influential concepts were accountabilities, decision rights, and collaboration (Y8; .89), which separately demonstrated that the performance of HPOs incrementally increases as more employee groups gather, which provides high priority to the system and structure alignment and determining roles with accountabilities for efficacy and alliance. This point conforms to [Bhalla et al. \(2011\)](#) and [American Management Association \(2007\)](#) who pointed out that employees in an HPO had clearly defined roles, which were combined in an effective organizational formation. However, the results revealed the following: i) the HPOs were directly and specifically influenced by people and by design at a significant level, while culture and engagement, leadership, and change management did not significantly directly affect the HPOs, which could explain the precedence given to people and design management by public organizations performing general public services.; ii) people and design had a direct effect on HPO management at a significant level. People had the highest direct effect with a value of .55, and design had the second highest effect with a value of .34, which could explain the importance of high-quality people and design in HPO management; iii) culture and engagement had a direct effect on change management and people at a significant level, which could explain the importance placed on high-quality culture and engagement, change management, and human resource management by high-performing public organizations; and iv) the HPOs were indirectly affected by culture and engagement as people or employee management had an indirect effect .26. Thus, in outstanding organizations, the variable of culture and engagement has a high indirect effect on HPOs, but this variable does not have a high direct effect on HPOs. Furthermore, HPOs are indirectly affected by people, with an indirect effect .30. Thus, in superior organizations, high-quality employee management had a high indirect effect on the HPOs but not a direct effect on organizations operating at high levels, such as HPOs. Thus, the HPOs were not directly influenced by culture and engagement, which was inconsistent with [Brown et al. \(2015\)](#), [Denison \(1990\)](#), and [Kotter and Heskett \(1992\)](#) who attempted to show that culture and engagement were among the most important factors directly affecting organization performance, and thus that organizational culture could be viewed as a key factor of the success of the organization. This inconsistency may have occurred because the empirical data collected from public organizations performing general public services must give precedence to the cooperative functions of shared value and commitment and employee management to drive effective policy implementation within the organization. In addition, the HPOs were not specifically influenced by change management, which was inconsistent with a review by [Bhalla et al. \(2011\)](#) and by [Pickering and Brokaw \(2012\)](#) and [Waal and Heijtel \(2017\)](#) who demonstrated that change management directly affected excellent performance and the present-day business environment. Change management requiring strategy, structure, and systems in this verified model requires high-quality employee management to drive HPOs. Consequently, a positive effect on HPOs is not likely without employee and

design alignment and an understanding that culture and engagement, leadership, and change management are also important.

All factors in the exploration model explained 93 percent of the variance in the HPOs. The SEM described the relationships and cause and effect in HPOs performing general public services of public organizations. In summary, the model depicting the causal relationships in HPOs commonly anticipated the desirable traits and components needed on a large scale and dictates the achievement of HPOs for these types of public organizations or other agencies. This study discovered best practices for implementing a model consisting of the causal-effect factors shown in this study. Employee management, which was a crucial mediator variable in the full excellent organizational model, must be approached and established for successful management according to this study. HPOs of the model were also indirectly affected by employee and design management. Therefore, the practical guidelines of public organizations performing general public services should emphasize the employee, design management, and HPOs.

Conclusion and Recommendation

The SEM of the factors affecting HPOs performing general public services for public organizations in Thailand formed in this study had a good fit with the empirical data. The six factors were used for forecasting and affecting HPOs. Thus, the management of excellent public organizations that perform general public services requires strong consciousness regarding the six causal factors. Moreover, this study also revealed that high-performance employees, the most important mediator variable, fully support the significance and validity of HPOs and drive the organization to become a successful agency.

Implications of the Study

This study is applicable to all types of agencies, including those in the public sector, public enterprise and the private sector. The implications also provide ideas regarding organizational best practices. First, public organizations arise from policy implementation related to public sector management. Additionally, the application of interior and exterior environmental characteristics in the adjusted full model should be utilized in employee management for the development of HPOs. This is inclusive of the internal practical processes of the organization and the supportive board commission.

Second, public organizations under the Act of Public Organizations 1999, particularly those performing general public services, should delineate an applied development plan to become excellent agencies and improve the successful indicators of the assessment according to the well-arranged values of the impact factors in this role model. In addition, other public organizations should be offered their own adjusted model for further development and more effective organizational improvement and an acquisition scheme for a thriving process.

Third, these results could be used to develop a plan encouraging HPOs among public organizations to collaborate through culture and engagement, leadership, change management, organizational design, and high-quality employee management, which might be characterized as a goal in the yearly plan of action with dimensions. This is essential for abiding by the causal apparent procedures of the appropriate HPO model.

Recommendations for Future Research

This study contributes to future studies. First, future studies should extend this model to the various dimensions of each factor in the literature review by using appropriate methods, such as exploratory factor analysis (EFA); for example, the leadership factor could be studied in terms of the traits of transformational leadership or strategic leadership leading to HPOs or change management could be studied using a specific approach.

Second, in the current study, if the confirmatory factor analysis (CFA) in the beginning stage of the model yielded solid statistical results regarding the goodness of the properties of each dimension, this framework should test the hypothesized structure of HPOs with the six causal factors using a second-order (or higher order) modeling strategy within the framework of SEM. More benefits are associated with second-order modeling to an extended methodology for studying the HPO model allowing researchers to build a statistically based structure that reflects a conceptualized framework that is hierarchical in nature.

Third, according to the significant effects in this study, the SEM model revealed the components of people or employee management as concurrent viewpoints and relevant mediator variables that connect to HPOs; future studies should investigate profound human resource management practices for effective organizational affairs using a causal effect of multiple dimensions.

Finally, future studies should investigate policy processes related to high-potential agencies that implement policy at the national level. This study developed an HPO model for public organizations and transformed government units that accomplish effective national policy practices, and recommends cooperation among the implementing active agencies to achieve efficient practical policies.

Conflict of Interest

The author has no potential conflicts of interest to declare with respect to the study, authorship, and publication of this article.

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