

The Impact of Information System on Improving Academic Staff Performance of Colleges and Institutes –a Case of Erbil Polytechnic University

Kamal Mohammed Abdullah¹, Hussein Ahmad Mustafa², and Bestoon Othman*³ and Zana Majed Sadq⁴

¹Department of Business Administration, Administration Technical College, Erbil Polytechnic University, Erbil, Iraq.
Email: kamal.mohammed@epu.edu.iq

²The College of Administration and Economics, Salahaddin University-Erbil. Email: hussein.mustafa@su.edu.krd

³Department of Business Administration, Koya Technical Institute, Erbil Polytechnic University, Erbil, Iraq. And
Scientific Research and Development Center-Nawroz University-Kurdistan Regional, Iraq. Email:
bestoon2011@yahoo.com

⁴Department of Management and Accounting, Faculty of Humanities and Social Science, Koya University, Koya
KOY45, Kurdistan Region – F.R. Iraq, and Department of Legal Administration, Collage of Business and Economics,
Lebanese-French University, Kurdistan Region – F.R. Iraq

Corresponding Author: Bestoon Othman, Email: bestoon2011@yahoo.com

Article Info

Volume 83

Page Number: 23085 – 23097

Publication Issue:

March - April 2020

Abstract:

Currently, colleges and academic institutes are continually updating their information systems to keep up with the ever-changing job market requirements and, more significantly, to stay competitive. Such changes do have a positive or negative impact on the performance of the academic staff. Information systems can also make planning simpler, particularly in large institutes where managers or heads of institutions often do not have a strong personal touch with the scene of the education process. Therefore, this paper aimed to examine the impact of the information system on improving the performance of academic staff at colleges and institutes—the empirical data collected from Erbil Polytechnic University (EPU) in Kurdistan, Iraq. The convenience sampling technique used for obtaining data from academic members. However, through a survey obtained a total of 305 functional questionnaires, and evaluated the data using the partial least square PLS. The result suggested that the information systems have a significant positive impact on the performance of academic members. This research will contribute to the universities, both in Iraq and worldwide, in understanding how approaches for information systems are necessary to sustain a long-term relationship with the performance of academic staff.

Article History

Article Received: 24 July 2019

Revised: 12 September 2019

Accepted: 15 February 2020

Publication: 30 April 2020

Keywords: Information System, Academic Staff Performance, and Erbil Polytechnic University

1. Introduction

According to (Altaany, 2013), information systems are as essential as accounting, human resources, finance, processes, and other critical business functions. The information systems have three major dimensions: operational, administrative, and scientific. In this context, (Bani-Hani, Al-Ahmad, & Alnajjar, 2009) argues that these three

essential aspects need to be balanced to enhance the efficiency of academic workers. While, (Othman, 2013) defines the information systems as a term synonymous with data processing based on computers. Regarding information technology, most authors concentrate on subjects like system analysis, file design, and other computer-technology technical aspects. Information systems

realized as data processing, i.e., the daily facts and figures of the colleges and institutes, through knowledge that is essential to decision making (Sadq, 2019). They vary qualitatively from data processing systems, and management participation is crucial to the practical design of the information systems. Data from external and internal sources converted into information that can then be communicated to managers at different levels in an appropriate manner to assist in decision-, which is timely and effective in planning, directing, and controlling the activities of the colleges and institutes for which they are responsible (Othman et al., 2018). The information systems' focus is on the use of information systems, not information generation. Institutes and colleges infuse information systems into their activities to improve productivity and promote business development and success (Gürkut & Nat, 2018). Information systems provide information that effectively and efficiently manages the college, information systems in that they are used to evaluate the college and conduct organizational activities. The term widely used academically to refer to the category of information management methods linked to automation or support of human decision-making. Information systems show not only how things are going but also why and where they are going. Currently, the college and institute's productivity directly linked to the correct information management program. The information system provides reports to managers and, in some cases, on-line access to the current performance of academic staff and records of historical data at the college and institute. Information system produces information products that support managers and professional business reports in many day-to-day decision-making needs, and displays include information products that meet the information needs of decision-making at the organizational and tactical level of college and institution facing more formal types of decision-making situations (Amran et al., 2020). Most colleges and institutions rely primarily on the information

system to collect, store and manipulate accurate data and information for life, as well as the college and institution's productivity in the processing of data into accurate and well-defined data, however without applying information system college and institute does not have values for profit-oriented as well as no profit firms. Information technology requires strategically controlled soaps to bring about sound and efficient college and university, thus improving the survival efficiency of organizational academic staff to improve competitive advantage in order to escape challenges (Khatab et al., 2019).

Hence, this research aims to fill this knowledge gap by examining the role of the information system in improving the performance of the academic staff of colleges and institutes in the case of Erbil Polytechnic University revenue authority. The researchers were also initiated to study the role played by the college and institute's information system to set targets and help once, to learn more about the role of the information system (Ping et al., 2019). To reflect the advantage of information system since information system is essential for the academic staff performance of the college and institute the importance of knowing that information system is most effective and efficient that could generate a higher level of academic staff performance to the colleges and institutes organizational performance depends on the role of information system (Osodo & Jemaiyo, 2015). Further, the significance of the research stems from the significance of management information systems for the success of academic staff in colleges and institutes. Besides, its role in providing the necessary data and information both internally and externally to support the management function, giving managers innovative strategies, helping managers make the right decisions in a broad margin, and increasing the administrative quality of colleges and institutes. Therefore, in this paper, the researchers emphasized the impact of information systems on

improving academic staff performance of colleges and institutes -at Erbil Polytechnic University.

2.Literature Review

2.1. Information Systems

The enormous academic effort conducted on the methods, strategies, and innovations for designing and improving information systems. There are; however, a few papers dealing with the impact of information systems on planning approaches and decision-making, although there are no widely accepted concepts of the knowledge system, and those in the literature are merely biases for the researchers'(Alfagira et al., 2017). The information system is a system or process which provides the information required to manage colleges and institutes effectively. So, the information system is the creation, use, and implementation by individuals, organizations, and society of information systems. An information system as "a structure consisting of an organization's network of all communication channels." In their study, (Mokhtar et al., 2019; Ogiemwonyi et al., 2019; Rashid et al., 2019) has defined information systems as "the study of information systems focusing on their use in business and management." The definitions described above showed that the information system had underscored the creation, implementation, and validation of applicable theories and models to promote quality work in the field. Referring to the literature, in its relatively short life span, the field of information systems has had a variegated growth. The information system created its analysis and study style. Tracing previous literature, we can report that during its first few decades, information system concentrated on the information in the context of electronic data processing that conducts transaction processing tasks and documents accurate

factual details; performance reporting systems that scrutinize an organization's operating operations, providing performance with summaries, reports, and input (Zhengwei et al., 2019). The information system sector has only moved to the primary during the last two decades, considering the second type of communication, namely instruction-based communication. Thus, this has become known as the world of systems experts (Sadq et al., 2020). In attempts to review published studies on information systems and articles, (Türk, 2016) has identified popular research topics, the dominant research perspective, and the relationship between information system research and practice. In comparison, the area of information system studied, and a constant change in research into the information system from a technological emphasis to a technology-organizational and social emphasis in management is noticed. (Shrivastava, Raizada, & Saxena, 2014) emphasizes the attitudes of decision-makers towards various factors influencing the quality of business decisions; these factors include information sources, analytical tools, and the role of information systems. Muslim et al. (2020) always pays attention to the effect of the availability of information on the capacity of people to access and use information in short-and long-term planning and decision-making. He reported that the greater the knowledge quality, the higher the effect of business decision making on both productivity and accuracy. Othman et al. (2019) talks about key information models and their relationships in business decision support in three different scenarios. The authors proved that global businesses are in advance due to the Enterprise Applications System provided by modern information technology tools such as Enterprise Resource Planning (ERP), Knowledge Management Systems (KMS) and Customer Relations Management (CRM) to enhance the efficiency and effectiveness of the decision-making process (Mokhtar et al., 2019). Financial organizations should understand the dimensions of information management and clearly define and

develop resources for human, technological, and internal operations, among others, and manage them well across the organizational boundaries in order to improve the financial, organizational capacity and enhance its level of market competition. Holding the relation between the management of the information system, preparation and decision making, however, is, at best, ambiguous. In an article by (Nawzad et al., 2019), a survey was conducted at 12 banks in the US between 1989 and 1997. They noted that while Information Technology was one of the most dynamic factors related to all efforts, it could not improve the earnings of banks. Conversely, however, there are several kinds of literature endorsing the positive effect of spending on the business performance of information technology.

Othman et al. (2019) noted that while information technology was one of the most dynamic factors related to all efforts, it could not improve the earnings of banks. Conversely, however, some literature endorsing the positive effect of spending on the business performance of information technology. Organizations without structured methods of knowledge sharing do not utilize the intellectual resources of their managers for business advancement and development. The information system allows for the sharing of knowledge, and passes the necessary information to management levels in order to retain a competitive advantage as it influences decision-making to increase the quality of services rendered. Hence, it is vital that these colleges and institutes actively inspire their academic workers to share useful knowledge so that they can exploit their intellectual resources (Jing et al., 2019). The information system would give the banking management a new dimension in managing its expertise and help to enforce and optimize the management initiatives in harmonizing the correct short and long planning strategies. In the field of decision-making, the information system is invaluable because it can detect the uncertainty in a system by itself, check a

course of action, and take steps to keep the system under the order. Literature has indicated that non-programmed decisions are important because they provide help by providing information for the decision-making process of search, review, assessment, and choice, and implementation. More recently, (Sadq et al., 2020) explained that there is a need for the creation of an information system to enhance and strengthen decision-making on issues concerning human and material capital.

From the literature presented, we can easily perceive the significance of the role of middle and top management to establish a transparent approach to the institution's growth, utilization, and evaluation of information system systems. To financial institutions, the information system is used by top management, middle, and even the operational staff at different levels as support for decision-making aimed at achieving business targets and strategic objectives. The above literature also discusses the value of the information system in providing evidence to decision-makers, thereby promoting and improving the entire decision-making process. Besides, the information system provides the data and information needed at the highest level to assist the board of directors and management levels in making appropriate strategic decisions on time (Sadq et al., 2020).

2.2. Academic Staff Performance

The performance of academic staff is a systematic process for enhancing university performance by optimizing individual and team performance. Hence, this is a way of producing improved results by recognizing and controlling success within a defined system of targeted goals, priorities, and criteria for competencies. Sabir et al. (2019) managing success is far more than merely appraising individuals. So, this leads to the achievement of change in culture and is combined with other primary human resource practices, in particular human capital management, talent management, learning and growth, and management

of rewards. The success of academic staff is a mechanism to create a mutual understanding of what to accomplish and how to accomplish it, and an approach to managing and improving people that enhances individual, team and organizational efficiency (Brwa et al., 2019). More specifically the academic staff performance is concerned with: aligning individual priorities with organizational priorities and motivating employees to maintain core corporate values; allowing objectives to be identified and decided on in terms of job responsibilities and accountability (expected to do), skills (expected to have) and behaviors (expected to be); providing opportunities for individuals to identify their own goals and develop their skills and competencies; Motivating people by providing them with recognition and the opportunity to use and develop their skills and abilities (Khorsheed, 2020). The total performance goal is to establish and enhance the performance of individuals and teams in the

academic staff. It is an instrument that can be used in shaping the development of a high-performance culture to achieve cultural change. It aims to develop the capacity of people to meet and exceed expectations and to achieve their full potential to the benefit of themselves and the organization (Majed et al., 2020). Under research aims, we have formed a model that examines the impact of information systems in terms of (equipment and software, networks within college and institutes, individuals and procedures) on improving academic staff performance of colleges and institutes. Figure 1, below reveals the research model. The model includes four constructs or variables. These variables are the Equipment and Software (ES), Networks within College and Institutes (NCI), Individuals and Procedures (IP), and Academic Staff Performance (ASP). Accordingly, the following hypotheses were developed.

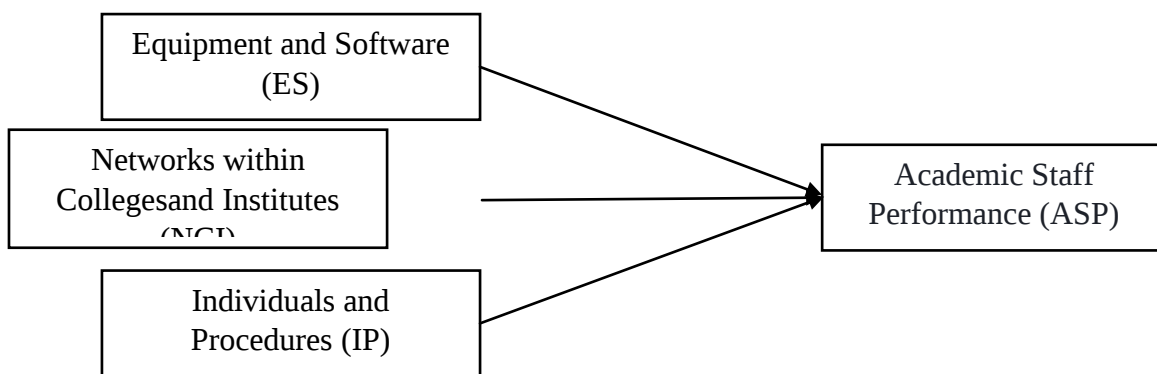


Fig.1. Research Model

H1: Information system has a positive significance relational impact in improving the academic staff performance of the college and institutes at Erbil Polytechnic University.

H2: Equipment and software positively and significantly contribute to improving the academic staff performance of the college and institutes at Erbil Polytechnic University.

H3: Networks within college and institutes positively and significantly contribute to improving the

academic staff performance of the college and institutes at Erbil Polytechnic University.

H4: Individuals and procedures positively and significantly contribute to improving the academic staff performance of the college and institutes at Erbil Polytechnic University.

3. Methodology

The researchers applied the quantitative research method. However, it is an appropriate

method as it supports the research purpose to examine the impact of information systems on improving academic staff performance of colleges and institutes. A quantitative research method employed, particularly in studies that use statistical data. Hence, this research also planned a relational impact design as it explains and finds the correlation and impacts between research variables.

3.1. Survey Instrument

Based on the research model, the researchers developed the survey instrument/ questionnaire. The instrument's first section involves respondents' profiles, namely (gender, age, academic degree, and scientific title). However, the other two sections, comprises four constructs. Where four indicators are measuring the level of availability of computer equipment, and software (ES) in the university. As well as four indicators are measuring the availability of computer networks within colleges and institutes (NCI). Further, four indicators are measuring the support and importance of the information system in

the university and the level of training of academic staff to use the information system (IP). Finally, five indicators are measuring the academic staff performance (ASP) at the university.

3.1. Subjects and Procedure

First of all, the sampling for this research is the academic staff of colleges and institutes at Erbil Polytechnic University. However, to obtain empirical data, 400 questionnaires forms were distributed among academic members, and the response rate was 76.25 percent (n=305 available answers). The statistics results show that among all the respondents, 72.1 % were male respondents, while the female was (27.9%). In the age portion (34%) of the respondents were in between 41 years to 50 years of age while the rest are of other age (66%). 75.8 % of the respondents possessed a master's degree, 24.2 % had a doctoral. Moreover, among the total respondents (59.4%) had the scientific title of assist. Lecturer, while the rest are of the other scientific title (40.6%), see Table 1.

Table 1. Respondents' profile from Erbil Polytechnic University

Profile	Description	Frequency	Percentage	Total
Gender	Male	220	72.1	305
	Female	85	27.9	
Age	Less than 30 years	11	3.6	305
	31-40 years	126	41.3	
	41-50 years	104	34.0	
	51-60 years	45	14.8	
	61 years and above	19	6.3	
Academic Degree	PhD	74	24.2	305
	Master	231	75.8	
Scientific Title	Assist. Professor	26	8.5	305
	Lecturer	98	32.1	
	Assist. Lecturer	181	59.4	

4. Results

4.1. Establishing Validity and Reliability

The research model evaluated using structural equation modeling SEM. The test is renowned in both the reliability and validity, the measures also being monitored, and applied in surveys. While the

research model is reasonably complex, and an SEM-PLS method was also used in the bootstrapping procedure of the SEM-PLS program in a 2000 sub-sample (Hair, Jr, Hopkins, Georgia, & College, 2010). In order to use structural equation modeling, it is essential to test the validity of each latent variable and to do so, using the confirmative factor analysis

CFA to boost the correct factors. Then, we have tested the validity of the prejudice and validity of convergence. According to (Sarstedt, Ringle, & Hair, 2014), researchers should analyze the average variance extracted AVE and factor loadings to check the first step, which must always be greater than 0.5. The origin of the AVE must be related to all variables, while at the same time verifying the validity of discrimination based on the criteria given (Sarstedt, Ringle, & Hair, 2017). Also, when using the structural equation model, the composite reliability must exceed 0.70, and the reliability of the latent variable is confirmed by applying Cronbach's α that must exceed the recommended loaded value of 0.6 (Sarstedt et al., 2017).

As shown in Table 2, below the latent variables defined by the convergence validity of all factor loadings and, for all research variables, the value of (AVE) is higher than 0.5. For all latent variables, the CR values are higher than the 0.7 criteria, hence the results showing that the eligible components retain good reliability. Furthermore, using the reliability test of "Cronbach's α ," all latent values are higher than 0.6, and this evidence is adequate to assess that the study material is of good reliability. The evaluating of the discrimination validity, revealed in Table 3, and confirmed that AVE root square values are higher than inter-structure correlations for all variables (Hair, Ringle, & Sarstedt, 2011).

4.2. Measurement Model

Table 2. Variables Measurement Model

Constructs		Components	Factor Loadings	Composite Reliability	Average Variance Extracted (AVE)
Information System (IS)	Equipment and Software (ES)	ES ₁	0.922	0.945	0.812
		ES ₂	0.870		
		ES ₃	0.904		
		ES ₄	0.907		
	Networks within College and Institutes (NCI)	NCI ₁	0.895	0.954	0.808
		NCI ₂	0.921		
		NCI ₃	0.912		
		NCI ₄	0.889		
	Individuals and Procedures (IP)	IP ₁	0.885	0.949	0.789
		IP ₂	0.881		
		IP ₃	0.919		
		IP ₄	0.873		
Academic Staff Performance (ASP)	Five Indicators of (ASP)	ASP ₁	0.859	0.946	0.814
		ASP ₂	0.930		
		ASP ₃	0.899		
		ASP ₄	0.920		
		ASP ₅	0.863		

As revealed in Table 2, the latent variables defined by the convergence validity of all factors loading. For all research variables, the value of (AVE) is higher than 0.5, and for all latent variables, the CR values are higher than the 0.7 criteria, indicating that the eligible components are good reliability. Furthermore, using the reliability test of "Cronbach's α ," all latent values are greater than 0.6,

and this evidence is adequate to assess that the research material is of good reliability (Sarstedt et al., 2017). Table 3 showed the evaluating the validity of discrimination, that AVE root square values are higher than inter-structure correlations for all variables. We may, therefore, conclude that the measurement model has high reliability, and that its

validity is positive and accurate to indicate the research variables.

Table 3. Discriminant Validity of Latent Constructs

	ES	NCI	IP	ASP
ES	0.909			
NCI	0.865	0.899		
IP	0.902	0.887	0.913	
ASP	0.907	0.895	0.885	0.909

Note Equipment and Software (ES), Networks within College and Institutes (NCI), Individuals and Procedures (IP), and Academic Staff Performance (ASP).

4.3. Hypotheses Testing

The results of SEM calculations showed in support of Hypothesis (**H1**) that the information system has a positive significance relational impact in improving the academic staff performance of the college and institutes at Erbil Polytechnic University, of the total sample ($Beta=0.876$, $p=.000$). Thus, this indicates that development in the information system by 1% will result in an increase

in the academic staff performance of the college and institutes at Erbil Polytechnic University by 0.876. The results also confirmed that positive developments in equipment and software (ES), networks within college and institutes (NCI), individuals and procedures (IP) have a positive impact in academic staff performance of the college and institutes at Erbil Polytechnic University by 19%, 24.4%, and 23% respectively, (see Table 4).

Table 4. Regressed SEM calculations of Information System and its Dimensions

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
IS->ASP	0.876	0.876	0.025	35.417	0.000
ES ->ASP	0.190	0.190	0.005	40.677	0.000
NCI ->ASP	0.244	0.244	0.004	55.409	0.000
IP ->ASP	0.230	0.230	0.003	74.364	0.000

Note Information System (IS), Equipment and Software (ES), Networks within College and Institutes (NCI), Individuals and Procedures (IP), and Academic Staff Performance (ASP).

4.4. Accepting/Rejecting the Hypotheses

The outcomes from the tables above displayed measurement model or survey reliability, discriminant validity of latent constructs, and mainly Table 4, which displays the Beta value results and the p-values for determining the acceptance or rejection of the research hypotheses. Hypotheses 1 stated, "information system has a positive significance relational impact in improving the academic staff performance of the college and institutes at Erbil Polytechnic University" was accepted ($Beta=0.876$, $p0.000$). Hypotheses 2 that stated, "equipment and software positively and significantly contribute to improving the academic

staff performance of the college and institutes" was accepted ($Beta=0.190$, $p0.000$). Hypotheses 3 that stated, "networks within college and institutes positively and significantly contribute to improving the academic staff performance of the college and institutes at Erbil Polytechnic University" was accepted ($Beta=0.244$, $p0.000$). Hypotheses 4 that stated, "individuals and procedures positively and significantly contribute to improving the academic staff performance of the college and institutes" was accepted ($Beta=0.230$, $p0.000$). Consequently, the proof is adequate to support all the research hypotheses. The above results concluded that the information system and its dimensions have a

significant and beneficial impact on the success of academic members at Erbil Polytechnic University.

5. Discussion

The research model confirmed a high degree of resistance to the implementation at Erbil Polytechnic University of the new information system. The introduction of the new information system did not tackle, among other factors, the fear and anxiety over job losses among academic personnel. Based on results, respondent rating on staff turnover contrasted with those who strongly agree and strongly disagreed that the program improved the same; however, according to these participants, the implication was that over half of them had served at the university for five years or less. Altaany (2013) contends that the information system reduces the cost of middle-level management and clerical workers. The above results may also be an indication that some academic members have either retired or resigned from the university for reasons not linked to improvements in the processes or improvements in the information system. The responses to the suggested performance metrics for academic staff, such as the satisfaction of academic staff and access to university services, have also been highly rated, among other factors. The considerations that have well-valued are speed of decision-making, insurance premiums, staff service levels, ease of communication, sufficient qualifications, the commitment of academic workers, discretion/flexibility, and amount of paperwork. Gürkut & Nat (2018) argues that performance management is essential for an information system. Hence, this will include input that can be tracked and measured to decide if the program is meeting the criteria defined or set. A good system is one that is versatile in order to produce and provide sufficient information to end-users. Individual performance indicators should be appropriate for the aims of the college. At Erbil Polytechnic University, one of the critical reasons for system change was the need to increase documentation speed, according to the

participants who were the academic staff. Academic workers will constructively implement the programs to ensure that optimal outcomes are obtained. Moreover, processes should work together to ensure it produces positive results.

However, a review of mean scores before and after the success of academic staff showed that the new information system decreased the amount of paperwork, complaints from academic staff, and insurance costs. However, the following performance metrics for academic staff have increased: engagement of academic staff, need for appropriate skills, staff productivity, the pace of decision-making, autonomy and flexibility, access to university resources, creativity/innovativeness, and ease of communication. Bani-Hani et al. (2009) agrees that organizational behavioral awareness encourages and improves hierarchical flattening. The teaching staff at the lower level are helped to make decisions without supervision. Thus, management performance is improved with the period of control, increasing in a way that increases the number of academic staff supervised by each manager. The information system also enhances the flexibility of colleges and institutes in that small colleges can act mainly by flexing muscles that only large colleges can. Large colleges, for their part, use the information system to achieve some sensitivity, which only small colleges can achieve. Small businesses may also use the information system to personalize their goods in the same capacity as large universities. Using the information system is expected to improve the speed of information and decision-making in businesses on time.

6. Conclusions, Recommendations, and limitations

In this research, we have constructed a model that examined the information system impact in improving the performance of the academic staff at Erbil Polytechnic University. Upon evaluating the data and checking the hypotheses, this research

confirms that all dimensions of the information system have a significant impact on the performance of the academic staff of colleges and institutes. Thus, the information system utilized in colleges and institutes plays a vital role by improving the performance of the academic members. The results in this research also supported the evidence that the information system dimensions positively and significantly contribute to improving the performance of the academic members. Therefore, this indicates that development in the equipment and software, networks within colleges and institutes, individuals and procedures will increase the academic staff performance of the college and institutes. It is confirmed that academic members and higher educational procedures play a significant and active role in the overall performance of the teaching staff. Since there are significant relationships, exist between the information system and performance changes within colleges and institutes.

Based on the research conclusions, we can include some suggestions that may contribute to enhance the performance of academic members in colleges and institutes. It is necessary to upgrading information systems and encouraging top management to the information system's role in enhancing the performance of academic staff at colleges and institutes. Engaging academic staff from colleges and institutes in information system research, design, construction, and development. Train academic members on how the information system can be used to enhance results in particular higher education outcomes. However, this research may not be without limitations, as the survey instrument was self-designed. Hence, this may comprise possible sources of bias that could limit the generalizability of the research outcomes. Furthermore, sampling for this research was only among the academic members at Erbil Polytechnic University; a larger sample may have produced better susceptibility to the generalization of the

results. Future studies should focus on a different and larger population sample.

REFERENCES

1. Alfagira, S. A., Rahim, A., Zumrah, B., Bin, K., Noor, M., Bin, O., & Rahman, A. (2017). Investigating the Factors Influencing Academic Staff Performance: A Conceptual Approach. *Scholars Journal of Economics, Business and Management*, 4(11), 842–848. <https://doi.org/10.21276/sjebm.2017.4.11.13>
2. Altaany, F. H. (2013). Impact of management information systems to improve performance in municipalities in north of Jordan. *Interdisciplinary Journal of Contemporary Research in Business*, 5(6), 429–446.
3. Amran, H., Mahmud, Muliati; Othman, B., Ali, R., & Ismael, D. (2020). Understanding experienced consumers towards repeat purchase of counterfeit products: The mediating effect of attitude. *Management Science Letters*, 10, 13–28. <https://doi.org/10.5267/j.msl.2019.8.019>
4. Bani-Hani, J. S., Al-Ahmad, N. M. M., & Alnajjar, F. J. (2009). the Impact of Management Information Systems on Organizations Performance: Field Study At Jordanian Universities. *Review of Business Research*, 9(17), 127–137. Retrieved from <http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=45462891&site=ehost-live&scope=site>
5. BrwaSardar Ahmad, ZanaMajedSadq, Bestoon Othman, and V. S. H. S. (2019). The Impact of the Quality of Work Life on Organizational Intelligence. *International Journal of Psychosocial Rehabilitation*, 12(8), 32–45. <https://doi.org/10.17010/pijom/2019/v12i8/146413>
6. Gürkut, C., & Nat, M. (2018). Important factors affecting student information system quality and satisfaction. *Eurasia Journal of Mathematics, Science and Technology*

- Education, 14(3), 923–932.
<https://doi.org/10.12973/ejmste/81147>
7. Hair, Jr, J. F., Hopkins, L., Georgia, M., & College, S. (2010). Partial least squares structural equation modeling (PLS-SEM) An emerging tool in business research. <https://doi.org/10.1108/EBR-10-2013-0128>
8. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *The Journal of Marketing Theory and Practice*, 19(2), 139–152.
<https://doi.org/10.2753/MTP1069-6679190202>
9. Jing, X., Ping, L., Yanjiao, L., & Othman, B. (2019). The analysis of the pragmatic failures in body language based upon geerthofstede's cultural dimensions. *International Journal of Psychosocial Rehabilitation*, 23(2), 816–833.
<https://doi.org/10.37200/IJPR/V23I2/PR190333>
10. Khatab, J. J., Esmaeel, E. S., & Othman, B. (2019). Dimensions of Service Marketing Mix and its Effects on Customer Satisfaction: A Case Study of International Kurdistan Bankin Erbil City-Iraq. *TEST Engineering & Management*, (4846), 4846–4855.
11. Khorsheed, R. K. M. S. B. O. (2020). The Impacts of Using Social Media Websites for Efficient Marketing. *Journal of Xi'an University of Architecture & Technology*, XII(Iii), 2221–2235.
12. Majed, Z., Othman, B., & Omer, H. (2020). Attitudes of managers in the Iraqi Kurdistan region private banks towards the impact of knowledge management on organizational effectiveness. *Management Science Letters*, 10, 1835–1842.
<https://doi.org/10.5267/j.msl.2019.12.035>
13. Mokhtar, I. S., Abdullah, N. H., Othman, B., Salman, P. M., & Ismael, D. A. (2019). Factor comparison for participation in training program: The view of training officer and academic staff at public University Malaysia. *International Journal of Psychosocial Rehabilitation*, 23(2), 1003–1019.
<https://doi.org/10.37200/IJPR/V23I2/PR190345>
14. Mokhtar, I. S., Abdullah, N. H., Salman, P. M., Ismael, D. A., & Othman, B. (2019). Organizational factors that affected training participation among academic staff based on training officers' perception: A qualitative research at a Malaysian public university. *International Journal of Psychosocial Rehabilitation*, 23(2), 872–884.
<https://doi.org/10.37200/IJPR/V23I2/PR190337>
15. Muslim, Aini; Harun, A., Ismael, D., & Othman, B. (2020). Social media experience, attitude and behavioral intention towards umrah package among generation X and Y. *Management Science Letters*, 10, 1–12.
<https://doi.org/10.5267/j.msl.2019.8.020>
16. Nawzadsabir, M., Othman, B., Al-Kake, F., & Rashid, W. (2019). The influence of entrepreneurship characteristics on attitude towards knowledge commercialization. *International Journal of Psychosocial Rehabilitation*, 23(2), 566–582.
<https://doi.org/10.37200/IJPR/V23I2/PR190316>
17. Ogiemwonyi, O., Harun, A. Bin, Othman, B. A., Ismael, D. A., & Ali, R. (2019). Key issues and challenges of green consumer in consuming green product an insight from the emerging country: Malaysia. *International Journal of Psychosocial Rehabilitation*, 23(2), 514–528.
<https://doi.org/10.37200/IJPR/V23I2/PR190313>
18. Osodo, O. P., & Jemaiyo, B. (2015). Relationship Between the Use of Management Information Systems and Employee Job Performance: Evidence From Kenindia Assurance Company Limited. *British Journal of Marketing Studies*, 3(5), 61–70.
19. Othman, B. (2013). The Influence Of Technology Acceptance Model On Behavioral Intention To Use Internet Banking System. *Universiti Teknologi Malaysia*, (January 2013).
20. Othman, B. A., Harun, A., Rashid, W. N., Nazeer, S., Kassim, W. M., & Kadhim, K. G. (2019). The influences of service marketing mix on customer loyalty towards Umrah

- travel agents: Evidence from Malaysia. *Management Science Letters*, 6, 865–876. <https://doi.org/10.5267/j.msl.2019.3.002>
21. Othman, B., Harun, A., Ismail, D. A., Sadq, Z. M., Ali, S., & Ramsey, T. S. (2019). Malaysian consumer behaviour towards internet banking: An application of technology acceptance model. *International Journal of Psychosocial Rehabilitation*, 23(2), 689–703. <https://doi.org/10.37200/IJPR/V23I2/PR190324>
 22. Othman BestoonAbdulmaged, &NazeerSafdar, H. A. (2018). Issues and Challenges Faced by Malaysian Umrah Travel Agencies in Providing Excellent Marketing Mix Services to Umrah Pilgrims. *Journal of Social Sciences Research*, (2003), 611–618. <https://doi.org/https://doi.org/10.32861/jssr.spi12.611.618>
 23. Ping, L., Jing, X., Othman, B., Binti, Z., Kadir, A., Yuefei, F., & Ping, X. (2019). An Intercultural Management Perspective of Foreign Student ' s Adaptation in Chinese Universities : A Case Study of China Three Gorges University. *Engineering, Technology & Applied Science Research*, 9(2), 3971–3977.
 24. Rashid, K. T. S., Ismael, D. A., Othman, B., & Ali, R. (2019). Dimensions of service quality and their effects on achieving competitive advantage: An exploratory study of banking organizations in Sulaimaniyah city-Iraq. *International Journal of Psychosocial Rehabilitation*, 23(2), 548–565. <https://doi.org/10.37200/IJPR/V23I2/PR190315>
 25. Sabir, M. N., Rashid, W. N., Al-Kake, F., & Othman, B. (2019). Entrepreneurship characteristics and attitude towards knowledge commercialization: Evidence from Malaysia. *International Journal of Psychosocial Rehabilitation*, 23(2), 844–859. <https://doi.org/10.37200/IJPR/V23I2/PR190335>
 26. Sadq, Z. M., Ahmad, B. S., Sulaiman, V., Saeed, H., Othman, B., & Mohammed, H. O. (2020). The relationship between intellectual capital and organizational trust and its impact on achieving the requirements of entrepreneurship strategy (The case of Korek Telecom Company , Iraq). *International Journal of Advanced Science and Technology*, 29(02), 2669–2682.
 27. Sadq, Z. M. B. O. R. K. K. (2019). The impact of tourism marketing in enhancing competitive capabilities. *African Journal of Hospitality, Tourism and Leisure*, 8(5), 1–11.
 28. Sadq, Z. M., Khorsheed, R. K., & Mohammed, H. O. (2020). The Effect of Administrative Leadership on Achieving Business Success Strategies (The Case of Lebanese French University). *International Journal of Advanced Science and Technology*, 29(02), 3095–3102.
 29. Sadq, Z. M., Mohammed, H. O., Othman*, B., & Saeed, V. S. H. (2020). Attitudes of Managers in the Knowledge Private University towards the impact of Human Capital in Achieving Competitive Advantages. *TEST Engineering & Management*, 82(393), 393–401.
 30. Sarstedt, M., Ringle, C. M., & Hair, J. F. (2014). PLS-SEM: Looking Back and Moving Forward. *Long Range Planning*, 47(3), 132–137.
 31. Sarstedt, M., Ringle, C. M., & Hair, J. F. (2017). Partial Least Squares Structural Equation Modeling. <https://doi.org/10.1007/978-3-319-05542-8>
 32. Shrivastava, D. R. K., Raizada, D. A. K., & Saxena, M. N. (2014). Role of e-Governance to strengthen higher education system in India. *IOSR Journal of Research & Method in Education (IOSRJRME)*, 4(2), 57–62. <https://doi.org/10.9790/7388-04215762>
 33. Türk, K. (2016). Performance management of academic staff and its effectiveness to teaching and research – Based on the example of estonian universities. *Trames*, 20(1), 17–36. <https://doi.org/10.3176/tr.2016.1.02>
 34. Zhengwei Huang, Xueke Pei, Jing Xi, Bestoon Othman, Sher Ali, L. L. (2019). The Influence of Consumers ' Perception on Perceived Value and Purchase Intention with

respect to Regional Products Based on a C-
A-B Model
Vpliv dojemanjapotrošnikana zaznanovrednos
t in na C-A-B. Tekstilec, 62(3), 219–228.
<https://doi.org/10.14502/Tekstilec2019.62.219-228>