

Research Article

THE IMPACTS OF SKILLS, ATTITUDE, TIME MANAGEMENT, TECHNICAL EQUIPMENT AND WORK EXPERIENCE ON WORK PERFORMANCE: THE CASE OF NATIONAL FORENSIC SCIENCE INSTITUTE OF MONGOLIA

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ABSTRACT

The aim of this study is to analyse the requirements for the impacts of professional skills, attitude, time management, technical equipment, experience on work performance of a forensic signature expert in the National Institute of Forensic Science of Mongolia. There are many scholars studied the relationship factors on performance management in the world, but there are lack of study our topic in Mongolian forensic science sector. Thus, we interested this topic in here. Performance management involves the process of all activities which occurs between an employer and an employee as support of accomplishing value, mission, vision and main objectives in the organization. The data collected from 46 experts who work in the National Forensic Science Institute of Mongolia. The result of data determined through online in first quarter 2022 and estimated by SMART PLS 3.0 software and Cronbach's alpha index have been used for data analysis and reliability analysis of the questionnaire, respectively in our study. Our study from many others is we analysed 5 hypotheses, one of them had a positive relationship with considered impacts. On the other hand, four hypotheses could not have positive relationship on considered impacts. Research has established the significant impact such as experience on work performance in this study.

Keywords: University of Internal Affairs, Mongolia (UIAM), professional skills, time management, attitudes, technique equipment, experience, work performance.

INTRODUCTION

Work performance of organization is very important. The super objective of all organizations is to improve their performance. The definition of work performance varies from country to country, but there are still challenges in terms of objectivity and fairness. In order to determine work performance, each employee should evaluate how well he or she is performing his or her duties, what results are being achieved, his or her skills, qualifications, and workload. This will provide the organization with real-time information about the performance of the work, as well as reward the employee, provide training or correction, and provide the necessary equipment. The main objective of our study is to measure the impacts of professional skills, attitude, time management, technical equipment, experience on work performance of a forensic signature expert in the National Institute of Forensic Science of Mongolia.

CONCEPTUAL FRAMEWORK

Professional skills and work performance

There many scholars studied assume that a link between skill and performance. Irena Grugulis, Dimitrinka Stoyanova (2011), highlighted the problems involved in capturing, measuring, and linking skill and performance. Indeed, much of the activity and interest in this area is predicated on the existence of such a link and the likelihood, in the words of title of the Leitch Report (Leitch 2006), that prosperity for all will come from world-class skills. Such a link does exist.

Individuals can add to their lifetime earnings, decrease the likelihood and length of unemployment, and secure more interesting work by obtaining particular qualifications (Machin and Vignoles 2001), while professional bodies and trade unions can gain higher wages and greater levels of influence for their members (Turner 1962: 38). Training has been linked to higher profits in firms (Hambledon Group Ltd. 2000) and skill differentials form an enduring aspect of national differences in productivity (Broadberry and O'Mahony 2004; O'Mahony 2002) (Stoyanova, 2011). According to the literature review, we were hypothesized as below:

H1. Professional skills positive related on work performance.

Time management and work performance

Cross Ogohi Daniel, Jiya N. Santeli (2020), investigated the main objective of their study is to examine the effects of time management on employees' performance. The specific objectives are to determine the impact of effective time management on employee's performance in Northern Nigeria Noodle Company and identify the factors that influence effective time management on employee's performance in Northern Nigeria Noodle Company Ltd. Effective time management not only affects the productivity of your employees, but also helps to cope with stress, conflicts and pressure more efficiently. It also helps them maintain a healthy work-life balance and keeps them motivated. The findings of the study reveal that there is a positive relationship between the organizational performance and effective time management (Cross Ogohi Daniel, 2020). According to the literature review, we were hypothesized as below:

H2. Attitude positive related on work performance.

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Attitudes and work performance

Imran Khan, Rauqir Ahmad Ghauri (2014), studied attitude impacts on employee performance in textile industry. Their study include the attitude related factors (behaviors of employees and leaders, job satisfaction, job commitment, motivation and training) to investigate their impact on employee performance. A self-administered questionnaire was used to collect the data from textile sector of Punjab, Pakistan with response rate of 83%. Result shows that all attitude related factors positively affect the employee performance.

Motivation and job commitment has highly significant impact of performance of employees. As a result, organizations should value their experienced personnel and devise effective retention policy by giving competitive salary, experienced base pay and experienced based promotion. That will increase the overall performance of the organization (Imran Khan, 2014). According to the literature review, we were hypothesized as below:

H3. Time management positive related on work performance.

Technique equipment and work performance

Ashima Aggarwal (2013), studied that performance appraisal system is used in the organizations to measure the effectiveness and efficiency of their employees. Performance Appraisal system is needed because every employee has a different attitude to handle the work. Performance Appraisal tends to improve the work performance, communication expectations, determining employee potential and aiding employee counseling. In this paper we present the review of some popular performance appraisal techniques along with their pros and cons (Ashima Aggarwal, 2017). According to the literature review, we were hypothesized as below:

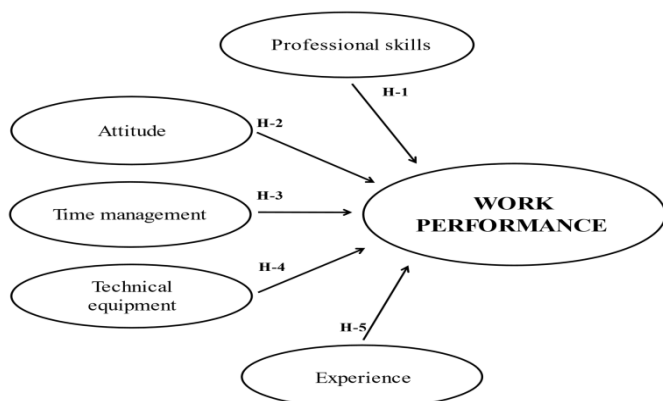
H4. Technical equipment positive related on work performance.

Experience and work performance

Micheal A McDaniel and others studied and summarized quantitatively data on the relation between job experience and job performance from a total sample of 16,058 (Michael A. McDanielFrank, 1988). Work experience is occupational and industry-specific rather than firm-specific and leads to improvements in employees' job-related outcomes. They collected their study decision rules resulted in 947 samples with total sample size of 16,058 (Nishant UppalNeharika, 2014). According to the literature review, we were hypothesized as below:

H5. Experience positive related on work performance.

We explained how professional skills, attitude, time management, technical equipment, experience related with leadership who are administrative, executive employers work in the National Forensic Science Institute of Mongolia. The conceptual model of factors on managerial leadership is drawn in Figure 2.1.



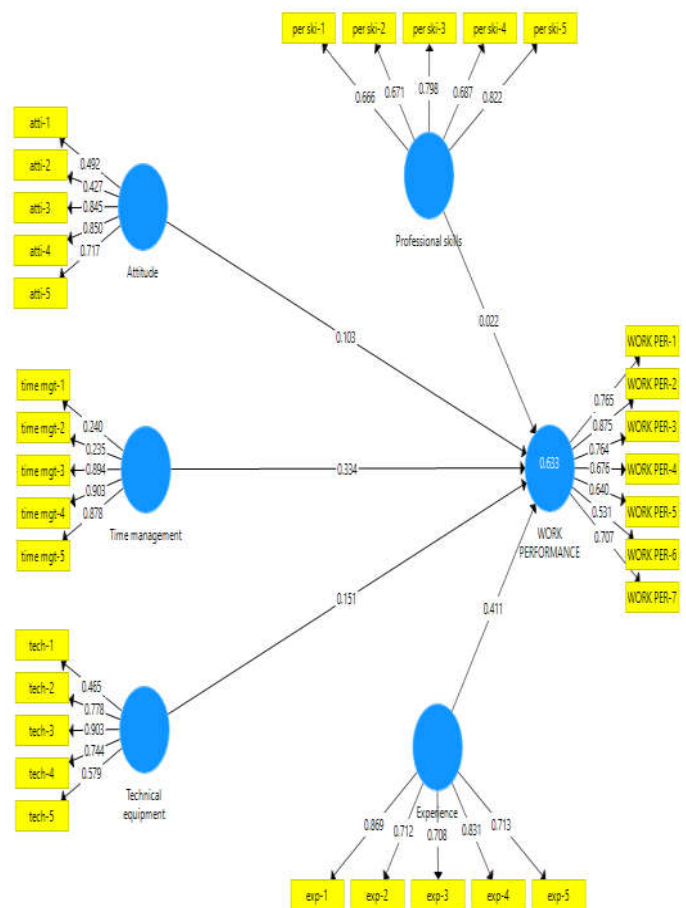
Source: Own diagram

RESEARCH METHODOLOGY

Data collection and questionnaire design

We supported previous study such as designed for using research methodology and some scholars' frameworks as below: This study used Likert five-point scales make it possible to discriminate opinions more finely, restrict for chosen more rather than other scales. Cooper (1998) described that most causal research relies on designed experimentation and simulation programs (Cooper, 1998). There are many software programs used to process data analysis. In this paper, SPSS and SmartPLS-3.0 were chosen for their simplicity and completeness (Bayasgalan TsogtsurenGankhukeg, 2022). The Cronbach Alpha testing will be used as it is the most well accepted reliability test tool applied by social researchers. Cronbach (1946) identified that in Cronbach's Alpha reliability analysis, the closer Cronbach's Alpha to 1.0, the higher the internal consistency reliability (Bayasgalan TsogtsurenGankhukeg, 2022). Of all the 46 respondents were working on our research, frequency distributions were of National Forensic Science Institute of Mongolia.

Figure 2. Results of Structure Analysis of work performance (algorithm)



Noted: per ski- professional skills, atti-attitude, time mgt-time management, tech-technical equipment, exp-experience, WORK Per-Work performance

Table 1. List of items of professional skills for each Construct of respondents

Factor	item	Results of item	Cronbach's alpha	CR	AVE
Professional skills	Per ski-1	0.666	0.784	0.792	0.536
	Per ski-2	0.671			
	Per ski-3	0.798			
	Per ski-4	0.687			
	Per ski-5	0.822			

Notes: per ski- professional skills

In table 1, professional skills of 5 items measuring ranged from **0.666-0.822**, Cronbach's Alpha of **0.784**, Composite Reliability (CR) of **0.792**, Average Variance Extracted (AVE) was **0.536**.

Table 2. List of items of attitude for each Construct of respondents

Factor	item	Results of item	Cronbach's alpha	CR	AVE
Attitude	Atti-1	0.492	0.709	0.809	0.475
	Atti -2	0.427			
	Atti -3	0.845			
	Atti -4	0.850			
	Atti -5	0.717			

Notes: atti-attitude

In table 2, attitude of 5 items measuring ranged from **0.427-0.850**, Cronbach's Alpha of **0.709**, Composite Reliability (CR) of **0.809**, Average Variance Extracted (AVE) was **0.475**.

Table 3. List of items of time management for each Construct of respondents

Factor	item	Results of item	Cronbach's alpha	CR	AVE
Time management	Time mgt-1	0.240	0.713	0.799	0.500
	Time mgt -2	0.235			
	Time mgt -3	0.894			
	Time mgt -4	0.903			
	Time mgt -5	0.878			

Notes:time mgt-time management

In table 3, time management of 5 items measuring ranged from **0.235-0.903**, Cronbach's Alpha of **0.713**, Composite Reliability (CR) of **0.799**, Average Variance Extracted (AVE) was **0.500**.

Table 4. List of items of technical equipment for each Construct of respondents

Factor	item	Results of item	Cronbach's alpha	CR	AVE
Technical equipment	Tech-1	0.465	0.832	0.829	0.505
	Tech -2	0.778			
	Tech -3	0.903			
	Tech -4	0.744			
	Tech -5	0.579			

Notes:tech-technical equipment

In table 4, technical equipment of 5 items measuring ranged from **0.465-0.903**, Cronbach's Alpha of **0.832**, Composite Reliability (CR) of **0.829**, Average Variance Extracted (AVE) was **0.505**.

Table 5. List of items of experience for each Construct of respondents

Factor	item	Results of item	Cronbach's alpha	CR	AVE
Experience	Exp-1	0.869	0.825	0.878	0.592
	Exp -2	0.712			
	Exp -3	0.708			
	Exp -4	0.831			
	Exp -5	0.713			

Notes:exp-experience

In table 5, experience of 5 items measuring ranged from **0.708-0.869**, Cronbach's Alpha of **0.825**, Composite Reliability (CR) of **0.878**, Average Variance Extracted (AVE) was **0.592**.

Table 6. List of items of work performance for each Construct of respondents

Factor	item	Results of item	Cronbach's alpha	CR	AVE
WORK PERFORMANCE	WORK PER-1	0.765	0.837	0.878	0.512
	WORK PER-2	0.875			
	WORK PER-3	0.764			
	WORK PER-4	0.676			
	WORK PER-5	0.640			
	WORK PER-6	0.531			
	WORK PER-7	0.707			

Notes: WORK Per-Work performance

In table 6, technical equipment of 7 items measuring ranged from **0.531-0.875**, Cronbach's Alpha of **0.837**, Composite Reliability (CR) of **0.878**, Average Variance Extracted (AVE) was **0.512**.

Table 7. Estimated Path Coefficients of respondents on work performance

Hypothesis	Mean	Standard deviation	T Statistic	P value	Remarks
H1. Professional skills positive related on work performance.	0.015	0.127	0.173	0.863	No supported
H2. Attitude positive related on work performance.	0.163	0.159	0.647	0.518	No supported
H3. Time management positive related on work performance.	0.266	0.190	1.754	0.078	No supported
H4. Technical equipment positive related on work performance.	0.162	0.174	0.863	0.388	No supported
H5. Experience positive related on work performance.	0.427	0.138	2.989	0.003	Supported

Notes: The result of study

In table 7, Hypothesis 1 such as professional skills have no related-on work performance (mean 0.015), (Standard deviation 0.127), (T statistic 0.173) and (P value 0.863). Hypothesis 2 such as attitude has no related-on work performance (mean 0.163), (Standard deviation 0.159), (T statistic 0.647) and (P value 0.518). Hypothesis 3 such as time management has no related-on work performance (mean 0.266), (Standard deviation 0.190), (T statistic 1.754) and (P value 0.078). Hypothesis 4 such as technical equipment has no related-on work performance (mean 0.162), (Standard deviation 0.174), (T statistic 0.863) and (P value 0.388). Hypothesis 5 such as experience has no related-on work performance (mean 0.427), (Standard deviation 0.138), (T statistic 2.989) and (P value 0.003).

CONCLUSION

We studied in the fiscal year of 2022 our paper collected and delivered an online-form- questionnaire with an official inquiry that requested quantitative and qualitative surveys in our study. There are participated 18 experts who work in National Institute of Forensic Science, 13 experts who work Forensic department of capital city, 15 experts who Rural Forensic department in our study. We were hypotheses five hypotheses. One of them is supported and four of them is not supported in path analysis. We are recommending our study as bellow:

- To study more hypotheses, result in the future.
- To study and compare factors on work performance with another special agency.
- To study and compare the factors with foreign scholars' study in the future.

Finally, we will study our next research paper, need to correlation skills, leadership, job satisfaction, engagement, behavior with performance management and etc.

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EVIDENCE OF STUDY

Construct Reliability and Validity

Matrix	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
	Cronbach's Al...	rho_A	Composite Rel...	Average Varian...
Attitude	0.709	0.777	0.809	0.475
Experience	0.825	0.831	0.878	0.592
Professional skills	0.784	0.792	0.851	0.536
Technical equipment	0.832	0.815	0.829	0.505
Time management	0.713	0.882	0.799	0.500
WORK PERFORMANCE	0.837	0.859	0.878	0.512

Outer Loadings

Matrix	Attitude	Experience	Professional sk...	Technical equi...	Time manage...	WORK PERFOR...
WORK PER-1						0.765
WORK PER-2						0.875
WORK PER-3						0.764
WORK PER-4						0.676
WORK PER-5						0.640
WORK PER-6						0.531
WORK PER-7						0.707
atti-1	0.492					
atti-2	0.427					
atti-3	0.845					
atti-4	0.850					
atti-5	0.717					
exp-1		0.869				
exp-2		0.712				
exp-3		0.708				
exp-4		0.831				
exp-5		0.713				
per ski-1			0.666			
per ski-2			0.671			
per ski-3			0.798			
per ski-4			0.687			
per ski-5			0.822			
tech-1				0.465		
tech-2				0.778		
tech-3				0.903		
tech-4				0.744		
tech-5				0.579		

Outer Loadings

Matrix	Attitude	Experience	Professional sk...	Technical equi...	Time manage...	WORK PERFOR...
WORK PER-5						0.640
WORK PER-6						0.531
WORK PER-7						0.707
atti-1	0.492					
atti-2	0.427					
atti-3	0.845					
atti-4	0.850					
atti-5	0.717					
exp-1		0.869				
exp-2		0.712				
exp-3		0.708				
exp-4		0.831				
exp-5		0.713				
per ski-1			0.666			
per ski-2			0.671			
per ski-3			0.798			
per ski-4			0.687			
per ski-5			0.822			
tech-1				0.465		
tech-2				0.778		
tech-3				0.903		
tech-4				0.744		
tech-5				0.579		
time mgt-1					0.240	
time mgt-2					0.235	
time mgt-3					0.894	
time mgt-4					0.903	
time mgt-5					0.878	

Path Coefficients

Mean, STDEV, T-Values, P-Values	Confidence Intervals	Confidence Intervals Bias Corrected	Samples		
	Original Sampl...	Sample Mean (...)	Standard Devia...	T Statistics (IQ/...	P Values
Attitude -> WORK PERFORMANCE	0.103	0.163	0.159	0.647	0.518
Experience -> WORK PERFORMANCE	0.411	0.427	0.138	2.989	0.003
Professional skills -> WORK PERFORMANCE	0.022	0.015	0.127	0.173	0.863
Technical equipment -> WORK PERFORMANCE	0.151	0.162	0.174	0.863	0.388
Time management -> WORK PERFORMANCE	0.334	0.266	0.190	1.764	0.078
