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The moderating role of user satisfaction on the relationship between accounting system quality and accounting information systems in large Yemeni industrial companies

Adam Mohamed Omer[a], Adeeb Alhebri[b*], Amna Gibreel Musa[c], Salwa Dirar Mohammed[d] and Nagwa Mohamed Bahreldin Abubaker[e]

[a]*Applied College at Muhyle, King Khalid University, Saudi Arabia*
[b]*Applied College at Muhyle Assir, King Khalid University, Saudi Arabia*
[c] *Applied College at Rejal Almaa, King Khalid University, Saudi Arabia*
[d]*Applied College at Khamis Mushait, King Khalid University, Saudi Arabia*
[e]*College of Business Administration, Northern Border University, Saudi Arabia*

A B S T R A C T

The study sought to determine the direct impact of accounting system quality (IQ, SQ, and SEQ) on AIS in large Yemeni industrial enterprises as well as the moderating effect of the US on the relationship of IQ, SQ, and SEQ with AIS in large Yemeni industrial companies. A survey instrument was developed to gather data from 287 employees of large industrial companies in Yemen. The structural equation model analysis was used to analyze data collected. The results revealed that SQ and SEQ affect AIS, while IQ does not affect AIS. Importantly, the US does not moderate the effect of IQ, SQ, and SEQ on AIS.

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1. Introduction

Today's businesses work differently due to the dynamic globalization, digitization, competition, and diffusion of knowledge and information (Cheng, 2019). Significant investments in computerized data processing have been made by a variety of organizations as a result of modern technology (Arora, & Kumar, 2022). These technological advancements pertain to applications and strategies in information technology (IT) and information systems (IS), which have resulted in several corporate changes. Thus, both large and medium-sized businesses may benefit from and be able to open doors with the usage of IT/AIS. Big businesses have jumped on the bandwagon of businesses searching for fresh approaches to boost output and keep up their competitiveness (Bani Khalid et al., 2022). Every business employs AISs (ISs) to assist in achieving its aims and objectives. Additionally, it aims to use information system technology to manage enterprises and organizations more successfully and economically (Siyahidi, et al., 2018). The information system is already crucial since it is one of the components of the business that is utilized to handle issues that develop in businesses (Al-Bukhari, 2005). Information systems have developed into the most crucial piece of technology that businesses require to improve and address business-related issues (Daoud, & Triki, 2013).

Research in this area has indicated that information systems are critical to successful commercial ventures. Accordingly, Fadelelmoula (2018) characterized it as the degree to which AIS aids in its accomplishment of objectives. More specifically,

* Corresponding author
E-mail address aalhebri@kku.edu.sa (A. Alhebri)

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according to Das (1989), the AIS is a company's central nervous system that facilitates the integration, coordination, and management of its operations. In order to enable management and other stakeholders to make educated decisions, AIS, a part of management information systems, gathers, arranges processes, assesses, and distributes financial data (Fadelelmoula, 2018).

Similar to this, Nguyen and Nguyen (2020) defined AIS as a collection of protocols, documentation, and technological instruments that work together to gather, process, and distribute information to internal and external stakeholders in order to help businesses do this. wise decisions. The primary goals of an AIS are to record events and transactions, provide data for performance evaluation, and prepare reports in addition to offering a thorough technique for gathering and reporting financial transaction data (Hsu et al., 2015). AIS also includes a range of IT-related and computer-based tools for tracking and reporting accounting activities. Indian businesses have been using AIS to increase the capacity and efficiency of their business processes throughout time. The quick growth of AIS users has prompted governments to offer incentives and other initiatives to alleviate resource shortages in businesses (Idris & Mohamad, 2016). Despite this, businesses in Yemen and other nations still struggle to fully utilize AIS, particularly when it comes to extending its application to encompass decision support and business analytics (Khasawneh, 2014). This is brought on by the expense of implementing an AIS system and the intricacy of its decision-making modules (Montero, 2021). Consequently, decision makers turned to analyzing and examining functional data utilizing information that was available in real time, which produced effective decision-making outcomes. By employing AIS to support effective and efficient information flow and managerial decision making, the organization's aims and objectives can ultimately be realized (Khasawneh, 2014).

2. Literature Review and developing hypotheses

2.1 Information Quality and Accounting Information System

The IS literature is overflowing with studies on information quality (IQ), which sees IQ as a crucial element of implementing ITs in businesses. The ability of the system to give users fast, accurate, thorough, and relevant information so they may make educated decisions is known as its intelligence quotient (IQ). According to (DeLone & McLean, 2003; Almaiah et al., 2022; DeLone et al.,1992), it is an important metric for assessing the quality of the products that IT generates. This means that since high-quality information lowers errors that happen throughout the transaction process, trustworthy and helpful information may be generated for decision-making processes. The association between IQ and IT use has been the subject of numerous studies, but the findings have been mixed and the conclusions have not been definitive. Related studies on the use of AIS in Indonesian organizations by Anggadini (2015) discovered that AIS utilization in these contexts was significantly influenced by the quality of the information provided. The results of the subsequent study, whose author had copied the instrument to the managers and financial accountants of the companies they were concentrating on, indicated that the quality of the information had a significant impact on AIS. However, other studies, including those by Daoud (2013), found a low association between AIS and information quality. However, one of the qualities of high-quality information, information dependability, was found to have a significant correlation with the use of IT (Anggadini, 2015). Consequently, this research suggests the following :

H_1: *IQ positively affects AIS.*

2.2 Quality of service and accounting information system

An additional component of the success model for accounting information systems is service quality (SQ). There are two indications in total: empathy and assurance. The accounting information system's knowledge must be risk-free and user-friendly in order to facilitate communication with users and comprehend their needs. To put it simply, service quality is a way for accounting academics to assess the quality of services rendered by accounting information systems. It guides users through the Accounting Information Systems Department module and is often gauged by the accounting system's dependability, empathy, and responsiveness. The study of the efficacy of IT service elements has gained impetus in a competitive environment where firms strive to improve services and assess the usage of IT, with service quality being one of the crucial characteristics according to Idris and Mohamad (2017) for accounting information systems. According to (Jiang et al., 2020), a high service quality score (SQ) in terms of AIS improves system integration across the board for the company and the required user support, all of which boost the organization's performance. In a related study, Zhang et al. (2018) and Chang et al. (2012) found a positive correlation between service quality and the use of accounting information systems. Nevertheless, certain instances failed to discover any significant correlation between the two dimensions. Consequently, the literature's results about service quality are still up for debate. Based on the model (DeLone & McLean, 2003), this study makes the following assumptions, which indicate that the weights assigned to various aspects of service quality may vary based on the context and analytical conditions:

H_2: *SQ positively affects AIS.*

2.3 System Quality and Accounting Information System

System quality (SEQ) can be defined as the level of technological efficiency of a system considering its simplicity of use, responsiveness, stability, security, and adaptability. SQ is considered to be among the most important components of the IS

success model in the (DeLone & McLean, 2003; DeLone & McLean, 1992) model, much like IQ. When an AIS can help people, it is regarded as high quality. Its ratings are based on how well users feel it functions and how easy it is to use. When deciding whether or not to implement AIS within a company, system quality is a crucial consideration. Effective IS can be achieved through carefully planned and carried out IS, according to (DeLone & McLean, 2003). Despite the fact that the concept was not assumed to directly affect AIS use in the IS success model, the majority of studies that looked at the relationship have shown contradictory findings. The human-related components of the IS success model in this study were added because of their influence on decision-making and the use of AIS within enterprises. The findings show a significant relationship between IS use and system quality (Hwang et al., 2016; Jaafreh, 2017; Quintero, et al., 2009). System quality has a significant influence on IT use (Quintero, et al., 2009). This was consistent with the results reported by Xu, et al., (2013), who used the 3Q model, an integrated technology usage model released by Nelson et al. (2008), to look into how system quality affected the adoption of IS. The authors found that SQ significantly impacted the use of IT. Negash et al. (2003) found a strong association between SQ and web-based customer support systems. Nevertheless, since their focus was on web-based IS within the organization, further study is required to examine these variables in different contexts.H3: System quality positively affects accounting information systems. As a result, the current study suggests the following:

H3: *SEQ positively affects AIS.*

2.4 User satisfaction and accounting information systems

Information systems research has defined system utilization as the amount of work required to interact with the system and the quantity of output generated by the system in relation to a time unit (Wixom & Todd, 2005; Trice et al., 1988). Because it decides whether or not users think the system enhances task performance and the accounting information systems process, user evaluations of the system actually impact how the system is used (Tarhan & Aydın, 2019). Increased user satisfaction and recurring use follow naturally from this (Kingir & Mesci, 2010). User satisfaction, which includes how happy a user is with the information they found, how happy they are with their decision, etc., is the extent to which users feel that the information in the system satisfies their needs (Zhou et al., 2014). According to Chou et al. (2014), user satisfaction in the context of AIS is a concept connected to system use, which boosts productivity and makes decision-making easier (Tarhan & Aydın, 2019; Lin, 2010; Zybin & Bielozorova, 2021). It is feasible to assess user satisfaction in addition to usage, and prior studies have distinguished three primary usage metrics: duration in hours, frequency of use, and degree of utilization (Chou & Hong, 2014; Lin et al., 2006; Rajan & Baral, 2015). Four criteria have been used in past research to assess user satisfaction: overall AIS satisfaction, SQ satisfaction, information satisfaction, and service satisfaction (Hsu, et al., 2015; Wixom & Todd, 2005). The following significant advantages of utilizing AIS for user happiness are suggested by this study due to the beneficial utilization of AIS and AIS user satisfaction data. Information satisfaction is typically the outcome of evaluating the performance of the information system against its requirements. The latter, on the other hand, refers to the system's overall satisfaction following analysis, which considers the benefits of the process of incoming inputs and outputs as well as information systems and the level of system satisfaction. According to Monteiro and Cepêda (2021), the AIS system uses accuracy and the accuracy it provides, along with the information's dependability, as measures for assessing accounting information systems. Bhattacherjee (2001) showed that user satisfaction affects the effectiveness of accounting information systems, it is thought that the amount and frequency of use of management information systems, along with user happiness, would lead to better sustainability in accounting information systems. Therefore, it is suggested that:

H4: *US positively affects AIS.*

H5: *IQ positively affects AIS, with US being a moderating variable.*

H6: *SEQ positively affects AIS, with US as a moderating variable.*

H7: *SQ positively affects AIS with US being a moderating variable.*

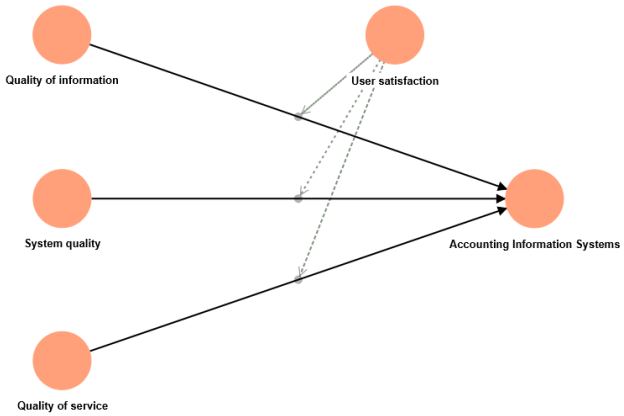

Fig. 1. The proposed model of the study

3. Research Methodology

3.1 Data Collection

The study's survey, which was conducted over the period of two months (1 December 2023–25 February 2024), was intended for decision-makers who use AIS. 25 Republic of Yemeni large industrial companies were given access to the online questionnaire. Of the 300 surveys distributed to AIS users who were making decisions, 287 copies were found. The Hwang et al. (2016) guideline, which recommended that the minimum sample size be ten times the maximum number of paths that lead to the endogenous constructions, was applied to calculate the sample size for the inquiry. Therefore, the least sample size required was n = 60. Along these lines, Hair et al. (2019) recommended that the number of research constructs be at least eight times smaller in the sample size (Rasit & Ibrahim, 2018). Consequently, the smallest sample size required to follow this recommendation was n = 48. Using the G* Power software, an a priori power analysis was used to calculate the sample size estimate based on Cohen (1992). The correctness of this estimate was assessed by statistical power studies. A sample size of 96 respondents was needed to achieve an alpha of 0.05, a moderate effect size of 0.15, and a power of 0.80. 287 responses made up the sample size that was deemed appropriate for SEM-PLS analysis (Bani-Khalid et al., 2022).

3.2 Measurement Development

Questionnaires in Arabic were employed to look into the suggested theories. The questionnaire items were selected from previous AIS/IS investigations, and the metrics were kept relevant to the research environment. A first empirical pre-test was conducted after the created questionnaire was forwarded to three AIS/IS specialists for assessment. According to Mumtaz et al. (2017) this is an important area of evaluation for the questionnaire. Consequently, testing was carried out by six directors and four senior managers who work for Republic of Yemen listed companies, particularly those who have prior AIS usage expertise. According to Sekaran and Bougie (2016) the pre-test ensures that the items' relevance, clarity, and questionnaire design are established. In order to make the questionnaire easier to read, a few items were altered following the pre-test. The items were rated using Likert scales, where 1 denoted strongly disagree and 5 denoted strongly agree at the extremes.

Table 1
Demographic data and respective percentages.

Demographics	Frequency	Percentage (%)
Gender		
Male	217	75.6
Female	70	24.4
Age		
21 to 30 years	44	15.3
31 to 40 years	84	29.4
41 to 50	71	24.7
51 years and above	88	30.6
Experience		
Less than 1 year	23	8.01
More than 1 to 3 years	42	14.6
More than 3 to 5 years	47	16.3
More than 5 to 10 years	62	21.5
More the 10	113	39.1
TOTAL	287	100/100

Table 1 shows the demographic data of respondents related to gender, Age, and years of experience.

4. Analysis and Results

4.1 Measurement model analysis

Internal consistency reliability, according to Hair et al. (2019), is the degree to which all (sub)scale indicators are focused on evaluating the same notion. In this work, structural equation modeling (SEM) methods were used to physically confirm the anticipated model shown in Fig. 1 (Bou-Llusar, et al., 2023). Initially, factor analysis (PCA) was employed in the statistical examination of the model's validity to verify the unidimensionality of every single set of five latent variable sets in the observed model (Kingir & Mesci, 2010). Table 1 displays the factor loading results and the percentage of variance explained by the one-dimensional factor. Confirmatory factor analysis (CFA) verifies the test model's validity and reliability by utilizing the selected control or measurement model. The CFA analysis effectively confirms that the eighteen discovered variables accurately reflect the set of five latent variables found in the research model in Fig. 2 and confirms the control model's strong fit. With a significance level of $P < 0.05$ for the majority of the variables, the results demonstrated the statistical reliability of the values in the test model. Table 2 also displays same outcomes. Furthermore, two larger t-test results show that there is no difference between the population and the sample. A statistical metric called Cronbach's alpha is employed in research models to assess the coherence of variables within specific latent groupings (Cronbach, 1951). Some variables' consistency is shown by the identified values of Cronbach's alpha, which are more than 0.7 (Table 2) among five different latent groupings of variables in the tested model. The data can be utilized to assess the suggested model since all five sets of variables have Cronbach's alpha values more than 0.9 (Bou-Llusar et al., 2009). Through the use of structural equation modeling (SEM),

pairs of latent question set from the measurement model are compared in order to assess the discriminant validity of various question sets.

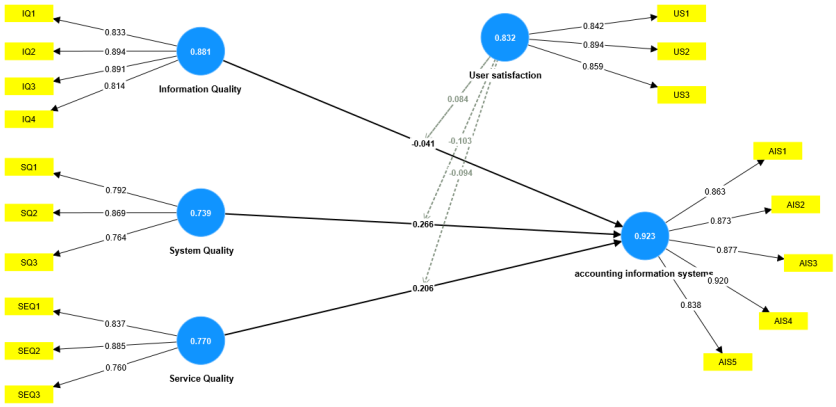

Fig. 2. The PLS algorithm of the measurement model.

% of variance explained by a factor of unidimensionality

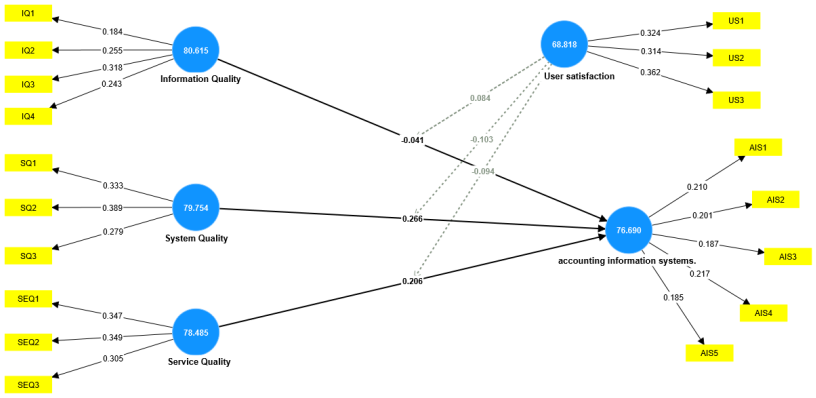

Fig. 3. The PLS algorithm of the measurement model.

dimensionality. The second model is analyzed using Asmarat Plus

Table 2
Results of the factor analysis (EFA) and the confirmatory factor analysis (CFA) of the examined model

Construct	Element	Factor Loadings	% of variance explained by a factor of unidimensionality	Cronbach's alpha	Factor loading	t-value
IQ			80.615	0.886		
	IQ1	0.833			0.833	25.008
	IQ2	0.894			0.893	34.162
	IQ3	0.891			0.89	41.003
	IQ4	0.814			0.811	19.845
SQ			79.754	0.753		
	SQ1	0.792			0.791	19.755
	SQ2	0.869			0.867	37.031
	SQ3	0.764			0.763	18.142
SEQ			78.485	0.775		
	SEQ1	0.837				23.458
	SEQ2	0.885				46.274
	SEQ3	0.76				14.832
US			68.818	0.834		
	US1	0.842			0.84	26.052
	US2	0.894			0.894	44.003
	US3	0.859			0.861	29.595
AIS			76.69	0.926		
	AIS1	0.863			0.862	34.77
	AIS2	0.873			0.873	30.158
	AIS3	0.877			0.876	29.643
	AIS4	0.92			0.92	57.194
	AIS5	0.838			0.837	24.232

Table 3
Reliability and Convergent Validity

Construct	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
IQ	0.886	0.918	0.738
SEQ	0.775	0.868	0.688
SQ	0.753	0.850	0.655
US	0.834	0.899	0.749
AIS	0.926	0.942	0.765

Internal Consistency Reliability: Hair et al. (2019) define internal consistency reliability as the extent to which each (sub)scale indicator is concentrated on assessing the same concept. The average variance extracted (AVE) value must be more than 0.50 and the composite reliability score value must be at least 0.70 in order to comply with the guideline made by Hair et al., 2019 (see Table 3). The estimated study variables' composite and AVE reliability, which were both over the predetermined threshold and higher than 0.50, proved the measurement model's dependability. Cronbach's alpha values were also computed as part of the research to assess the data's internal consistency. In light of this, the alpha value thumb rule put forth by Sekaran and Bougie (2020) (For example, $\alpha > 0.9$ denotes exceptional consistency, and $\alpha > 0.8$ shows high consistency.) Hair et al. (2019) define internal consistency reliability as the extent to which all (sub) scale indicators are concentrated on assessing the same not.

Table 4
Discriminant validity

Construct	SEQ	SQ	US	AIS	US × AIS	US × SQ
IQ						
SEQ	0.769					
SQ	0.5					
US	0.622	0.508				
AIS	0.291	0.657	0.683			
US × IQ	0.15	0.219	0.101	0.234		
US × SEQ	0.277	0.262	0.079	0.255	0.754	
US × SQ	0.769	0.127	0.099	0.251	0.791	0.669

Another requirement for assessment is discriminant validity, which shows the degree to which a variable actually differs from other variables (Hair et al., 2019). According to Duarte and Raposo (2010), it describes the extent to which one element differs from another. A variable's discriminant validity increases with how well it captures the phenomenon relative to other factors. Consequently, the AVE square root was used to determine the discriminant validity of this study, and it had to be bigger than the correlation values between the latent components (Hair et al., 2019). Discriminant validity was determined in order to verify the model's external consistency. The comparison of the latent constructs is shown in Table 3. The squared AVE values for the constructions are IQ (0.738), SEQ (0.688), SQ (0.655), US (0.749), AIS (0.765).

Table 5
Cross loadings

	AIS	IS	SEQ	SQ	US
AIS1	**0.863**	0.349	0.523	0.493	0.579
AIS2	**0.873**	0.350	0.430	0.512	0.478
AIS3	**0.877**	0.309	0.443	0.446	0.474
AIS4	**0.920**	0.388	0.486	0.536	0.542
AIS5	**0.838**	0.363	0.410	0.432	0.549
IQ1	0.314	**0.833**	0.414	0.498	0.286
IQ2	0.362	**0.894**	0.483	0.547	0.289
IQ3	0.371	**0.891**	0.526	0.589	0.287
IQ4	0.336	**0.814**	0.420	0.592	0.273
SEQ1	0.454	0.373	**0.837**	0.471	0.318
SEQ2	0.445	0.466	**0.885**	0.521	0.365
SEQ3	0.409	0.510	**0.760**	0.470	0.308
SQ1	0.501	0.617	0.519	**0.792**	0.450
SQ2	0.468	0.475	0.495	**0.869**	0.307
SQ3	0.355	0.468	0.395	**0.764**	0.212
US1	0.504	0.295	0.339	0.368	**0.842**
US2	0.503	0.283	0.382	0.367	**0.894**
US3	0.553	0.278	0.317	0.340	**0.859**

Service Quality = SQ , Information Quality = IQ , System Quality =SEQ ,User satisfaction =US , Accounting information systems= AIS.

Table 6
Fornell-Larcker criterion

Construct	SEQ	SQ	US	SIS
IQ				
SEQ	0.829			
SQ	0.588	0.809		
US	0.399	0.414	0.865	
AIS	0.527	0.555	0.602	0.875

The results of the Fornell-Larcker discriminant validity criteria are shown in Table 7. Greater than the correlations between the constructs (shown by the corresponding row and column values) are the square roots of the AVE on the diagonals, as demonstrated by the bolded values. Excellent discriminant validity is demonstrated by the items' stronger connections to their specific indicators than to other common constructs (Fornell & Larcker, 1981; Chin, 1998; Hult, et al., 2017; Tatham & Pettit, 2010). Additionally, the correlation coefficient between exogenous components is less than 0.800. Consequently, discriminant validity is met for each construct (see Table 2).

4.2 Structural model analysis

The percentage of a variable's variation that can be attributed to all external causes is known as its coefficient of determination (R2), which takes into consideration factors like evaluation (R2), effect size (f2), and predictive significance (R2). Additionally, Hair et al. (2017) proposed that selection values be predicated on suitable cut-off values for parameters such 0.25 weak, 0.50 moderate, and 0.75 strong. The coefficient of determination, which shows a reasonable degree of forecast accuracy, is supported by the table data. The relationship between the adjusted variables job performance (JP) and promotions (P) was investigated using the R2 factor. Because the R2 value is less than 0.75, it is considered weak. The result was 0.509. This is a noteworthy result. The effect size illustrates the link between the latent dependent variable and the independent variable. The difference in R2 between the major effects depends on whether a specific moderating variable is included in the model being considered (Hair et al., 2013). The threshold values for high connectivity are 0.15, moderate connectivity is 0.02, and weak connection is 0.35 for each model. The relationships between each model are shown in these figures. (Q2) is a predictive significance parameter that assesses the predictiveness of all internal thought indicators generated by the model, according to (Al-Shaar et al., 2011). The figures approach is used (Wong, 2013). Verified replication and community-validated methods can be used to calculate the Q2 value (Sarstedt et al., 2014). The route model provides a reasonable level of prediction accuracy for that construct if the Q2 values of any endogenous latent variable are greater than zero (Sarstedt et al., 2014). The dependent variable *accounting information systems* in Table 8 has a Q2 value of 0.383, indicating a 47.6% prediction accuracy for this construct in the model. This implies that the route model provides a reasonable level of predictive accuracy for the concept of accounting information systems. Table 8 shows that the endogenous latent variable "accounting information systems" has a second quartile value of 0.383, indicating a 47.6% predictive accuracy for this model component. This is the average forecast accuracy of the route model for the concept "Accounting Information Systems.

SSO, SSE, Q^2

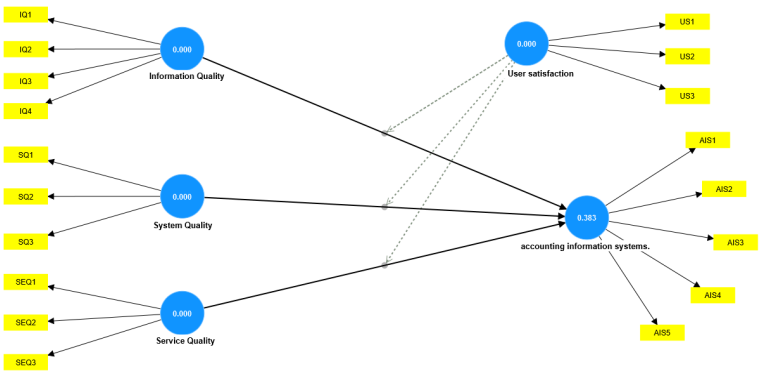

Fig. 4. The PLS algorithm of the measurement model

Table 7
R and Q^2

Study variables	R2	Q^2 (=1-SSE/SSO)
IQ		0.000
SEQ		0.000
SQ		0.000
US		0.000
AIS	0.509	0.383

Table 8
Measuring the size of effects F2

	AIS	Measuring the size of effects
IQ	0.002	Small
SEQ	0.049	Large
SQ	0.065	Large
US	0.282	Large
AIS		
US × IQ	0.006	Small
US × SEQ	0.012	Medium
US × SQ	0.012	Medium

F2 is a measure of effect size that indicates how much an exogenous variable contributes to the R2 of an endogenous variable. (Cohen ,1992) suggested the following thresholds for F2: 0.02 (small), 0.15 (medium), and 0.35 (large).

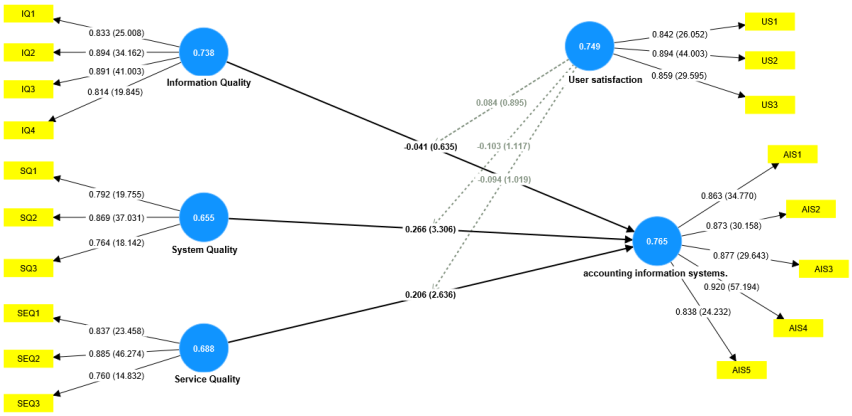

Fig. 5. The PLS algorithm of the measurement model.

Table 10
Hypothesis testing

		Mean	Error	2.5%	97.5%	T	P values	
IQ → AIS	-0.041	-0.036	0.065	-0.158	0.093	0.635	0.525	Not Supported
SEQ → AIS	0.206	0.212	0.078	0.059	0.361	2.636	0.008	Supported
SQ → AIS	0.266	0.261	0.081	0.097	0.409	3.306	0.001	Supported
US → AIS	0.412	0.413	0.061	0.295	0.528	6.806	0.000	Supported
US × IQ → AIS	0.084	0.076	0.093	-0.111	0.252	0.895	0.371	Not Supported
US × SQ → AIS	-0.103	-0.100	0.092	-0.288	0.075	1.117	0.264	Not Supported
US × SEQ → AIS	-0.094	-0.090	0.092	-0.252	0.110	1.019	0.308	Not Supported

Evaluation of the structural model in Table 8 clearly shows the direct and indirect relationships between the study variables. The hypotheses supported by the study have a t-value greater than 2. Thus, all theories have been validated and approved. The first hypothesis: " IQ positively affects AIS ." The study proved that the IQ does not positively affect AIS, and the relationship between IQ and AIS is negative, as (beta value = -0.041; T = 0.635; P = 0.525) since (T < 2, P > 0.05), and therefore the first hypothesis was rejected, which is an unacceptable and unsupported hypothesis. The second hypothesis, which states: "SEQ has a positive effect on AIS". The results of the analysis indicated that SEQ has a positive effect on AIS, and the relationship between SEQ and AIS is positive, as (beta value = 0.206; T = 2.636; P = 0.008) as the beta value is positive (T > 2, P < 0.05). Based on the results of the analysis, the second hypothesis was accepted and it is a supported hypothesis. The third hypothesis, which states: "SQ positively affects AIS". The results of the analysis showed that SQ positively affects AIS and the relationship between SQ and AIS is positive, as (beta value = 0.266; T = 3.306; P = 0.001) as the beta value is positive (T > 2, P < 0.05). Based on the results of the analysis, the third hypothesis was accepted and it is a supported hypothesis.

The fourth hypothesis, which states: "US positively affects AIS". The results of the analysis showed that US positively affects a AIS, and the relationship between SQ and AIS is positive, as (Beta value = 0.412; T = 6.806; P = 0.000) where the beta value is positive and (T > 2, P < 0.05) Based on the results of the analysis, the fourth hypothesis was accepted and is a supported hypothesis. The fifth hypothesis, which states: "IQ positively affects AIS with the presence of US as a modified variable". The results of the analysis have shown that IQ does not positively affect an AIS with the presence of US as a modified variable. However, the indirect relationship between IQ and AIS are positive (Beta value = 0.084; T = 0.895; P = 0.371) where the beta value is positive and (T < 2, P > 0.05). Based on the results of the analysis, the fifth hypothesis was rejected, which is an unsupported hypothesis. The sixth hypothesis, which states: "SEQ has a positive effect on AIS with the presence of US as a modified variable". The results of the analysis have shown that SEQ does not positively affect AIS with the presence of US as a modified variable. Also, the indirect relationship between quality of the system and AIS is negative since (Beta value = -0.103; T = 1.117; P = 0.264) where the beta value is negative and (T < 2, P > 0.05). Based on the results of the analysis, the sixth hypothesis was rejected, which is an unsupported hypothesis. The seventh hypothesis, which states: "SQ has a positive effect on AIS with the presence of US as a modified variable". The results of the analysis have shown that SQ does not positively affect AIS with the presence of US as a modified variable. Also, the indirect relationship between SQ and AIS are negative since (Beta value = -0.094; T = 1.019; P = 0.308) where the beta value is negative and (T < 2, P > 0.05) Based on the results of the analysis, the seventh hypothesis was rejected, which is an unsupported hypothesis.

5. Discussion and conclusions

This study has examined SL and its indirect effect on CA when using SPE as a mediating variable. It has also studied the direct impact of SL on CA and effectiveness of strategic planning in major Indian industrial organizations. Instead, this paper was one of the first studies to collect lifelong learning and the effectiveness of strategic planning and CA in large Indian industrial business organizations.

By evaluating the quality constructs represented by (IQ, (SQ), and (SEQ)) of the D&M model and demonstrating that the majority of the factors had a direct positive effect on (AIS), as well as the variable that does not have a direct positive effect on AIS and IQ, the current research adds to the body of literature in multiple ways. Regarding IQ, the current investigation produced differing findings. Furthermore, it confirmed and reinforced earlier studies' conclusions about IQ and its alleged benefits for the US (Yakubu & Dasuki, 2018; Jaafra, 2017; Taj Al-Din, 2015). Additionally, the study demonstrated SEQ's substantial impact on AIS. While certain studies (Ghobakhloo & Tang, 2015; Marble, 2003) was confirmed by the results, some of D&M's claims regarding the significance of service quality (SEQ) in assessing system performance were disproved. The reason for this surprise outcome is that a large number of participants voiced their displeasure with the AIS department's services in the surveyed firms. Concerns about automation and networking across various accounting and finance divisions within businesses are the subject of these criticisms. This might also have to do with the particular study environment; in developing nations, businesses generally do not have the technological know-how, especially when it comes to AIS, therefore it's challenging to effectively and completely utilize AIS resources. Consequently, technical training sessions that offer guidance beyond the fundamentals of AIS should be available to decision makers utilizing AIS. It was anticipated that AIS use would positively correlate with US and that SQ and SEQ would favorably influence AIS use, both of which would eventually result in enhanced AIS. According to the data gathered, US and SQ are the two biggest indicators of AIS use. There is no beneficial effect and a negative association between them in terms of IQ. This could be the outcome of building an IQ failure model with varying weights based on the characteristics of various businesses (Heo & Han, 2003). SEQ is given priority over IQ by AIS-using organizations, according to Peter et al. (2008). This finding supports earlier research on SEQ in AIS that took flexibility and diversity into consideration (Lutfi et al., 2022; Lin, 2010; Hsu et al., 2015). AIS dependability. It strengthens the user's motivation to demonstrate his noteworthy contribution, utilize accounting information systems (AIS) to the maximum extent possible, and convey his general satisfaction with the system. Prior studies, including those by Hou (2013) and Yakubu and Dasuki (2014), demonstrate that managers in particular benefit from the increased sustainability of accounting work when they regularly utilize AIS. According to Trabulsi, (2018), this study bolsters the idea that AIS satisfies users' expectations by demonstrating how US is crucial in enhancing managers' decision-making procedures and how the SQ offered by AIS enables reliable evaluations and accurate decision-making. The findings provided empirical support for the assertion made by Ouiddad et al. (2018). To highlight context, this calls for a potential synopsis of the data sources and how they are integrated (Ouiddad et al., 2018). Collaboration between domain system experts and stakeholders to comprehend the management of AIS and its repercussions is necessary to accomplish the aforementioned goals; The study's findings offer compelling proof of the crucial part AIS plays in a company's long-term success. Assuming the D&M success model is accurate, the research findings indicate that organizations that largely rely on D&M stand to benefit greatly from the use of AIS. The significance of this finding has been demonstrated by numerous empirical studies in the fields of accounting information systems and technology (Tarhan & Aydın, 2019; Ramli, 2013).

6. Limitations

Among the study's limitations and scope is its focus on large industrial companies in the Republic of Yemen. As a result, the results may not apply to small or medium-sized industrial companies in Yemen, nor to industrial companies abroad. Another limitation of the study is its focus on accounting information systems and users of quality assurance systems for accounting systems. As a result, it's possible that the findings won't apply to the remaining staff members and workers in other divisions and industries within the research company or other businesses.

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