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THE IMPACT OF MANAGEMENT INFORMATION SYSTEMS (MIS) ON JOB PERFORMANCE DURING COVID 19, SATISFACTION AS A MEDIATOR: CASE STUDY ON INTERNATIONAL STUDENTS IN USIM

Kesan Sistem Maklumat Pengurusan (Mis) Terhadap Prestasi Kerja Semasa Covid 19, Mediator Kepuasan: Kajian Kes Pelajar Antarabangsa Di Usim

Mohammed J H Alzaanin,^a Ibrahim Fahad Sulaiman^a

^aFaculty of Leadership & Management
Universiti Sains Islam Malaysia

momzaneen@gmail.com,
ibrahimfahad@usim.edu.my

Abstract

The concepts of integration (naqli and 'aqli) used in the University of Islamic Sciences Malaysia (USIM) have led to transformation on Management Information Systems (MIS) because of the spread of the COVID-19 pandemic, these transformations undoubtedly affected the performance. This paper discusses the impact of MIS on job performance by taking USIM graduate student satisfaction as a mediating variable. An electronic questionnaire was distributed to a random sample of 68 international students. Spss 25 and Smartpls3.3 software were used to manipulate the data and hypotheses. The study find that user satisfaction mediates the relationship between MIS and job performance. The study confirmed that MIS helped students complete their academic requests. Also, MIS has ability to access it from various smart devices and also meets all student services by 69%.

Keywords: management information systems (MIS), user satisfaction, job Performance, e-learning.

Abstrak

Konsep integrasi (naqli dan 'aqli) yang digunakan di Universiti Sains Islam Malaysia (USIM) telah membawa kepada transformasi Sistem Maklumat Pengurusan (MIS) kerana penularan wabak COVID-19, transformasi ini sudah pasti menjejaskan prestasi. Kertas kerja ini membincangkan kesan MIS terhadap prestasi kerja dengan mengambil kepuasan pelajar siswazah USIM sebagai pemboleh ubah perantara. Soal selidik elektronik telah diedarkan kepada sampel rawak 68 pelajar antarabangsa. Perisian Spss 25 dan Smartpls3.3 digunakan untuk memanipulasi data dan hipotesis. Kajian mendapati bahawa kepuasan pengguna menjadi perantara hubungan antara MIS dan prestasi kerja. Kajian itu mengesahkan bahawa MIS membantu pelajar menyelesaikan permintaan akademik mereka. Selain itu, MIS mempunyai keupayaan untuk mengaksesnya daripada pelbagai peranti pintar dan juga memenuhi semua perkhidmatan pelajar sebanyak 69%.

Kata kunci: sistem maklumat pengurusan (MIS), kepuasan pengguna, Prestasi kerja, e-pembelajaran.

INTRODUCTION

In view of the continuous development in the fields of business at both the public and private the COVID-19 epidemic and its rapid outbreak have posed a serious threat to life in general and to health

and well-being, affecting the whole world. It led to weakness and closure of many aspects of business and aspects of normal life and formed a call for more attention and orientation towards developing the concept and practice of digital sustainability and reliance on information systems (Pan & Zhang, 2020). The rapid spread of the COVID-19 pandemic requires consideration of relying on modern technologies and using them to help overcome this crisis, as well as applying the best software with which we can benefit from information technology, especially information systems and its applications (Agerfalk et al., 2020).

Many organizations have undergone a major transformation and adherence to new guidelines and principles regarding the spread of the virus, which obliged them to rethink their operational processes and use technology to maintain these processes (Dwivedi et al., 2020). All these procedures and transformations certainly affected the job performance of the employees as well as the users' satisfaction with receiving services through these systems. The USIM vision led it to integration (naqli and 'aqli) (Hidayat, 2021); for that its transferred to information systems to versus this crises . This study aims to fill the gap in the literature that did not address such a case due to its recentness and to reach the impact of these systems on performance during the COVID-19 crisis through the university students' evaluation of these systems and performance.

Management Information Systems (MIS)

The management information system is one of the modern and important methods in organizations (Du & Hu, 2018). Its aim is to provide reliable, accessible, and understandable information in a timely manner to the users of the system and management information systems help in automating tasks. Automation can save time, money, resources, reduce employees, and enhance organizational workflow (Al-Mamary et al., 2014). Management Information Systems (MIS) is now in its fifth decade as a system, whereas, in 1966, Professor John Durden and his student F. Warren MacFarlane is, the author of the book "Management Information Systems: The book is considered a milestone in the teaching of computerized information systems. I theoretically explained this science and these new systems (Power et al., 2016).

Management information systems are a useful tool in providing structured and summarized information in a timely manner to decision-makers and enabling accurate decision-making in organizations (Ada & Ghaffarzadeh, 2015). The management information system is a computerized data flow processing procedure that works in an integrated manner with other procedures and in an effective way to support decision-making and other administrative functions. Business decisions can only be made efficiently if the information is complete, clear, fast, accurate, qualitative and managed by qualified personnel to work on these systems (Bretschneider, 1990). Management information systems were known by researchers in more than one sense according to their functions, tools and methods of use, as it dealt with the definitions of management information systems about their functions, such as data collection, recording, storage and rearrangement, as well as in terms of their ability to provide information with good characteristics that organizations rely on to improve Its performance. (Al-Tit, 2016) .According to Ibrahim et al. (2020) Management information systems have been relied upon and developed recently as a result of the Covid-19 epidemic, Where the applications of these systems were a solution for commercial and administrative processes and various tasks and suitable to work in the environment of the COVID-19 pandemic.

MIS in COVID-19

The World Health Organization has declared COVID-19 a global pandemic as a result of the rise in the spread of the virus and the sharp rise in the number of cases worldwide. And countries have taken many measures, including complete or partial closures, in an attempt to control the epidemic (Gopinathan, 2020). The business has shifted to working from home and working remotely. This forced organizations to use remote information systems, in addition to other forms of measures, to deal with this crisis (Kudyba, 2020).

The COVID-19 pandemic can be likened to a seismic effect as it changed the concept of businesses and organizations relying more on information systems (Conger, 2020; Hossain et al., 2022). COVID-19 has brought about a fundamental transformation in the global community and in many aspects of life, which has led one to shift to increasing digitization and accelerate the application of technology, especially in key areas such as education and work (Barnes, 2020; He et al., 2021). The COVID-19 pandemic has proven that information system play a vital role in the crisis management efforts of most organizations and their attempt to continue their business. (Gopinathan, 2020).

Integration (naqli and 'aqli) elements in USIM by use MIS

“determined to be an advanced science institution based on Islamic studies and to be a leader of new knowledge using the latest technology to produce innovations that can change the nation, and people.”; in this mission and integration (naqli and 'aqli) the USIM was started (Hidayat, 2021).

The USIM used various forms of educational and administrative information systems and many other technological applications as it applied the information and communication technology lab, computers, and the principles of learning the basics of Microsoft Office applications and Web 2.0. In addition to using e-learning, the Global Center for Open Education (GOAL), its inception in 2011, USIM GOALS, additionally other electronic platforms (Zainuddin et al., 2017; Zainuddin et al., 2016).

The medical educators at USIM indicated that they agree and are directed to adopt e-learning at the university; these systems are so useful for learning and benefit the students in many ways (Khalid, 2014).

The integration of (naqli and 'aqli) concepts and flexibility Islamic management which the USIM used as Islamic institutions (Abdullah et al., 2018; Zarkasih et al., 2020) ; its contributed to reduce COVID-19 effect on works as the researcher stated by searching for the systems used at the university, the researcher found the use of no less than three systems for electronic services. It is the USIM library system, the GOALS system, and the IPPS system, in addition to the use of Microsoft Meeting applications.

User satisfaction

Satisfaction is one of the most important variables that affect different jobs and businesses. It has been linked to many influencing factors from management to job design. The concept of job satisfaction is defined by different approaches by different scholars, differently. Where job satisfaction is seen as a feeling that can have a positive or negative impact on an individual's roles and responsibilities at work (Nunez, 2020).

The quality of the services provided was reflected in student satisfaction at USIM University, which had a significant impact on the acceptance and satisfaction of these services in general, and whether they were provided in a computerized manner (Dhar & Sikder, 2018). Also, Balamurugan and Subburayan (2020), study showed that satisfaction increases through management interaction and good administrative communication, as satisfaction affects job performance and business effectiveness. For a long time, various scholars all around the world have been focusing on student satisfaction as an important factor in institutions (Ali & Khan, 2018). The most of performance is measured by the customer satisfaction and the service quality (Anggiani, 2017).

Job Performance

concept of performance has gotten attention and development in the last 28 years as a factor focuses on goals at the level of the organization by the renewal of key standards, measure the performance of the individual and the organization. Identify fields that may enhance work efficiency (Rashid, 2021). Performance means a set of tasks that can be measured and assessed by staff, such as fulfilling specified duties, meeting deadlines, efficiency, effectiveness and efficiency in the performance of work to achieve the objectives of departments (Iqbal et al., 2015), Employee performance was defined as the degree to which an employee performs duties and responsibilities. Whereas employee performance has been related to results, results, and accomplishments, employee performance cannot be defined in general performance standards and can be interpreted only in the context of organizational situations and viewpoints. (Bose & Emirates, 2018). An employee's performance is defined as the degree to which an employee's task is completed, which reflects how the individual requirements of the job are achieved, and many factors affect employee performance, such as satisfaction, motivation, and stress. (Mira & Odeh, 2019).

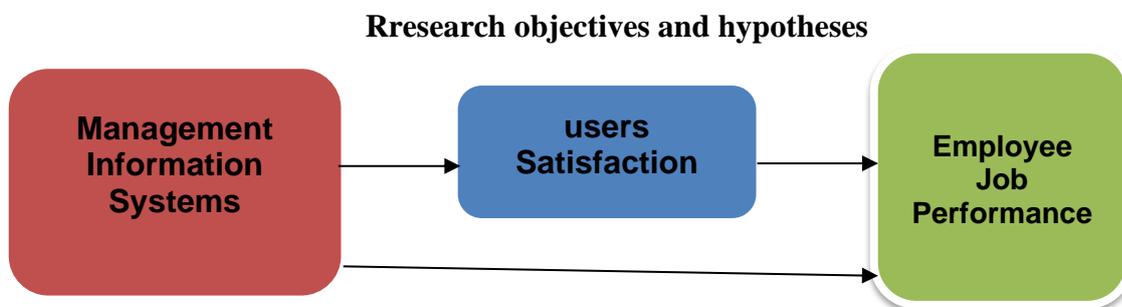


Figure 1: conceptual framework

The objectives of this study are:

1. To investigate the role of user satisfaction as a mediator in the relationship between (MIS) and JOB performance among international students in USIM.
2. To clarify the relationship between management information systems and user satisfaction.
3. To clarify the relationship between management information systems and job performance.
4. To identify the effect of satisfaction on job performance.

In order to achieve the study objectives, these are research hypotheses:

H1: User satisfaction mediates the relationship between (MIS) and job performance among international students in USIM.

H2: Management Information Systems have a statistically significant effect on user satisfaction.

H3: Management Information Systems have a statistically significant effect on job performance.

H4: User satisfaction has a statistically significant effect on job performance.

METHODOLOGY

To capture the reality of the relationship between management information systems and employee performance (Hopia et al., 2016). In more detail, an interpretive approach is used in all this study's procedures the way through reaching the research objectives.

The research community was determined by postgraduate students at the University of Islamic Sciences Malaysia USIM, and as a result of the COVID 19 crisis we live irregularity of the study directly.

Selected a random sample of Arab students registered at the university was taken, consisting of 68 students and the questionnaire was sent electronically. 51 were obtained with a response rate of 75 %, and the researcher attributes this average response to the importance of the topic and the lack of response from others is a natural result of the electronic questionnaire. The SPSS 25 program was used to process the data and outliers and to confirm the linear relationships between the study vocabulary as well as the relationships between the variables, and the sat3 question was deleted from the questionnaire as a result of its invalidity for analysis. The hypotheses were tested by the partial least squares method using SmartPLS 3.3 software. The questionnaire included 17 items, the first six items allocated to the personality axis, five items to the dimensions of management information systems, and two items to the dimensions of user satisfaction. The last four items in the questionnaire were allocated to the dimensions of job performance. The researcher used a five-point Likert scale to answer the questions, where the value of 1 means strongly disagree, and the value of 5 means strongly agree. The Spanish dimensions and their vocabulary were designed by the researcher using a set of previous designs in different studies, where the vocabulary of measuring management information systems was designed (Bakos & Treacy, 1986). And user satisfaction measurement vocabulary designed by (Djamila & Chalal, 2017), as well as a study (Watungwa & Pather, 2019) and job performance measurement by (Widyastuti & Hidayat, 2018). Vocabulary was developed to measure some electronic applications that were not mentioned in previous research, and the questionnaire was judged and presented to experienced specialists to ensure the integrity of the terms, ease of understanding and coverage of the study axes. Data collection through the use of Cronbach's Alpha coefficient to test the stability of the study scales and their internal consistency, and the value ranged between 0.709 and 0.849.

FINDINGS

First: Assessment of Measurement Model

From the results of the Table 1 Convergent validity - it was shown that the validation was checked, as the measures showed a high level of reliability and validity for the research items and variables used and that the relationship between the factors and variables was interrelated and reliable. Based on Luoma et al. (2010), the assessment of convergent validity criteria are : Factor loadings, composite reliability, AVE, As these values: Factor Loadings (>0.7), CR (>0.7) , AVE (>0.5).

Table 1: Results of Measurements Model – Convergent Validity

Constructs	Items	Loading	Average Variance Extracted (AVE)	Composite Reliability CR	Cronbach's Alpha
Management Information System	mis1	0.773	0.628	0.893	0.849
	mis2	0.835			
	mis3	0.814			
	mis4	0.655			
	Mis5	0.868			
User Satisfaction	sat1	0.770	0.753	0.858	0.709
	sat2	0.956			
Employees Performance	per1	0.884	0.685	0.897	0.845
	per2	0.768			
	per3	0.883			
	per4	0.769			

Discriminant Validity Table 2 shows a load of Items that is more strongly in their own constructs in the model, which means Each set of elements belongs to its own variable.

Table 2: Discriminant Validity- Cross Loading

	mis	sat	performance
mis1	0.773	0.350	0.683
mis2	0.835	0.477	0.624
mis3	0.814	0.451	0.690
mis4	0.655	0.363	0.480
mis5	0.868	0.494	0.628
sat1	0.248	0.770	0.340
sat2	0.595	0.956	0.693
per1	0.812	0.512	0.884
per2	0.656	0.376	0.768
per3	0.535	0.633	0.883
per4	0.577	0.629	0.769

Latent Variable Correlations table 3 shows that in examining the correlations between the constructs of variables, the constructor was truly distinct from other constructs by empirical standards, as the results show.

Table 3: Latent Variable Correlations

	mis	performance	sat
mis	0.792		
performance	0.789	0.827	
sat	0.541	0.648	0.867

As table 4 descriptive statistics the number of respondents was 51 USIM students, and the average answers about the variables and their elements ranged from 3.14 to 3.86, meaning that the answers were heading towards approval of the elements with varying degrees. It formed the highest degree of the consent of respondents about mis1, which was the respondents' agreement that the university uses an electronic services system for students. The respondents had the lowest agreement about the item per2, which indicates a weak agreement of the students that the system used is characterized by rapid response and lack of delay. The highest value in the questionnaire in favour of the user satisfaction items was 70.4%. The results of the management information systems elements reached 69.92%. At the same time, the performance results were the least indicated by the students in the questionnaire, which amounted to 65.3%.

	Mean	Std. Deviation
mis1	3.86	1.342
mis2	3.45	1.331
mis3	3.45	1.460
mis4	3.37	1.356
mis5	3.35	1.383
sat1	3.53	.857
sat2	3.51	.903
per1	3.39	1.297
per2	3.14	1.281
per3	3.20	1.096
per4	3.33	1.438

Second: Assessment of Structural Model

Based on Preacher and Hayes (2008) to achievable the mediator variable it is clear from the table that the value of the highest level is (UL = 0.290) and the value of the lowest level is (LL = 0.047), where there is zero between them, and thus the condition of the validity of the mediator is fulfilled and thus, table 5 mediator achievement equation shown the satisfaction conditions as a mediator variable between management information systems and job performance is fulfilled. In addition, it is a positive mediator for its presence in the positive region and works on a direct positive impact on job performance.

Table 5: mediator achievement equation

mis -> sat	sat -> performance	Indirect Effect	Std. Deviation	t-value	Bootstrapped Confidence Interval		Decision
					95% LL	95% UL	
0.541	0.312	0.169	0.062	2.722	0.047	0.290	Mediation

It is noted from the table 6 that the value of the coefficient of determination for job performance as a dependent variable amounted to $0.692 = R^2$, which means that each of the variables management information systems and user satisfaction are able to explain 69% of the change in job performance and the rest is due to other factors, and this confirms the explanatory power of the study model and

supports its acceptance and impact On the study, where the value of ($R^2 \geq 0.67$), it indicates the explanatory power of the model used. The results based Chin (1998) Stated.

Table 6: R-Square of endorsement latent variables

Constructs	R ²	Result
performance	0.692	high
sat	0.293	weak

Cohen's criterion table 7 shows the ability to explain each independent variable separately for the dependent variable, and its value is weak at the level of 0.02 or less, medium at 0.15 or less, and it is stronger at a value greater than 0.15(Lorah, 2018), and from the table 7 its appears that information systems have a strong explanatory ability for job performance and user satisfaction.

Table 7: Cohen (F2)

	mis	performance	sat
mis		0.883	0.415
performance			
sat		0.224	

Results of PLS partial least squares analysis of the relationship between management information systems, user satisfaction and job performance according to the model used and explained based Chin (2010).

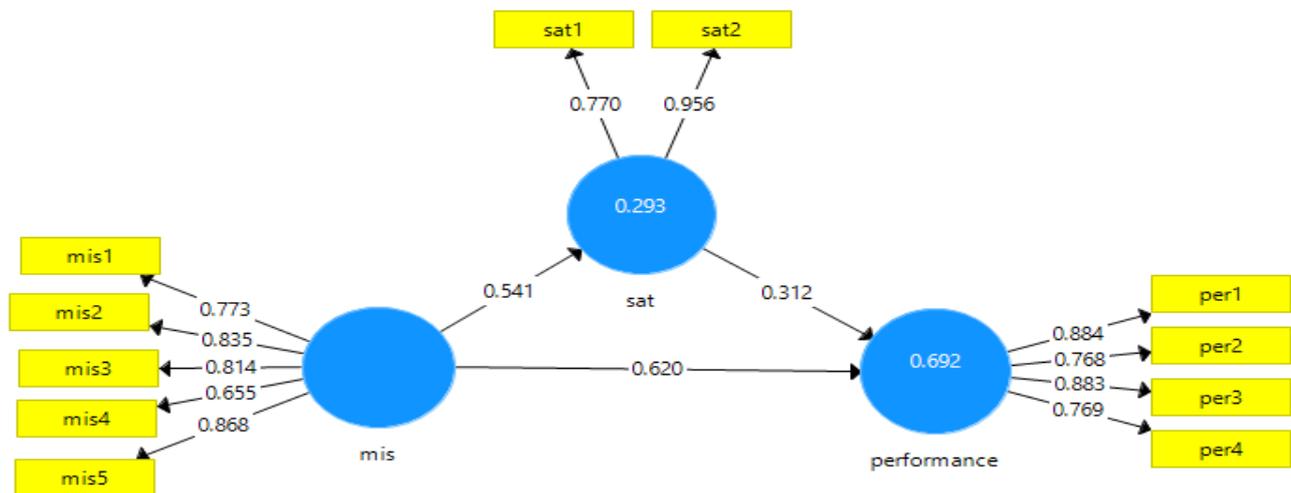


Figure 2: Results of partial least squares PLS analysis of the relationship between management information systems and job performance.

The table 8 of total effects shows that high significance between variables P Values (0.00-0.09). Also, the direct and indirect relations.

Table 8: Total Effects

Direct relation					
	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
mis -> performance	0.789	0.795	0.060	13.161	0.000
mis -> sat	0.541	0.553	0.153	3.529	0.000
sat -> performance	0.312	0.296	0.120	2.615	0.009
Indirect relation					
	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
mis -> performance	0.169	0.153	0.062	2.715	0.007

Hypotheses testing:

H1: User satisfaction mediates the relationship between Management Information Systems and job performance.

H2: Management Information Systems have a statistically significant effect on user satisfaction.

H3: Management Information Systems have a statistically significant effect on job performance.

H4: User satisfaction has a statistically significant effect on job performance.

Hypotheses	Standard Beta	Standard Error	T Value	P Value	Decision	Hypotheses
mis -> performance	0.620	0.095	6.512	0.000	Supported**	H3
mis -> sat	0.541	0.153	3.529	0.000	Supported**	H2
sat -> performance	0.312	0.120	2.615	0.009	Supported**	H4

Table 8: Path Coefficient of the Research Hypotheses

mis -> sat	sat -> performance	Indirect Effect	Std. Deviation	t-value	Bootstrapped Confidence Interval		Decision	Hypotheses
					95% LL	95% UL		
0.541	0.312	0.169	0.062	2.722	0.047	0.290	Mediation Supported**	H1

H1: User satisfaction mediates the relationship between management information systems and job performance by looking at the results in the previous table, where the relationship clarified this

hypothesis, and that user satisfaction is a positive average between management information systems and job performance. **Result H1 Supported.**

H2: Management Information Systems have a statistically significant effect on user satisfaction as the table p value was 0.00 and the standard beta 0.541, which means there are strong positive relationships and effects. **Result H2 Supported.**

H3: It is clear from the table that the dimensions of management information systems have a positive impact on job performance with a value of **0.62**, and this shows that management information systems affect **62%** of job performance and enhance it. In total, for the previous relationships, and as shown in the table, the value of beta in the case of the full effect amounted to **0.789**, and thus the direct impact on the job performance of the workers' increases. **Result H3 Supported.**

H4: From the results shown in the table as well as in the previous figure, it appears that users' satisfaction positively affects job performance by 31%, where the value reached 0.312, and this confirms the validity of the hypothesis. **Result H4 Supported.**

CONCLUSION

The problem of providing services to students in universities has worsened as a result of the Covid-19 epidemic and the procedures that resulted from this epidemic of stopping studies and the inability to go to the university and obtain student services through the Graduate Studies Center at the university and as a result more focus was placed on providing services to students through the website and through the management information systems available on this site IPPS.

The study confirmed the existence of an electronic information system used at the university to provide services to students and that this system enjoys acceptance and satisfaction from students. The system is characterized by the ability to access it from various smart devices and also meets all student services by 69%. The university was able with this system to compensate for the need to go To the university, especially during the time of Covid 19, especially through the use of the applications of zoom, meet, and others.

The study confirmed that this system needs further development and improvement, especially since the students indicated that the system was slow and delayed in responding. The study also confirmed that the system helped students complete their academic requests and facilitate their affairs by using it and meeting their needs in continuing their studies in their various programs. The study proved the positive relationship between the variables. In conclusion, this shows the role of MIS on satisfaction and performance. It is hoped that this paper findings will be instrumental to servant Islamic and systems management literature. I encourages and the suggestion more future studies in Islamic flexible management and integration between (naqli and 'aqli) knowledge .

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