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Cultural Difference and Perceived CIO Role Effectiveness in Higher Education in ASEAN

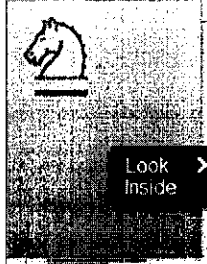Atcharaporn Yokkhun, Khanittha Inthasaeng, Fudailah Duemong, Wichian Chutimasakul, Borworn Papasratorn

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Abstract

CIO role is important to ICT success in higher education. However perception of CIO Role effectiveness could be affected by culture, this research identified relationship between cultural dimensions and perceived CIO Role Effectiveness. This research follows cultural dimensions proposed by Hofstede [1]. Assessment of CIO role effectiveness follows method proposed by Kishen [2]. Samples are selected from of CIO or ones with potential to be CIO from 3 selected universities in Thailand and Vietnam. Three selected universities represent culture differences of equivalent to culture of 6 countries from 10 ASEAN countries. In terms of cultural differences among CIO in ASEAN, the research found that they are totally different in Long-Term Orientation but they are similar in Masculinity and Indulgence. For relation between cultural dimension and perceived CIO role effectiveness, it is found that Masculinity has negative effect on Perceived CIO Role Effectiveness, but Long-term orientation and Indulgence have significantly effect on Perceived CIO Role Effectiveness. As human resources in ASEAN will be more unified upon the beginning of ASEAN Economic Community in 2015, this research reveals that CIO role in higher education in

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Editor Affiliations
1. School of Information Technology, King
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Mongkut's University of Technology Thonburi

Authors
Atcharaporn Yokkhun ✉ [3]
Khanittha Inthasaeng ✉ [4]
Fudailah Duemong ✉ [5]
Wichian Chutimasakul ✉ [3]
Borworn Papasratorn ✉ [2]

Author Affiliations
3. School of Information Technology, King
Mongkut's University of Technology
Thonburi, Bangkok, Thailand
4. Faculty of Computer Science, Ubon
Ratchathani Rajabhat University, Ubon
Ratchathani, Thailand
5. Faculty of Technology Science and
Agriculture, Yala Rajabhat University, Yala,
Thailand

Cultural Difference and Perceived CIO Role Effectiveness in Higher Education in ASEAN

Atcharaporn Yokkhun[1], Khanittha Inthasaeng[2], Fudailah Duemong[3],
Wichian Chutimasakul[1], and Borworn Papasratorn[1]

[1] School of Information Technology,
King Mongkut's University of Technology Thonburi, Bangkok, Thailand
bignoina@gmail.com, {wichain,borworn}@sit.kmutt.ac.th
[2] Faculty of Computer Science, Ubon Ratchathani Rajabhat University,
Ubon Ratchathani, Thailand
il_khanittha@hotmail.com
[3] Faculty of Technology Science and Agriculture, Yala Rajabhat University, Yala, Thailand
fudailah@hotmail.com

Abstract. CIO role is important to ICT success in higher education. However perception of CIO Role effectiveness could be affected by culture, this research identified relationship between cultural dimensions and perceived CIO Role Effectiveness. This research follows cultural dimensions proposed by Hofstede [1]. Assessment of CIO role effectiveness follows method proposed by Kishen [2]. Samples are selected from of CIO or ones with potential to be CIO from 3 selected universities in Thailand and Vietnam. Three selected universities represent culture differences of equivalent to culture of 6 countries from 10 ASEAN countries. In terms of cultural differences among CIO in ASEAN, the research found that they are totally different in Long-Term Orientation but they are similar in Masculinity and Indulgence. For relation between cultural dimension and perceived CIO role effectiveness, it is found that Masculinity has negative effect on Perceived CIO Role Effectiveness, but Long-term orientation and Indulgence have significantly effect on Perceived CIO Role Effectiveness. As human resources in ASEAN will be more unified upon the beginning of ASEAN Economic Community in 2015, this research reveals that CIO role in higher education in different ASEAN countries will be perceived differently, in term of role effectiveness. The research also reveals that any CIO who wants to be perceived as effective CIO in ASEAN should perform their role in the way to enhance Long-Term Orientation and Indulgence, while decrease Musculinity.

Keywords: cultural dimension, ICT Leadership, Hofstede, CIO Role Effectiveness.

1   Introduction

ICT becomes necessary infrastructure of all education levels. One supporting event is that governments in many countries give lots of investment in ICT for education [3]. ICT enables higher education to enhance efficiency of learning and research [4].

ICT success depends on many factors, including system quality, information quality, service quality, user satisfaction, and leadership [5-7]. Effectiveness of leadership is closely related to role of CIO, which includes; Strategy Planning, Outsourcing Management, Resource Management, Knowledge Management, Personnel Management, Change Management and Development of System [12-14]. However, perception on CIO role effectiveness depends more or less on culture. With almost the same role, CIO may be perceived as less effective in one culture while other culture perceive as very effective. As ten member states of ASEAN; Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore Thailand and Vietnam, will transform into a region with free movement of goods, services, investment, skilled labor, and free flow of capital [15]. It is possible that CIO from one culture will have position in other culture. Previous research also revealed that leadership theories in one country may not suitable to apply in other countries because of   culture differences [16-20]. Understanding of effect of culture difference on CIO role effectiveness will help reduce ICT management problem in the future.

This research aims to examine two research questions:

(1) Do CIO in higher education in different area of ASAEN have different culture dimensions?

(2) Which cultural dimensions have effect on Perceived CIO role effectiveness?

2   Literature Review

2.1   CIO and CIO Role Effectiveness

The most well-known definition of Chief Information Officer (CIO) was defined by Synnottas [21] as the highest ranking executive with primary responsibility for information management.   Later, Boyle et al. described CIO as an executive with broad responsibility for information technology (e.g., data processing, telecommunications and office automation) and reports to a high-level corporate officer (e.g., president or CEO) [22]. Rockart et al. [23] recognized that role of CIO concern with strategy and policy formulation. CIO focus   is on staff rather than line responsibilities . Chun et al. [24] found that CIOs' role has evolved to reflect both the firm's IS infrastructure and strategy. This has led to two versions of the role: an executive-level manager focused on the firm's strategy and processes, and a technical manager focused on minimizing costs by rationalizing and leveraging the existing IS infrastructure. Kishen [2] defined seven items for measuring effectiveness of CIO role.

- **Strategy Planning Dimension:** To develops effective ICT strategic plan that supports overall strategic organizational goals.
- **Outsourcing Management Dimension:** To ensure delivery of outsourcing contracts.
- **Resource Management Dimension:** To ensure quality, confidentiality, and security of organizational data, architecture and systems.
- **Knowledge Management Dimension:** To absorb and apply knowledge gained from functional users and previous IT projects.

- **Personnel Management Dimension:** To give performance feedback and incentives for user to upgrade skills.
- **Change Management Dimension:** To communicate with all concerned parties, including top management and users, during implementation.
- **Development of Systems Dimension:** To develop new systems that meet the changing requirements of the organization.

2.2   Hofstede's Cultural Dimensions

Culture was defined as the "collective programming of the mind that distinguishes the members of one group or category of people from another" [1] and consists of six dimensions.

The six dimensions are:

- **Power Distance (PDI):** The extent to which the less powerful members expect and accept that power is distributed unequally.
- **Individualism (IDV):** Stands for a community in which the ties between individuals are loose: a person is expected to look after himself or herself and his or her immediate family only. Collectivism, in opposite, stands for a community in which people are integrated into strong, cohesive in-groups, with unquestioning loyalty.
- **Masculinity (MAS):** Community in which men are supposed to be assertive, tough, and focused on material success; women are supposed to be more modest, tender, and concerned with the quality of life. Femininity, in opposite, stands for a community in which social gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life.
- **Uncertainty Avoidance (UAI):** Extent to which the members feel threatened by uncertain, unknown, ambiguous, or unstructured situations.
- **Long Term Orientation (LTO):** Foster virtues are oriented towards future rewards. Short Term orientation fosters virtues are related to the past and present, in particular respect for tradition, preservation of "face", and fulfilling social obligations.
- **Indulgence (IVR):** Free gratification of some desires and feelings. In opposite , Restraint, controls such gratification, and where people feel less able to enjoy their lives.

3   Conceptual Model

This research used Hofdstede's cultural dimension to compare cultural difference of CIO in 2 universities in Thailand and one in Vietnam. One university in Thailand is located near Lao and Cambodia borders. Culture in this university can represent working culture in Lao and Cambodia. The other Thai university, selected in this research, is in area dominated by Muslim culture. This university can represent working culture of Malaysia, Indonesia and Brunei. There selected universities can

therefore represent culture of six ASEAN nations. After assessing culture difference of selected samples, relation between culture dimensions and perception on effectiveness of CIO role were assessed, using the proposed conceptual model shown in Fig. 1:
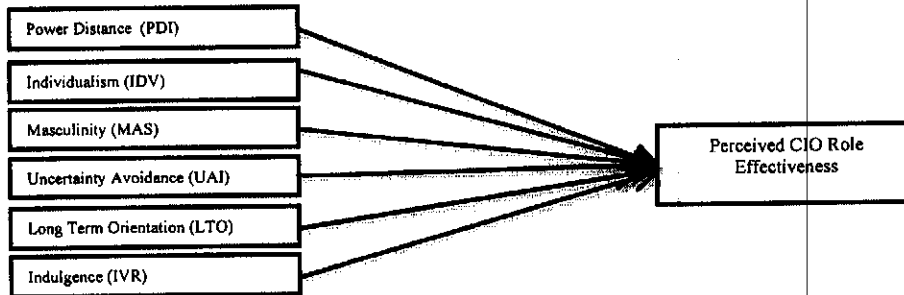

Fig. 1. The Conceptual Model

4   Hypotheses

To answers the research questions about the cultural difference and relationship between each cultural dimension and Perceived CIO Role Effectiveness, the hypotheses of the research are as follows:

H1 : Power distance (PDI) has effect on Perceived CIO Role Effectiveness
H2 : Individualism (IDV) has effect on   Perceived CIO Role Effectiveness
H3 : Masculinity (MAS) has effect on Perceived CIO Role Effectiveness
H4:   Uncertainty avoidance (UAI) has effect on Perceived CIO Role Effectiveness
H5: Long-term orientation (LTO) has effect on Perceived CIO Role Effectiveness
H6: Indulgence (IVR) has effect on Perceived CIO Role Effectiveness

5   Methods

5.1   Measures

Hofstede's values survey module (VSM) 2008 was used as cultural difference evaluation tool. In this 2008 version, there are seven dimensions in the questionnaire. The seventh dimension is **Monumentalism** which stands for a society which rewards people who are proud and unchangeable. Its opposite pole, Self-Effacement, stands for a society which rewards humility and flexibility. The Monumentalism Index will probably be negatively correlated with the Long Term Orientation Index, but it includes aspects not covered by the latter. Otherwise, the seventh dimension has not been validated yet so only six dimensions were used in this experiment. Kishen's CIO Role Effectiveness [2] was used as a tool to examine relation between perceived CIO Role Effectiveness and all six cultural dimensions. Both of tools were translated from English into Thai for samples in Thailand and English version was used in Vietnam.

5.2   Samples

This research selected respondents who work as the CIO or CIO-to-be in the ICT department or related departments from 3 universities in different locations; Ubon Ratchathani, Northeastern Thailand, Yala, Southernmost Thailand and Hue, Central Vietnam. Ubon Ratchathani is in borderland of Thailand and Cambodia and Laos. Thus this research proposed that Ubon Rachathani could represent culture in Thailand, Cambodia and Laos.[25]   Yala is the southernmost province of Thailand on Thai-Malaysian border. Majority are Muslim, similar to Malaysia, Indonesia and Brunei [26]. Therefore, Yala can represent culture of both Thailand and Islamic countries in ASEAN. Hue, central Vietnam can be the representative of it own culture.

The demographic detail is shown in Table 1.

Table 1. Demographic

Factors	Ubon Ratchathani Thailand	Yala Thailand	Hue Vietnam	Overall	
	n	n	n	n	% within sample
Gender					
Male	5	5	4	14	60.9
Female	3	3	3	9	39.1
Age					
21-30	-	3	2	5	21.7
31 – 40	5	2	1	8	34.8
41 – 50	2	3	3	8	34.8
51 and above	1	-	1	2	8.7
Education Level					
Bachelor	-	1	3	4	17.4
Master	7	6	2	15	65.2
Ph.D.	1	1	2	4	17.4
Year of experiences					
Less than 1	-	-	-	-	0
1 – 3 years	-	3	2	5	21.7
4 – 6 years	-	-	1	1	4.3
7 and above	8	5	4	17	74.0

5.3   Cultural Differences

For the first research question related to cultural differences among CIO in ASEAN higher education; this research used Hofstede's method in [19] to calculate cultural dimension index scores of respondents.   The result is shown in Fig.2.
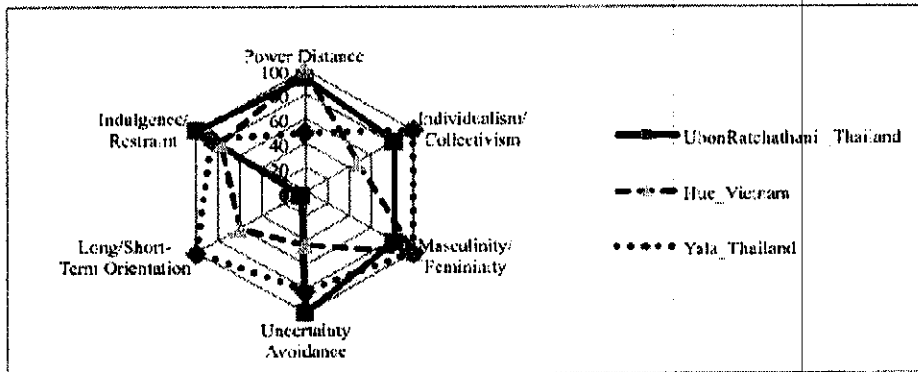
Fig. 2. Comparison of six cultural dimension index scores

From the Fig. 2, there are cultural differences between three respondents groups. Uncertainty Avoidance and Individualism of UbonRatchathani and Yala are alike but Hue is different. Long Term Orientation is the only dimension that is unique among all.

For the second research question related to relation between perceived CIO Role Effectiveness and the six cultural dimensions, multiple regression analysis was conducted. The correlation matrix indicated the correlated factors between Perceived CIO Role Effectiveness and cultural dimension scores. There is no highly correlated factor, as is shown in Table 2.

Table 2. Correlation Matrix between Perceived ICT Leader Role Effectiveness and cultural dimension score

	Mean	S.D.	ICT	PDI	IDV	MAS	UAI	LTO	IVR
Perceived ICT	2.59	0.533	1.00						
PDI	34.78	44.04	-0.91	1.00					
IDV	0.00	40.87	0.16	-0.27	1.00				
MAS	-6.09	45.58	-0.30	0.14	0.15	1.00			
UAI	8.48	57.30	-0.30	-0.08	-0.04	0.34	1.00		
LTO	0.87	66.10	0.37*	0.10	0.12	0.25	-0.38*	1.00	
IVR	26.96	43.84	0.24	0.25	0.36*	0.21	0.05	-0.07	1.00

*$p<0.05$

5.4   Relation between Perceived CIO Role Effectiveness and Cultural Dimensions

The results of analysis stated that both H1 and H2 were not be indicated any significant effect on Perceived CIO Role Effectiveness, this means that Power distance and Individualism were not significantly has effect on perceived CIO Role Effectiveness. (H1: β = -0.200, H2: β = -0.046;p > 0.05) Therefore, H1 and H2 were rejected. The multiple regression analysis identified the relationship between Masculinity and Perceived CIO Role Effectiveness as significantly related (β = -0.536 ; p < 0.05). The meaning is, Masculinity has negative effect on Perceived CIO Role Effectiveness as stated in the hypothesis. The test revealed that Uncertainty avoidance has no significant impact on Perceived CIO Role Effectiveness (β = 0.066 ; p > 0.05). Hence, significant relationship between Uncertainty avoidance and Perceived CIO Role

Effectiveness was not accepted. Both Long-term orientation and Indulgence have positive effect on Perceived CIO Role Effectiveness (H5: $\beta = 0.587$, H6: $\beta = 0.462$; $p < 0.05$). Thus, H5 and H6 were confirmed.
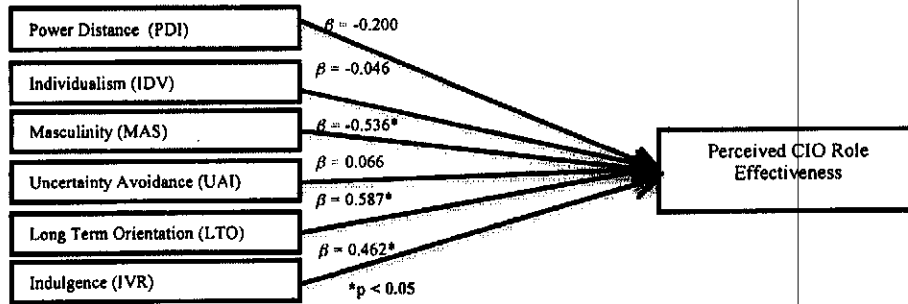

Fig. 3. Hypothesis testing result

6   Discussion and Conclusion

It is revealed from this research that CIO in different area have different cultural dimension. Second, people perceive differently for the same role of CIO. The cultural differences lead to different perception. CIO working in different culture will face with different level of achievement for the same role and output.

Masculinity has negative effect on Perceived CIO Role Effectiveness. The meaning is when Masculinity score increases Perceived CIO Role Effectiveness decreases. Its implication is that CIO in Higher Education should be more femininity in their CIO Role.

Long Term Orientation positively influences Perceived CIO Role Effectiveness. The more Long Term Orientation scores, the more score of Perceived CIO Role Effectiveness. It is advised that CIO should inform the goal and method to achieve it to the members of the organization in order to motivate the feeling about the future benefit.

Indulgence, which is characteristic of society that allows relatively free gratification of some desires and feelings, has positive effect on Perceived CIO Role Effectiveness. Its implication is that CIO in Higher Education should be more flexible with the co-workers and subordinates when working with people with different culture.

ICT success depends on effectiveness of leadership, there should be further research on relation between culture differences and other critical success factors related to ICT leadership. Research with broader samples will also reveal more fact on effectiveness of ICT leadership in different culture.

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