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Research Article

THE ANALYSIS OF IMPACTS ON EMPLOYEES' LEADERSHIP AT NATIONAL FORENSIC SCIENCE INSTITUTE OF MONGOLIA

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ABSTRACT

Our study seeks to determine the correlations between knowledge management, soft skills, attitudes, ethics, training experience and employees' leadership of National Forensic Science Institute of Mongolia (NFSIM). Leadership is one of the main factors which monitors how effectively the employees perform on their responsibilities as well as fulfilment of given tasks and provides direction to achieve the main goals of organization. We try to understand the factors which influence in National Forensic Science Institute's employees' leadership, as well as the consequences of it. We analysed in this study that the impact of knowledge management, soft skills, attitudes, ethics, training experience on employees' leadership. We used qualitative method research design model for the study. The data has been collected from 145participants who are currently working in public sector such as NFSIM. This study is significant in considering both theoretical and practical issues in Mongolian public sector. This study is significant in considering both theoretical and practical issues and for practices in Mongolian public sector. Overall, the results of this study showed that most of the hypotheses related positively on employees' leadership. Also, our study discussed the effects of above-mentioned results, the implications for theory and practice along with the limitations of the research and the implications for further research.

Keywords: knowledge management, soft skills, attitudes, ethics, training experience, employees' leadership, National Forensic Science Institute of Mongolia (NFSIM).
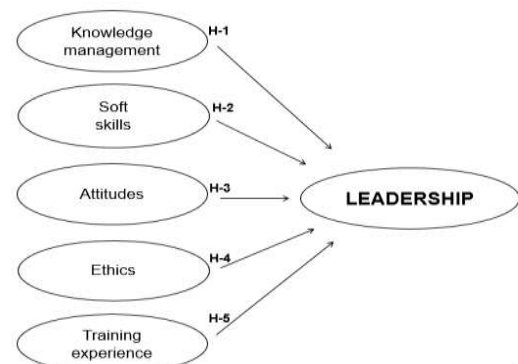
INTRODUCTION

Leadership is one of the multidimensional phenomena. There are many scholars' studies examined leadership theory, leadership types and essential leadership skills in the social sciences. Researchers have proposed many different definitions and theories of leadership. Hemphill and Coons (1957) defined as "Leadership is the behavior of management of group activities by the individual in line with shared purpose". Bass (1960) defined as "Leadership is sum of information and ability of being able to gather a group of people around certain purposes and prod them into action for performing these purposes". Stogdill (1974) defined as "Leadership is being able to prod a structure into action with mutual behavior and consensus and being able to continue this action" (Hidayet Tiftik, 2015). Bennis W.G (2009), "Leadership is the most studied and least understood topic of any in the social sciences' and 'never have so many labored so long to say so little" (Bennis, 2009).As a result, as above, leadership is providing employees' responsibilities and regularly supervising the completion of their tasks and setting and achieving goals management sets in terms of the corporate culture. In Mongolian public sector, this reality is very similar, with the aggravation that within this sector study concerning leadership is in truth still a scarce in Mongolian management cases. Our study is significant in considering both theoretical and practical issues and for practices in Mongolian public sector. Data were estimated by SMART PLS 3.0 statistic program and our paper is the most current and comprehensive summary of the PLS-SEM method and the metrics applied to assess its solutions.

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CONCEPTUAL FRAMEWORK AND HYPOTHESIS

EMPLOYEE LEADERSHIP

We had study leadership definitions as below:Roach and Behling (1984) saw "Leadership similarly as the process of influencing the activities of an organized group toward goal achievement" (C.F. Roach, 1984). Richards and Engle (1986) argued that "Leadership is about embodying values, and creating the environment within which things can be accomplished" (Richards, 2003). Kouzes and Postner (2002) defined "Leadership as a relationship between those who aspire to lead and those who choose to follow" (Kouzes.J, 2002). Northouse (2010) writes that "Leadership is a process whereby an individual influences a group of individuals to achieve a common goal" (Northouse, 2010). We are agreed that scholars who are Kouzes and Postner's definition such as Leadership as a relationship between aspire to lead and those who choose to follow. The conceptual model of factors on employees' leadership is drawn in Figure 2.1.

Figure 2.1. Conceptual models of factors on Employees' Leadership

Source: Own drawn diagram

Knowledge management and leadership

Politis (2001, 2002) has been gathered by contradictory evidence pertaining to the relationship between knowledge management and leadership styles. Crawford (2005) was gathered by Further evidence for the view that a transactional leadership style is conducive to engendering knowledge management. His/her quantitative study involved a survey of over 1,000 American students, 54 percent of whom held managerial positions (Bejan David Analoui, 2012). According to the literature review, in our study, it was hypothesized as below:

Hypothesis 1:
Knowledge management will have a positive impact on employees' leadership.

Soft skills and leadership

Tang's (2012) argument on leaders having to be experts in using their soft skills because leaders have to be competent in moving their organization efficiently and effectively. Tang justified that leadership soft skills comprised of team work, communication, personal mastery, personal development, initiative, leadership ability, planning and organizing, and presentation skills are required by leaders in human developmental process.Wallapha (2012) identified seven soft skills including analytical thinking and problem solving, team work, lifelong learning and information management, development and construction of innovation, morality and professional skills are the soft skills should be used by administrators and teachers in educational management(Wallapha Ariratana, 2015).Soft skills are essential skills in promoting organizational effectiveness and efficiency. Then according the literature review, in our study, it was hypothesized as below:

Hypothesis 2:
Soft skills will have a positive impact on employees' leadership.

Attitudes and leadership

Eisenhardt (1989) defined that "Leadership and the relation with innovative work behavior of employees is a relatively unexplored field, this is a suitable research technique". Malou Oude Luttikhuis (2014) studied that the data from conducting in-depth interviews and an extensively literature research must provide a valuable answer to the question which leadership behaviors and attitudes encourage employees to be innovative (M.L. Ehrenhard, 2014). According to the literature review, in our study, it was hypothesized as below:

Hypothesis 3:
Attitude will have a positive impact on employees' leadership.

Ethics and leadership

Ethics is the heart of leadership, as reflected in the title of the 1998 leadership classic by Joanne B. Ciulla. Indeed, ethics and leadership should go hand in hand(Johnson, 2001).An understanding of ethics begins with an analysis of values, both individual and organizational. Effective managers and leaders must be aware of their values, morals, and system of ethics and ethical decision making. Good character and integrity are what we look for in our leaders. In fact, in their research, Kouzes and Posner (2007) identified honestly as the number one characteristic most identified by leaders(J. M. Kouzes, 2007).According to the literature review, in our study, it was hypothesized as below:

Hypothesis 4:
Ethics will have a positive impact on employees' leadership.

Training experience and leadership

Fred E Fiedler (1972) studied based on the contingency model of leadership effectiveness which suggests why research typically has failed to show that leadership training and experience increase organizational performance(Fiedler, 1972).Argyris (1982; Argyris and Schon, 1996) to what they call "knowledge for action", which is largely generated on the basis of experience. McCall et al., 1988) argue that accumulated experience is the most critical key to the development and functioning of leaders in organizations(Karin Amit, 2009). Then according the literature review, in our study, it was hypothesized as below:

Hypothesis 5:
Training experience will have a positive impact on employees' leadership.

RESEARCH METHODOLOGY

Data collection and questionnaire design

The purpose of our study is to find out the variables of results on leadership. Our study includes two kinds of problems in terms of theoretical and practical frameworks. The first, in theoretical frameworks, previous researchers demand attention on leadership in many public and private sectors. Second, from the practical frameworks deemed attention in a fiscal year in 2021.In our study, Likert scales were easy to use and analyze. Bass and O'Conner (1974) defined that although larger Likert scales make it possible to discriminate opinions more finely, they can also confuse the respondents in general, seven-point scales are found to reduce inaccuracy, whereas five-point scales restrict choice more(Bayasgalan Tsogtsuren, 2021).

Selection of SPSS and Smart-PLS software program

In our study, SPSS and SmartPLS-3.0 were chosen for their simplicity and completeness. SPSS and Smart PLS were used to test the relationships between variables. This is followed by the examination and presentation of the demographic profile of respondents using Descriptive Statistics (Bayasgalan Tsogtsuren, 2021). There are many software programs used to process data analysis, including Statistical Package for the Social Sciences (SPSS), Smart PLS etc. Our study was preferred to check the consistency of all related factors in the study based on path analysis and Cronbach's Alpha value, Composite Reliability (CR). The internal reliability of each factor was assessed using Cronbach's alpha coefficient. Firstly, according to Bayasgalan (2021) descriptive analysis refers to the transformation of the raw data into a form that will make it easy to understand and interpret(Bayasgalan Tsogtsuren et al., 2021).Secondly, the Cronbach Alpha testing will be used as it is the most well accepted reliability test tool applied by social researchers (Sekaran, 2003). Cronbach (1946) identified that in Cronbach's Alpha reliability analysis, the closer Cronbach's Alpha to 0.00- 1.0, the higher the internal consistency reliability as a less than 0.6 considered poor, in the range 0.7 is considered to be acceptable, more than 0.8 are considered to be good in social science. Finally, we tried to determine whether there are significant relationships among the independent variables and dependent variables. The scale model suggested by Davies (1971) used to describe the relationship between the independent variables and the dependent variable, or as shown that:0.7 and above, very strong relationship, 0.50 to 0.69, strong relationship, 0.30 to 0.49,

moderate relationship, 0.10 to 0.2, low relationship, to 0.09, very low relationship (Bayasgalan Tsogtsuren *et al.,* 2021).In our study, we checked for the completeness of the questionnaire and eligibility of the respondents.

Table 3.1. Sex of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	84	57.9	57.9	57.9
	female	61	42.1	42.1	100.0
	Total	145	100.0	100.0	

Table 3.2. Education background

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor	90	62.1	62.1	62.1
	Master	53	36.6	36.6	98.6
	Doctor	2	1.4	1.4	100.0
	Total	145	100.0	100.0	

Table 3.3. Year of work in position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 years	52	35.9	35.9	35.9
	6-10 years	43	29.7	29.7	65.5
	11-15 years	36	24.8	24.8	90.3
	15 more years	14	9.7	9.7	100.0
	Total	145	100.0	100.0	

Source: Result of study

Of all the 145 respondents working on NFSIM, The basic demographic information about male 84, female 61 respondents in our study.

EXPLORATORY FACTOR ANALYSIS

Figure 3.1. Results of Structure Analysis of respondents (algorithm)
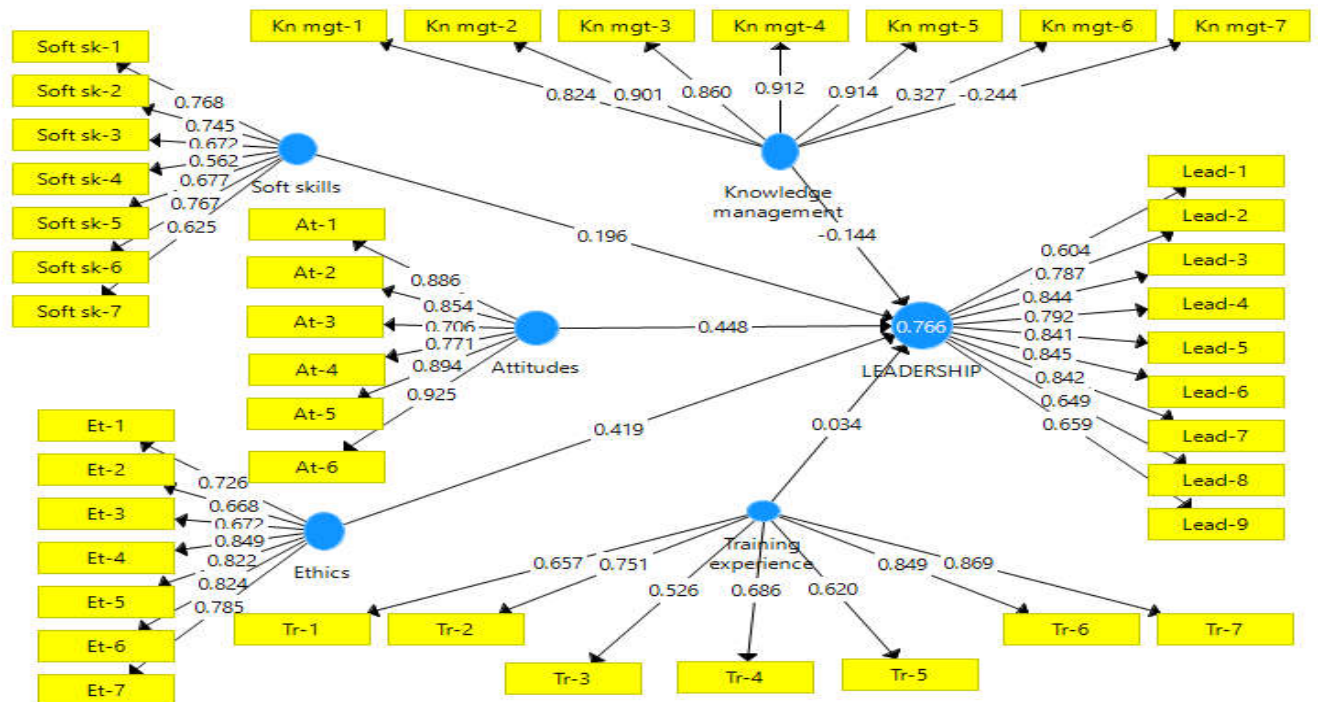
Note: Kn mg-knowledge management, Soft sk- soft skills, At- attitude, ET- ethics, Tr- training experience, lead- leadership

Table 3.4. List of Items for each Construct of respondents

Factors	items	results of items	Cronbach's alpha	CR	AVE	Factors	items	results of items	Cronbach's alpha	CR	AVE
Knowledge management	Kn mgt-1	0.824	0.843				Et-1	0.657			
	Kn mgt-2	0.901					Et-2	0.751			
	Kn mgt-3	0.860		0.873	0.581		Et-3	0.526	0.882	0.908	0.588
	Kn mgt-4	0.912					Et-4	0.686			
	Kn mgt-5	0.914					Et-5	0.620			
	Kn mgt-6	0.327				Ethics	Et-6	0.849			
	Kn mgt-7	-0.244					Et-7	0.869			
	Soft sk-1	0.768					Tr-1	0.657			
	Soft sk-2	0.745					Tr-2	0.751			
Soft skills	Soft sk-3	0.672	0.818	0.864	0.478	Training experience	Tr-3	0.526	0.842	0.864	0.515
	Soft sk-4	0.562					Tr-4	0.686			
	Soft sk-5	0.677					Tr-5	0.620			
	Soft sk-6	0.767					Tr-6	0.849			
	Soft sk-7	0.625					Tr-7	0.869			

Factors	items	results of items	Cronbach's alpha	CR	AVE	Factors	items	results of items	Cronbach's alpha	CR	AVE
Attitude	At-1	0.886				Leadership	Lead-1	0.604			
	At-2	0.854					Lead-2	0.787			
	At-3	0.706	0.916	0.936	0.710		Lead-3	0.844			
	At-4	0.771					Lead-4	0.792	0.910	0.927	0.590
	At-5	0.894					Lead-5	0.841			
	At-6	0.925					Lead-6	0.845			
							Lead-7	0.842			
							Lead-8	0.649			
							Lead-9	0.659			

Note: Kn mg-knowledge management, Soft sk- soft skills, At- attitude, ET- ethics, Tr- training experience, lead- leadership

In table 3.4 in the items for each construct of employees, knowledge management of 7 items measuring ranged from -0.244-0.914,Cronbach's alpha of 0.843,Composite reliability/CR/ of 0.873and Average Variance Extracted /AVE/ was 0.581.Soft skill of 7 items measured ranged from 0.562-0.768, Cronbach's alpha of 0.818,CR of 0.864and AVE was 0.478.Attitudeof 6 items measuring ranged from 0.706-0.925, Cronbach's alpha of 0.916,CR of 0.936and AVE was 0.710.Ethics of 7 items measuring ranged from 0.526-0.869,Cronbach's alpha of 0.882,CR of 0.864and AVE was 0.515.Leadership of 9 items measuring ranged from 0.604-0.844,Cronbach's alpha of 0.910,CR of 0.927and AVE was 0.590.

Table 3.5. Latent Variable Correlations analysis

	Attitude	Ethics	Knowledge management	Leadership	Soft skills	Training experience
Attitude	0.843					
Ethics	0.550	0.767				
Knowledge management	0.312	0.198	0.762			
Leadership	0.756	0.751	0.159	0.768		
Soft skills	0.555	0.494	0.382	0.608	0.692	
Training experience	0.371	0.483	0.134	0.448	0.328	0.717

In table 3.5, A latent variable is a hypothetical construct that is invoked to explain observed co variation in employees' leadership. The correlations among the observed variables that belong to the same latent variable are Attitude was highly correlated with leadership (r=**0.756**), ethics was highly correlated with leadership (r=**0.751**) and leadership was highly correlated with soft skills (r=**0.608**).

EXPLORATORY FACTOR ANALYSIS

Figure 3.2. Results of Structure Analysis of respondents (Bootstrapping)
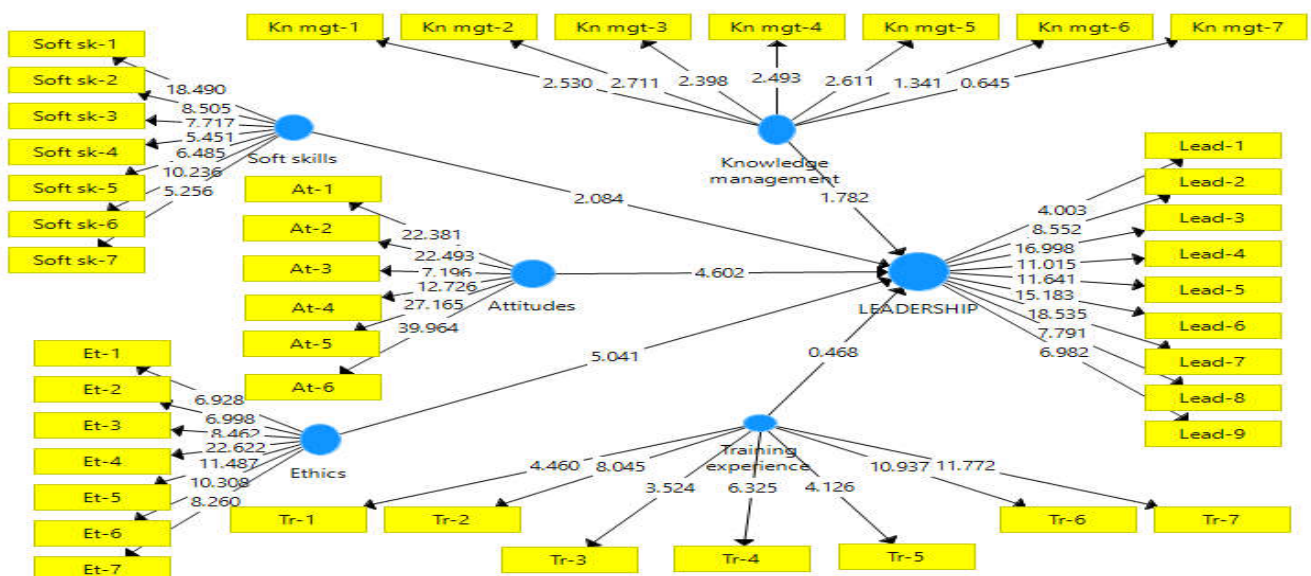
Note: Kn mg-knowledge management, Soft sk- soft skills, At- attitude, ET- ethics, Tr- training experience, lead- leadership

Table 3.6. Estimated Path Coefficients of employees' leadership

Hypothesis	mean	Standard deviation	T statistic	P value	Results
Kn mgt→Leadership	-0.121	0.081	1.782	0.075	No supported
Soft sk→Leadership	0.205	0.094	2.084	0.038	supported
At→Leadership	0.429	0.097	4.602	0.000	supported
Et→Leadership	0.409	0.083	5.041	0.000	supported
Tr→Leadership	0.056	0.072	0.468	0.640	no supported

In the table 3.6 as result, there were 6 hypotheses in our study, for instance knowledge management negatively relates to the leadership mean -0.121, standard deviation 0.081, T statistic 1.782, P value 0.075.Soft skills positive relates to the leadership mean 0.025, standard deviation 0.094, T statistic 2.084, P value 0.038.Attitude positive relates to the leadership mean 0.426, standard deviation 0.097, T statistic 4.602, P value 0.000.Ethic positive relates to the leadership mean 0.409, standard deviation 0.083, T statistic 5.041, P value 0.000.training experience negative relates to the leadership mean 0.056, standard deviation 0.072, T statistic 0.468, P value 0.640.

CONCLUSION

There are many scholars globally studying the relationship between knowledge management, managerial skill as a soft skills, attitude, ethics and training experience on leadership skills on public and private sectors. We scrutinized 5 hypotheses in our study. Two of them had negative result but three of them had a positive result. The findings our study showed that knowledge management and training experience were negatively related with employees' leadership. Besides, soft skills, attitudes, ethics were positively related with employees' leadership in the National Forensic Science Institute of Mongolia. Eventually, our study might be unique in ways when special service in Mongolia, and future comparisons might reveal important similarities and differences across nations. Overall, our study on the forensic institutions reveals their leadership is high but illustrates the number of suggestions to curriculum improvement that all are for the effectiveness of the leadership training more at the National Forensic Science Institute of Mongolia.

Limitation and Recommendations of our study:

1. Our study is considered to be limited in time as fiscal year 2021.
2. Only limited study results by SMART PLS-3.0 and SPSS-23 were compared with other qualitative research methods.

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EVIDENCE OF STUDY

Discriminant Validity

	Attitudes	Ethics	Knowledge ma...	LEADERSHIP	Soft skills	Training experi...
Attitudes	0.843					
Ethics	0.550	0.767				
Knowledge management	0.312	0.198	0.762			
LEADERSHIP	0.756	0.751	0.159	0.768		
Soft skills	0.555	0.494	0.382	0.608	0.692	
Training experience	0.371	0.483	0.134	0.448	0.328	0.717

R Square

	R Square	R Square Adjusted
LEADERSHIP	0.766	0.747

Path Coefficients

	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O/...	P Values
Attitudes -> LEADERSHIP	0.448	0.429	0.097	4.602	0.000
Ethics -> LEADERSHIP	0.419	0.409	0.083	5.041	0.000
Knowledge management -> LEADERSHIP	-0.144	-0.121	0.081	1.782	0.075
Soft skills -> LEADERSHIP	0.196	0.205	0.094	2.084	0.038
Training experience -> LEADERSHIP	0.034	0.056	0.072	0.468	0.640

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