African Journal of Hospitality, Tourism and Leisure, Volume 8 (5) - (2019) ISSN: 2223-814X

The role of integrating hotel sustainability reporting practices into an Accounting Information System to enhance Hotel Financial Performance: Evidence from Iraq

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Abstract

Recently, the integration of the Accounting Information System (AIS) with sustainability reporting methods has become a thought-provoking area of study. This study aimed to explore the role of integration between accounting information system and sustainability reporting in enhancing financial performance in the hotel industry. It also explored the prospective association in the Iraqi hotel sector between environmental, social and economic reporting and financial results. The study relied on the financial data extracted from the annual reports of a sample of Iraqi hotels including the panel data from 10 hotels listed in The Iraq Stock Exchange (ISX) for the period between 2013-2018. The content analysis technique was adopted to measure sustainability reporting using the Disclosure Index, which consisted of 84 indicators covering the environmental, social and economic dimensions of sustainability reports based on GRI reporting indicators (GR 3.1.). The findings showed that the interaction between the accounting information system and the hotel sustainability reporting leads to an improvement in general financial performance results. These findings indicate that the present accounting system outputs do not fully fulfill the sustainability reporting requirements in the hotel industry and the decline in the reported information revealed in the annual reports among social, economic, and environmental dimensions of sustainability. It also noted that reporting on environmental information has a significantly greater effect on the hotel financial performance than reporting on economic and social information. The findings suggest that the positive relationship between reporting on hotel sustainability and financial performance in the Iraqi hotel industry may motivate management to provide more information about sustainability concerns in order to improve the hotel's financial performance.

Keywords: Accounting information system, Hotel sustainability reporting, hotel financial performance, financial reporting, hotel industry.

Introduction

The past studies refer to the conjunction of social, financial and environmental disclosure in sustainability reporting. It is a strategy that represents the obligation of the company to create economic, social, and environmental norms. This means being apparent about the company's objectives and taking into consideration the requirements of all of the company's stakeholders. In the literature on tourism, excellent attention was given to indices of sustainability. This attention was mainly performed on the "macro" scale of destinations on the whole. Lately, the literature has shown a keen interest in examining the relationship between sustainability reporting and the company's economic performance (Alnawas & Hemsley-Brown, 2019; Assaf, Josiassen & Cvelbar, 2012; Ghaderi, Mirzapour, Henderson & Richardson, 2019; Morhardt, 2010). In addition, continuing financial problems and the worldwide recession have extended the discussion on the significance of compliance with GRI policies and practices (Kartadjumena & Rodgers, 2019). In Iraq, the concern for reporting sustainability, whether social, economic or environmental, is the responsibility of the companies themselves, as there are no accounting laws or instructions that require companies to report indicators or inferred (Almagtome, 2015). However, we find that many Iraqi companies, in particular companies operating in the tourism sector, voluntarily disclose indicators of social, economic and environmental sustainability. However, the level of sustainability reporting in the Iraqi hotel sector varies from time to time and from company to company due to various factors, including the varying awareness of tourism administrations of the importance of reporting sustainability on the reputation of their hotels.

Despite the importance the sustainability reporting in context of tourism industry, there is a shortage of quantifiable statistics to highlight the connection between favorable attitudes towards eco-friendly programs in hotels and real purchasing behavior of clients (Y. J. Kim, Palakurthi, & Hancer, 2012). This is due to a lack of understanding of the significance of excellent ecological operation than in the hospitality industry (Cvelbar & Dwyer, 2013). In this context, many authors (Raguseo & Vitari, 2017; Rushmore Jr & O'Neill, 2015; Susskind, 2014; Woo, Assaf, Josiassen & Kock, 2019) proposed that further study is required to investigate whether there is a correlation between a favorable attitude towards environmentally friendly software and real buying behavior. This research attempts to identify the sustainability reporting levels in a sample of Iraqi hotels under three sustainability dimensions; social, financial and environmental aspects. In particular, our research focuses on the integration of AIS and sustainability reporting, which is described as a collection of embedded components that process economic data and support features of decision-making in the context of organizational activities coordination and control. This paper also examines the relationships between the sustainability reporting and hotel financial performance using two performance measures are return on sales (ROS) and return on assets (ROA). Thus, the paper aims to:

- To develop a sustainability reporting index to measure the extent of social, economic and environmental reporting in hotels using the outputs of accounting information system.
- To evaluate the financial performance of the sample hotels using two performance indicators are ROS and ROA.
- To examine the relationships between sustainability reporting indicators and financial performance measures of the sample hotels.

Literature Review

Measuring an entity's performance is essential as it offers data on organizational objectives and their accomplishment. Excellently-performing organizations are attracting shareholders and investors are monitoring the company's general efficiency in managing investment choices, whether to begin, remain or end the investment. It is often observed that evaluating a firm's performance on a big scale and the indicator of ultimate concern is measured in accounting (Shad, Lai, Fatt, Klemeš & Bokhari, 2019). The relationship between sustainability reporting and corporate financial performance has attracted many researchers in previous years (Almagtome, Almusawi & Aureaar, 2017; Once & Almagtome, 2015; Once & Almogtome, 2014). In this context, Moskowitz (1972) examine the stock price performances of the 14 companies that allocated the highest budget for social expenditures and concluded that the performance of these firms was higher than the general index performance. Freedman and Jaggi (1982) developed a pollution disclosure index and correlated it with the pollution and economic performance index. They observed that large firms with weaker economic performance make more detailed pollution disclosures than in smaller firms, no correlation was found between economic performance and pollution disclosures. Preston and O'bannon (1997) investigated the relationship between corporate social performance indicators and financial performance using the sample of 67 large American firms in the period 1982-1992. The results of the study; consistent with stakeholder theory, there was a positive relationship between financial performance and social performance. In contrast, managers; stated that they can increase their short-term profitability when they reduce their spending on social performance, but they can focus on spending on social performance again when financial performance is weak.

Jones (1995) examined the link between firms 'sustainability reporting level and firms' financial and market performance. The top 100 firms from the Australian stock market index were taken as examples and annual reports and sustainability reports of these companies were examined. The sustainability statements of each firm were graded based on the GRI guideline and the sustainability score of the firms was determined. The relationship between these sustainability scores and the indicators such as total debt / total equity, market value / book value ratio, working capital level, operating cash flow performance, which are considered as extraordinary returns and financial performance indicators, are examined. According to the results of regression analysis, there is a negative relationship between sustainability statements and extraordinary returns. There also was a strong positive statistical relationship between sustainability statements and various financial performance indicators.

Belu (2009) examines the relationship between sustainability practices and financial results in the study of asset profitability, return on equity and return on annual shares. He found that the companies that attach importance to sustainability have better financial performance. in the same context, Ameer and Othman (2012) In their study of the relationship between sustainability practices and financial performance, examined the top 100 sustainable companies selected among developed and developing countries. They indicate that companies that attach importance to sustainability practices have higher financial performance than asset profitability, profit before tax and cash flow indicators. Sustainability performance of companies with higher financial performance increased in 2006-2008, 2006-2009, 2006-2010 periods. Bachoo, Tan, and Wilson (2013) investigated the relationship between the quality of firms' sustainability reports in Australia and firm value.

The quality of sustainability reports of the 529 companies listed in the Australian Stock Exchange between 2003 and 2005 was evaluated by an independent non-profit organization called CAER (Corporate Analysis Enhanced Responsibility). If the sustainability report of a firm complies with the criteria of CAER, the companies are evaluated by giving a score of “1” and a score of “0 for no compliance. They indicate that the quality of the sustainability report was positively correlated with the expected performance of the firm, while the cost of capital was negatively correlated. In addition, the quality of reporting is more important in environmentally sensitive industries and the environmental elements of the sustainability report are more closely related to company value.

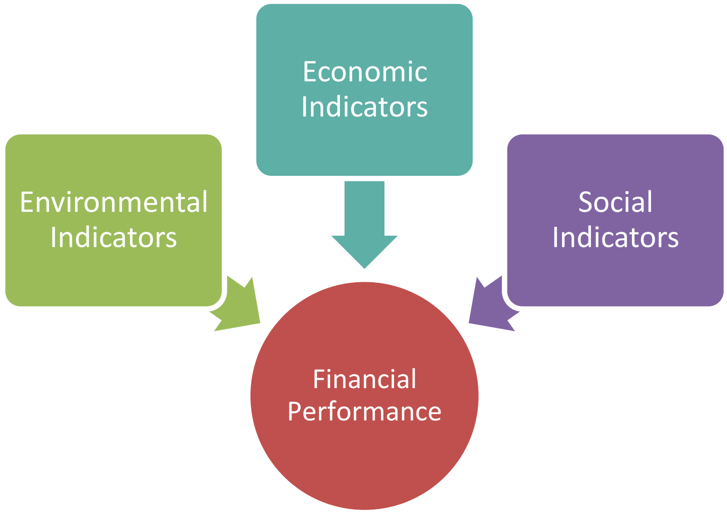

Figure 1. The relationship between sustainability reporting and financial performance

Based on the above, it can be concluded that the quality of sustainability reporting in three dimensions is directly proportional to the level of financial performance of companies. Figure 1 shows the nature of the relationship between social, economic and environmental reporting indicators and the level of financial performance. Corporate management is also expected to disclose more sustainability indicators in its financial statements in order to improve the company's reputation among stakeholders and thereby improve its financial performance

In the tourism sector, sustainability reporting on the three pillars of social, economic and environmental dimensions has also been developed and discussed. Tourism is arguably the fastest growing sector in the world, especially in developing countries, and is a vehicle for economic development. However, it has been clear since the 1970s that tourism brings significant pressures in terms of its effects on natural, cultural and social environments. Despite public awareness of the concept of sustainability by tourism stakeholders in general, little has been done to formally adopt the principles of the GRI. Although the world's largest tourism companies adopt corporate social responsibility and environmental management systems, there appears to be less awareness of how important the sustainability reporting framework is in achieving the company's goals (Mihalič, Žabkar & Cvelbar, 2012). Although there have been many studies that have discussed factors affecting the financial performance of hotels, few have attempted to explore the role of reporting sustainability in enhancing hotel performance (Mjongwana & Kamala, 2018). In this context, Ricaurte (2011) proposes a theoretical model for developing indices of sustainability performance to solve current applications from stakeholders, as well as some other potential developments. The model created and executed in this study is intended to provide an avenue for cooperation and debate in the sector towards a standardized set of extremely practical measures. W. G. Kim, Lim, and Brymer (2015) explore how hotel efficiency is affected by the management of internet reviews. They show that general scores are the most outstanding indicator of hotel performance, accompanied by adverse remarks.

Diavastis, Anagnostopoulou, Drogalas, and Karagiorgos (2016) empirically evaluated the effect of stakeholder satisfaction on AIS in a sample of Greek hotels. They indicate that hotel economic performance is enhanced when Activity Based Costing used in interaction with AIS user satisfaction. Xie, So, and Wang (2017) explore the combined effects of manager feedback and web reviews on the hotel's financial outcomes. They found that immediate and long-term responses enhance future financial performance while providing responses and reactions from hotel executives that decrease general financial performance by repeating the topics in the web review. Using a sample of 934 Portuguese large and middle-sized hotels, Sardo, Serrasqueiro, and Alves (2018) evaluated the impact of human capital on the economic results of large and middle-sized hotels from 2007 to 2015. They proposed that elements of intellectual capital, i.e. human capital, structural capital and relational capital, would have a beneficial effect on the economic performance of hotels. Augustyn, Elshaer, and Akamavi (2019) argue that economic performance could be enhanced if critically regarded as a commonality of their interdependent activities in quality control. Hua et al. (2019) They showed that adequate distribution of corporate financial facilities to e-commerce projects can actually enhance the effect of reward programs on the results of hotel operations.

Finally, Al-Homaidi, Almaqtari, Ahmad, Aligarh, and I Tabash (2019) explore the effect of strategies of corporate governance on Indian hotel firms ' economic results. They ascertain that there is an important effect on ROA on committee size, committee diligence, audit commission size, and organizational property rights. Therefore, due to the current suggested benefits of sustainability reporting in terms of enhancing the financial performance of the hotel and in line with the above statements, we suggest two primary hypotheses with three sub-hypotheses for each:

- *H1: There is a positive relationship between sustainability reporting scores and return on sales of Iraqi hotels.*
    - *H1a: There is a positive relationship between social reporting scores and return on sales of Iraqi hotels.*
    - *H1b: There is a positive relationship between economic reporting scores and return on sales of Iraqi hotels.*
    - *H1c: There is a positive relationship between environmental reporting scores and return on sales of Iraqi hotels*
- *H2: There is a positive relationship between sustainability reporting scores and return on assets of Iraqi hotels.*
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    - *H2a: There is a positive relationship between social reporting scores and return on assets of Iraqi hotels.*
    - *H2b: There is a positive relationship between social reporting scores and return on assets of Iraqi hotels.*
    - *H2c: There is a positive relationship between social reporting scores and return on assets of Iraqi hotels*

In order to identify the joint impact of sustainability reporting components; social, economic, and environmental indicators on the hotel financial performance, two regression modes have been developed for each of financial performance indicators ROS and ROA:

“$Y = \alpha + \beta 1x1 + \beta 2x2 + \beta 3x3 + \varepsilon$” **(1)**

Where:

Y = the dependent variable: financial performance, it is measured by return on sales (ROS).
α = a constant
$\beta 1$ to $\beta 3$ = regression coefficients for independent variables $x1$ to $x3$ respectively.
$x1$ to $x3$ = the independent variables; social, economic, and environmental indicators respectively.
ε = error term

African Journal of Hospitality, Tourism and Leisure, Volume 8 (5) - (2019) ISSN: 2223-814X

"Y = α + β1x1 + β2x2 + β3x3 +ε" **(2)**

Where:

Y = the dependent variable: financial performance, it is measured by return on assets (ROA).
α = a constant
β1 to β3 = regression coefficients for independent variables x1 to x3 respectively.
x1 to x3 = the independent variables; social, economic, and environmental indicators respectively.
ε = error term

Hence, for the multiple regression models, the following hypotheses are developed:

- *H3: There is a relationship between social reporting, economic reporting and environmental reporting of Iraqi hotels and return on sales (ROS).*
- *H4: There is a relationship between social reporting, economic reporting and environmental reporting of Iraqi hotels and return on assets (ROA).*

Data and Method

This study's primary objective was to examine the relationship between sustainability reporting and hotel economic results of hotel companies listed on the Iraq Stock Exchange ISX. The quantitative approach was used in this research to determine the relationship between sustainability reporting scores (SRS) as an independent variable and both of the return on sales (ROS) and return on assets (ROA) (as a proxy of hotel financial performance) as a dependent variable. The initial sample consisted of 60 hotel-year observations covering the financial data of 48 Iraqi hotel listed in ISX from 2013 -2018.

After eliminating the missing data from the sample, 52 hotel-year observations resulted. The content analysis was used to measure the degree of sustainability dimensions reported by the sample hotels using a scoring system depends on the GRI guidelines. The sustainability reporting index consisted of 84 items measuring social, economic and Environmental dimensions of sustainability disclosures (Global Reporting Initiative, 2011). The rating system was based on a score ranged from 0 to 1 for each sustainability indicator reported by the hotel. Data used in this study was extracted from the annual reports of the sample hotels, as well as the financial bulletins of the Iraqi Securities Commission.

Independent variables

In this research, financial sustainability was the independent variable. It involved three sub-variables representing the fundamental sustainability dimensions: social reporting, reporting on economics and reporting on the environment. A scale was developed to identify social, economic and environmental reporting indicators under G3.1 reporting. According to the G3.1 reporting framework, the sustainability reporting scale used in this study included 84 indicators spread over three dimensions as follows:

- Social reporting indicators 45
- Indicators of economic reporting 9
- Environmental reporting indicators 30

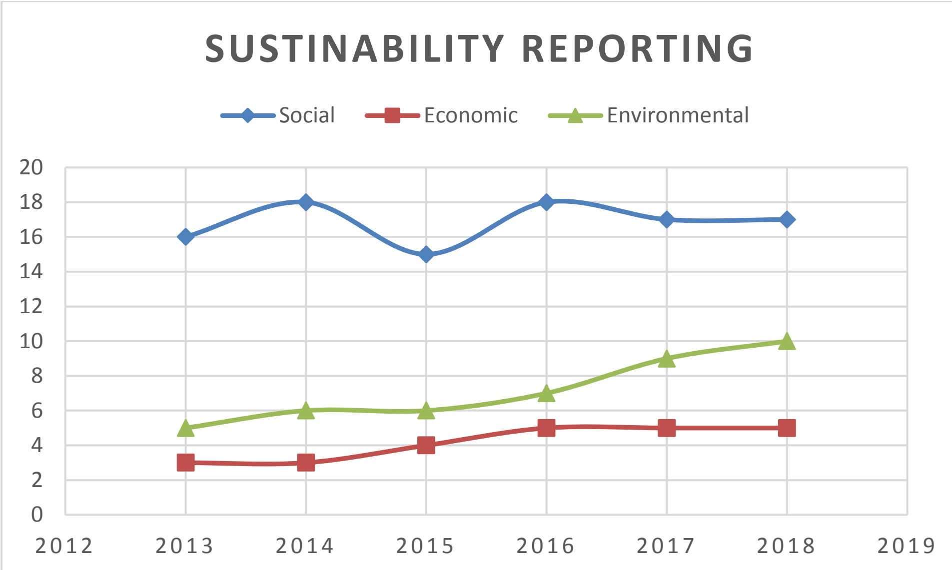

Figure 2. Average of sustainability dimensions of sample hotels

Figure 2 shows the sustainability reporting score distributed into three dimensions are social, economic and environmental indicators.

Dependent variables
The main dependent variable in the paper was the hotel financial performance, and was measured by two proxies which are return on sale (ROS) and return on assets (ROA).

- **Return on Sales (ROS)**: This ratio can be calculated by dividing the hotel's net income on total revenue and is called revenue profitability (Diavastis et al., 2016; Lee & Kim, 2009). It illustrates the effectiveness of the company in expanding to current or future markets, and has also been used in previous studies (Zhang, 2005).
- **Return on Assets (ROA)**: This ratio can be calculated by net profit to total assets and used as a proxy for measuring financial performance in most past studies (Al-Homaidi et al., 2019; Diavastis et al., 2016; Mbasera, du Plessis, Saayman, & Kruger, 2018; Sardo et al., 2018). It denotes the profitability and efficiency of the company and is an appropriate measure of financial performance in the hotel business (Lee & Kim, 2009).

Table 1 shows descriptive statistics of study variables as well as the maximum and minimum values of variables, mean and standard deviations.

Table 1. Summary of descriptive statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SRS	52	2.00	60.00	30.1731	16.03516
SOC	52	1.00	43.00	18.9615	10.16523
ECO	52	.00	9.00	4.0385	2.70048
ENV	52	1.00	15.00	7.1731	3.95921
ROS	52	-.25	.75	.1105	.27609
ROA	52	-.18	.46	.0122	.18583
Valid N (listwise)	52				

The sample consisted of 52 hotel-year observations extracted during the period between 2013-2018 from 10 hotels listed in Iraq stock exchange ISX. The mean of sustainability reporting score SRS as independent variable was 30.17, while the means of components of sustainability reporting; social, economic, environmental dimensions were 18.96, 4.03, and 7.17 respectively. More specifically, the sustainability reporting components achieved varying percentages in the annual reports of the sample hotel searches at the average reporting level during the 2013-2018 school years as shown in Figure 3. Social reporting achieved 42%. The average social reporting for the sample hotels was 18.96 Of the 45 points possible, economic reporting achieved 44%, the average economic reporting achieved during the period 4.03 out of 9 points possible, while environmental reporting has achieved an average reporting rate of 14%, and the average environmental reporting for sample hotels 7.17 out of 30 points Possible.

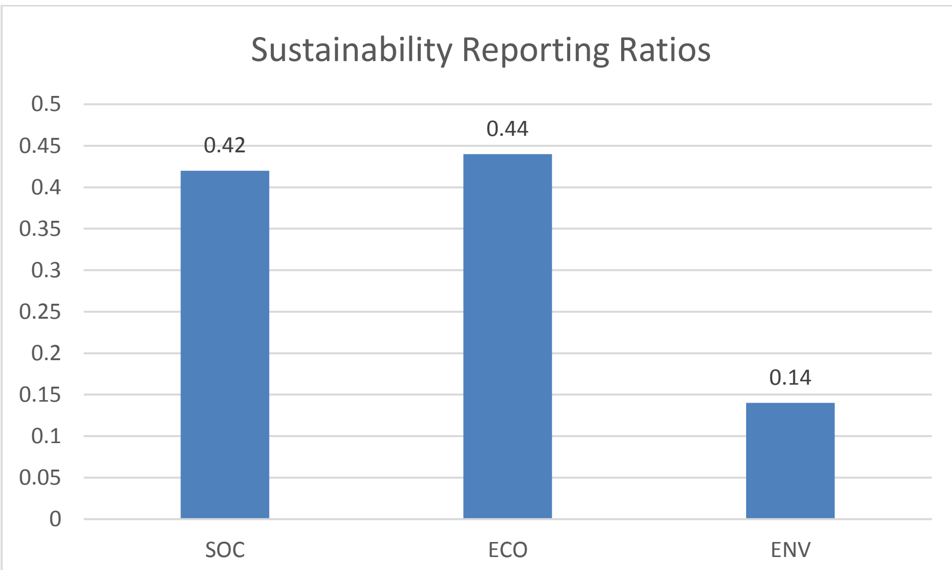

Figure 3. Distribution of sustainability reporting of hotels by sustainability dimensions

The indicators of hotel financial performance (as a dependent variable) were very low during the study period. The means of return on assets ROA and return on sales ROS were %11.05 and %1.22 respectively. These results show that the current accounting system outputs do not fully meet the sustainability reporting requirements in the hotel sector, as well as the discrepancy in the level of information disclosed in the annual reports between the three dimensions of sustainability.

It can also be noted that the accounting system contributes mainly to the provision of financial indicators of sustainability, we noted that the rate of reporting of these indicators was 44% due to the nature of the accounting information system itself, which measures only units and transactions with a financial formula. It is also noted that there is a fairly high percentage in social reporting, which was 42%, which confirms the interest of tourism administrations in Iraq to disclose social activities in their financial statements.

The lowest percentage was the share of environmental disclosure, which was 14%, and this low rate is due to the low environmental sensitivity of tourism projects compared to other sectors polluting the environment, and can reflect the low interest in hotel management in Iraq environmental issues.

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Results

The results of hypothesis 2 indicated in table 2 show the correlation coefficients between ROS as dependent variable and SRS, SOC, ECO, and ENV as independent variables. The findings of the Pearson's correlation indicate there is a positive correlation between the sustainability reporting of the sample hotels SRS and the hotel financial performance measured by return on sales ROS. This means that the hypothesis 1 was supported, which indicate that there is a significant positive relationship between the sustainability reporting scores (SRS) and return on sales with a relatively high correlation coefficient of 76%, r (52) =.763, p <.05.

Table 2. Pearson Correlations Matrix of H1

Correlations

		ROS	SRS	Social	Economic	Environmental
	Pearson Correlation	1	.763**	.700**	.734**	.792**
ROS	Sig. (2-tailed)		.000	.000	.000	.000
	N	52	52	52	52	52
	Pearson Correlation	.763**	1	.978**	.905**	.921**
SRS	Sig. (2-tailed)	.000		.000	.000	.000
	N	52	52	52	52	52
	Pearson Correlation	.700**	.978**	1	.823**	.832**
SOC	Sig. (2-tailed)	.000	.000		.000	.000
	N	52	52	52	52	52
	Pearson Correlation	.734**	.905**	.823**	1	.872**
ECO	Sig. (2-tailed)	.000	.000	.000		.000
	N	52	52	52	52	52
	Pearson Correlation	.792**	.921**	.832**	.872**	1
ENV	Sig. (2-tailed)	.000	.000	.000	.000	
	N	52	52	52	52	52

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

The results in Table 2 also support the sub-hypotheses H1a, H1b and H1c respectively. H1a results indicate a significant positive correlation between social reporting (SOC) and return on sales ratio (ROS) with a relatively high correlation coefficient of 70%, r (52) =.700, p <.05. The results of H1b indicate that there is a significant positive correlation between economic reporting (ECO) and return on sales ratio (ROS) with a correlation coefficient of 73%, r (52) =.734, p <.05. The highest correlation coefficient was achieved in the relationship between environmental reporting and the return on sales ratio (79%). H1b hypothesis test results indicate that there is a significant positive relationship between environmental reporting (ENV) and return on sales (ROS), r (52) =.792, p <.05.

Table 3 shows the results of the second main hypothesis which examine the relationship between SRS, SOC, ECO, and ENV of the sample hotels as independent variables and the financial performance measured by the return on assets (ROA) as dependent variable. The results of the Pearson's correlation show there is a positive correlation between the sustainability reporting of the sample hotels SRS and the hotel financial performance measured by return on assets ROA. This implies that the hypothesis 2 was supported, which indicate that there is a significant positive relationship between the sustainability reporting scores (SRS) and return on assets with a relatively high correlation coefficient of 77%, r (52) =.773, p <.05.

Table 3. Pearson Correlations Matrix of H2

Correlations

		ROA	SRS	Social	Economic	Environmental
ROA	Pearson Correlation	1	.773**	.666**	.767**	.898**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	52	52	52	52	52
SRS	Pearson Correlation	.773**	1	.978**	.905**	.921**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	52	52	52	52	52
SOC	Pearson Correlation	.666**	.978**	1	.823**	.832**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	52	52	52	52	52
ECO	Pearson Correlation	.767**	.905**	.823**	1	.872**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	52	52	52	52	52
ENV	Pearson Correlation	.898**	.921**	.832**	.872**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	52	52	52	52	52

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

The statistics in Table 3 also support the H2a, H2b and H2c sub-hypotheses. H2a results indicate a significant positive correlation between social reporting (SOC) and return on sales ratio (ROS) with a relatively low correlation coefficient of 66%, r (52) =.666, p <.05. The results of H2b indicate that there is a significant positive correlation between economic reporting (ECO) and return on sales ratio (ROS) with a correlation coefficient of 76%, r (52) =.767, p <.05. The highest correlation coefficient was achieved in the relationship between environmental reporting and the return on sales ratio (89%).

H2b hypothesis test results indicate that there is a significant positive relationship between environmental reporting (ENV) and return on sales (ROS), r (52) =.898, p <.05. Tables 4, 5, and 6 indicate the results of hypothesis H3, which tests the joint impact of sustainability reporting components; social, economic, and environmental reporting scores on the financial performance measured by rerun on sales (ROS). Table 4 describes the regression model outcomes.

Table 4. Summary of Regression Model of H3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.798[a]	.637	.614	.17143

a. Predictors: (Constant), ENV, SOC, ECO

The R2 value in table 4 is 0.61, so this outcome indicates that the independent variables (SOC, ECO, ENV) can collectively explain 61 percent of the variance in sales return (ROS). This shows that the financial performance of Iraqi hotels changes in the annual reports as a reaction to the change in the level of social, economic and environmental reporting.

Table 5. ANOVA results of H3

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.477	3	.826	28.091	.000[b]
	Residual	1.411	48	.029		
	Total	3.887	51			

a. Dependent Variable: ROS

b. Predictors: (Constant), ENV, SOC, ECO

Table 6. Regression Coefficients of H3

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.291	.053		-5.492	.000
	SOC	.002	.005	.086	.510	.613
	ECO	.015	.019	.143	.751	.456
	ENV	.042	.014	.596	3.055	.004

a. Dependent Variable: ROS

The results in Tables 4, 5 and 6 support hypothesis 3, which states that there is a relationship between social reporting, financial reporting and environmental reporting of Iraqi hotels and return on sales (ROS), $F(3,48) = 28.091$, $p<.05$, where the F statistic (28.091) is greater than the critical F value (3,33). Overall, statistical analysis findings show that financial performance is not driven by a single variable, but is the result of interaction between hotel social reporting, economic reporting and environmental reporting. Therefore, in order to enhance the hotel economic performance in Iraq, it is essential to focus on promoting sustainability reporting methods through the annual reports from Iraqi Hotels. Tables 7, 8, and 9 indicate the results of hypothesis H4, which tests the joint impact of sustainability reporting components; social, economic, and environmental reporting scores on the financial performance measured by rerun on assets (ROA).

Table 7. Summary of Regression Model of H4

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.910[a]	.829	.818	.07922

a. Predictors: (Constant), ENV, SOC, ECO

The R2 value in table 7 is 0. 818, so this outcome indicates that the independent variables (SOC, ECO, ENV) can collectively explain 82 percent of the variance in return on assets (ROA). This shows that the financial performance (measured by ROA) of Iraqi hotels changes in the annual reports as a reaction to the change in the level of social, economic and environmental reporting.

Table 8. ANOVA results of H4

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.460	3	.487	77.539	.000[b]
	Residual	.301	48	.006		
	Total	1.761	51			

a. Dependent Variable: ROA

b. Predictors: (Constant), ENV, SOC, ECO

Table 9. Regression Coefficients of H4

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.295	.024		-12.069	.000
	SOC	-.005	.002	-.280	-2.427	.019
	ECO	.003	.009	.045	.343	.733
	ENV	.051	.006	1.092	8.150	.000

a. Dependent Variable: ROA

The results in Tables 7, 8 and 9 support hypothesis 4, which states that there is a relationship between social reporting, financial reporting and environmental reporting of Iraqi hotels and return on assets (ROA), $F(3,48) = 77.539$, $p<.05$, where the F statistic (77.539) is greater than the critical F value (3,33). Overall, statistical analysis findings show that return on assets ration as a proxy of the financial performance is not driven by a single variable, but is the result of interaction between hotel social reporting, economic reporting and environmental reporting. Therefore, in order to enhance the hotel economic performance in Iraq, it is essential to focus on promoting sustainability reporting methods through the annual reports from Iraqi Hotels.

Conclusion and recommendations

The aim of this study was to test the relationship between reporting on sustainability with its social, economic and environmental components at the financial performance level of the sample of hotels registered in the Iraq Stock Exchange. This study used the output of the accounting system extracted from the annual reports of 10 hotels registered in ISX during the period 2013-2018 with a total of 52 observations. The research also sought to investigate the complementary association between sustainability reporting regulations and quantitative and economic outputs of the accounting information system and to indicate the significance of such inclusion. To this end, the researchers adopted a content analysis to develop a disclosure index to measure the level of sustainability reporting in the sample of hotels. This index was derived from G3.1 sustainability reporting guidelines and consisted of 84 indicators covering the social (45), economic (9), and environmental (30) dimensions of sustainability reporting. They also used two financial ratios namely, return on sales and return on assets as a proxy of the financial performance, while the extent of sustainability reporting and its components are measured by the score of the sustainability reporting index. To measure the overall impact of sustainability reporting practices on the hotel financial performance two multiple regression models were developed, the first model for ROS and the second for ROA. The results indicated a positive relationship between sustainability reporting and financial performance, and hotels with a high degree of sustainability reporting indicated higher financial performance under both measures of financial performance on return on sales ROS and return on assets ROA.

The findings also indicated that reporting on environmental information has a much larger impact on the financial performance of hotels than reporting on economic and social information. In the context of integration between sustainability reporting applications and the accounting information system, the findings show that the current accounting system outputs do not fully meet the sustainability reporting requirements in the hotel industry, as well as the discrepancy in the level of information disclosed in the annual reports between the three dimensions of sustainability. It should be noted that the accounting system mainly contributes to the provision of financial sustainability indicators, we note that the reporting rate of these indicators was 44 percent due to the nature of the accounting information system itself, which measures only financial units and transactions equivalent. It should be noted that there is a fairly high percentage in social reports, which amounted to 42 percent, which confirms the interest of tourism administrations in Iraq to disclose social activities in their financial statements. The rate was the lowest rate of environmental disclosure, which was 14 percent, due to the low environmental sensitivity of tourism activities compared to other polluting sectors, and could reflect lower interest in environmental issues for hotel management in Iraq.

Thus, the integration of the accounting information system with the three pillars of sustainability; economic, social and environmental, will inevitably change the management's vision of disclosure and transparency as a whole by emphasizing the interaction of environmental, social and economic responsibilities that lead to stakeholder satisfaction, and thus enhance the hotel financial performance. This notion is mainly prompted by both sustainability management and the theory of agencies. Generating value for stakeholders and strengthening their confidence in the activities of the company depends on their success in sustainability management activities. The level of sustainability reporting is then considered as an indicator of this success represented by financial performance measures. The findings of this research provide a new insight into the variations in sustainability reporting methods on the level of hotels and provide a deeper knowledge of the interaction between sustainability reporting and hotel financial performance. The findings implicitly motivate regulators to promote businesses ' sustainable development operations. The research adds considerably to the integration of accounting information system and reporting methods of hotel sustainability.

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