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HOT – FIT MODEL FOR SYSTEM INFORMATION ACADEMIC EVALUATION

MADE PUTRA SETYOADJI [1] and NILO LEGOWO [2]*

[1,2] Information Systems Management Department, BINUS Graduate Program.
[1,2] Master of Information Systems Management, Bina Nusantara University, Jakarta, Indonesia.
Email: [1]made.setyoadji@binus.ac.id, [2]nlegowo@binus.edu (*Corresponding Author)

Abstract

The year 2021 witnessed the implementation of an academic information system, referred to as Portal XYZ, with the primary objective of facilitating and enhancing academic endeavors inside University XYZ. The possession of system quality, information quality, and service quality is essential for a system to deliver optimal net benefits effectively. The involvement of both users and organizations can influence the functioning of a system. This research employs the HOT-FIT Model, which encompasses the Human, Organization, and Technology dimensions and includes Effort Expectancy and Performance Expectancy variables. These variables assess the system, human, and organizational elements involved in evaluating academic information systems at University XYZ. Data was collected by administering questionnaires to 160 employees who served as respondents. The data were analyzed using the SEM-PLS (Structural Equation Model-Partial Least Square) methodology, employing the SmartPLS software. The study's findings indicate that system, information, and service quality significantly impact system use, user satisfaction, and performance expectancy. Specifically, these factors account for 81% of the variance in system use, 81.9% in user satisfaction, and 78.2% in performance expectancy. The study revealed that the effort expectancy was influenced by 69.5% due to system quality, information quality, service quality, system use, and user satisfaction. It is established that the variables of effort and performance expectancy exert a significant impact, accounting for 66.5% of the overall net benefits.

Keywords: Hot, Fit, Analysis Evaluation, Net Benefits, Academic Information System.

1. INTRODUCTION

In 2021, University XYZ introduced the implementation of an academic information system, referred to as Portal XYZ. The primary objective of this system is to enhance the effectiveness and efficiency of academic operations within the University XYZ environment.

According to the data presented in Figure 1, it is evident that the proportion of employee logins on Portal XYZ, relative to the total number of employees (160), stands at 59%. This indicates that a significant portion of employees do not utilize Portal XYZ as a means of academic support inside the institution.

This scenario is further substantiated by the use of a single account by multiple personnel for the provision of academic services within the given environment, owing to the absence of adequate characteristics in the aforementioned account.

Regarding the login percentages, it is not possible to definitively assert that employees utilize Portal XYZ as a means of supporting the provision of academic services, hence rendering the benefits of Portal XYZ questionable.

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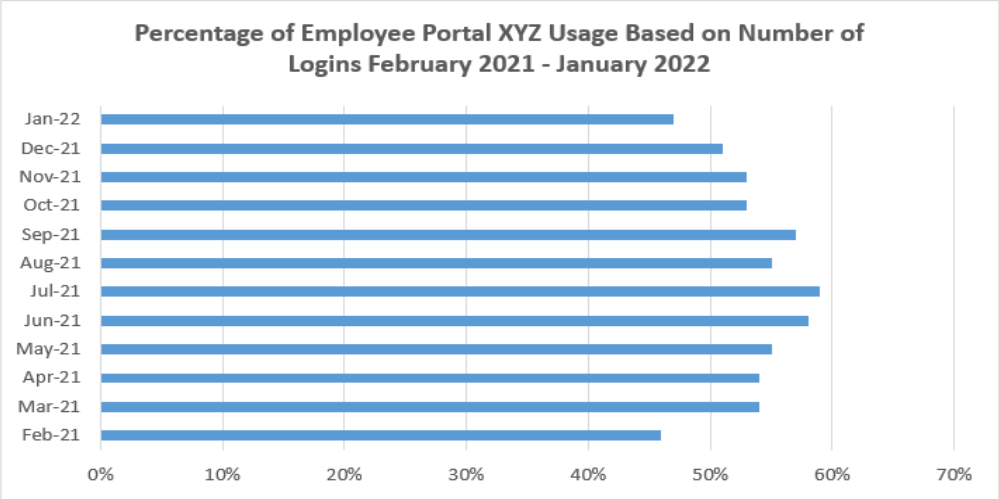

Figure 1: Percentage of Employee Portal XYZ Usage Based on Number of Logins February 2021 - January 2022

The anticipated outcome of implementing the Portal XYZ is the generation of net benefits for University XYZ. In order to assess the overall advantages yielded by a particular system, the analysis of net benefits entails the consideration of three key concerns that necessitate attention. These concerns encompass: According to DeLone and McLean (2004), (1) The determination of what constitutes a benefit, the individuals who are eligible for it, and the specific level of analysis at which it is assessed. This study assesses the benefits of the Portal XYZ from a technological standpoint, namely in terms of system quality, information quality, and service quality. The Portal XYZ is designed to support employees and organizations in their academic endeavors. The level of analysis pertains to the overall benefits produced by Portal XYZ as an academic information system.

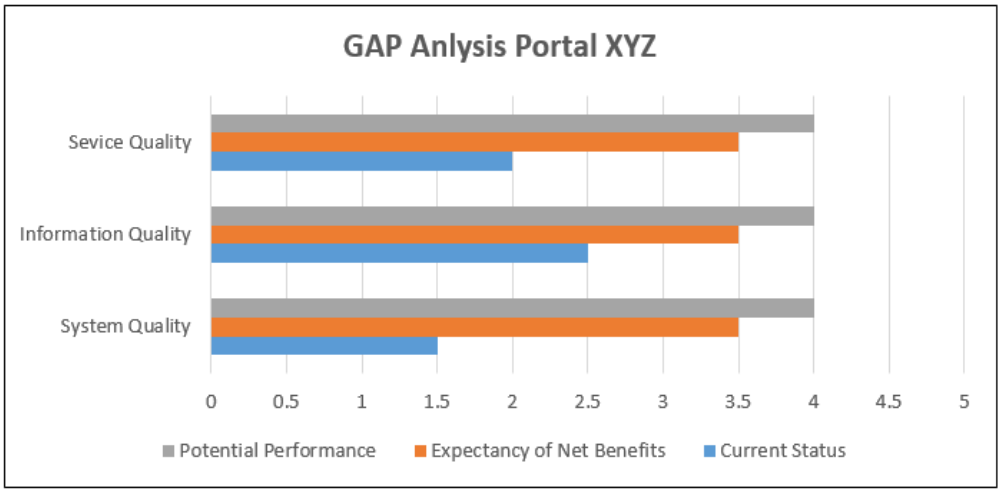

Figure 2: GAP Analysis Portal XYZ

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Figure 2 illustrates the impact of these impediments on the anticipated net benefits for University XYZ. The user-friendliness of the system is perceived as inadequate by certain users. The presence of irrelevant information in the current data can be attributed to the user's limited understanding of the system. This lack of knowledge leads to a decrease in the quality of the information provided. The current implementation issues of Portal XYZ can be attributed to the inadequate coverage of service quality in academic activities, necessitating the need for conventional approaches. A comprehensive assessment is required to determine the extent of influence exerted by Effort Expectancy and Performance Expectancy on Net Benefits in the implementation of Portal XYZ. The HOT-FIT (Human Organization Technology) model is employed to ascertain the extent of impact exerted by human, organizational, and technological factors on Net Benefits. The HOT-FIT framework was introduced and formulated by Yusof et al. (2008), drawing upon the Information Systems Success Model proposed by DeLone and McLean (2004), as well as the IT-Organization Fit Model known as The MIT90s, which was adopted from Scott Morton (Yusof et al., 2008). The utilization of the Information Systems Success Model for the purpose of systematically classifying evaluation variables, dimensions, and measures in a complete and specific manner is proposed. Additionally, the incorporation of the IT Organizational Fit model is suggested as a means to integrate the notion of compatibility among evaluation criteria pertaining to human, organizational, and technological factors. The HOT-FIT model comprises three components that serve as a measurement model: Human (user), Organization (organization), and Technology (system). The variables considered in this study pertaining to the Human element are System Use, User Satisfaction, and Effort Expectancy. The System Use variable is employed to assess users' attitudes about the currently operational Portal XYZ system. The variable of User Satisfaction is employed to assess the level of satisfaction among users regarding the utilization of Portal XYZ as an academic information system. Furthermore, the inclusion of the Effort Expectancy variable aims to gauge the degree to which users perceive and experience effort when utilizing the Unmas Portal system. The study identified several issues pertaining to human variables, specifically those linked to users presented in table 1:

Table 1: Current conditions on the Human factor (user)

Human	
Variable	**Current condition**
System Use	The utilization of the system pertaining to the delivery of academic services is not frequently observed among users.
	The duration of system utilization is rather brief, while a deficiency in understanding of the operational system is observed.
	The users express a level of dissatisfaction with the current operating system.
User Satisfaction	The system has failed to achieve user satisfaction.
	Occasionally, individuals may discover it more convenient to perform tasks without relying on the system.
Effort Expectancy	As a result of the user's limited understanding of the system, they anticipate a heightened level of exertion when engaging in tasks.
	The utilization of the system pertaining to the delivery of academic services is not frequently observed among users.

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The study incorporated the Performance Expectancy variable to modify the Organizational component, as University XYZ operates under the belief that the entire institution functions as a cohesive unit, collaborating towards the attainment of predetermined objectives. The study identified several issues pertaining to organizational elements presented in table 2:

Table 2: Current conditions on the Organization factor (organization)

Organization	
Variable	**Current condition**
Performance Expectancy	Within the University XYZ setting, there exists a subset of individuals who have not utilized the Portal XYZ as a means of accessing academic information.
	The organizational performance pertaining to the utilization of the system does not align entirely with the anticipated outcomes.

The aforementioned study incorporates the technology element, which comprises the factors of System Quality, Information Quality, and Service Quality. The variable of System Quality is employed to assess the degree to which the production of system quality is achieved inside the Portal XYZ system. The variable of Information Quality is employed to assess the degree to which the quality of information generated by users conforms to the standards set by the Portal XYZ system. The Service Quality variable is employed to assess the degree to which the service quality generated by the Portal XYZ system aligns with the academic services offered by University XYZ. The present investigation has identified several issues pertaining to technological elements presented in table 3:

Table 3: Current conditions on the Technology factor (system)

Technology	
Variable	**Current system state**
System Quality	The system exhibits a prolonged response time.
	The insufficiency in accessibility and comprehensiveness of features
	Restricted access is granted to individual user roles.
Information Quality	The assessment of information quality is contingent upon the subjective viewpoint of the user.
	The input data is not synchronized with the generated information.
Service Quality	There exists a state of perplexity among staff, accompanied by a lack of comprehension among users regarding the process of transforming data into meaningful and pertinent information.
	The responsiveness of the service is inadequate when utilized.
	The current system is incapable of accommodating all available services.

The authors express their interest in utilizing the HOT-FIT Model method as a conceptual framework to assess the academic information systems (namely, Portal XYZ) in terms of the net benefits they generate within the University XYZ environment. The objective of this study is to assess the impact of various factors on the Net Benefits derived from the implementation of Portal XYZ as an academic information system at University XYZ.

This will be achieved by utilizing specific variables as a means of measurement to gauge the magnitude of the ensuing effects. This study aims to enhance our understanding of the overall advantages associated with the implementation of Portal XYZ. The utilization of the HOT-FIT

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Model as an assessment framework. The study involved the assessment of many dimensions including system quality, information quality, and service quality provided by the Portal XYZ. Additionally, measurements were taken to evaluate system use and user satisfaction with the Portal XYZ. Furthermore, effort expectancy and performance expectancy were examined to determine the net benefits associated with utilizing the Portal XYZ.

2. LITERATURE REVIEW

Higher education refers to an educational establishment that bears the responsibility of ensuring the provision of high-quality services to individuals and organizations who commit the educational process to these institutions. The level of competition in the establishment of educational institutions is becoming increasingly intense.

This is evident through endeavors to enhance the standard of instruction, research, provision of facilities, and human resources. Consequently, the capacity to deliver services effectively plays a crucial role in cultivating a reputable image for these institutions, thereby gaining trust from stakeholders (A. R. Kurniawan & Warlina, 2020). According to a study conducted by (Avando Bastari et al., 2021) the implementation of Smart Campus-based ICT, which includes e-Office, E-Learning, e-Library, and integrated Academic Information Systems, plays a significant role in enhancing the efficiency and effectiveness of advanced higher education institutions. This, in turn, contributes to the production of highly skilled human resources.

The optimal exploitation of academic information systems is inherently intertwined with the active involvement of human users. The presence of institutional management is essential for disseminating knowledge to the general public regarding the utilization of information technology within the context of higher education.

According to a recent study conducted by (Ghavifekr & Wong, 2022) a significant correlation has been found between the impact of technological leadership in educational contexts and the utilization of information and communication technology (ICT) by both instructors and students. Furthermore, this research indicates that such effect has implications for the academic achievement of students. The tasks and responsibilities of institutional administration should be designed to facilitate and enable the effective integration of technology in the execution of academic operations.

2.1 Human

User satisfaction is the term used to describe the possible influence of a system and the entire experience of a user when utilizing the system (Yusof, Kuljis, et al., 2008). The level of system usage is influenced by user satisfaction. According to (Marković & Lončarić, 2014) individuals who are provided with satisfactory service and accurate information tend to experience higher levels of satisfaction as they continue to utilize the system. The assessment of system usage can serve as a standard for assessing the excellence of services, systems, and information (ATHANASSOPOULOS & ILIAKOPOULOS, 2009); (Cronin & Taylor, 1992); (Spreng & Mackoy, 1996). The measures of system utilization encompass several factors such as the frequency of usage, the information generated as output, and the distinction between voluntary

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and compulsory usage (Yusof, 2015); (Yusof, Kuljis, et al., 2008). The concept of Effort Expectancy pertains to the anticipated amount of ease and comfort that an individual foresees when utilizing the system, as discussed by (Venkatesh et al., 2003). The research incorporates an academic information system architecture as part of its effort expectation system. Effort expectations have been identified as a significant determinant in the decision-making process of technology adoption, as evidenced by multiple studies conducted by (Almaiah & Al Mulhem, 2019); (García Botero et al., 2018); (Nikolopoulou, 2018); (Venkatesh et al., 2016).

According to a study conducted by (Almaiah & Al Mulhem, 2019) it was determined that the anticipated level of work significantly influences the likelihood of individuals intending to utilize a particular system. It is widely believed by users that the sustained utilization of the system, coupled with consistent training on system operation and user contentment, can have a significant influence on the perceived ease of use and result in enhanced overall advantages for both individuals and companies.

2.2 Organization

According to (Venkatesh et al., 2016) Performance Expectancy refers to the degree of confidence held by individuals and organizations that the utilization of a system would lead to enhanced performance outcomes. According to the aforementioned definitions, this study operationalizes performance expectations as the extent to which an employee perceives that utilizing the Portal XYZ will contribute to the attainment of performance objectives. In the present study, the utilization of this metric is employed to assess the net benefits derived from the utilization of the system. Numerous research have been conducted to investigate the influence of performance expectations on user attitudes and behavioral intentions.

According to the study conducted by (Avando Bastari et al., 2021) The presence of reported performance expectations plays a crucial role in determining the level of acceptability of a technology and has a positive influence on individuals' attitudes and behavioral intentions towards the system. The organization posits that the implementation of technology, along with comprehensive support for environments and structures, has the potential to enhance performance expectations and exert a positive influence on the business's net worth. Numerous scholarly investigations have been conducted to examine the influence of performance expectations on user attitudes and behavioral intentions. According to (Avando Bastari et al., 2021) Performance Expectancy plays a crucial role in determining students' adoption of technology, as it positively influences their attitudes and behavioral intentions inside a technological setting. The organization posits that the integration of technology, when accompanied by robust environmental and structural support, has the potential to enhance performance expectations and ultimately impact the net benefit of the business.

2.3 Technology

System quality is frequently linked to the performance of a system. (DeLone & McLean, 2004) identified several system quality measures, including simplicity of use, ease of learning, reaction time, usability, availability, reliability, completeness, system flexibility, and ease of access to assistance. The relationship between system quality and system performance and

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interface has been established in prior research (Yusof, Papazafeiropoulou, et al., 2008). It is well acknowledged among users that the quality of a system has a significant impact on various factors, including system use, user happiness, effort expectancy, and performance expectancy. As the quality of the system improves, there is a corresponding increase in the use of the system, user satisfaction, anticipated effort, and performance expectations.

The concept of Information Quality pertains to the evaluation of information generated by a system. Various criteria are employed to assess the quality of information, including accuracy, timeliness of output, reliability, completeness, relevance, readability, availability, and consistency. However, it is important to note that the quality of information is subjective in nature, as it is contingent upon the user's perspective (DeLone & McLean, 2004).

The quality of information is contingent upon the accuracy, comprehensiveness, consistency, and readability as perceived by the user (Yusof, Kuljis, et al., 2008). It is well acknowledged among users that the quality of information has a significant impact on various aspects of system utilization, including user happiness, effort expectancy, and performance expectancy. As the quality of the information generated improves, there is a corresponding increase in the use of the system, user happiness, business expectations, and performance expectations. Service quality encompasses the comprehensive assistance rendered by a business, as well as the technological tools employed.

The dimensions used to gauge service quality include responsiveness, assurance, empathy, and service follow-up, as outlined by (DeLone & McLean, 2004). It is well acknowledged among users that there exists a significant relationship between Service Quality and other key factors, including System Use, User Satisfaction, Effort Expectancy, and Performance Expectancy. There exists a positive correlation between the quality of services offered by the system and many outcomes, including increased system usage, heightened user happiness, elevated business expectations, and enhanced performance expectations.

2.4 HOT-FIT Model

The utilization of the system yields advantages to individuals, collectives of individuals, entities, or entire sectors (Yusof et al., 2006). According to a study conducted by (E. Kurniawan & Tjhin, 2023) it has been found that the success of a system is driven by various factors including system quality, information quality, user happiness, and net benefits. Previous research has indicated that the relationship between system quality and user satisfaction, as well as the relationship between information quality and user satisfaction, contribute to the overall net benefits experienced by users (Mahmud et al., 2023).

If the system maximizes its potential, the user will experience the resultant effects. The noticeable effects seen by individuals include higher performance and productivity, increased time efficiency, improved work efficiency and effectiveness, decreased errors, heightened creativity, and expanded knowledge. There are several notable advantages for organizations, including enhanced organizational performance, improved decision-making quality, higher involvement, and enhanced competitiveness.

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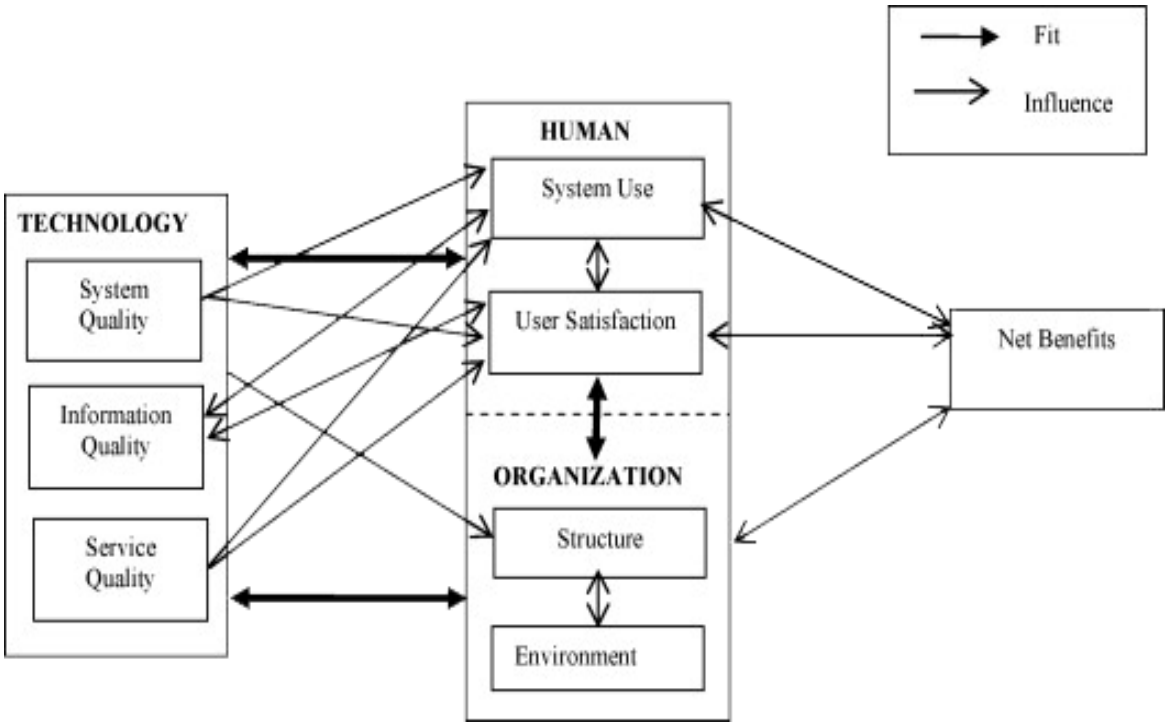

Figure 3: HOT-FIT Model (Yusof, Kuljis, et al., 2008)

The Human Organization Technology Model (HOT-FIT) is an extension of the DeLone and McLean Information System Success model, as proposed by (Yusof, Kuljis, et al., 2008). The HOT-FIT model framework is depicted in Figure 3.

Regarding them: The human component pertains to the use of a system, encompassing those who engage with it, the extent of their usage, their training, knowledge, expectations, and their acceptance or opposition towards it. This component also evaluates user happiness and is associated with perceived advantages. The organizational component evaluates the system by considering several factors such as culture, politics, hierarchy, autonomy, planning and control systems, strategy, management, and communication.

These factors are closely linked to leadership, management support, and sponsorship. The components of technology encompass system quality, information quality, and service quality. The quality of a system is determined by its features, performance, and user interface. The quality of a system can be evaluated based on several indicators, including ease of use, ease of learning, usefulness, flexibility, and security. The concept of information quality pertains to the evaluation and assessment of the information produced by a given system.

The assessment of information quality encompasses various indicators, including timeliness, completeness, relevance, consistency, availability, and data entry. The measurement of service quality encompasses various dimensions, including response speed, response correctness, assurances, and service follow-up.

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The net benefit of the benefit component is determined by the equilibrium between the positive and negative impacts experienced by users of the information system. The assessment of net benefits can be conducted by considering various factors, including direct benefits, job effects, efficiency, effectiveness, error reduction, communication, clinical results, and expenses. The degree of positive impact and negative impact can be seen as indicative of the effectiveness of the established information system.

3. METHODOLOGY

Drawing upon the literature reviewed in the preceding section, several factors possess the capacity to influence the overall advantages derived from the implementation of a system. The research model, as seen in Figure 4, elucidates the framework employed for this study.

3.1 Hypothesis Development

The following construct is used as the research hypothesis.

- H1: System Quality (SyQ) has an impact on System Use (SU).
- H2: System Quality (SyQ) has an impact on User Satisfaction (US).
- H3: System Quality (SyQ) has an impact on Effort Expectancy (EE)
- H4: System Quality (SyQ) has an impact on Performance Expectancy (PE).
- H5: Information Quality (IQ) has an impact on System Use (SU).
- H6: Information Quality (IQ) has an impact on User Satisfaction (US).
- H7: Information Quality (IQ) has an impact on Effort Expectancy (EE).
- H8: Information Quality (IQ) has an impact on Performance Expectancy (PE).
- H9: Service Quality (SerQ) has an impact on System Use (SU).
- H10: Service Quality (SerQ) has an impact on User Satisfaction (US).
- H11: Service Quality (SerQ) has an impact on Effort Expectancy (EE).
- H12: Service Quality (SerQ) has an impact on Performance Expectancy (PE).
- H13: System Use (SU) has an impact on Effort Expectancy (EE).
- H14: User Satisfaction (US) has an impact on Effort Expectancy (EE).
- H14: User Satisfaction (US) has an impact on Effort Expectancy (EE).
- H15: Effort Expectancy (EE) has an impact on Net Benefits (NB).
- H16: Performance Expectancy (PE) has an impact on Net Benefits (NB).

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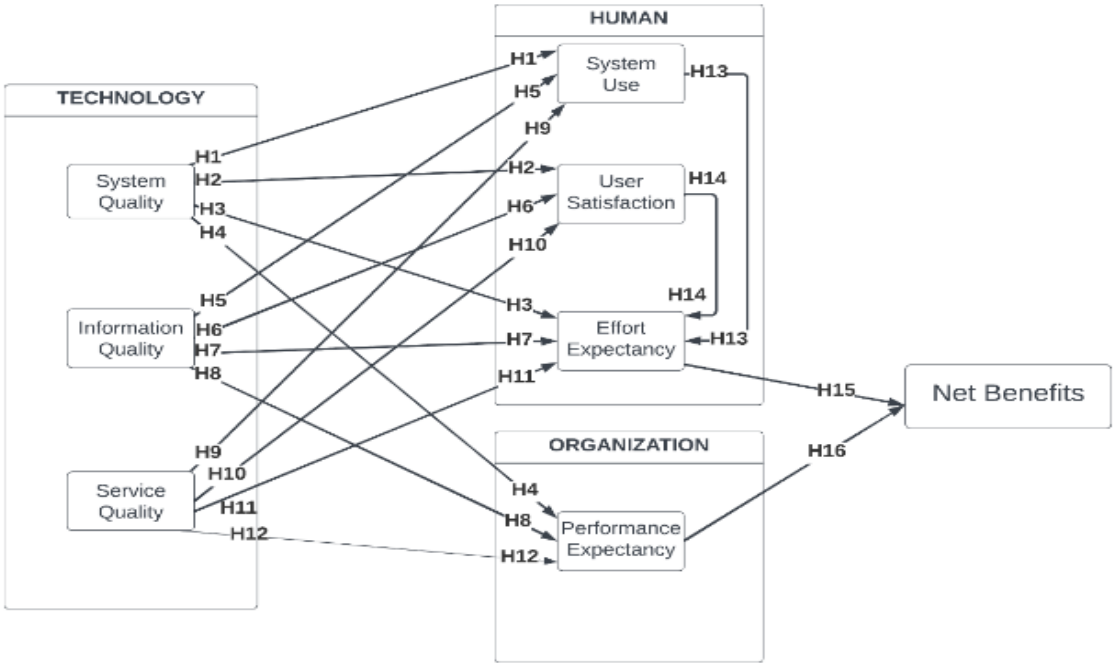

Figure 4: Research Model

The present study employed a quantitative methodology, utilizing written questionnaires and interviews as data collection instruments. Surveys were disseminated to the entire population of University XYZ personnel that utilize the XYZ Portal system within the confines of the institution. The participants' responses were assessed on a Likert scale consisting of five points, ranging from 0 to 5, with 0 representing significant disagreement and 5 indicating strong agreement.

The analysis of the responses was conducted using SmartPLS 4.0 in order to evaluate the validity, reliability, and hypothesis testing. Table 4 encompasses the indications associated with each component that has been presented in the questionnaire.

Table 4: Indicators on the questionnaire

Construct	Indicators	Code
System Quality (SyQ)	*Ease of Use*	SyQ1
	Ease of Learning	SyQ2
	Response Time	SyQ3
	Usefulness	SyQ4
	Availability	SyQ5
	Reliability	SyQ6
	Access to technical support	SyQ7
	Security	SyQ8
	Condition of Infrastructure	SyQ9
Information Quality (IQ)	*Completeness*	IQ1

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	Accuracy	IQ2
	Legibility	IQ3
	Timeliness	IQ4
	Relevancy	IQ5
	Reliability	IQ6
	Data entry methods	IQ7
	Quality	IQ8
Service Quality (SerQ)	*Quick Responsiveness*	SerQ1
	Assurance	SerQ2
	Follow up service	SerQ3
System Use (SU)	*Level of use (frequency, duration)*	SU1
	Attitude	SU2
	Expectations/belief	SU3
	Knowledge/expertise	SU4
	Acceptance	SU5
	Training	SU6
User Satisfaction (US)	*Perceived Usefulness*	US1
	Overall satisfaction	US2
	Enjoyment	US3
	Decision making satisfaction	US4
Effort Expectancy (EE)	*Ease of Interaction*	EE1
	Simple perception of use	EE2
Performance Expectancy (PE)	*Perception of ease of management*	PE1
	Speed in working	PE2
	Performance advantage	PE3
Net Benefits (NB)	*Motivation*	PE4
	Direct benefits	NB1
	Productivity	NB2
	Efficiency	NB3
	Effectiveness	NB4
	Error reduction	NB5

3.2 Validity Test

The assessment of validity in this study was conducted through the examination of construct validity. The present study will conduct a validity test by evaluating the convergent validity of the Average Variance Extracted (AVE) value against a benchmark of 0.5 (Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, 2014) as well as the outer loading against a benchmark of 0.7 (Joseph F Hair et al., 2017) These assessments will be performed on the indicators utilized to represent the variables of system quality, information quality, service quality, system use, user satisfaction, effort expectancy, performance expectancy, and net benefits. The purpose of conducting a discriminant validity test on the value is to evaluate the extent to which the indicators representing the variables of system quality, information quality, service quality, system use, user satisfaction, effort expectancy, performance expectancy, and net benefits accurately measure the accuracy of the measurement function. According to (Hair et al., 2014),

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it is necessary for the cross-loading value on the indicator representing the variable to be higher than the other loading values.

3.3 Reliability Test

The study assessed reliability by employing Cronbach's Alpha, a statistical measure used to gauge the consistency of the construct variables' values. These variables include system quality, information quality, service quality, system use, user satisfaction, effort expectancy, performance expectancy, and net benefits. The measurement was conducted repeatedly and under identical conditions to ensure the reliability of the results. The numbers derived from the outcomes of this examination are indicative of the dependability of all the indicators inside the model. According to (Hair et al., 2021), the minimal value is 0.7, whereas the ideal values are 0.8 or 0.9.

4. FINDING AND DISCUSSION

The findings of the descriptive analysis pertain to the data collected from a sample of 160 participants through the administration of a questionnaire. The information pertaining to the profile of respondents, categorized by employee gender, age, job position, and length of service, is presented in Table 5.

Table 5: Demography of the respondent

Measure	Item	Freq	Percentage
Gender	Man	72	45%
	Woman	88	55%
Age	20 - 30 year	55	40%
	30 - 40 year	76	36%
	40 - 60 year	29	24%
Job Position	Academic Admin Operators	75	47%
	Education Staff	85	53%
Length of Service	1 – 5 year	113	71%
	5 – 10 year	39	24%
	Above 10 year	8	5%

4.1 Measurement Model

The assessment of the structural model included the observation of convergent and discriminant validity for perceptions. In order to assess convergent validity, the researcher examines the outer loading value of each indicator within each construct. According to (Joseph F Hair et al., 2017), an external loading value larger than 0.7 is considered appropriate. The SyQ1, SyQ7, SyQ8, and SU1 indicators have been excluded from the analysis due to their outer loading coefficients falling below the threshold of 0.7.

The complete external loading observations are presented in Table 6. The assessment of dependability was conducted utilizing Cronbach's Alpha and Average Variance Extracted (AVE). According to (Hair et al., 2021), it is necessary for the Cronbach's Alpha value of each construct to exceed 0.6 in order to be deemed acceptable.

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According to (Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, 2014), the minimum acceptable value for AVE is 0.5. Table 6 presents the Cronbach's Alpha and Average Variance Extracted (AVE) values for each construct.

Table 6: Loading Factor and Reliability Test

Construct	Indicators	Loading Factor	Cronbach's Alpha	AVE
SyQ	SyQ1	0,700	0,876	0,539
	SyQ2	0,779		
	SyQ3	0,782		
	SyQ4	0,721		
	SyQ5	0,740		
	SyQ6	0,857		
	SyQ7	0,617		
	SyQ8	0,631		
	SyQ9	0,747		
IQ	IQ1	0,769	0,916	0,631
	IQ2	0,769		
	IQ3	0,831		
	IQ4	0,712		
	IQ5	0,825		
	IQ6	0,845		
	IQ7	0,792		
	IQ8	0,801		
SerQ	SerQ1	0,859	0,835	0,751
	SerQ2	0,887		
	SerQ3	0,853		
SU	SU1	0,695	0,881	0,635
	SU2	0,848		
	SU3	0,784		
	SU4	0,839		
	SU5	0,817		
	SU6	0,784		
US	US1	0,869	0,897	0,764
	US2	0,888		
	US3	0,903		
	US4	0,835		
EE	EE1	0,925	0,848	0,868
	EE2	0,938		
PE	PE1	0,872	0,920	0,807
	PE2	0,940		
	PE3	0,928		
	PE4	0,849		
NB	NB1	0,890	0,924	0,768
	NB2	0,881		
	NB3	0,900		
	NB4	0,904		
	NB5	0,804		

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The Fornell-Larcker criteria are employed in order to assess the discriminant validity. According to the findings shown in Table 7, it is observed that the square root of the average variance extracted (AVE) for each construct surpasses the intercorrelation between any two constructs. Hence, the confirmation of discriminant validity was established.

Table 7: Discriminant Validity Test

	EE	IQ	NB	PE	SerQ	SyQ	SU	US
EE	**0.932**							
IQ	0.783	**0.794**						
NB	0.662	0.751	**0.876**					
PE	0.711	0.865	0.805	**0.898**				
SerQ	0.613	0.791	0.710	0.794	**0.866**			
SyQ	0.772	0.751	0.641	0.782	0.757	**0.787**		
SU	0.799	0.806	0.743	0.801	0.772	0.806	**0.824**	
US	0.778	0.887	0.785	0.804	0.774	0.809	0.801	**0.874**

4.2 Structural Model

In table 8 describes the conclusions of the results of the hypothesis. The results of hypothesis testing are explained as follows:

- H1: (SyQ → SU).

  System quality significantly affects system use. This hypothesis is supported (P value=0.007, Original sample=0.325).

- H2: (SyQ → US).

  System quality significantly affects user satisfaction. This hypothesis is supported (P value=0.009, Original sample=0.267).

- H3: (SyQ → EE)

  System quality significantly affects effort expectancy. This hypothesis is supported (P value=0.010, Original sample=0.261).

- H4: (SyQ → PE).

  System quality has no significant effect on performance expectancy. This hypothesis is not supported (P value = 0.527, Original sample = 0.81).

- H5: (IQ → SU).

  Information quality significantly affects the use of the system. This hypothesis is supported (P value=0.000, Original sample=0.490).

- H6: (IQ → US).

  Information quality significantly affects user satisfaction. This hypothesis is supported (P value=0.000, Original sample=0.554).

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- H7: (IQ → EE).

  Information quality has no significant effect on effort expectancy. This hypothesis is not supported (P value = 0.089, Original sample = 0.267).

- H8: (IQ → PE).

  Information quality significantly affects performance expectancy. This hypothesis is supported (P value=0.000, Original sample=0.578).

- H9: (SerQ → SU).

  Information quality does not have a significant effect on the use of the system. This hypothesis is not supported (P value = 0.053, Original sample = 0.138).

- H10: (SerQ → US).

  Service quality has no significant effect on user satisfaction. This hypothesis is not supported (P value = 0.084, Original sample = 0.134).

- H11: (SerQ → EE).

  Service quality significantly affects effort expectancy. This hypothesis is supported (P value = 0.042, Original sample = -0.180).

- H12: (SerQ → PE).

  Service quality significantly affects performance expectancy. This hypothesis is supported (P value=0.000, Original sample=0.276).

- H13: (SU → EE).

  System use significantly affects effort expectancy. This hypothesis is supported (P value=0.019, Original sample=0.362).

- H14: (US → EE).

  User satisfaction does not have a significant effect on effort expectancy. This hypothesis is not supported (P value = 0.367, Original sample = 0.135).

- H15: (EE → NB)

  Effort expectancy significantly affects net benefits. This hypothesis is supported (P value=0.002, Original sample=0.181).

- H16: (PE → NB).

  Performance expectancy significantly affect net benefits. This hypothesis is supported (P value=0.000, Original sample=0.677).

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Table 8: Hypothesis Result

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P-values
EE → NB	0.181	0.181	0.058	3.105	0.002
IQ → EE	0.267	0.249	0.157	1.699	0.089
IQ → PE	0.578	0.581	0.121	4.791	0.000
IQ → SU	0.490	0.504	0.111	4.402	0.000
IQ → US	0.554	0.559	0.120	4.629	0.000
PE → NB	0.677	0.675	0.053	12.746	0.000
SerQ → EE	-0.180	-0.188	0.088	2.039	0.042
SerQ → PE	0.276	0.283	0.075	3.675	0.000
SerQ → SU	0.138	0.139	0.071	1.933	0.053
SerQ → US	0.134	0.133	0.077	1.731	0.084
SyQ → EE	0.261	0.279	0.101	2.584	0.010
SyQ → PE	0.081	0.072	0.128	0.633	0.527
SyQ → SU	0.325	0.311	0.121	2.681	0.007
SyQ → US	0.267	0.263	0.103	2.601	0.009
SU → EE	0.362	0.361	0.154	2.347	0.019
US → EE	0.135	0.142	0.149	0.903	0.367

4.3 Managerial Implications

According to the findings of the research analysis presented in the table, it is evident that system quality and information quality significantly impact system use within the context of the Portal XYZ system. This conclusion aligns with the research conducted by (Lestari et al., 2020), (Deharja & Santi, 2018) (Usman et al., 2023) as well as the supporting evidence provided by the confirmation of hypotheses H1 and H5.

Nevertheless, the impact of service quality on system use is deemed insignificant, as indicated by the rejection of hypothesis H9. To enhance system use, University XYZ must prioritize the quality of the service provided by the Portal XYZ system. The institution should prioritize addressing the quality of the Portal XYZ service in order to enhance its utilization within the institution, which in turn can influence the level of service delivered to the University XYZ community..

According to previous studies conducted by (Lestari et al., 2020), (Deharja & Santi, 2018), (Usman et al., 2023) both system quality and information quality have been found to impact user satisfaction. These findings are consistent with the acceptance of hypotheses H2 and H6. However, it should be noted that service quality was not found to have a significant effect on user satisfaction, as evidenced by the rejection of hypothesis H10.

In light of the aforementioned statement, in order to enhance user satisfaction, it is imperative for University XYZ to prioritize and enhance the quality of services rendered through the Portal XYZ system. This will enable the provision of optimal services, thereby augmenting user satisfaction and elevating the existing standards of system quality and information quality. Consequently, users will experience a sense of contentment and ease when utilizing the Portal XYZ system.

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The influence on effort expectancy is limited to system quality, system use, and service quality. The acceptance of hypotheses H3, H11, and H13, along with the rejection of hypotheses H7 and H14, provides supporting evidence for this claim. The study revealed that there was no significant impact of information quality and user satisfaction on the reduction of effort, comfort, and convenience in utilizing the Portal XYZ system.

Additionally, service quality was found to have no significant influence on system use and user satisfaction with the Portal XYZ system. In order to enhance the quality of information and user satisfaction, University XYZ should emphasize the service quality of the Portal XYZ system. This, in turn, can lead to improved utilization of the system and a reduction in the effort required when working with the Portal XYZ system.

Similar to effort expectancy, performance expectancy is controlled by two variables: information quality and service quality. This is supported by the acceptance of hypotheses H8 and H12, as well as the rejection of hypothesis H4. The study revealed that the impact of the system's quality on organizational effectiveness in utilizing Portal XYZ as an academic information system was not statistically significant.

This observation suggests that the collective performance of staff at University XYZ in delivering academic process services has not exhibited consistent outcomes thus far. In order to enhance operational efficiency and promote a culture of quality consciousness, it is imperative for University XYZ to enhance the quality of the Portal XYZ system. This improvement is necessary to prevent traditional work delays and to ensure that the system's quality does not compromise the overall quality of services offered within the institutional environment.

The findings from the previous hypothesis test indicate a statistically significant relationship between effort expectancy and performance expectancy and the net benefits of the Portal XYZ system. This conclusion is supported by the acceptance of hypotheses H15 and H16. This case study examines the relationship between net benefits and two key factors: employee comfort and convenience with the system, and the impact on organizational performance resulting from the implementation of the Portal XYZ system.

In order to optimize the advantages derived from the utilization of the Portal XYZ system, it is imperative for University XYZ to ascertain that the implementation of said system results in a reduction of operational expectations. This reduction should be accompanied by enhanced user satisfaction and improved organizational performance, thereby facilitating the provision of services. The academic community at University XYZ is regarded as an esteemed educational institution.

Therefore, it can be inferred that the realization of net benefits is contingent upon the user experiencing diminished expectations regarding the effort required to perform tasks (effort expectancy) and enhanced organizational performance within the institution (performance expectancy) when utilizing the Portal XYZ system as an academic information system.

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The factor of effort expectancy is influenced by system quality, service quality, and system use. The performance expectancy factor is influenced by factors such as information quality and service quality. System utilization and user satisfaction are both impacted by the quality of the system and the quality of the information provided.

4.4 Invention

The evaluation methodology utilized in this study was the HOT-FIT Model (Yusof, Kuljis, et al., 2008) which is a modified version of the Information System Success Model (DeLone & McLean, 2004). The approach is employed by the author to ascertain the net benefits derived from the implementation of Portal XYZ within University XYZ. The manipulation of factors pertaining to the human element involves the inclusion of effort expectation variables, whereas the organizational factor entails the incorporation of performance expectancy. The author posits that the presence of the variable of effort expectancy, which is impacted by system use and user satisfaction, will lead to a heightened perception of net benefits among individuals. The authors suggest that the performance expectancy variable is influenced by the system's quality within an organization, which in turn impacts the business's ability to deliver its products and services effectively. The author further eliminates structural and environmental elements within the organizational factor, positing that the integration of leadership and organizational environment is vital for enhancing organizational performance within society.

5. CONCLUSION

Information systems facilitate many commercial processes inside educational institutions, particularly universities. The present study was undertaken at University XYZ to assess a continuing academic information system. University XYZ can utilize the findings of this study to inform and guide their practical applications. University XYZ must prioritize the assessment of both the system's quality and the services it generates. The maintenance of system quality and service quality has the potential to enhance the use of the system within an institutional setting, as well as foster user satisfaction with the system's usage. The quality of a system also has an impact on business expectations and performance enhancements. The reduction in anticipated effort requirements and the subsequent enhancement in performance attributable to system utilization will impact the net benefits generated and perceived by the organization.

6. LIMITATION AND FUTURE RESEARCH DIRECTION

The constraints of this study are solely to the inclusion of staff from University XYZ as users of the Unmas Portal system. To further enhance the scope of this research, future studies may consider incorporating students as additional research participants. This research acknowledges certain constraints pertaining to organizational elements. Specifically, the study adjusts the organizational dimensions by excluding structural and environmental variables and substituting them with performance expectation variables. Researchers interested in further exploring this topic may consider incorporating structure and environment as variables within the context of organizational factors.

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