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The development of human capital, the knowledge management, and the operational efficiency of Thailand national sports university's health promotion

Oam To-aj

Mahidol University, Faculty of Social Sciences (Department of Sport Management), Thailand

Wongphat Chudam*

Thailand National Sports University Trang Campus, Faculty of Education, Thailand

*Corresponding author

Abstract---The purpose of this research were to study the factor of developing the human capital and the knowledge management affecting the operational efficiency of Thailand national sport university's health promotion, to determine the consistency of the pattern of developing the human capital, the knowledge management, and the operational efficiency, and to confirm the human capital development, the knowledge management, and the operational efficiency of Thailand national sports university's health promotion. This study employed a mixed-method design. In the quantitative phase was characterized by an initial quantitative phase of data collection by the questionnaire with 304 participants by selecting through probability sampling with Multi-stage sampling, and analyzed with the descriptive statistic, including frequency, mean, standard deviation, confirmatory Factor Analysis: CFA, and structural equation model: SEM. In the qualitative phase, 5 key informants with the position of the high level management of Thailand national sports university participated in semi-structured interviews. The result of the quantitative phase found that the factor of the human capital development had the overall affecting to the operational efficiency of Thailand national sports university's health promotion ($R^2 = 0.938$) or 93.8%, the direct effect towards the knowledge management factor ($R^2 = 0.921$), the indirect effect through the knowledge management factor toward the operational efficiency ($R^2 = 0.345$).

Keywords---human capital, knowledge management, operational efficiency, Thailand national sport university.

Introduction

Thailand national sports university's vision is to be the first ranking sport educational institution in Asean, and the mission are as follows, 1) to produce and to develop the sport personnel 2) to research and develop the sport knowledge, and the innovation 3) to service the academics for society 4) to preserve the culture heritage, the local play, the Thai sport 5) to promote and develop the student to have the best individual performance (Thailand national sports university, 2022). Nevertheless, to achieve the university mission, it is necessary to focus on the management. One of the most vital managements is to develop the human capital management in the organization. With the human capital management, the personnel are treated as the most valuable assets an organization can have. Therefore, the human capital management strategies tend to focus on supporting the workforce, and allowing each individual to bring their best selves in the work they do for the organization (Arun, 2021).

Most of the previous papers focused on many areas in this issue, for example, the first one, Chankuna and the other authors studied about the analysis of problems and needs of educational information technology of Thailand National Sports University. The objectives of this study were to investigate the problems surrounding the use of information technology in education at Thailand National Sports University Chon Buri Campus and to determine the university's information technology needs. The study's findings indicated that the priority was placed on the design of educational technology that aided in teaching and learning (Chankuna et al., 2022). The second one, Hoq and Akter found that Knowledge management has been hailed as one of the most important developments in the fields of information studies and management science in recent decades. The role of knowledge workers in this regard is quite important.

By advocating knowledge discovery and use, knowledge workers can bring about changes in the university's organizational cultures and individual behaviors relative to knowledge. Universities can play a significant role in the building and unhindered development of a knowledge-based society by recruiting skilled and competent knowledge workers and empowering them to manage the knowledge assets effectively (Hoq & Akter, 2012). The last one, Jamal & Saif attempts to explain the relationship between human capital management and organizational performance. Results of the study show that firm's HCM has a significant positive impact on organizational performance. Study results provide support to strategy of investment in human capital and its management for competitive advantage at organizational and national level (Jamal & Saif, 2011).

The current study attempts to fill this gap in the literature by focusing on the theory and the concept of human capital management, the learning, the motivation, the job satisfaction, the organization performance. This study may provide new information on the development of human capital, the knowledge management, and the operational efficiency of Thailand national sports

university's health promotion, and to give the recommendations on aspects of the requirement for the future improvements. The purpose of this research were to study the factor of developing the human capital and the knowledge management affecting the operational efficiency of Thailand national sport university's health promotion, to determine the consistency of the pattern of developing the human capital, the knowledge management, and the operational efficiency, and to confirm the human capital development, the knowledge management, and the operational efficiency of Thailand national sports university's health promotion.

Materials and Methods

This study utilized a mixed method research by using the quantitative research for finding the factor of developing the human capital affecting the operational efficiency of Thailand national sport university's health promotion, the knowledge management affecting the operational efficiency of Thailand national sport university's health promotion, the consistency of the pattern of developing the human capital, the knowledge management, the operational efficiency of Thailand national sports university's health promotion, and to confirm the human capital development, the knowledge management, and the operational efficiency of Thailand national sports university's health promotion.

Quantitative Study

- **Participants:** Four hundred and three people completed the quantitative survey. The sample were comprised of the personnel who worked in Thailand national sports university from four regions in Thailand which can be divided as follows, 131 people from northern part , 164 people from the north-eastern part, 194 people from the central part, and 171 people from the southern part. The multi-stage, quota, and accidental sampling has been used for this research.
- **Instrument:** The researchers developed a questionnaire based on the previous literature. The survey used the theory of human capital management, the knowing management, motivation, the job satisfaction, and the organizational performance. The final survey comprised 65 items. The content validity of this survey was determined through Item – Objective Congruence (IOC) (Turner & Carlson, 2003). Furthermore, the reliability were in the standard criteria in every items.
- **Analysis:** The quantitative data was analyzed through descriptive statistics including frequency, mean, standard deviation, confirmatory Factor Analysis: CFA, and structural equation model: SEM.

Qualitative Study

Participants: The 5 key informants those who were in the high level management of Thailand national sports university. Participants were recruited using purposive sampling.

Table 1
Example of Interview Coding

I = Interviewer, P=Participant		Unique Codes
I	How do the human capital in the aspect of the knowledge and individual skills have the importance to the operational efficiency of Thailand national sports university's health promotion?	3
P	The human capital development in those expect will create the strength of the university staff for getting ready to operate which will be the competitive advantage, and lead to the achievement as the university's vision and mission	
I	How do the human capital development in the aspect of the leadership has the importance to the operational efficiency of Thailand national sports university's health promotion?	3
P	The leadership is the organization core which means the more the personnel have the leadership skill, the better effective the organization have in term of the health promotion.	

Procedures: The researchers discussed the findings from the quantitative process with 5 key informants, then question the informants regarding the questions which the researcher has shown few examples of the interviews conducted, with the code specified for each as shown in the table above with A semi-structured interview protocol guided the interview. Then, the inductive content analysis was used in the process of analyzing the qualitative data. This research also was approved the ethics by the office of the committee for research ethics (Social Sciences), faculty of Social Sciences and Humanities, Mahidol University.

Results and Discussions

Quantitative finding

The descriptive analysis of the sample general information

The result were analyzed under the scope of the sex, the age, the education, and the marriage status which can be described as follows: most of the respondent were female (61.7%), most of them were 26-30 years old (37.8%), and 31-35 years old (36.3%) respectively. Most of them earned the master degree (57.2%), the bachelor degree (24.1%), and the doctoral degree (16.2%) respectively. Most of them were married (52.2%), single (42.8%). Most of them earned income about 20,000 - 30,000 Baht (38.3%), and the second highest was 30,000 - 40,000 Baht (35.8%) respectively.

The descriptive analysis (Mean and Stand deviation) of the research variables

The result can be shown in the table 2

Table 2
Analyzing the descriptive statistics of the human capital development factor, the knowledge management factor and the operational efficiency factor

Order	Factor	Mean	std.	Interpret
Human Capital Development: HUMAN CAPITAL				
1.	Knowledge and individual skills: (KNOWL)	3.731	.777	High
2.	Accumulating the personal experience: (EXPER)	3.822	.714	High
3.	Leadership: (LEAD)	3.737	.732	High
4.	Analytical thinking process synthesis and creativity: (THINK)	3.744	.754	High
5.	Team building: (TEAM)	3.765	.911	High
6.	Networking or alliance: (NETWOR)	3.773	.871	High
7.	Having a mentor: (HAVING)	3.732	.899	High
8.	The mutual trust: (TRUST)	3.775	.821	High
9.	Service recipient's data collection: (SERVICE)	3.743	.863	High
10.	Technology and innovation adoption: (TECHNO)	3.639	.920	High
11.	Creating the Intellectual Property and Good Practices: (INTEL)	3.679	.820	High
12.	Creating a learning atmosphere: (CRELA)	3.763	.900	High
The overall average		3.740	0.832	High
Knowledge management: KNOWLEDGE				
1.	Identifying the knowledge organization needs: (IDENT)	3.768	.782	High
2.	Seeking the knowledge: (SEEKI)	3.737	.804	High
3.	The knowledge transfer: (TRANS)	3.825	.758	High
4.	Creating the learning culture: (CREAT)	3.784	.783	High
5.	The knowledge classification system and the organization knowledge collection: (SYSTEM)	3.743	.880	High
The overall average		3.771	.801	High
The operational efficiency (EFFICIENCY)				
1.	Increasing the productivity: (INCRE)	3.797	.769	High
2.	The consistency in working: (CONSI)	3.888	.755	High
3.	The organization cooperation: (ORGAN)	3.805	.782	High
The overall average		3.830	.769	High

From the table 2, the overall of the means and the standard deviation of the human capital development factor and the knowledge management affecting to the operational efficiency of Thailand national sports university's health promotion were high in all aspects. Examining the index of Kaiser-Meyer-Olkin (KMO) and testing of Bartlett's Test of Sphericity including with the component extraction of the relationship between the variables by the method of Principal Component Analysis (PCA) which found that Human Capital Development had the KMO and Bartlett's Test was 0.938, Chi-Square was 19702.479, $df = 496$, P-Value was $0.000^* < 0.05$ (Cumulative % of Eigenvalues), the sum of the variable variance= 92.44%, the Initial value of all variables was 1.000, and the extraction of communalities between 0.898 – 0.963

The knowledge management had the KMO and Bartlett's Test was 0.926, Chi-Square was 10681.946, df was 120, P-Value was $0.000^* < 0.05$ (Cumulative % of Eigenvalues), the sum of the variable variance was 92.19%, the Initial value of all variables was 1.000, and the extraction of communalities between 0.886 – 0.943. The efficiency had the KMO and Bartlett's Test was 0.920, Chi-Square was 6664.881, df was 66, P-Value was $0.000^* < 0.05$ (Cumulative % of Eigenvalues), the sum of the variable variance was 92.86%, the sum of the variable variance was 1.000, and the extraction of communalities between 0.877 – 0.991 which all variables had the value more than 0.40 that in over the criteria. Examining the statistics, the range was 3.00 by having the minimum value at 2.00, the maximum value at 5.00, the means was between 3.639 – 3.888, the standard deviation was between 0.714 – 0.920, the skewness value was between -0.494 – 0.07, the kurtosis value was between -0.932 – 0.032. Examining the factor loading, the validity, and the construct Validity found that the human capital had the factor loading between 0.831 – 0.935, the average variance extracted: (AVE) was 0.500, and the construct reliability: (CR) was 0.923. The knowledge management had the factor loading between 0.913 – 0.959, the average variance extracted: (AVE) was 0.501, the construct reliability: (CR) was 0.807. The efficiency had the factor loading between 0.910 – 0.955, the average variance extracted: (AVE) was 0.501, and the construct reliability: (CR) was 0.750.

The analyzing of structural equation modeling: SEM of the human capital development, the knowledge management affecting to the operational efficiency of Thailand national sports university's health promotion

The result can be shown in the figure 1, the table 3, and the table 4

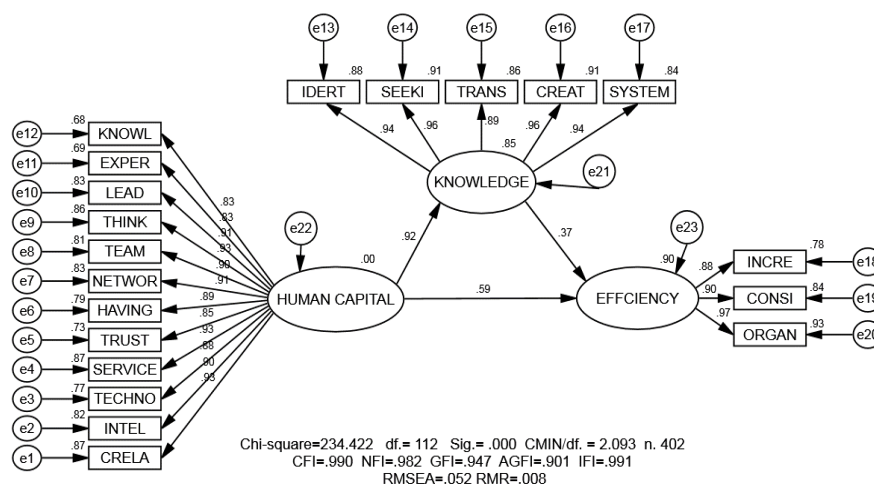


Figure 1. The figure of analyzing of structural equation modeling: SEM of the human capital development, the knowledge management affecting to the operational efficiency of Thailand national sports university's health promotion

The figure 1 showed the result after adapting the prototype model found that the 7 indexes was harmonious, and those statistic values has passed the defined

criteria which related to the concept of Hair et al. (1998), Bollen (1989) and Sorbon (1996).

Table 3

The conclusion of effect size of the structural equation modeling: SEM value of the human capital development, the knowledge management affecting to the operational efficiency of Thailand national sports university's health promotion

Variables	Effect	The knowledge management	Efficiency
The human capital development	Direct effect (DE)	0.921	0.593
	Indirect effect (IE)	-	0.345
	Total effect (TE)	0.921	0.938
The knowledge management	Direct effect (DE)	N/A	0.375
	Indirect effect (IE)	N/A	-
	Total effect (TE)	N/A	0.375

From the table 3 showed the result of analyzing the effect size of the structural equation modeling: SEM of the human capital development, the knowledge management affecting to the operational efficiency of Thailand national sports university's health promotion found that the human capital factor affecting to the operational efficiency ($R^2 = 0.938$) or 93.8%. The human capital factor had the positive affect towards the knowledge management ($R^2 = 0.921$), and the human capital factor had the indirect effect through the knowledge management towards the operational efficiency ($R^2 = 0.345$). The knowledge management had the positive affect towards the operational efficiency of Thailand national sports university's health promotion ($R^2 = 0.375$).

Table 4

The result of analyzing of the structural equation modeling: SEM of the human capital development, the knowledge management affecting to the operational efficiency of Thailand national sports university's health promotion

Variables		Estimate	SE.	C.R.(t-value)	P-Value	R ²
The human capital development	-> The knowledge management	0.810	0.030	27.063	***	0.922
The human capital development	-> Efficiency	0.480	0.053	10.033	***	0.593
The knowledge management	-> Efficiency	0.345	0.057	5.429	***	0.326

*** The level of the statistical significance at 0.001 ** The level of the statistical significance at 0.01 * The level of the statistical significance at 0.05

From the table 4 found that the factor of the human capital development had the overall affecting to the operational efficiency of Thailand national sports

university's health promotion ($R^2 = 0.938$) or 93.8%, the direct effect towards the knowledge management factor ($R^2 = 0.921$), the indirect effect through the knowledge management factor toward the operational efficiency ($R^2 = 0.345$). The knowledge management had the positive affect towards the operational efficiency of Thailand national sports university's health promotion ($R^2 = 0.375$).

- The human capital factor had the positive direct effect towards the knowledge management which had the standard regression coefficient (0.922), the standard error of measurement (0.030), t-value (27.063), and P-Value ($0.000 < 0.001$), and it can be effected to the changes (92.2%) with the statistical significance at 0.01 level.
- The human capital factor had the positive direct effect towards the operational efficiency which had the standard regression coefficient (0.593), the standard error of measurement (0.053), t-value (10.033), and P-Value ($0.000 < 0.001$), and it can be affected to the changes (59.3%) with the statistical significance at 0.01 level.
- The knowledge management had the positive direct effect towards the operational efficiency which had the standard regression coefficient (0.326), the standard error of measurement (0.057), t-value (5.429), P-Value ($0.000 < 0.001$), and it can be affected to the changes (32.6%) with the statistical significance at 0.01 level.

Qualitative finding

The qualitative finding verified the result from the quantitative phase which most of the informants remarked that the human capital development will need to have the knowledge management process in order to be the most efficiency that can be consisted of 1. Analyzing the organization needs 2. The knowledge acquiring process 3. The knowledge transferring 4. The creation of the culture learning 5. The creation of the collective knowledge system. As the statement of one informant, "The human capital development in the aspect of knowledge and the skill of the university personnel makes the strength of the personnel to get ready for the competition, and would lead to achieve as the university's vision and mission, anyway in order to be achieved as the above statement, those who are responsible for the human capital development needs to analyze the organization needs, training the personnel with the good courses, creating the cultural activity, and so on." Also related to another key informant, "The human capital is the most vital resource whether in the public section, or public section, especially in the competitive era.

Therefore, the Thailand national sports university needs to have the quality personnel since it is not only the health promotion, but also those personnel will be the mainstay for driving all university processes. These results related to the research of Zahedi and Naghdi Khanachah in the title of "The effect of knowledge management processes on organizational innovation through intellectual capital development in Iranian industrial organizations". The purpose of this paper was to investigate the relationship among knowledge management (KM), intellectual capital and organizational innovation. The results of this research indicate that KM processes affect the development of intellectual capital of an organization. KM processes were also effective in promoting innovation in the organization. KM

processes also contributed to improve the level of the innovation in the organization through the intellectual capital development. The results also showed that managers needed to focus on the development of their human capital through the use of young native educated specialists to maximize internal capacity and knowledge creation, and to move toward improving human capital of the organization (Zahedi & Naghdi Khanachah, 2021), the research of World Bank in the title of “Building Human Capital”.

The finding addressed the link between the human capital accumulation and the future of work. The human capital index measured the productivity of the next generation of workers relative to a benchmark of complete education and full health. At the economy-wide level, the human capital positively correlates with the overall level of the advanced technologies adoption. Firms with a higher share of the educated workers to do better at innovating, while individuals with the stronger human capital reap the higher economic returns from new technologies. By contrast, technological disruptions and inadequate human capital can undermine the existing social order (World Bank, 2018), and also related to the work of Guo which they studied in the title of “An empirical research on the correlation between human capital and career success of knowledge workers in enterprise”. The finding found that the human capital played an important part in employability of knowledge workers, also it was the important intangible assets of company. The result of empirical analysis indicated that there was a positive correlation between the human capital and the career success, and the human capital was an excellent predictor of career success beyond demographics variables (Guo et al., 2012).

Conclusion

The result of the research found that the factor of the human capital development had the overall affecting to the operational efficiency of Thailand national sports university's health promotion ($R^2 = 0.938$) or 93.8%, the direct effect towards the knowledge management factor ($R^2 = 0.921$), the indirect effect through the knowledge management factor towards the operational efficiency ($R^2 = 0.345$) which can be implied that using the human capital management through the knowledge management affected the highest operational efficiency. Therefore, to answer the vision and mission of the organization, it is important to merge the area of the human capital and knowledge management for filling the gap.

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References

- Arun, T. (2021). What are the challenges of Human Capital Management?. Retrieved July 15, 2022, from <https://www.zoho.com/people/hrknowledgehive/What-are-the-challenges-of-Human-Capital-Management.html>

- Chankuna, D., Thanaiudompat, T., & Sujintawong, P. (2022). The analysis of problems and needs of educational information technology of Thailand National Sports University. *Education Quarterly Reviews*, 5. 128-132. 10.31014/aior.1993.05.02.474.
- Guo, W., Xiao, H., & Yang, X. (2012). An empirical research on the correlation between human capital and career success of knowledge workers in enterprise. *Phys. Procedia*, 25, 715-725. <https://doi.org/10.1016/j.phpro.2012.03.148>
- Hoq, K., & Akter, R. (2012). Knowledge Management in Universities: Role of Knowledge Workers. *Bangladesh Journal of Library and Information Science*, 2. 10.3329/bjlis.v2i1.12925.
- http://www.tnsu.ac.th/web/web3/index.php?option=com_content&view=article&id=142&Itemid=200
- Jamal, W., & Saif, M. (2011). Impact of Human Capital Management on Organizational Performance. *European Journal of Economics, Finance and Administrative Sciences*, 34.
- Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2021). Get vaccinated when it is your turn and follow the local guidelines. *International Journal of Health Sciences*, 5(3), x-xv. <https://doi.org/10.53730/ijhs.v5n3.2938>
- Thailand national sports university (2022). Philosophy, Vision, and Mission. Retrieved July 15, 2022, from
- Turner, R., & Carlson, L. (2003). Indexes of Item-Objective Congruence for Multidimensional Items. *International Journal of Testing*, 3. 163-171. 10.1207/S15327574IJT0302_5.
- Widjaja, G. (2021). Impact of human resource management on health workers during pandemics COVID-19: systematic review. *International Journal of Health & Medical Sciences*, 4(1), 61-68. <https://doi.org/10.31295/ijhms.v4n1.850>
- World Bank. (2018). Building Human Capital. *World Development Report 2019: The Changing Nature of Work*, 49-68. https://doi.org/10.1596/978-1-4648-1328-3_ch3
- Zahedi, M.R., & Naghdi Khanachah, S. (2021). The effect of knowledge management processes on organizational innovation through intellectual capital development in Iranian industrial organizations. *J. Sci. Technol. Policy Manag.*, 12(1), 86-105(20). <https://doi.org/10.1108/JSTPM-11-2019-0113>