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The Role of Distributed Leadership on Knowledge Sharing and Organizational Learning in Higher Education Institutions of Cambodia

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Abstract

Purpose: This study aims to investigating the role of distributed leadership on knowledge sharing and organizational learning in higher education institutions of Cambodia. Seven variables include empowerment, shared purpose, social support, voice, distributed leadership, knowledge sharing, and organizational learning. **Research design, data and methodology:** The quantitative method was applied to distributing questionnaire to 600 employees who have been working in ten higher education institutions in Phnom Penh. Item-Objective Congruence (IOC) was used to test the content validity and Cronbach's Alpha was employed to test reliability before collecting the data. Afterwards, confirmatory factor analysis (CFA) was carried out to evaluate the construct validity, including convergent and discriminant validities. Furthermore, structural equation modeling (SEM) was examined to confirm the casual relationship among variables. **Results:** The findings showed the significant relationships between empowerment, social support and voice on distributed leadership. In addition, distributed leadership significantly impacted knowledge sharing towards organizational learning. Nevertheless, shared purpose had no significant impact on distributed leadership in this study. **Conclusions:** Academic researchers and decision makers are recommended to further examine the determinants impacting knowledge sharing and organizational learning as well as to promote social support, leadership and voice across organizations to gain competitiveness in education market segment.

Keywords: Empowerment, Social Support, Distributed Leadership, Knowledge Sharing, Organizational Learning

JEL Classification Code E44, F31, F37, G15

1. Introduction[1][2]

Cambodia has strengthened the economy growth in recent years and has achieved to have majority of lower-middle-income status per capita income of about $1000, in comparison with Vietnam and Laos (Madhur & Menon, 2014). The government has been in a breakthrough success of the country's economy, evidenced from the range of upper to middle income of around $4,000 per capita income. Cambodia Development Resource Institute (2013) forecasted that the high-income rank is expected to reach per capital income around $12,000 by 2050. The factors impacting the country's development and economic growth were uplifted by all sectors in the country including government, private, industrial and others. There has been an increase of low-medium skilled workers which intensify the labor supply in the country. The human resources aspect is gauged between business and higher education sectors. Academic practices and high vocational training have been

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emphasizing and expanding to serve the labor demand in the country (Madhur, 2014).

Cambodian modern higher education began in the 1960s when the Khmer Royal University was established in 1964. Within three years from 1964 to 1967, eight higher education institutions were founded, and around 5,300 to 14,560 students enrolled into these universities. However, the educational buildings including the higher education institutions and facilities were destroyed when the Khmer Rouge or the Democratic Kampuchea regime took power from 1975 to 1979. Consequently, about 75 % of the faculty members and 96% of university students were killed during the period (Pit & Ford, 2004).

After the Khmer Rouge regime, the higher education system began to take shape gradually in 1980s with the assistance from the former socialist and communist alliance. Since then, the public higher education institutions evolved and the education providers in the mid-1990s had arisen. Norton University, a first private university, was allowed to run its own operation (Chet, 2009). Currently about 125 higher education institutions (HEIs) are located in the Capital and 20 provinces throughout Cambodia. There are 48 of public higher education institutions and 77 of private ones. Those higher education institutions are under the supervision of parental ministries and institutions.

The major challenges of the innovative ideas' development and activities within a firm are pointed in Cambodia. In educational context, the schools or universities are the crucial body to encourage the students to involve in decision making in providing the direction of their work and life at school. Bureaucratic model describes the structure of firm that categorizes the structure of duties, and authority provision to the job holders. The job holders can ensure the job performance and to arrange the power of communication in a chain of command from the top to the bottom (Carson et al., 2007).

Leadership plays a key role in enabling the efficiency and capability of a firm. Numerous scholars address leadership as a strategic management of a firm (Carson et al., 2007). Over few decades, shared work has been drawn and focused on global attention to action-based learning rather than profit maximization (Serban & Roberts, 2016). Nevertheless, some researchers have been emphasizing the influential factors of centralized leadership in an organization rather than on the distributed leadership of individual employees (Bolden, 2011). Therefore, organizational learning is the prominent outcome from various factors including leadership and has been gained more and more attention in both academic and management studies.

2. Literature Review

2.1 Empowerment

Empowerment is conceptualized when a team leader transfers power, responsibility and leadership to team members by empowering the individual team members to be self-directing and to lead themselves and each other without direct supervision. Empowerment is generalized as an encouragement of leaders in helping employees to initiate ideas, set goals, learn new things, take responsibilities and collaborate with one another (Fausing et al., 2015). Empowered leaders distribute their supremacy, accountability and control to the group by supporting individuals to be self-directing in leading oneself and other members without direct command. Based on this explanation, the empowering group of worker motivates team to make impact within organization. Empowering leaders are willing to motivate and promote leadership within their network. Consequently, empowerment endorsed the development of distributed leadership. In addition, informal empowerment encourages the climate of trust which has been usually discussed the determinants of distributed leadership Empowering influence can also enable distributed leadership through trust (Oduro, 2004). Based on these discussions, the hypothesis is produced as following:

H1: Empowerment has a significant impact on distributed leadership in higher education institutions of Cambodia.

2.2 Shared Purpose

Shared purpose is explained that team members have similar understandings about their team objectives, take measures and commit to their team and task when they have a common sense of purpose and agreed-upon goals (Carson et al., 2007). Drawing from tons of literatures, the context of distributed and shared leadership internally drives shared purpose, social support and voice (Gronn, 2002; Woods & Roberts, 2015). The leaders' characteristics enhance workers and team members' motivation to perform to leading oneself. Manley et al. (2014) studied shared purpose as a vital instrument to build efficient work cultures where it can flourish people development in a firm. The study disclosed that trust in the work programs can contribute to shared purpose and people skills which are necessary for the growth of organizational culture and transformational leadership. Thereby, a hypothesis is posted:

H2: Shared purpose has a significant impact on distributed leadership in higher education institutions of Cambodia

2.3 Social Support

Social support refers to people perception and actuality, that they are valued, cared for and are part of a supportive social network. Additionally, they can get support from their social network whenever they need it (Gronn, 2002). The support in society aspect in this study attested the effort of team members in the format of both physical and emotional aspects that can be encouraged among members in an organization. Supervisors and coworkers' support can contribute to individual, group and organizational performance and success which enables employee to have a positive attitude and feeling form the recognition, appreciation and socialization (Carson et al., 2007). Social support can raise the level of collaboration and good work environment. Social support is usually enhanced by good work culture, supported by leaders and work network. Social support is evidenced to have a great impact on distributed leadership (Gronn, 2002). Henceforth, we can have a hypothesis:

H3: Social support has a significant impact on distributed leadership in higher education institutions of Cambodia.

2.4 Voice

Voice is described as the constructive change-oriented or challenge- oriented communication of ideas, suggestions, concerns or opinions intended to improve organizational or unit functioning, participation in decision-making, involvement and employee grievance procedures (Morrison et al., 2011). Voice is explained as "the degree to which team's members have input into how the team carries out its purpose". Morrison et al. (2011) noted voice commonly related to interaction, facilitation, participation, and performances to producing high degrees of interactive stimulus via the raise of assignation and contribution. The freedom in making a decision, solving problems and communicating openly can gear toward the accomplishment of individual, team and organizational goals (Maynes & Podsakoff, 2014), which can be influenced by the notion of distributed leadership. Thus, the high degree of an individual or team voice as "employee voice" should be built within the work climate where they can lead oneself and team to attain goals and performance. Based on these assumptions, a hypothesis is conceptualized:

H4: Voice has a significant impact on distributed leadership in higher education institutions of Cambodia.

2.5 Distributed Leadership

Distributed leadership explains when multiple individuals involve in leadership practices, as implied by the terms "leader plus" or "shared leadership" or by exploring the interactions between individuals and situation in which distributed leadership is enacted (Fitzsimons et al., 2011). Knowledge sharing is observed as a key determinant of distributed leadership. When a company grants a permission to employees to exchange information and knowledge, they are freely express ideas to innovate new things for a firm. Knowledge sharing is viewed as the tool of information acquisition for new technology and innovation. As knowledge is a vehicle to drive through the development of a firm, it requires to be managed in order to giving people access for performing work and develop the solutions for organizations (Kondakci et al., 2016). The availability of knowledge in an organizational offers member to involve social interaction. The work-related practices and procedure are highly obstructed a good format of knowledge sharing among individuals in a workplace and is highly dependent on official communications. In addition, many studies urged that formal provisions usually fail to provide the necessary knowledge and solutions for encountering problems (Feldman, 2000). Firm's members usually share knowledge via the social interactions which produces distributed leadership for the improvement of work practices and for the maximization of individuals' ideas and job autonomy (Barnes et al., 2010). The following hypothesis is created based on these assumptions:

H5: Distributed leadership has a significant impact on knowledge sharing in higher education institutions of Cambodia.

2.6 Knowledge Sharing

Knowledge sharing occurs at various levels in the firm. It is an information and know-how sharing among persons, teams, departments and company. The knowledge sharing is an information exchange amongst individuals (Connelly & Kelloway, 2003). Knowledge sharing embossed willingness of individuals in acquiring and exchanging knowledge which can create new competencies. Learning explains how an employee would extract, absorb and apply knowledge and information into their job. The knowledge transfer enquires the training and learning process where workers can receive from their past experience and training by a firm. Knowledge sharing helps employee to improve their competencies and generate novel ideas for innovation (Bornemann & Sammer, 2003). Organizational learning can be derived from knowledge sharing at various level; individual, group and organization (Gupta et al., 2000). Additionally, organizational learning culture was positively impacted by knowledge sharing behavior of employees (Sorakraikitikul & Siengthai, 2014). Based on the previous literatures, the next hypothesis is assumed:

H6: Knowledge sharing has a significant impact on organizational learning in higher education institutions of Cambodia.

2.7 Organizational Learning

Organizational learning is defined as values, beliefs and supportive working system in developing knowledge, creating and sharing knowledge in organizational culture. Learning is the process of acquiring knowledge or skill. (Alavi & Leidner, 2001). Organizational learning is shortly defined as "the transformation process by which individual knowledge is transferred to organizational knowledge" (Yang, 2010). An organizational learning is an active and adaptive process that greatly contribute to the changes of an organization. Learning can be obtained from overall experiences that is instrumentalized under the information exchange process within the work environment (Camps & Majocchi, 2010). Organizational learning is an extensive procedure with multiple levels including individual, group and organization (Namwong et al., 2016). More specifically, organizational learning was viewed as the change management in ideas and behavior in both individual and group levels. The learning has commonly processed in the form of communications and training across the organization (Gold et al., 2001).

3. Research Methods and Materials

This study conducted quantitative method to examining the factors impacting distributed leadership towards organizational learning in higher education institutions of Cambodia.

3.1 Research Framework

Three literatures were reviewed to develop the research framework of this study, determining key constructs which are empowerment, shared purpose, social support, voice, distributed leadership, knowledge sharing, and organizational learning (Erdoğan, 2016; Fu & Liu, 2018; Nugroho, 2018). Seven latent variables and 35 observed variables were examined as shown in Figure 1.

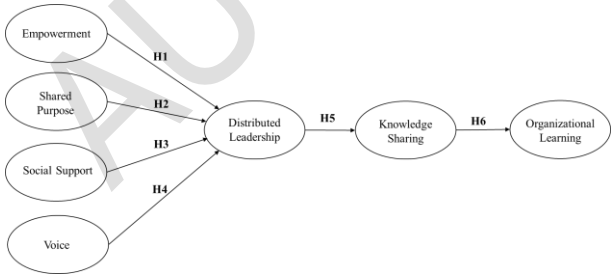

Figure 1: Conceptual Framework

Six hypotheses are proposed per below:
H1: Empowerment has a significant impact on distributed leadership in higher education institutions of Cambodia.
H2: Shared purpose has a significant impact on distributed leadership in higher education institutions of Cambodia.
H3: Social support has a significant impact on distributed leadership in higher education institutions of Cambodia.
H4: Voice has a significant impact on distributed leadership in higher education institutions of Cambodia.
H5: Distributed leadership has a significant impact on knowledge sharing in higher education institutions of Cambodia.
H6: Knowledge sharing has a significant impact on organizational learning in higher education institutions of Cambodia.

3.2 Methodology

This quantitative study was to distributing questionnaire to 600 employees who have been working in five public universities and five private universities, totaling of 10 higher education institutions in Phnom Penh. Three parts of questions were designed, including screening questions, five-point Likert scale of measuring items, and demographic questions. The sampling techniques were purposive sampling, quota sampling and convenience sampling. Before the data collection, Item Objective Congruence (IOC) and Cronbach's Alpha (CA) were conducted. For the data analysis, the descriptive analysis, normality test, Confirmatory Factor Analysis (CFA), construct validity, convergent and discriminant validities, goodness of fit indices and Structural Equation Model (SEM) were accounted.

3.3 Population and Sample Size

According to Hair et al. (2010), it is suggested the appropriate sample size of measurement model to be around 500 samples. The target population is based on 600 employees who have been working in five public universities and five private universities, totaling of 10 higher education institutions in Phnom Penh.

3.4 Sampling Technique

The sampling techniques used in this study were purposive sampling, quota sampling and convenience sampling. Purposive sampling by researcher's judgment was to examine the group of employees who have been working at least one year in higher education institutions. Secondly, quota sampling is to divide strata evenly of each sample group from ten universities (Kaewwit, 2007). Therefore, this study distributed 60 participants in each university and combining 10 universities of 600 participants as of Table 1.

Lastly, convenience sampling is to distributing online questionnaire via school management, administration offices and lecturer councils.

Table 1: Quota Sampling (n=600)

No.	Institutions	Sample Size	Percentage
1	Royal University of Phnom Penh	60	10%
2	Institute of Technology of Cambodia	60	10%
3	Royal University of Agriculture	60	10%
4	Royal University of Law and Economics	60	10%
5	National University of Management	60	10%
6	Paññasastra University of Cambodia	60	10%
7	The University of Cambodia	60	10%
8	Paragon University	60	10%
9	University of Puthisastra	60	10%
10	Cambodian Mekong University	60	10%
	Total	**600**	**100%**

Source: Created by the author.

3.5 Item Objective Congruence (IOC) index and Results

Rovinelli and Hambleton (1977) recommended the arrangement of content validation to be employed before the trial study or reliability test. The scores of IOC were +1 (clearly measuring), 0 (degree of measures that is unclear), and -1 (clearly not measuring). The approved score should be 0.5 or over, representing the 50% of overall score to remain any item. Otherwise, the item should be adjusted or removed from the questionnaire (Turner & Carlson, 2003).

IOC results showed that seven items were recommended to be removed due to the scores of expert's validations were less than 0.5. Thus, 35 items were cut down to 28 items per shown in Table 2. The results were that empowerment (EM3, EM4, EM6, EM8, EM10) and distributed leadership (DL4, DL5) were removed.

Table 2: Measuring Variables (Before and After IOC)

Items	Number of Measurement		Remove Items
	Before IOC	After IOC	
Empowerment (EM)	10	5	EM3, EM4, EM6, EM8, EM10
Shared Purpose (SP)	3	3	-
Social Support (SS)	3	3	-
Voice (V)	4	4	-
Distributed Leadership (DL)	7	5	DL4, DL5
Knowledge Sharing (KS)	4	4	-
Organizational Learning (OL)	4	4	-
Total	***35***	***28***	***-7***

Source: Created by the author.

3.5 Reliability Test

According to Table 3, this study utilized quantitative approach and applied the five-points Likert scale to measure all items. Cronbach's Alpha (CA) coefficient value refers to a statistical assessment for the reliability test for pilot study as well as the data analysis process. The range of the scales are from Strongly disagree (1) to Strongly Agree (5). The results of coefficient value have been usually between 0 and 1. The rules of thumb have been mostly accepted of 0.6-0.7, 0.8 or above (very good), 0.90 and above is excellent (Hulin et al., 2001).

The constructs in the polit study and its results are presented in Table 3, including empowerment (0.812), shared purpose (0.799), social support (0.857), voice (0.943), distributed leadership (0.671), knowledge sharing (0.652) and organizational learning (0.824). The acceptable value of internal consistency coefficient has been mostly agreed at the value of 0.60 and above (Hulin et al., 2001). Therefore, the reliability test for the pilot group was approved to proceed for the larger scale.

Table 3: Pilot Test (n=50)

Variable	Number of Measurement Items		Cronbach's Alpha	Strength of Association
	Before Pilot Test	After Pilot Test		
Empowerment (EM)	5	5	0.812	Very Good
Shared Purpose (SP)	3	3	0.799	Good
Social Support (SS)	3	3	0.857	Very Good
Voice (V)	4	4	0.943	Excellent
Distributed Leadership (DL)	5	5	0.671	Acceptable
Knowledge Sharing (KS)	4	4	0.652	Acceptable
Organizational Learning (OL)	4	4	0.824	Very Good
Total	***28***	***28***		

Source: Constructed by author.

3.6 Data Analysis

The data collection was obtained from 600 participants, who are employees and have been working at least one year in higher education institutions. The data were analyzed through SPSS AMOS statistical software, applying Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM).

4. Result and Discussion

4.1 Demographic Profile Summary

The demographic results (n=600) are shown in Table 4. Most respondents were male of 59.2%, whereas females were 40.8%. For age, respondents were majorly between 41-50 years old of 33.7% and the least group was over 50 years old of 12.5%. Cambodian respondents were 85.8% and non-Cambodian was 14.2%. In education level, bachelors' degree was the largest group, accounting 66.8% and the least group was high school diploma or below of 2.0%.

Table 4: Demographic Results

N=600	Demographic Profile	Quantity	Percentage
Gender	Male	355	59.2%
	Female	245	40.8%
Age	30 years old and below	125	20.8%
	31-40 years old	198	33.0%
	41-50 years old	202	33.7%
	Over 50 years old	75	12.5%
Nationality	Cambodian	515	85.8%
	Expatriate/non-Cambodian	85	14.2%
Education	High School Diploma or Below	12	2.0%
	Associate's Degree	68	11.3%
	Bachelors' Degree	401	66.8%
	Masters' degree	98	16.3%
	Doctoral Degree	21	3.6%

Source: Constructed by author.

4.2 Confirmatory Factor Analysis (CFA)

The goodness of fit for measurement model as of Table 5 shows the acceptable model fit in this study, including CMIN/df = 1.509, GFI = 0.944, AGFI = 0.931, NFI = 0.937, CFI = 0.978, TLI = 0.974, and RMSEA = 0.029. Consequently, the convergent validity and discriminant validity were verified by the fit model.

Table 5: Goodness of Fit for Measurement Model

Index	Acceptable Values	Statistical Values
CMIN/DF	< 5.00 (Marsh & Hocevar, 1985)	496.462/329 = 1.509
GFI	≥ 0.80 (Baumgartner & Homburg, 1996)	0.944
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.931
NFI	≥ 0.80 (Wu & Wang, 2006)	0.937
CFI	≥ 0.80 (Wu & Wang, 2006)	0.978
TLI	≥ 0.80 (Wu & Wang, 2006)	0.974
RMSEA	< 0.08 (Pedroso et al., 2016)	0.029
Model summary		**Acceptable Model Fit**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, CFI = comparative fit index, TLI = Tucker-Lewis index, and RMSEA = root mean square error of approximation.
Source: Constructed by author.

4.3 Convergent validity

The results of CFA in Table 6 indicated that all items in each variable are significant and have factor loading to prove discriminant validity. Guidelines recommended by Hair et al. (2006) indicated the significance of factor loading of each item and acceptable values in defining the goodness of fit. Factor loadings are higher than 0.50 and p-value of lower than 0.05. Furthermore, Fornell and Larcker (1981) pointed that if Average Variance Extracted (AVE) is less than 0.5, but Composite Reliability (CR) is higher than 0.6, the convergent validity of the construct is still adequate.

Table 6: Confirmatory Factor Analysis, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variable	Factor Loading >0.5	t-value >1.98 & p-value<0.5	CA >0.7	CR (*pc*) >0.6	AVE (*pv*)
EM	0.617-0.708	12.457-13.839	0.799	0.803	0.451
SP	0.819-0.876	24.750-24.807	0.877	0.877	0.704
SS	0.817-0.870	23.271-25.351	0.880	0.880	0.709
V	0.555-0.721	11.512-14.192	0.755	0.761	0.446
DL	0.664-0.793	14.610-16.177	0.849	0.851	0.533
KS	0.672-0.739	14.603-15.230	0.797	0.798	0.498
OL	0.656-0.789	14.112-16.046	0.803	0.804	0.508

Source: Constructed by author

4.4 Discriminant Validity

In Table 7, the discriminant validity was measured by computing the square root of each AVE. This research showed that the discriminant validity value is larger than all inter-construct/factor correlations. Thus, the convergent and discriminant validity were supportive. Additionally, the evidence is sufficient for establishing construct validity (Fornell & Larcker, 1981).

Table 7: Discriminant Validity

	DL	EM	SP	SS	V	KS	OL
DL	**0.730**						
EM	0.611	**0.671**					
SP	0.459	0.645	**0.839**				
SS	0.431	0.604	0.736	**0.842**			
V	0.594	0.653	0.666	0.632	**0.668**		
KS	0.470	0.622	0.528	0.521	0.503	**0.705**	
OL	0.191	0.225	0.286	0.258	0.227	0.249	**0.712**

Source: Constructed by author

4.5 Structural Equation Model (SEM)

The structural model in this study was required to be adjusted. The results after the adjustment presented the fit model as of Table 8 which are CMIN/df = 4.323, GFI = 0.835, AGFI = 0.801, NFI = 0.815, CFI = 0.850, TLI = 0.832, and RMSEA = 0.074. Consequently, the convergent validity and discriminant validity were established.

Table 8: Goodness of Fit for Structural Model

Index	Acceptable Values	Statistical Values
CMIN/DF	< 5.00 (Marsh & Hocevar, 1985)	1452.472/336 =4.323
GFI	≥ 0.80 (Baumgartner & Homburg, 1996)	0.835
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.801
NFI	≥ 0.80 (Wu & Wang, 2006)	0.815
CFI	≥ 0.80 (Wu & Wang, 2006)	0.850
TLI	≥ 0.80 (Wu & Wang, 2006)	0.832
RMSEA	< 0.08 (Pedroso et al., 2016)	0.074
Model summary		**Acceptable Model Fit**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, CFI = comparative fit index, TLI = Tucker-Lewis index, and RMSEA = root mean square error of approximation.
Source: Constructed by author.

4.6 Research Hypothesis Testing Result

The hypotheses testing results were produced by SEM, applying standardized path coefficient (β) and t-value. The results confirmed the support relationship of H1, H3, H4, H5 and H6 at p-value less than 0.5, whereas H2 was not significant as presented in Table 9.

Table 9: Hypotheses Testing Result of the Structural Model

Hypothesis	standardized path coefficient (β)	t-value	Testing result
H1: EM → DL	0.495	8.523*	Supported
H2: SP → DL	0.079	1.821	Not Supported
H3: SS → DL	0.105	2.391*	Supported
H4: V→ DL	0.394	7.245*	Supported
H5: DL → KS	0.497	8.526*	Supported
H6: KS → OL	0.251	4.832*	Supported

Note: *=p-value<0.5
Source: Constructed by author.

The results of hypothesis testing are described per below;
H1 was supported in the relationship between empowerment and distributed leadership at the value of standard coefficient = 0.495 (t-value = 8.523).
H2 showed that shared purpose had no significant impact on distributed leadership with the standard coefficient value = 0.079 (t-value = 1.821).
H3 presented that social support significantly impacted distributed leadership with standard coefficient value = 0.105 (t-value = 2.391).
H4 confirmed the relationship between voice and distributed leadership, representing the standard coefficient value = 0.394 (t-value = 7.245).
H5 supported the significant relationship between distributed leadership and knowledge sharing with the standard coefficient value = 0.497 (t-value = 8.526).
For **H6**, knowledge sharing had a significant impact on organizational learning at the value of standard coefficient = 0.251 (t-value = 4.832).

5. Conclusion, Recommendations and Limitations

5.1 Conclusion

The society has been changed toward a more knowledge-based fundamental and has been embedded with the change of leadership paradigms, ranging from organizational leadership through management, and toward a strong focus on instructional leadership (Townsend, 2011). Leadership can enhance the efficiency and capability of employees and a firm. Numerous scholars addressed the leadership is crucial for an organizational development (Carson et al., 2007). The findings showed significant relationships between empowerment, social support and voice on distributed leadership. In addition, distributed leadership significantly impacted knowledge sharing towards organizational learning. On the other hand, shared purpose had no significant impact on distributed leadership.

Initially, this study found that empowerment had a significant impact on distributed leadership. Empowerment endorses the development of distributed leadership in the higher education organization as confirmed by Oduro (2004). Empowered leaders distribute their supremacy, accountability and control to the group by supporting individuals to be self-directing in leading oneself and other members without direct command. Based on this explanation, the empowering group of employees in higher education could motivate team to make impact within organization.

Secondly, shared purpose had no significant impact on distributed leadership. The result contradicted with previous literatures (Carson et al., 2007; Gronn, 2002; Woods & Roberts, 2015). The characteristics of leaders can motivate subordinates to lead oneself. Manley et al. (2014) stated that shared purpose is a fundamental work cultures and effectiveness where it can enhance people development and nurture distributed leadership style. However, share purpose was not relevant to distributed leadership in this study.
Thirdly, social support significantly impacted distributed

leadership as evidenced by many scholars (Carson et al., 2007; Gronn, 2002). The supportive network can enhance employees in higher education organizations to build distributed leadership. Social support can raise the level of collaboration, good work environment and good work culture which are supported by distributed leaders. Consequently, social support is evidenced to have a great impact to distributed leadership.

Fourthly, researchers agreed that voice had a significant impact on distributed leadership. Voice determines the open communication and discussion which leads to the development of distributed leadership. The exchange of ideas, suggestions, concerns or opinions in higher education organizations can improve organizational performance (Maynes & Podsakoff, 2014; Morrison et al., 2011). It has been notable that voice significantly impacted distributed leadership because the high degree of employee voice could build a good work climate and freely lead oneself to attain goals and performance.

Next, the significant relationship between distributed leadership and knowledge sharing was found in this study. Knowledge sharing is confirmed to be a vital influencer of distributed leadership where a company allows employees to exchange information and knowledge and are freely express ideas to innovate new things for a firm. Knowledge sharing is a tool of information acquisition for new technology and innovation. As knowledge is a vehicle to drive through the development of a firm, it requires to be managed in order to giving people access for performing work and develop the solutions for organizations (Barnes et al., 2010; Feldman, 2000; Kondakci et al., 2016)

Lastly, knowledge sharing had a significant impact on organizational learning as affirmed by previous literatures. Knowledge sharing exists in various levels which are individual, team and firm. The information exchange amongst individuals in higher education organizations is derived from the organizational learning across the firm where employees are empowered to exchange knowledge and expertise (Bornemann & Sammer, 2003; Connelly & Kelloway, 2003; Gupta et al., 2000; Sorakraikitikul & Siengthai, 2014).

5.2 Recommendations

This research leads to essential outcomes for higher educational institutions in according with the leadership and management context. Moreover, the findings can be useful in refining factors impacting knowledge sharing and organizational learning. In addition, the research findings provide some recommendations and conclusions for organization development and contribute further to empirical and theoretical research on leadership at higher education institution sector.

The results revealed the evidence of the relationship between empowerment and distributed leadership. Nowadays, higher education sector is very competitive. People development is crucial to ensure the quality of service. Many institutions restructure their organizations, aiming to empower their employees and promote leadership more via code of conducts, practices and trainings. However, there is still a gap between public and private universities where government needs to reform the educational service to elevate higher standard.

Even though shared purpose had no significant impact on distributed leadership in this study, academic research could further investigate in qualitative format to find out the "why". Policy makers in higher education institutions are recommended to raise awareness in defining vision and mission of organizations in order to promote distributed leadership for better service quality and worker's efficiency. Social support was found to be crucial in contributing distributed leadership. The management team in higher educations should build the organizational structure and work environment to facilitate the good conversation within an organization. Apart from new ideas, opinions and feedback, the engagement activity is one of good actions to encourage the social support and distributed leadership across the firm.

Voice or opinion of employees is essential to pave way the improvement of an organization. Freedom of speech and decision making can promote the distributed leadership. Most of education institutions are under strict rules as the services involve youths and society. The best practices in a modern organization such as 360-degree feedback or satisfaction survey are to be implemented, not only for their students but also for lecturers and all service staffs.

The significant relationship between distributed leadership and knowledge sharing showed the highest significant impact in this study. By distributing the power of authority and job autonomy among employees, it could create the information exchange across the firm. Modern organizations redesign the work space and engagement activities for employees to ensure the knowledge and expertise are shared widely and properly.

Lastly, knowledge sharing was found to be a predictor of organizational learning. The format of information exchange is traditionally shared by internal media such as bulletin board, announcement etc. Regular training and workshops are also useful to elevate the knowledge sharing and learning across the organization.

5.3 Limitations and Future Research

The limitations are pointed for the better development of the future study. Firstly, the target population and sample size in this research were scoped in Cambodia. The different country or different industry would potentially produce the

different results. Secondly, the quantitative approach was conducted to find out the statistical significance of the relationships. It still lacks of explanation and precise logical reason of why and how knowledge sharing and organizational learning should be built. A qualitative method such as focus group, interviews etc. should be further examined. Lastly, the research framework can be extended or modified with some other relevant variables in order to provide the different aspects and impacting factors.

References

Alavi, M., & Leidner, D. E. (2001). Review: knowledge management and knowledge management systems: conceptual foundations and research issues. *MIS Quarterly, 25*(1), 107-136.

Barnes, C. A., Camburn, E., Sanders, B. R., & Sebastian, J. (2010). Developing instructional leaders: using mixed methods to explore the black box of planned change in principals' professional practice. Educational Administration Quarterly: *The Journal of Leadership for Effective & Equitable Organizations, 46*(2), 241-279.

Baumgartner, H., & Homburg, C. (1996). Applications of Structural Equation Modeling in Marketing and Consumer Research: a review. *International Journal of Research in Marketing, 13*(2), 139-161.

Bolden, R. (2011). Distributed leadership in organizations: a review of theory and research. *International Journal of Management Reviews, 13*(3), 1-29. https://doi.org/10.1111/j.1468-2370.2011.00306.x

Bornemann, M., & Sammer, M. (2003). Assessment methodology to prioritize knowledge management related activities to support organizational excellence. *Measuring Business Excellence, 7*(2), 21-28.

Cambodia Development Resource Institute. (2013). *Cambodia's Development Dynamics: Past Performance and Emerging Priorities.* CDRI.

Camps, J., & Majocchi, A. (2010). Learning Atmosphere and Ethical Behavior, Does It Make Sense. *Journal of Business Ethics, 94*(1), 129-147.

Carson, J. B., Tesluk, P. E., & Marrone, J. A. (2007). Shared leadership in teams: an investigation. *The Academy of Management Journal, 50*(5),1217-1234. https://doi.org/10.2307/20159921

Chet, C. (2009). Higher education in Cambodia. In Y. Hirosato & Y. Kitamura (Eds.), *The political economy of educational reforms and capacity development in Southeast Asia: Cases of Cambodia, Laos, and Vietnam* (pp. 153-165). Springer.

Connelly, C., & Kelloway, K. (2003). Predictors of Employees' Perceptions of Knowledge Sharing Cultures. *Leadership & Organization Development Journal, 24*(5), 294-301. https://doi.org/10.1108/01437730310485815

Erdoğan, C. D. (2016). *The mediating role of knowledge sharing on the relationship between distributed leadership and readiness for change among public school teachers* [Master Dissertation, Middle East Technical University]. METU.

Fausing, M. S., Joensson, T. S., Lewandowski, J., & Bligh, M. (2015). Antecedents of shared leadership: empowering leadership and interdependence. *Leadership & Organization Development Journal, 36*(3), 271-291.

Feldman, M. S. (2000). Organizational routines as a source of continuous change. *Organization Science, 11*(6), 611-629.

Fitzsimons, D., James, K. T., & Denyer, D. (2011). Alternative approaches for studying shared and distributed leadership. *International Journal of Management Reviews, 13*(3), 313-328.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.2307/3151312

Fu, L., & Liu, Z. (2018). Distributed leadership in organizations: an investigation of antecedent conditions. *Chinese Management Studies, 12*(4), 682-700.

Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: an organizational capabilities perspective. *Journal of Management Information Systems, 18*(1), 185-214.

Gronn, P. (2002). Distributed leadership as a unit of analysis. *The Leadership Quarterly, 13*(4), 423-451.

Gupta, B., Iyer, L., & Aronson, J. (2000). Knowledge management: Practices and challenges. *Industrial Management and Data Systems, 100*(1-2), 17-21.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson Education International.

Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate Data Analysis* (6th ed.). Pearson Education.

Hulin, C., Netemeyer, R., & Cudeck, R. (2001). Can a Reliability Coefficient Be Too High?. *Journal of Consumer Psychology, 10*(1), 55-58.

Kaewwit, R. (2007). Factors Influencing the Internet Using Behavior of Undergraduate Students in Bangkok and Suburban Areas. *BU Academic Review, 6*(1), 26-33.

Kondakci, Y., Zayim, M., Beycioglu, K., Sincar, M., & Ugurlu, C. T. (2016). The mediating roles of internal context variables in the relationship between distributed leadership perceptions and continuous change behaviours of public-school teachers. *Educational Studies, 42*(4), 410-426.

Madhur, S. (2014). *Cambodia's Skill Gap: An Anatomy of Issues and Policy Options.* Cambodia's leading independent development policy research institute. http://cdri.org.kh/storage/pdf/wp98e_1617793023.pdf

Madhur, S., & Menon, J. (2014). *Growth, Development and Inclusion in the Greater Mekong Subregion: An Assessment.* A GMSDAN Publication.

Manley, K., O'Keefe, H., Jackson, C., Pearce, J., & Smith, S. (2014). A shared purpose framework to deliver person-centred safe and effective care: organisational transformation using practice development methodology. *International Journal of Practice Development. 4*(1), 1-31. https://doi.org/10.19043/ipdj.41.002

Marsh, H. W., & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: first-and higher order factor models and their invariance across groups. *Psychological Bulletin, 97*(3), 562-582.

Maynes, T. D., & Podsakoff, P. M. (2014). Speaking more broadly: an examination of the nature, antecedents, and consequences of an expanded set of employee voice behaviors. *Journal of Applied Psychology, 99*(1), 87-112.

Morrison, E. W., Wheeler-Smith, S. L., & Kamdar, D. (2011). Speaking up in groups: a cross-level study of group voice climate and voice. *Journal of Applied Psychology, 96*(1), 183-191.

Namwong, K., Jhundra-indra, D., & Raksong, D. S. (2016). Dynamic Organizational Learning Strategy and Firm Survival: An Empirical Study of Instant Foods and Convenience Foods Business in Thailand. *AU-GSB E-JOURNAL*, *8*(2), 3.

Nugroho, M. (2018). The effects of collaborative cultures and knowledge sharing on organizational learning. *Journal of Organizational Change Management, 31*(2), 1138-1152. https://doi.org/10.1108/JOCM-10-2017-0385

Oduro, G. K. T. (2004). Distributed leadership in schools. *Education Journal, 80,* 23-25.

Pedroso, R., Zanetello, L., Guimaraes, L., Pettenon, M., Goncalves, V., Scherer, J., Kessler, F., & Pechansky, F. (2016). Confirmatory factor analysis (CFA) of the crack use relapse scale (CURS). *Archives of Clinical Psychiatry, 43*(3), 37-40.

Pit, C., & Ford, D. (2004). Cambodian higher education: Mixed visions. In P. G. Altbach & T. Umakoshi (Eds.), *Asian universities: Historical perspective and contemporary challenges* (pp. 333-362). The Johns Hopkins University Press.

Rovinelli, R. J., & Hambleton, R. K. (1977). On the use of content specialists in the assessment of criterion-referenced test item validity. *Tijdschrift voor Onderwijsresearch, 2*(2), 49-60.

Serban, A., & Roberts, A. (2016). Exploring antecedents and outcomes of shared leadership in a creative context: A mixed-methods approach. *The Leadership Quarterly, 27*(2), 181-199.

Sica, C., & Ghisi, M. (2007). The Italian versions of the Beck Anxiety Inventory and the Beck Depression Inventory-II: Psychometric properties and discriminant power. In M.A. Lange (Ed.), *Leading - Edge Psychological Tests and Testing Research* (pp. 27-50). Nova.

Sorakraikitikul, M., & Siengthai, S. (2014). Organizational learning culture and workplace spirituality Is knowledge-sharing behaviour a missing link?. *The Learning Organization. 21*(3), 175-192. https://doi.org/10.1108/TLO-08-2011-0046

Townsend, T. (2011). School leadership in the twenty-first century: Different approaches to common problems?. *School Leadership and Management: Formerly School Organization, 31*(2), 93-103. https://doi.org/10.1080/13632434.2011.572419

Turner, R., & Carlson, L. (2003). Indexes of Item-Objective Congruence for Multidimensional Items. *International Journal of Testing, 3*(2), 163-171.

Woods, P. A., & Roberts, A. (2015). Distributed leadership and social justice: images and meanings from across the school landscape. *International Journal of Leadership in Education, 19*(2), 138-156.

Wu, J. H., & Wang, Y. M. (2006). Measuring KMS success: A respecification of the DeLone and McLean's model. *Information and Management, 43*(6), 728-739.

Yang, J. (2010). Antecedents and Consequences of Knowledge Sharing in International Tourist Hotels. *International Journal of Hospitality Management, 29*(1), 42-52.