Exploring the Relationship Between Corporate Social Responsibility and Technology Adoption on Financial Performance

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ABSTRACT

This study examined the interrelationships between Corporate Social Responsibility (CSR), Technology Adoption in accounting, and Financial Performance within the context of the Saudi corporate sector. The primary aim was to investigate the extent of associations among CSR activities, technology adoption strategies, and financial outcomes in Saudi medium to large firms. A quantitative approach was utilized, employing a structured questionnaire administered to decision-makers in diverse industry sectors. Data analysis involved correlation analysis, regression modeling, and ANOVA tests to explore the relationships and impacts of CSR and technology adoption on financial performance. Strong positive correlations were identified between CSR, Technology Adoption in accounting, and Financial Performance, signifying their mutual influence. Regression analyses revealed that both CSR and Technology Adoption significantly predicted Financial Performance, with Technology Adoption exhibiting a notably higher impact. The findings underline the substantial role of CSR initiatives and technology adoption in driving improved financial outcomes within the Saudi corporate landscape. This suggests that organizations emphasizing CSR and adopting advanced technologies may experience enhanced financial performance. This study contributes to understanding the intricate links between CSR, technology integration, and financial success within a specific business context, offering insights for decision-makers and stakeholders in aligning strategies for improved performance.

Keywords: Corporate Social Responsibility, Financial Performance, Technology Adoption in accounting, social reporting in accounting.

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INTRODUCTION

The emergence of globalization and the ascent of the information economy has resulted in a fundamental transformation in the way organizations engage in their operational activities. In the current context characterized by intense competition and dynamic changes, firms face heightened scrutiny to provide economic value while simultaneously promoting social and environmental sustainability. In the contemporary business landscape, two crucial elements have surfaced as fundamental pillars for contemporary corporations: Corporate Social Responsibility (CSR) and Technology Adoption. In addition, CSR a term widely recognized in contemporary business discourse, has undergone a transformation from a mere colloquial term to a crucial strategic undertaking (Li et al., 2023). Originally perceived as a tangential kind of charity, CSR is now frequently regarded as an essential component of corporate strategy, intricately integrated into the very essence of organizational culture and decision-making processes (Coelho et al., 2023).

The escalating need for sustainable business practices and the rapid progression of technology has brought company CSR and Technology Adoption to the forefront of company strategy. Both parts, namely financial performance and their individual impact, have been subject to separate studies. However, there is a significant knowledge gap when it comes to comprehending their combined influence, particularly in certain sectors and geographical areas. The business sector in Saudi Arabia is characterized by its significant economic influence in the Middle East and its continuous endeavours to achieve diversification and modernization as part of the Vision 2030 initiative. This research supports Saudi Arabia Vision 2030 that aims for a high-level digital infrastructure with advanced business activities, seeking to enhance competitiveness of the Saudi economy, with IT adaption. According to Vision 203 (Saudi vision 2030), the government aims to enhance the integration of technology in the financial sector, and that transformation shapes the future of the financial sector not in Saudi Arabia, but in the world. This also to implements the DATA Act (2014) from Vision 2022, on changing technology and changing culture (Deloitte, 2014). However, there is a lack of research that has examined the way Saudi firms are managing the integration of CSR efforts with the adoption of technology, as well as the impact of this integration on their financial

success. The lack of such research constrains the capacity of stakeholders, including policymakers, corporate leaders, and investors, to make well-informed decisions. Furthermore, there is a lack of understanding of the interplay between these factors. The primary objective of this study was to address a significant research void by examining the impact of CSR and technology adoption on the financial performance of companies operating in the corporate sector of Saudi Arabia. By doing so, this research sought to provide practical and valuable insights that can be utilized to enhance corporate strategy in a region that is now experiencing fast development (Coelho et al., 2023; González-Ramos et al., 2018).

This paper starts with an introduction that highlights the problem and the background of the study. Next, the aim and the contribution of this work will be explained. After that, the literature will be presented; which will help to provide better understanding for the previous work and the highlighted gap. Next, the adopted research methodology will be explained in terms of applied methodology, data collections, and data analysis; which helps to explain how the collected data was processed. After that, the findings will be explained and discussed. Finally, the conclusion of this study will be provided.

LITERATURE REVIEW

CSR has evolved from a secondary business consideration to a crucial issue that affects corporate strategy and investment choices. The transition has ignited significant scholarly and professional attention, resulting in a vast amount of literature that examines the development, influence, and consequences of CSR in the contemporary business landscape. The notion of CSR emerged in the early 20th century, but it gained substantial prominence in the academic and corporate spheres during the 1960s and 1970s (Viswanathan, 2016). The studies further developed Bowen's concepts by stating that corporations have commitments to society that go beyond their economic and legal duties. Carroll's four-part CSR pyramid, developed in 1991, built upon foundational theories and classifies a business's social responsibility into four segments: economic, legal, ethical, and philanthropic. This framework emphasized that businesses should aim to be profitable, comply with the law, uphold ethical standards, and act as responsible corporate citizens (Suto & Takehara, 2016).

The onset of the 21st century saw the incorporation of CSR into fundamental company strategy, partially propelled by heightened public consciousness, globalization, and the widespread availability of information. The publication promoting the concept of creating shared value (CSV) was a notable change (Sleimi et al., 2020). They contended that corporations may attain economic prosperity by harmonizing company strategies with societal demands and concerns, therefore establishing a business model that is more sustainable and inclusive. This concept emphasised the ability of corporations to produce profit and provide societal value by solving social challenges through economic solutions (Slåtten et al., 2017).

According to Platonova et al. (2016), the importance of CSR in global business practices has been widely discussed in modern literature, especially in relation to the increasing presence of multinational firms. Further studies have analyzed the worldwide aspects of CSR, revealing that the implementation and execution of CSR fluctuate greatly based on cultural, economic, and legal considerations in various locations. They emphasized the flexibility of CSR frameworks in accommodating local circumstances, a critical factor for multinational firms that operate internationally.

In the age of globalization and digital communication, corporations are also encountering heightened public scrutiny and a growing expectation for transparency in their operations. Lee and Kim's (2017) research indicated that organizations that have strong sustainability practices have superior operational performance and tend to be more lucrative. The profitability of a company is directly related to its capacity to effectively utilize resources, establish strong relationships with stakeholders, and improve staff productivity. The research highlights the intricate nature of the relationship between CSR and financial success, noting that it is influenced by sector-specific dynamics, temporal factors, geographic locations, and increasing global standards and expectations. The diverse nature of this relationship implies that the positive financial results of CSR are not applicable to all situations but rather depend on the alignment between CSR activities and company strategy, stakeholder expectations, and larger socio-economic factors (Javed et al., 2019).

An important aspect of CSR is its measurable influence on financial performance and the choices made by investors. Empirical research has

increasingly indicated a positive association between socially responsible actions and economic performance. Hjalager (2020) had shown through meta-analysis that corporate virtue, specifically in the form of social responsibility and, to a lesser extent, environmental responsibility, is likely to yield positive results (Giannarakis et al., 2016). Companies have observed enhanced operational effectiveness and enhanced relationships with stakeholders, resulting in a beneficial impact on their financial performance. Nevertheless, Demsetz and Lehn (2020) stated that the nature of this relationship is intricate, as studies contend that although there is some positive evidence, it is accompanied by equally credible negative and non-significant findings. This suggests that the financial effects of CSR may depend on other internal and external factors.

Moreover, the literature provides an in-depth perspective on the impact of CSR programs on stakeholder relationships. Freeman's stakeholder theory initiated extensive debates on the management and equilibrium of stakeholder interests. It emphasized that disregarding the concerns of stakeholders might have adverse consequences on the reputation and financial position of firms. Recent research by Ghardallou (2022) indicated that engaging in CSR initiatives can help establish trust and social connections with stakeholders. This, in turn, might potentially result in a favourable regulatory environment, increased loyalty, and a stronger market position. This facet of CSR is especially vital in the age of social media and instantaneous communication, as any blunders by corporations can result in quick negative reactions from customers, employees, or investors (Viswanathan, 2016).

The convergence of CSR with technology, specifically digital transformation and data analytics, has created new opportunities for implementing and evaluating CSR initiatives. Another research had demonstrated that organizations dedicated to sustainable practices have progressively embraced technology to improve transparency, minimize resource usage, and optimize supply chains. Furthermore, the emergence of big data analytics allows organizations to accurately assess the influence and efficiency of their CSR programs, resulting in more strategically focused CSR spending. Advanced analytics enable the real-time monitoring of supply chain partners, assuring adherence to ethical norms and facilitating prompt action in case of any inconsistencies (Volkova, 2021). Byrnes et

al. (2018) and Sevenius (2019) highlighted how adapting IT systems in accounting may play a key role as business stakeholders in the economy and suggest the need for education and training of teams on testing IT tools. Zhang et al. (2020) discussed the challenges of big datasets and AI technology, which effectively reduce inspection and control accounting risk, but also bring about new technical and systemic risk.

Themain challenge for social accounting development is businesses resistance to meet the demands of social organisations and groups (Wołkowski, 1984). Yet Accounting may assist the information on environmental and social activity of companies (Abdullah, 2018). Companies use the accounting system to measure the effects of CSR activity and provide the relevant information (Daferighe et al., 2019). Accounting plays a crucial role in organizations in areas related to CSR such as reporting, transparency, compliance, communication with stakeholders (Albu et al., 2011). Lu et al. (2014) claimed that the core relation between CSR and financial performance has not yet been determined.

In a study conducted by Coelho et al. (2023), it was observed that companies which implemented both CSR initiatives and technology adoption strategies experienced enhanced financial performance within the United Arab Emirates (UAE) setting. However, it is important to note that these studies have certain limitations and are not exhaustive in nature. This implies that there is a requirement for extensive study that specifically concentrates on the interplay between CSR and the adoption of technology. The landscape is made more complex by external factors like regulation, stakeholder expectations, and industry-specific issues, as discussed by Xin et al. (2022). These researchers contend that an excessively narrow emphasis on financial success fails to acknowledge the intricate interplay of social and economic elements within which these activities are situated.

Ultimately, the combination of CSR and technology adoption, as evidenced in current research, signifies a shift towards a new model where financial success is closely linked to sustainable and ethical business strategies (Akben-Selcuk, 2019). The current trend indicates a future in the corporate world where success is evaluated not just based on financial profits but also on the extent of contributions made towards a sustainable and inclusive future (Al-Ghamdi & Badawi, 2019). Businesses find themselves

at a critical crossroads, where they must carefully navigate technological progress in a responsible manner, ensuring that they make a beneficial contribution to both society's well-being and environmental preservation. By utilizing technology, this comprehensive method of CSR is positioned to establish a fresh standard for financial stability and long-lasting impact, transforming the role of businesses in promoting overall advancement (Ajina et al., 2020).

Hypotheses of the Study

Based on the above literature, the following two hypotheses were created to cover the research framework. Hypothesis (H1) was based on the component of the relation between Corporate Social Responsibility and Financial Performance of Saudi Corporate Sectors. Hypothesis (H2) was based on the component of efficient and effective of Technology Adoption on the Financial Performance of Saudi Corporate Sectors. These therefore gave rise to the following two hypotheses:

$H1_a$: There is a significant effect of Corporate Social Responsibility on the Financial Performance of Saudi Corporate Sectors.

$H2_a$: There is a significant effect of Technology Adoption on the Financial Performance of Saudi Corporate Sectors.

RESEARCH METHODOLOGY

Applied Approach

This study utilised a predominantly quantitative research approach. In order to investigate the connections between technology adoption, and CSR policies, and their effects on financial performance in the Saudi business sector, this technique entailed the methodical collecting and analysis of numerical data. With the use of quantitative approaches, factors may be measured and statistically analyzed, facilitating a thorough assessment of the goals and research questions. The study used a structured questionnaire to collect information from medium-sized to large firms' decision-makers in Saudi Arabia's several industry sectors. With this method, data on respondents' opinions of CSR programs, technology adoption tactics, and

financial performance metrics could be standardized and gathered. The poll measured respondents' agreement or disagreement with particular assertions about CSR, technology, and financial performance using Likert scale items (Guzik & Więckowska, 2023).

For investigating the relationships between the independent variables (CSR and technology adoption) and the dependent variable (financial performance), the quantitative data analysis employed a variety of statistical techniques, including regression analysis, correlation analysis, multivariate analysis, and factor analysis. These statistical techniques facilitated the finding of important correlations and aid in addressing the study objectives, providing insightful information about the relationship between CSR and technology adoption and financial performance in the Saudi corporate sector. All things considered, the quantitative research approach guarantees a thorough and data-driven analysis of the study issue, offering a strong basis for deriving significant conclusions and consequences for policymakers, business decision-makers, and other stakeholders (Hetenyi et al., 2019).

Data Collection

The target population for this study comprised medium to large corporations across various industry sectors, particularly decision-makers involved in CSR initiatives and technological adoption in corporate sectors. This range included corporations from technology, manufacturing, healthcare, and service industries. The sample was drawn using stratified random sampling to ensure representation across sectors and sizes. Within each stratum, companies were selected randomly. The aim was to achieve a sample size of at least 200 decision-makers from various corporations to ensure statistical validity and the generalizability of findings (Brown et al., 2020). The primary instrument for data gathering was a structured questionnaire. Before commencing the comprehensive data-gathering process, a preliminary pilot test was undertaken using a smaller subset of participants. This pilot test aimed to ascertain the reliability and validity of the questionnaire. The data obtained from the pilot test was utilized to enhance the instrument, following which the finalized questionnaire was distributed to the intended population of the study.

Stratified random sampling is a method used for this study's sample in order to guarantee representation of a range of industrial sectors and company sizes. Stratification is the process of creating smaller groupings within the target audience according to industry sectors (such as manufacturing, technology, healthcare, and services) and firm sizes (medium and big). By doing this, the study was able to include a wide range of viewpoints and experiences that might differ between industries and sizes (McLeod, 2023). The main study was conducted in December 2023, and the response rate was about 57%.

A structured questionnaire that was delivered online to decision-makers in medium-sized to big firms within the Saudi corporate sector was the method used for data collection in this study. This method was been painstakingly created to collect quantitative information about the research variables financial performance, technology adoption, and CSR practices in an efficient and thorough manner (Lathoura et al., 2020).

The questionnaire included demographic questions that covered matters like gender, age group, job title and position, years of experience, and educational background. Likert scale items, which allowed respondents to indicate how much they agree or disagree with a series of assertions about CSR practices, technology adoption, and financial performance, made up the bulk of the questionnaire. These sentences were thoughtfully constructed to offer a thorough understanding of the study variables and to convey the subtleties of respondents' perspectives (Gustavson et al., 2021).

Data Analysis

In order to investigate the connections between technology adoption, financial performance, and CSR practices within the Saudi corporate sector, a thorough process of data analysis was employed. Practically, the collected data from the distributed questionnaire was carefully coded, which transformed qualitative answers into numerical values and made it suitable for rigorous statistical analysis. The collected data was analysed through the two main statistical software, SPSS and MS Excel. In the first place, data was converted from its qualitative form to quantitative through the data coding in MS Excel for the further statistical analysis of results (Firew et al., 2020). Correspondingly, the duplication and redundancy of the data

were removed through data coding. Afterwards, data was transferred from MS Excel to SPSS to perform numerical tests to infer the results, and the unit of the conducted analysis is individual. For every variable, descriptive statistics were then computed. A snapshot of the central tendencies, variation, and distribution of the data was provided by measures like means, standard deviations, and frequency distributions. An overview of the data was given in this stage (Dyrbye et al., 2019).

It was crucial to ensure that the data was internally consistent, which was accomplished by a reliability analysis. For every scale or group of related items, Cronbach's alpha was computed to show how reliable the measurements were. A high alpha indicated that the same construct was reliably measured by the items. Bivariate analysis was then carried out to investigate correlations between variable pairs. In order to provide insights into preliminary associations, entailed evaluating correlations between financial performance measures, technology adoption, and CSR activities (Dmitry Oshchepkov et al., 2022).

RESULT AND DISCUSSION

Demographic Data Analysis

The data represents the gender distribution of respondents, where a total of 200 individuals participated. Among them, 47.5% identified as male (95 individuals), while 52.5% identified as female (105 individuals). These figures indicated a nearly balanced gender distribution within the sample, with slightly more female respondents than male. This dataset provides insights into the gender composition of the surveyed population, showing a fairly representative mix of male and female perspectives within the study or survey conducted. The data in Table 1 outlines the age distribution, job positions, experience, and educational qualifications.

Table 1: Demographic Profile

Respondents Characteristics		Percent
Gender	Male	47.5
	Female	52.5
Age	25-35 Years	55.5
	36-45 Years	21.5
	46-55 Years	18.5
	Above 55	4.5
Job Position	Entry Level	20.0
	Mid-Level Management	27.0
	Senior Management	25.5
	Executive	23.0
	Other	4.5
Experience	Less than 1 Year	9.0
	1-3 Years	23.5
	3-5 Years	26.5
	More than 5 Years	41.0
Educational Qualification	High School	1.0
	Bachelor's Degree	49.0
	Master's Degree	41.5
	Doctorate or Higher	8.5

Descriptive Statistics

Table 2: Descriptive Statistics of Corporate Social Responsibility Data

	N	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
Item 1	200	1	5	3.59	1.103
Item 2	200	1	5	3.36	1.143
Item 3	200	1	5	3.54	1.046
Item 4	200	1	5	3.52	.966
Item 5	200	1	5	3.45	1.011
Item 6	200	1	5	3.89	1.069
Valid N (List Wise)	200				

The descriptive statistics provided here offers insights into the perceptions or evaluations of CSR across six different items measured on a scale from 1 to 5 by 200 respondents. The mean scores for each item ranged from 3.36 to 3.89, indicating the average rating for each aspect of CSR. The standard deviations, ranged from 0.966 to 1.143, and showed the

extent of variability or dispersion of responses around the mean for each item. Overall, the mean scores suggested a generally positive perception of CSR across these six dimensions, with relatively moderate to high levels of agreement or positive evaluation among the respondents. The consistency and narrow spread of scores, indicated by the standard deviations, suggested a certain level of agreement or similarity in how respondents perceived these aspects of CSR.

Table 3: Descriptive Statistics of Technology Adoption Data

	N	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
Item 1	200	1	5	3.74	1.025
Item 2	200	1	5	3.56	1.069
Item 3	200	1	5	3.83	.983
Item 4	200	1	5	3.73	1.032
Item 5	200	1	5	3.66	1.054
Item 6	200	1	5	3.75	1.021
Item 7	200	1	5	3.82	1.029
Valid N (List Wise)	200				

The provided descriptive statistics present the perceptions or evaluations of technology adoption across seven different items, rated on a scale from 1 to 5 by 200 respondents. The mean scores for each item ranged from 3.56 to 3.83, indicating the average rating for different aspects related to technology adoption. The standard deviations, ranged from 0.983 to 1.069, illustrating the degree of variability or dispersion of responses around the mean for each item. Overall, the mean scores suggested a generally positive perception of technology adoption across these dimensions, with respondents expressing moderate to high levels of agreement or positive evaluation. The consistency in ratings, indicated by the standard deviations, suggested a certain level of agreement or similarity in how respondents perceive various aspects of technology adoption, potentially indicating a cohesive view among the surveyed individuals.

Table 4: Descriptive Statistics of Financial Performance

	N	Minimum	Maximum	Mean	Std. Deviation
Item 1	200	1	5	3.64	1.023
Item 2	200	1	5	3.54	.981
Item 3	200	1	5	3.55	.981
Item 4	200	1	5	3.56	1.045
Item 5	200	1	5	3.50	1.042
Valid N (List Wise)	200				

The descriptive statistics offered insights into the perceived financial performance based on five different items, each rated on a scale from 1 to 5 by 200 respondents. The mean scores for each item ranged from 3.50 to 3.64, indicating the average assessment of various aspects related to financial performance. The standard deviations, ranged from 0.981 to 1.045, depicting the extent of variability or dispersion of responses around the mean for each item. Overall, the mean scores suggested a moderate to positive perception of financial performance across these dimensions, with respondents expressing a generally favourable evaluation. The consistency in ratings, as indicated by the standard deviations, suggested a certain level of agreement or similarity in how respondents perceived different facets of financial performance, potentially indicating a coherent view among the surveyed individuals regarding the company's financial aspects.

EXTRACTION OF LATENT VARIABLES

Extraction of Corporate Social Responsibility

Table 5: Reliability Analysis of Corporate Social Responsibility Data

	Scale Mean if Item Deleted	*Scale Variance if Item Deleted*	*Corrected Item-Total Correlation*	*Cronbach's Alpha if Item Deleted*
Item 1	17.77	15.960	.665	.819
Item 2	18.01	15.482	.695	.813
Item 3	17.82	16.209	.681	.816
Item 4	17.84	16.098	.774	.801
Item 5	17.91	16.167	.719	.810
Item 6	17.47	18.944	.317	.882

The reliability analysis conducted on the CSR data examined the consistency and internal reliability of the measurement scale across its six items. The analysis considered several parameters: the scale mean if each item were deleted, the scale variance if the item were deleted, the corrected item-total correlation, and Cronbach's alpha if each item were removed from the scale. Items 1 to 5 consistently showed a relatively high corrected item-total correlations ranging from 0.665 to 0.774, indicating a moderate to strong relationship between each item and the overall scale. This suggested that these items contributed positively to the overall internal consistency of the CSR scale. However, Item 6 exhibited a notably lower corrected item-total correlation of 0.317, indicating a weaker association and potentially lower contribution to the overall scale consistency. Interestingly, despite this lower correlation, removing Item 6 increased the Cronbach's alpha, suggesting that the item might not align well with the other items in measuring CSR, hence compromising the scale's reliability.

Table 6: Total Variance Explained in Corporate Social Responsibility by Observed Variables

Component	*Initial Eigenvalues*			*Extraction Sums of Squared Loadings*		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	3.560	59.335	59.335	3.560	59.335	59.335
2	.869	14.485	73.820			
3	.593	9.882	83.702			
4	.477	7.956	91.658			
5	.296	4.933	96.591			
6	.205	3.409	100.000			

Extraction Method: Principal Component Analysis.

This analysis using Principal Component Analysis (PCA) aimed to understand the variance explained by observed variables related to CSR. The Table below displays the initial eigenvalues and the extraction sums of squared loadings across six components. The initial eigenvalues represented the variance in the original variables, with the first component explaining a substantial amount of variance (3.560, accounting for 59.335% of the total variance). As additional components were added, each contributed successively less to the overall variance, with diminishing percentages.

In this case, the first component captured the most significant amount of variance in the observed variables related to CSR, while subsequent components contribute less to the overall variance, cumulatively explaining 100% of the variance across all components. This suggested that the data's dimensions or patterns were most comprehensively represented by the first component, signifying its importance in understanding the underlying structure of CSR-related variables.

Extraction of Technology Adoption

Table 7: Reliability Analysis of Technology Adoption Data

	Scale Mean if Item Deleted	*Scale Variance if Item Deleted*	*Corrected Item-Total Correlation*	*Cronbach's Alpha if Item Deleted*
Item 1	22.35	29.143	.865	.937
Item 2	22.53	29.095	.827	.940
Item 3	22.25	29.889	.829	.940
Item 4	22.36	29.367	.835	.940
Item 5	22.42	28.999	.851	.938
Item 6	22.33	29.420	.840	.939
Item 7	22.26	30.354	.736	.948

The reliability analysis conducted on the Technology Adoption data evaluated the internal consistency and reliability of the measurement scale across its seven items. The analysis included the scale mean if each item were deleted, the scale variance if the item were deleted, the corrected item-total correlation, and Cronbach's alpha if each item were removed from the scale. Items 1 to 6 consistently demonstrated high corrected item-total correlations ranging from 0.827 to 0.865, indicating a strong relationship between each item and the overall scale of technology adoption. These correlations suggested that these items contributed positively to the scale's internal consistency. However, Item 7 displayed a relatively lower corrected item-total correlation of 0.736, suggesting a weaker association with the overall scale. Despite this, removing Item 7 increased Cronbach's alpha, indicating that this particular item might not align well with the other items in measuring technology adoption but could improve the scale's overall reliability if omitted.

Table 8: Total Variance Explained in Technology Adoption by Observed Variables

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.358	76.537	76.537	5.358	76.537	76.537
2	.494	7.051	83.587			
3	.310	4.429	88.016			
4	.252	3.606	91.622			
5	.232	3.316	94.937			
6	.203	2.898	97.835			
7	.152	2.165	100.000			

Extraction Method: Principal Component Analysis.

The analysis utilizing Principal Component Analysis (PCA) explored the variance explained by observed variables related to Technology Adoption across multiple components. The table below presents initial eigenvalues and extraction sums of squared loadings across seven components. The initial eigenvalues signified the variance within the original variables, with the first component explaining a significant portion of variance (5.358), accounting for 76.537% of the total variance in technology adoption-related variables. As additional components were included, each consecutively contributed less to the overall variance, with diminishing percentages. In this context, the first component captured the most substantial amount of variance in the observed technology adoption variables, while the subsequent components contributed successively less to the cumulative variance, culminating in a total variance explanation of 100% across all components. This underscored the dominance of the first component in representing the underlying structure of the technology adoption-related variables, indicating its pivotal role in understanding these dimensions.

Extraction of Financial Performance

Table 9: Reliability Analysis of Financial Performance Data

	Scale Mean if Item Deleted	*Scale Variance if Item Deleted*	*Corrected Item-Total Correlation*	*Cronbach's Alpha if Item Deleted*
Item 1	14.16	13.713	.862	.935
Item 2	14.26	13.839	.888	.930
Item 3	14.25	13.945	.871	.933
Item 4	14.24	13.721	.836	.939
Item 5	14.30	13.789	.829	.941

The reliability analysis conducted on the Financial Performance data evaluated the internal consistency and reliability of the measurement scale across its five items. The analysis included the scale mean if each item were deleted, the scale variance if the item were deleted, the corrected item-total correlation, and Cronbach's alpha if each item were removed from the scale. Items 1 to 5 consistently demonstrated a high corrected item-total correlations, ranging from 0.829 to 0.888, indicating a strong relationship between each item and the overall scale of financial performance. These correlations suggested that these items contributed positively to the scale's internal consistency, reflecting their alignment with the overall construct being measured. Additionally, the high Cronbach's alpha values across all items, ranged from 0.930 to 0.941, further reinforcing the scale's reliability and the interrelatedness of the items in measuring financial performance as a cohesive construct.

Table 10: Total Variance Explained in Financial Performance by Observed Variables

Component	*Initial Eigenvalues*			*Extraction Sums of Squared Loadings*		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.143	82.858	82.858	4.143	82.858	82.858
2	.285	5.702	88.560			
3	.235	4.699	93.259			
4	.206	4.116	97.375			
5	.131	2.625	100.000			

Extraction Method: Principal Component Analysis.

This analysis, utilizing Principal Component Analysis (PCA), explored the variance explained by observed variables related to Financial Performance across multiple components. The Table below displays initial eigenvalues and extraction sums of squared loadings across five components. The initial eigenvalues represented the variance within the original variables, with the first component explaining a substantial portion of variance (4.143), accounting for 82.858% of the total variance in financial performance-related variables. As additional components were included, each contributed successively less to the overall variance, with diminishing percentages. In this context, the first component captured the most significant amount of variance in the observed financial performance variables, while the subsequent components contribute progressively less to the cumulative variance, culminating in a total variance explanation of 100% across all components. This highlighted the dominance of the first component in representing the underlying structure of the financial performance-related variables, signifying its pivotal role in understanding these dimensions within the dataset.

Correlation Analysis

The correlation analysis conducted between CSR, Technology Adoption in accounting, and Financial Performance variables revealed strong positive correlations between these constructs; Table 11 illustrates the Results of Correlation Analysis. The Pearson correlation coefficients showed significant associations between CSR and Technology Adoption ($r = 0.787$, $p < 0.01$), CSR and Financial Performance ($r = 0.743$, $p < 0.01$), as well as Technology Adoption and Financial Performance ($r = 0.716$, $p < 0.01$). These correlations suggested a robust relationship among these dimensions, indicating that as one variable increased, the others tended to increase as well. The significance level ($p < 0.01$) affirmed the reliability of these associations, highlighting the interdependence and mutual influence among CSR, Technology Adoption, and Financial Performance within the studied context, potentially indicating that organizations with stronger CSR initiatives might exhibit higher technology adoption and better financial performance, and vice versa.

Table 11: Results of Correlation Analysis

		Corporate Social Responsibility	Technology Adoption	Financial Performance
Corporate Social Responsibility	Pearson Correlation	1	.787**	.743**
	Sig. (2-tailed)		.000	.000
	N	200	200	200
Technology Adoption	Pearson Correlation	.787**	1	.716**
	Sig. (2-tailed)	.000		.000
	N	200	200	200
Financial Performance	Pearson Correlation	.743**	.716**	1
	Sig. (2-tailed)	.000	.000	
	N	200	200	200

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

Regression Analysis

In terms of Regression Analysis, the ANOVA test results indicated a statistically significant relationship between the predictors (Technology Adoption and Corporate Social Responsibility) and the dependent variable (Financial Performance); the results of ANOVA test are presented in Table 12. The regression model, which included both predictors, showed a significant overall fit ($F = 113.615$, $p < 0.001$), indicating that the combined effect of Technology Adoption in accounting and CSR significantly explained the variance in Financial Performance. The regression model accounted for a substantial portion of the variance in Financial Performance, as evidenced by the high F-value and low associated p-value ($p = .000$). The sum of squares and mean square values further supported the significant impact of the predictors on Financial Performance, suggesting that the model with Technology Adoption in accounting and CSR as predictors reliably explained the variability observed in Financial Performance among the studied sample.

Table 12: Results of ANOVA Test

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106.590	2	53.295	113.615	.000
	Residual	92.410	197	.469		
	Total	199.000	199			

a. Dependent Variable: Financial Performance
b. Predictors: (Constant), Technology Adoption, Corporate Social Responsibility

The results of the regression analysis suggested a significant relationship between the predictors (Corporate Social Responsibility and Technology Adoption) and the dependent variable (Financial Performance). Both CSR and Technology Adoption exhibited statistically significant standardized coefficients (Beta), indicating their individual impact on Financial Performance; Table 13 illustrates the Results of Regression Analysis. For every one-unit increase in CSR, Financial Performance was expected to increase by 0.187 units, holding other variables constant. Similarly, a one-unit increase in Technology Adoption predicted a larger increase of 0.606 units in Financial Performance, keeping other factors constant. The t-values (3.117 for CSR and 10.105 for Technology Adoption) indicated that both predictors had strong effects on Financial Performance, with Technology Adoption demonstrating a notably higher impact compared to CSR. These findings implied that higher levels of both Corporate Social Responsibility and Technology Adoption were associated with better Financial Performance in the studied context. The comprehensive analysis revealed a strong and significant correlations between CSR, Technology Adoption, and Financial Performance within the Saudi corporate sector. The correlation analysis displayed robust positive associations between these dimensions (CSR, Technology Adoption, and Financial Performance), indicating that higher levels of CSR activities and technological adoption were linked to improved financial outcomes. Further supported by regression and ANOVA tests, the regression analysis highlighted that both CSR and Technology Adoption independently contributed significantly to enhanced Financial Performance. Specifically, a one-unit increase in CSR predicted a 0.187-unit increase in Financial Performance, while a similar increase in Technology Adoption yielded a larger impact of 0.606 units on Financial Performance. These findings underscore the considerable influence of CSR initiatives and technology adoption on financial outcomes within the Saudi corporate landscape, suggesting their crucial role in driving improved financial performance among businesses in the region.

Table 13: Results of Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.884E-6	.048		.000	1.000
	Corporate Social Responsibility	.187	.060	.187	3.117	.002
	Technology Adoption	.606	.060	.606	10.105	.000

a. Dependent Variable: Financial Performance

Findings Discussion

Strong relationships between CSR, the Adoption of New Technologies, and Financial Performance pointed to the existence of a mutually beneficial relationship inside businesses. The positive relationships that were found implied that there was a chance of increasing technology adoption and better financial results when organizations spent more in CSR activities. This was shown by the fact that the observed positive associations were positive. This interconnection highlighted the comprehensive aspect of successful company, demonstrating that a balanced strategy that incorporated ethical responsibility and technology improvements might potentially offer beneficial financial consequences. The regression study demonstrated that CSR and Technology Adoption in accounting each had their own independent influence on Financial Performance. While all of these variables contributed favourably, the adoption of new technologies had a far more significant impact. This focus on the relevance of technology in generating financial results is in line with the present landscape of corporate landscape, in which digitalization and technological integration often contribute to greater levels of efficiency, productivity, and market competitiveness (Al-Ghamdi & Badawi, 2019).

The results supported the need for a strategic connection of CSR programs and the incorporation of technology into business plans. It is expected that companies which develop activities related to corporate CSR while also embracing technical improvements would see improved financial success. This alignment is not only about increasing profits; rather, it is about developing a sustainable business model that takes into account social impact, ethical responsibility, and technical innovation as essential components of a company's ability to be successful (Buallay et

al., 2020). However, it is also important to keep in mind that correlation does not always indicate causality. Despite the fact that the research found substantial connections, further investigation is needed in order to determine whether or not there is a causal connection between the two. There are a number of factors that might affect a company's financial performance that are not covered by this study; nevertheless, a more in-depth inquiry into the contextual details would give more thorough insights (Do et al., 2020).

In addition, the setting of the research, which was the business sector in Saudi Arabia, may make it difficult to generalize the results to a scenario that is more applicable to the whole world. The interaction between CSR, technological advancement, and financial consequences may be affected by regional variances in culture, economy, and regulations (Demsetz & Lehn, 2020). These conclusions have significant repercussions for the strategic direction of the company. They point to a change in the paradigm in which companies that embrace both social responsibility and the progression of technology are better positioned for sustainable financial success. As a result, businesses should think about merging CSR programs with technical improvements in order to cultivate a culture of responsible business practices while also capitalizing on breakthroughs for an edge over their competitors (Mitra, 2021).

The research focuses light on the interconnection of CSR, Technology Adoption in accounting, and Financial Performance, and highlights the potential advantages of a strategy that synergizes with one another. These results might be validated by conducting industry-specific analysis or longitudinal studies in the future as part of further research that aims to investigate other variables that have an influence on this complex connection. The robust positive connections that were observed between these aspects point to a reciprocal reinforcement, in which developments in one area likely to complement and maybe magnify advancements in other areas (Nguyen et al., 2021). The identified links highlight the many different dimensions that contribute to the success of organizations. Businesses that cultivate substantial CSR programs have a propensity toward adopting technology improvements, which, in turn, reflects favourably on the financial results of such businesses. This complex link is indicative of a more all-encompassing approach to business strategy one that combines ethical responsibility with creative technical solutions to produce a company model that is both more sustainable and more competitive (Waheed & Yang, 2018).

Having said that, it is essential to take into account the directionality of these interactions. The research does demonstrate statistical linkages, but it does not clarify the specific causal pathways that lead from one variable to another in this context. Even if these efforts do not immediately lead to increased financial performance, it's possible that companies in better financial shape may devote a greater portion of their resources to CSR projects and technical advancements (Sleimi et al., 2020). To disentangle these causal relationships, a more sophisticated investigation is required, one that may include longitudinal research or experimental methods. In addition, despite the fact that the research covers a wide variety of business spheres in the Saudi business landscape, it is possible that the results are limited by the setting in which they were gathered. When compared to other worldwide settings, Saudi Arabia's unique sociocultural, economic, and regulatory environment may have a varied effect on the links between CSR, technological advancement, and financial consequences. Therefore, it is important to exercise care when extrapolating these results to a more comprehensive corporate environment on a worldwide scale and to conduct more research in a variety of international contexts (Suto & Takehara, 2016).

Although CSR plays a key part, the transformational potential of technology seems to have a more considerable effect on financial results. This essential finding is shown by the huge gap in the impact that technology adoption has on financial performance compared to the impact that corporate social responsibility has. This is a reflection of the trend that is now occurring in the development of business, in which advances in technology work as catalysts for innovation, operational efficiency, and market flexibility (Nguyen, 2018). These results highlight how important it is for companies to manage the tricky balance that must be struck between ethical duty and the advancement of technology. It is not enough to just make use of the most recent innovations in technology; rather, one must do it in an honest and responsible manner in order to improve one's financial stability while simultaneously benefiting society. In the interest of future research, a more in-depth look of the ways in which CSR and technology are intertwined to affect financial success might reveal deeper insights. Along with real-time evaluations of financial success, longitudinal studies that chart the development of CSR initiatives and technology integration over time would provide a greater understanding of these nuanced linkages (Platonova et al., 2016).

This research highlights the emerging necessity for companies to regard CSR and technology adoption as interwoven aspects driving sustainable financial success. In summary, the study demonstrates the importance of businesses viewing CSR and technology adoption in this way. Finding a means to strike a harmonic balance between ethical responsibility and technical innovation might pave the way for a new paradigm of corporate excellence one that not only prioritizes profits but also champions social welfare and environmental sustainability. This would be a paradigm in which a corporation prioritizes profits as well as advocates societal welfare and environmental sustainability.

CONTRIBUTION

This study which aimed to investigate the impact of business CSR and technology adoption on financial performance, specifically in the Saudi business sector, is highly significant for multiple reasons. Initially, it offers a valuable understanding of the relationship between CSR initiatives, technological progress, and financial results in an area renowned for its significant economic impact on the worldwide oil industry and its ongoing shift towards diversification. Gaining comprehension of this interrelationship is of utmost importance, particularly as Saudi enterprises strive to synchronize with the goals of Vision 2030, which prioritize the expansion of the economy, the promotion of sustainable development, and the implementation of technical advancements. Moreover, this study is pertinent and topical in light of the growing international emphasis on ethical business conduct, sustainability, and the tendencies of digital transformation (Asna, 2020).

This study presents a novel viewpoint by suggesting that the adoption of technology may not only help in implementing CSR efforts but may also be influenced by CSR tactics, which in turn can affect financial results. This comprehensive approach promotes a cross-disciplinary conversation and has the potential to stimulate future research methods. Moreover, the scientific significance of the study is emphasized by its ability to establish a standard for measuring the financial influence of CSR and technical projects. Conventional approaches to evaluating financial success concentrate on tangible economic metrics (Javeed & Lefen, 2019). Conversely, this study

acknowledges and endeavours to measure less visible resources, such as business reputation, social capital, and brand value, which are becoming more relevant in the current era of digitalization and social awareness. Ultimately, the study enhances and broadens current theoretical frameworks on corporate profitability and sustainability by linking these insights with specific financial measurements. This offers a more comprehensive model that can be further examined, validated, or disproven by other researchers. This advancement is vital for the ongoing development of business and economic sciences (Landi & Sciarelli, 2019). The study can provide policymakers with evidence of the financial effectiveness of CSR and Technology Adoption in accounting. This information can influence the development of legislation, incentives, and frameworks that either encourage or require these actions. Ensuring congruence between business strategy, legislation, and societal welfare is of utmost importance for Saudi Arabia, as it seeks to establish itself as a prominent advocate for corporate social responsibility, technology-driven progress, and economic sustainability globally (Buallay et al., 2020).

CONCLUSION

The complex interplay of Financial Performance, Technology Adoption, and CSR reveals a complex story in the context of modern business dynamics. According to this research, which was carried out in the Saudi corporate sector, there are strong connections between organizations that participate in robust CSR programs and greater levels of technology adoption, which is positively correlated with improved financial results. These results highlight the relationship between CSR, technology, and financial performance and provide insight into a company environment where moral responsibility and technical innovation work together to propel overall organizational development. Even while the research finds a lot of statistical correlations, it also raises questions about the intricate processes that underlie these interactions. It suggests that while companies that prioritize corporate social responsibility (CSR) may also be more inclined to embrace technology, further research is needed to determine the causes and effects of these factors.

The findings highlight how companies are becoming more than just profit-driven organizations; they are also becoming forces for social change.

They reaffirm that having an ethical conscience is not just a moral duty but also a business need that supports long-term financial success. Furthermore, the significant influence that technology adoption has on financial results underscores the revolutionary power of innovation and emphasizes how important it is for companies to handle technological improvements in an ethical and responsible manner. Because business contexts are context-specific, care should be used when extrapolating these results. In contrast to other worldwide settings, Saudi Arabia's distinct socio-cultural and economic milieu may exhibit differing linkages between CSR, technology, and financial success. To sum up, our research makes a strong case for companies to balance technical innovation with moral responsibility. It represents a paradigm change in favor of a more all-encompassing corporate strategy that promotes environmental sustainability and social responsibility in addition to financial rewards. Businesses are navigating this complex relationship, where pursuing financial success is inextricably related to upholding moral principles and advancing technology to create a more affluent and responsible future for society as a whole.

The scientific implications of the research shed light on the relationship between Financial Performance, Technology Adoption in accounting, and CSR and greatly advance the field of organizational behavior and management sciences. The strong connections shown between these dimensions confirm the complex interaction between financial results, technology integration, and social responsibility programs. This emphasizes the need of interdisciplinary study methods that include technical studies, social sciences, and business management. It demands further research into the complex ways that technology innovations and corporate social responsibility initiatives interact to affect financial success (Hjalager, 2020). The study also emphasizes the possibility for more empirical investigations and long-term research. The nature of the links revealed necessitates in-depth examinations that explore temporal sequences and causation. The link between CSR activities, technology adoption trends, and financial trajectories may be elucidated via longitudinal research, which can also provide insights into how these interactions have changed over time within the business environment. To effectively capture the intricacies and temporal dynamics of these connections, methodological advancements are necessary (Lee & Kim, 2017).

The results of the research also highlight the need for sophisticated conceptions and nuanced assessment instruments. Future research must prioritize the development of more thorough and sophisticated measures for evaluating CSR practices, Technology Adoption in accounting, and financial success. Improved measuring instruments will make it possible to comprehend the many facets of technology integration and corporate social responsibility at a more granular level, facilitating more exact and thorough analysis. Additionally, the research offers a chance for comparative and cross-cultural analysis. Variations in the link between CSR, technology, and financial success may be found by expanding this study across a range of national and cultural settings. In order to provide a more global and complete perspective, comparative studies would clarify how various socio-economic, cultural, or regulatory settings impact the dynamics seen in the Saudi business sector (Moratis, 2018).

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