

# The Influence of Service, Information, and System Quality on User Satisfaction among Employees in Malaysian Startup Companies

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## ABSTRACT

In Malaysia's rapidly expanding digital economy, startup companies are crucial for fostering innovation, yet frequently encounter obstacles which are delays in addressing internal system issues, technical errors and data misalignment, and system-generated outputs that are incomplete, misleading, or outdated. The study examines the impact of service quality, information quality, and system quality on user satisfaction among employees in Malaysian startup firms. The research aims to analyse the correlations between each quality dimension and user satisfaction within the organisational framework. Service quality, information quality, and system quality are expected to exert substantial beneficial impacts on user satisfaction. The findings are anticipated to enhance the academic domain by addressing the deficiency in literature concerning internal user experiences within Malaysian startups, as prior research predominantly concentrated on external users or international contexts. This research underscores the essential function of quality-oriented digital platforms in improving employee satisfaction, operational efficiency, and the sustainable development of Malaysian startups.

**Keywords:** Service Quality, System Quality, User Satisfaction, Malaysian Startups

## INTRODUCTION

In modern-day digital business world, startups and SMEs are becoming increasingly dependent on internal information technology in the form of ERP systems, AIS systems, IT helpdesk platforms, and digital workspace platforms to maintain day-to-day operations, decision support, and flexibility in work arrangements (Kurniawan, 2024). These systems are used by employees every day to process data, communicate, and monitor performance, so the quality of internal digital systems is another key to organizational effectiveness and competitiveness (Aliamutu and Mkhize, 2024; Saputra et al., 2023). Quality services guarantee that customers can be assisted in time and receive efficient solutions to problems, which will lessen the stress caused by technology and increase the willingness of the employees to operate digital systems (Hidayat and Setiawan, 2024; Ayu and Kusmaningtyas, 2023). Likewise, quality information allows the proper and timely decision-making, which is vital in a rapid-moving startup setting (Koerniawan et al., 2024; Abdullah et al., 2024). More so, high system quality in the form of reliability, usability, speed, and system integration encourages effective execution of the tasks, reduction of operational interruptions and innovation in the form of technology-based startups (Saputra et al., 2023; Aziz et al., 2024). All of these quality dimensions are critical regarding developing the overall experience of employees and their satisfaction with internal digital systems.

User satisfaction has grown to be one of the most crucial measures of information system effectiveness, with satisfied users being more inclined to interact regularly with digital systems and make use of them properly (Liu et al., 2022; Pasch and Ha, 2025). Nevertheless, most startup firms still face such problems as a lack of technical support, system integration, and wrong or old information, which lower the level of trust in users and make them feel frustrated (Alzahrani and Seth, 2022; Barbosa et al., 2021; Alpian and Nurlinda, 2023). Low quality of the system and the resulting workflow disruption and reduced efficiency, as well as ineffective resolution of problems caused by the lack of support, delays, and problem-solving to employees with flexible or extended work hours (Amin et al., 2023; Wijaya et al., 2024), are attributed to poor service support. Moreover, poor information quality undermines trust and the accuracy of the decisions, which eventually decreases the use of internal systems by users (Achmadi and Siregar, 2023; Yoon and Kim, 2023). Although there has been an increasing reliance of startups on digital systems, minimal studies have explored these concerns in the context of the internal users of such systems in the Malaysian startups, which makes such research essential..

## LITERATURE REVIEW

### Concept of Variables

#### Definition of User Satisfaction

Satisfaction is described as “the differential between prior expectations and perceived performance following the consumption or use of goods; when performance differs from expectations, it results in dissatisfaction” (Xu, 2022). Another definition that proposed by Sancoko,et al. (2022), mentioned that user satisfaction is a measure that shows a high degree of validity. Then, user satisfaction is defined as the recipient’s reaction to engaging with the output of an information system (Sirsat & Sirsat, 2016). Moreover, satisfaction refers to a product or service's ability to deliver a satisfying degree of fulfilment of user demands, whether at a lower or greater level (Oliver, 1997; Achmadi & Oktrivina, 2021). Furthermore, according to Widiastuti et al. (2019), user satisfaction is refer to user attitudes towards information systems serve as a subjective measure of their preferences regarding the utilized system.

#### Definition of Service Quality

Service quality is the difference between what the client expects from the service provider and what they think of the services (Saleh et al. 2021). Another definition of service quality was proposed by Ottman and Abdullah (2016), who defined it as the difference between what customers notice about the services they receive and what they expect to be given before they actually receive them. Then, according to Meesala and Paul (2018), the outcome of an assessment procedure where customers contrast their opinions with their real experiences and the services they have gotten can be interpreted as the concept of service quality. Moreover, a service quality is the degree to which it satisfies the client's requirements and expectations. Greater satisfaction results from a higher degree of congruence between the service rendered and the client's expectations (Abror et al., 2019). Last but not least, service quality defined as the specific evaluation made by customers between the expected and actual service quality (Abdullah & Othman, 2021).

#### Definition of System Quality

System quality is the performance of a system, particularly how effectively hardware, software, rules, and procedures of an information system can satisfy users' information needs (Abasi, Azad, and Hafashjani, 2015; Fitria et al., 2024). System quality is defined as the degree to which users believe that a particular system is enjoyable, easy to use, and simple to learn and connect with (Petter and McLean, 2009 ; Purnomo et al., 2022). Purnomo et al. (2022) state that assessing a system's quality typically begins with assessing the dependability of its built-in features, such as user interfaces, system performance, and system interfaces. Systems that can provide the highest level of technological efficiency and anticipated precision are very desirable to users ( Baabdullah et al., 2019). The significance of the role of systems is emphasized by system quality, which calls for the system to be secure but accessible and to display data in a form that is easy to comprehend, interpretable, and simply and consistently expressed (Wang, 2014; Baijal, 2020).

## METHODOLOGY

### Research Design

This study used a quantitative cross-sectional research design to examine the influence and relationship of service, information, and system quality on user satisfaction among employees in Malaysian startup companies. The approach was selected for its ability to gather data from a significant number of respondents simultaneously, allowing the detection of correlations across variables without manipulation (Creswell & Creswell, 2018). Moreover, the data collection was conducted within a short time frame. The quantitative approach provided objective and quantifiable data suitable for statistical analysis and hypothesis testing, grounded in the DeLone and McLean Information Systems Success Model (2003). This approach was effective, economical, and appropriate for investigating user satisfaction in various startup contexts (Saunders et al., 2019). SPSS Version 27 was used to analyse the data due to its reliability, accuracy, and robustness in performing various statistical procedures, including frequency distribution, normality testing, descriptive analysis, correlation, regression and reliability testing (Pallant, 2020). The analytical capacity of the software provided precise, reliable, and repeatable outcomes that aligned with the objectives of the study.

### Population and Sampling

The sample size of this research is the startup companies that are based in any part of Malaysia. The choice of Malaysia as the research setting was based on the fast-paced startup ecosystem in Malaysia, well-established governmental efforts, reasonable operating costs, available qualified labour force and favourable policies that encourage innovation and digital transformation (MOSTI, 2021). The MyStartUp portal states that there are 4,416 registered and active startup firms in all Malaysian states which make up the target population in this study.

The research's unit of analysis will be employees employed in Malaysian startup firms who actively use internal digital systems, including enterprise resource planning (ERP), accounting information systems (AIS), IT helpdesk systems, and digital workplace systems. The respondents were chosen as employees since they are the ones who come into direct contact with these systems in their daily line of duty, and hence they are the best placed to measure the quality of services, quality of information, quality of the systems and their satisfaction on the same.

In the determination of the correct sample size, the study used the sample size determination table invented by Krejcie and Morgan (1970). A population of 4000 to 4500 would need a minimum sample population of 354 to have a confidence level of 95 with the margin of error being at 5 percent. In this regard, 354 respondents were identified to make the results statistically reliable and true to the population.

A proportional stratified sampling strategy was used to give equal consideration to startup companies in all the states of Malaysia. The states were considered as the strata and the sample of the respondents within every state was selected according to the percentage of the startup companies in a state in comparison to the national total. This will minimise the sampling bias and improve the generalisability of the results because it will represent the geographical distribution of start-up companies in Malaysia.

## RESULT AND DISCUSSION

### Result

Table 1 summarizes the descriptive statistics of the four key variables in this research. Based on the adapted mean score interpretation scale created by Ayeni, 2014, Boone and Boone, 2012, all the constructs belong to the moderately high category. User Satisfaction (SAT) had a mean of 3.90 (SD = 0.95) which showed a moderate degree of satisfaction of the respondents. Service Quality (SERV) had the best mean was 3.92 (SD = 0.97) which is also under moderately high category as it implies that the respondents generally think that the service provided to them is favourable. Information Quality (INFO) scored 3.89 (SD= 0.94), which can be interpreted as a moderately high rating of the accuracy of the information produced by the system and its

usability. System Quality (SYS) also had a mean of 3.91 (SD = 0.96), which is as well moderately high level of perceived reliability, performance, and ease of use of the system. The value of standard deviation of 0.93 to 0.97 is a low variability where the respondents provided consistent answers in all the constructs. All in all, the descriptive findings indicate that the respondents have moderately high perceptions of all of the four constructs measured in this study.

Table 1 Descriptive Analysis Result

| Variables           | Mean   | Std. Deviation |
|---------------------|--------|----------------|
| User Satisfaction   | 3.9017 | 0.94533        |
| Service Quality     | 3.9226 | 0.96535        |
| Information Quality | 3.8927 | 0.93808        |
| System Quality      | 3.9136 | 0.95727        |

Table 1 shows the Pearson correlation coefficients of Service Quality, Information Quality, System Quality and User Satisfaction. The findings also reveal that all the independent variables are very strongly and positively correlated with User Satisfaction. In particular, there is a positive correlation between Service Quality and User Satisfaction ( $r = 0.919$ ,  $p < 0.001$ ), which means that increased levels of service support and responsiveness are correlated with increased levels of user satisfaction. The correlation between Information Quality and User Satisfaction ( $r = 0.927$ ,  $p < 0.001$ ) proves to be the strongest one, which means that reliable, meaningful, and timely information is a key factor to increasing the user satisfaction. Likewise, User Satisfaction is also strongly and positively correlated with System Quality ( $r = 0.921$ ,  $p < 0.001$ ) and the significance of system reliability, usability and functionality.

Moreover, the independent variables also have a strong association among themselves, and the correlation coefficients lie between  $r = 0.901$  to  $r = 0.914$  ( $p < 0.001$ ). This indicates that service quality, information quality, and system quality are all related aspects in internal digital systems which are very close to each other. The relationships are statistically significant at the level of 0.001 which means that all these correlations are not a mere coincidence.

Table 2 Pearson's Correlation Result

| Variables           | SAT     | SERV    | INFO    | SYS |
|---------------------|---------|---------|---------|-----|
| User Satisfaction   | 1       |         |         |     |
| Service Quality     | 0.919** | 1       |         |     |
| Information Quality | 0.927** | 0.905** | 1       |     |
| System Quality      | 0.921** | 0.901** | 0.914** | 1   |

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 3 indicates the regression outcomes and indicates that all three independent variables are significant predictors of User Satisfaction and all of them have high levels of significance ( $p < 0.001$ ). Information Quality occurred the most important as a predictor ( $\beta = 0.358$ ,  $t = 7.905$ ,  $p < 0.001$ ). This implies that in cases where the users feel that the information produced in the system is understandable, trustworthy and beneficial, they feel significantly satisfied.

User Satisfaction also showed a strong and positive influence on Service Quality ( $\beta=0.315$ ,  $t=7.412$ ,  $p <$

0.001). This observation implies that the support service offered to users comprising of responsiveness, helpfulness, and technical support which is a major determinant of their satisfaction with the system.

Likewise, the factor of System Quality has a significant effect on User Satisfaction ( $\beta = 0.310$ ,  $t = 6.971$ ,  $p < 0.001$ ), meaning that the user satisfaction increases when the system is efficient, fast responding, and has a stable and reliable user interface.

Generally, the findings indicate that each of the independent variables has a positive and significant effect on User Satisfaction, with the Information Quality being the most powerful force (with the next significant impact being the Service Quality and System Quality).

Table 3 Coefficients Of Multiple Regression Analysis

| Model               | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig.   |
|---------------------|-----------------------------|------------|---------------------------|-------|--------|
|                     | $\beta$                     | Std. Error | $\beta$                   |       |        |
| (Constant)          | 0.088                       | 0.067      |                           | 1.318 | 0.188  |
| Service Quality     | 0.308                       | 0.042      | 0.315                     | 7.412 | <0.001 |
| Information Quality | 0.316                       | 0.046      | 0.358                     | 7.905 | <0.001 |
| System Quality      | 0.306                       | 0.044      | 0.310                     | 6.971 | <0.001 |

## Findings

The findings indicate extremely strong and positive correlations of all qualities dimensions and user satisfaction. Service Quality (SERV) is positively correlated with User Satisfaction (SAT) ( $r = 0.919$ ,  $p < 0.001$ ) and regression analysis proves that it is an important predictor of satisfaction ( $\beta = 0.308$ ,  $t = 7.412$ ,  $p < 0.001$ ), improvements in service delivery, support and responsiveness significantly increase the satisfaction of the users. Information Quality (INFO) shows the most decisive relationship with User Satisfaction with the highest correlation value among predictors ( $r = 0.927$ ,  $p < 0.001$ ), as well as the greatest predictor in the regression model ( $\beta = 0.316$ ,  $t = 7.905$ ,  $p < 0.001$ ) indicating that there is a strong degree of user satisfaction when information is clear, reliable, and relevant. On the same note, System Quality (SYS) has a strong positive correlation with User Satisfaction ( $r = 0.921$ ,  $p < .001$ ) and contributes significantly to satisfaction ( $\beta = 0.306$ ,  $t = 6.971$ ,  $p < .001$ ) indicating that system reliability, functionality, and user-friendliness play an important role in overall user experience. Thus, the three hypotheses (H1, H2, and H3) are accepted as shown in Table 4.

Table 4 Hypothesis Result

| Hypothesis                                                                              | Accepted/Rejected |
|-----------------------------------------------------------------------------------------|-------------------|
| H1: There is a positive relationship between service quality and user satisfaction      | Accepted          |
| H2: There is a positive relationship between information quality and user satisfaction. | Accepted          |
| H3: There is a positive relationship between system quality and user satisfaction.      | Accepted          |

## CONCLUSION

This research aimed to investigate how the element of system quality, service quality and information quality affect user satisfaction in the Malaysian startup companies by applying the DeLone and McLean Information Systems Success Model (2003) to a digital-first and resource-limited organisation. The results offer substantial empirical data that the three dimensions of quality are positively and significantly related to user satisfaction,

which proves that the main assumptions of the D&M model are strong and sustainable in the context of startups.

The findings reveal that quality in the system, which is described as reliability, ease of use and responsiveness is very important in facilitating the daily operations and minimising work interruptions. The quality of services, especially the timely and good technical support, increases the trust of the users in the system and makes the execution of tasks easier. In the meantime, the quality of information as measured by correct, appropriate, complete and up-to-date data is directly proportional to decision-making and decreases the error rate, which is specifically important in the rapidly evolving startup environment. All these results support the centrality of user satisfaction as one of the key indicators of information system success, even in agile and high-speed organisations.

Theoretically, the given study will make the DeLone and McLean IS Success Model more applicable to Malaysian startups and situations in emerging markets, proving that the quality of the system, services, and information are also crucial determinants of satisfaction among early-stage and innovation-driven companies, not just in large or mature organisations. The results hence provide a new contextual component to the Information Systems theory by confirming the model in digital nimble environments.

In practice, the study can be of great use to the startup founders, managers, IT practitioners, and system developers focusing on the need to invest in systems with high reliability, responsive support services and high-quality information management practices to increase user satisfaction and system effectiveness. On a policy level, the findings provide insights on how governmental agencies and organisations that provide support to startups should design specific digital transformation projects that focus on infrastructure reliability, data quality, cybersecurity, and the development of the IT support capability.

To summarize, the present research proved that the effectiveness of information systems within startup settings is not just the matter of technology uptake, but quantity of systems, services, and information provided to clients as well. The intensification of these dimensions helps startups and policymakers to achieve greater user satisfaction, better system usage, and long-term digital transformation in the expanding startup ecosystem in Malaysia.

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