



# Corporate social responsibility, reputation and performance in the Zimbabwe's mining sector



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**Orientation:** The Zimbabwe's mining sector regrettably has a poor corporate social responsibility (CSR) record, which has earned the mining corporations a bad reputation and poor business performance.

**Research purpose:** The study investigated the relationship between CSR, corporate reputation (CR), and performance in Zimbabwe's mining sector.

**Motivation for the study:** The implementation of CSR programmes in the Zimbabwean mining sector has been inconsistent over the years, with some firms virtually uninvolved in such activities. The impact of CSR in that sector remains largely unexplored.

**Research approach/design and method:** The study was quantitative, involving a survey of 330 managers and other professionals working in Zimbabwean mining sector firms. The collected data were analysed using correlation and regression analyses.

**Main findings:** Two CSR dimensions, namely, stakeholder CSR and ethical CSR, contributed to CR. Corporate reputation exerted a positive impact on social performance and negatively towards operational performance.

**Practical/managerial implications:** The study provides practical solutions to mining firms on which CSR practices are essential for strengthening both CR and performance.

**Contribution/value-add:** The study represents a novel effort to model the relationship between CSR, CR and the performance of Zimbabwe's mining sector. It offers the basis for future research studies on CSR practices and CR in several sectors of the Zimbabwean economy.

**Keywords:** corporate social responsibility; corporate reputation; business performance; mining sector; Zimbabwe.

## Introduction

African countries are renowned for their rich mineral wealth. This wealth of minerals makes the mining sector a major driver of economic growth and development in numerous African countries (Nyeadi, Ibrahim & Sare 2018). Zimbabwe is no exception, as its mining sector attained phenomenal growth at the turn of the millennium, which saw both public and private players investing heavily in it (Malinga 2018). The country is well known for its gold, platinum, diamond and lithium reserves, which have, according to the Reserve Bank of Zimbabwe (2022), increased mining activities over the past two decades and contributed notably and significantly to the country's gross domestic product (GDP). Specifically, mining employs at least 106 151 people and has a potential of generating US\$12 billion in foreign currency per annum, which is vital for the economic sustenance of the country (Reserve Bank of Zimbabwe 2022). However, this fact notwithstanding, the mining sector in the country has attracted much attention because of malpractices. These malpractices include the lack of regulation in the sector leading to the trading of minerals on the black market, occupational and health issues that have led to injuries and fatalities, and accusations of the disregard for corporate social responsibility (CSR) by mining firms (Cronje, Reyneke & Chenga 2017; Machaya 2021).

Although mining in Zimbabwe is linked to significant financial returns for participating firms, CSR largely remains low-key and mostly absent. In fact, as highlighted by several studies (Machaya 2021; Muruviwa, Akpan & Nekhwevha 2020; Nyikahadzoi, Lotrient & Smit 2022), most of the CSR activities by mining firms operating in Zimbabwe are out of charity, and public relations stunts meant to pacify dissenting voices based on profits and get tax rebates. The image portrayed by mining firms in Zimbabwe is deplorable and shows a lack of commitment, where their activities have resulted in extensive environmental degradation and communities

surrounding the mines remain undeveloped, with people living in abject poverty (Machaya 2021; Malinga 2018). The Chiadzwa Diamond Mines in the Marange area are ideal examples, where mining corporations operate with extraordinary opulence, yet communities surrounding them live in severe economic deprivation (Mathende & Nhapi 2017; Muruviwa et al. 2020). The local community has endured untold suffering as diamond mining was conducted, yet with very little and no evidence of meaningful CSR projects (Masuku 2021). To date, there is little investment in community development by the mining firms in the Chiadzwa area (Gumbo 2020; Masuku 2021; Mathende & Nhapi 2017). This development appears to be consistent across the country. Overall, Zimbabwe's mining sector regrettably has a poor CSR record, which has earned the mining corporations a bad reputation with the public regarding them as looters and plunderers bent on syphoning precious minerals (Masuku 2022).

It is against this backdrop that the current study was conceived, with the aim to gain insights into the relationship between CSR, corporate reputation (CR) and performance in the mining sector in Zimbabwe. As noted in the preceding discussion, CSR is an area of underperformance for mining firms in Zimbabwe (Masuku 2022). Although firms have benefitted financially through their investments in the Zimbabwean mining sector, evidence of their attempts to give back to communities is limited and questionable. The firms have also suffered in terms of reputation, as they are now better known for exporting the minerals extracted from the country to other markets elsewhere for processing, value addition and selling for huge profits, without any regard for community development. This situation has raised calls for mining firms to adopt CSR as a mitigation measure of contributing towards the sustainable economic development of communities where they operate (Gumbo 2020). The study envisages that the inclusion of CSR into mainstream corporate strategic plans can earn corporates a good reputation and improved performance results for mining firms in Zimbabwe. Information is thus required that provides evidence of the benefits of CSR activities to mining firms in Zimbabwe, hence the need for this study as a scientific response to the current situation.

As questions surrounding the implementation of CSR by firms continued to mount in the Zimbabwean landscape in the last decade, researchers responded through several studies (Dziro 2014, Mandina, Maravire & Masere 2014; Masuku 2021; Mawowa 2013; Mkodzongi & Spiegel 2019; Mlilo & Mabwe 2018) that sought to provide answers in various ways. However, a major gap remains unexplored, which prompted the current study. Specifically, there remains a need to address the potential impact of CSR practices on CR and performance in the mining sector in Zimbabwe. How CSR can impact the reputation and performance of firms is an interesting matter, given that any activities undertaken by firms are likely to affect both internal and external environments. However, this impact

must be specified, quantified and explained, lest it is left to speculation. This study proposes that the mining sector should adopt CSR practices to solve the current problems between its firms, the community and the country (Zimbabwe) at large as far as the reputation and performance of these firms are concerned.

## Literature

### The mining sector in Zimbabwe

Mining operations in Zimbabwe are dominated by domestic and international companies and government-owned companies (Mkodzongi & Spiegel 2019; Mlilo & Mabwe 2018). In addition, the sector composition is further supplemented by mining co-operatives and small to medium players mainly dominated by local people (Malinga 2018). In this regard, mining in the country's context includes both formal and informal operators, mechanised and semi-mechanised miners of varying sizes in production, labour and capitalisation (Mlambo 2016; Zvarivadza 2018). Additionally, mines in Zimbabwe have been defined based on the following criteria: Capitalisation, production output, turnover, degree of mechanisation, labour, size of mining concession or lease and size of reserves (Chamber of Mines Zimbabwe Report 2022). Large-scale mining operations employ both surface and underground mineral extraction methods, which are highly mechanised (Malinga 2018).

The growth of the mining sector in Zimbabwe led stakeholders to notice the nonexistence of CSR programmes (Gumbo 2020). To address this lack of CSR, the government developed and promulgated the *Indigenisation and Empowerment Act Chapter 14:33 in 2007*. The Act made it a mandatory requirement that all mining firms with a net income of US\$500 000 remit 10% of their earnings to local communities as part of their CSR obligations (Chinyerere 2020; Mawowa 2013). The promulgation of this Act resulted in an acrimonious relationship between government and the mining sector. Mining firms perceived the Act as a coercive piece of regulation that threatened their business operations and investments (Masuku 2022). Despite lobbying by the government, most mining firms continued to dishonour their CSR obligations (Chinyerere 2020). In this regard, various lobby groups challenged the government to come up with comprehensive laws compelling mining firms to give back to communities (Malinga 2018).

### Corporate social responsibility

The present-day CSR is a concept whereby business corporations consider the interest of society by taking responsibility for the impact of their activities on customers, suppliers, employees, shareholders, communities and other stakeholders as well as their environment (Wiranudirja, Salim & Indrawati 2022). Corporate social responsibility is applied to strategies that corporations adopt of how to conduct business in a way that is ethical and society-friendly (Burguete et al. 2023). It also involves environmental

conservation and sustainability (Jadon & Rahate 2022). The immediate benefit of CSR is that the corporate is viewed as part of the community and instantly issued with a social licence to operate and, in the process, attract resources (Sharma et al. 2022). Apart from this, the corporation can obtain quality employees, making it easier to market products and services (Nyeadi et al. 2018; Phiri et al. 2018). Furthermore, the corporation earns a good reputation with a positive effect on employee motivation, retention and recruitment (Hilson, Hilson & Dauda 2019). Most importantly, the corporation earns increased revenue streams from higher sales and market share (Galant & Cadez 2017). Corporate social responsibility has a wide range of components (Agudelo, Johannsdottir, & Davidsdottir, 2020; Jadon & Rahate 2022). This study adopted political CSR (PCSR), stakeholder CSR (SCSR), environmental CSR (ENCSR), ethical SCR (ETSCR) and social SCR (SOCRSR). Each of the subcomponents has implications on the outcomes of the CSR programmes put in place. The dimensions were adapted from various studies (El-Bassiouny & Letmathe 2019; El-Mallah et al. 2019; Mishra & Suar 2010; Sroka & Szántó 2018). These CSR dimensions are essential and have been selected for this present study because of their relevance to the Zimbabwean mining sector context. The mining sector in Zimbabwe operates under the influence of opposing political forces, participates in activities that affect the natural environment, has socioethical implications for communities surrounding the mines and revolves around the various roles played by its wide spectrum of stakeholders. Therefore, the SCR dimensions considered in the study were selected to address each of these aspects.

## Corporate reputation

Corporate reputation is a collective representation of multiple constituencies' images of a firm built over time (Veh, Göbel & Vogel 2019). Corporate reputation relates directly to the firm's corporate identity, and it is interpreted as an organisation's ethos, goals and values that create a sense of belonging among the firm's stakeholders (Uyar et al. 2020). As such, reputation heavily depends on corporate behaviour and interaction with other stakeholders and should be considered an inevitable part of the corporate strategy (Adeosun & Ganiyu 2013; Singh & Misra 2021). Various benefits of a good CR such as a respectable image, credibility and integrity that comes with a virtuous name have been documented (Singh & Misra 2021). A good firm's image establishes trust, confidence, loyalty and outstanding firm-client relationships (Uyar et al. 2020; Veh et al. 2019).

## Corporate performance

Corporate performance refers to a composite evaluation of how well a corporate executes on its essential parameters-information about the state of the firm, its success, development and outlook (Sibanda et al. 2022). There are numerous classifications of corporate performance. The current study reports on three parameters, namely, social performance (SP), economic performance (EP) and operational performance (OP), due to their reported high

impact in mining environments (Cronje et al. 2017; Marimuthu et al. 2021; Yousefian et al. 2023). SP measures the contribution of a business to its societies (e.g. employees and communities) (Islam, French & Ali 2022), while EP accounts for the financial health of a firm which enables it to meet its financial obligations and continue to operate (Galant & Cadez 2017). Operational performance refers to the measurable aspects of the outcomes of an organisation's processes, such as reliability, production cycle time and inventory turns (Azim, Ahmed & Khan 2020). As noted by Frederiksen (2019), traditional key performance indicators (KPIs) such as revenue, return on investment (ROI), overheads and operational costs are no longer the only indicators. Today, there is a paradigm shift, which focuses on nonfinancial areas that include a firm's impact to society (SP in the current study) and business processes and practices (OP in the current study). Therefore, the current study includes both financial (EP) and nonfinancial indicators (SP and OP) to measure corporate performance. These dimensions were included in the conceptual framework of the study to represent the outcome variables.

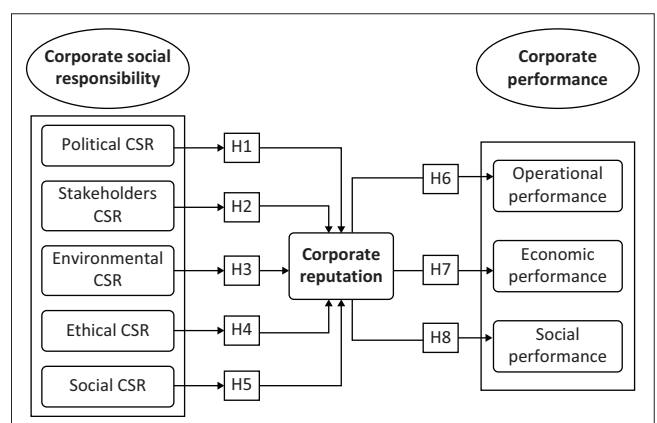
## Conceptual framework of the study

The conceptual framework under consideration in this study is presented in Figure 1. The framework includes the political, stakeholder, environmental, social and ethical dimensions of CSR as the predictors of CR, which in turn leads to the three corporate performance indicators (OP, EP and SP).

## Hypotheses development

### Corporate social responsibility and corporate reputation

The five CSR dimensions of CSR namely, PCSR, SCSR, ENCSR, ETCSR and SOCSR have emerged as essential drivers of CR in the field of strategic management (González Santa Cruz et al. 2020; Kim, Chun & Wang 2021). Corporate social responsibility is increasingly recognised as a strategic tool to enhance an organisation's competitive advantage and reputation (Adeosun & Ganiyu 2013; Frederiksen 2019). According to Handayati, Sumarsono and Narmaditya



CSR, corporate social responsibility; H, hypothesis.

**FIGURE 1:** A conceptual framework on corporate social responsibility, corporate reputation and performance in the mining sector in Zimbabwe.

(2022), firms that can implement CSR policies are more likely to create an excellent reputation. Furthermore, Irawan, Yunanto and Kurniasih (2022) argue that politically connected companies with good CSR reputations benefit from legislators and regulators in various ways. El-Mallah et al. (2019) highlight that there is a positive relationship between good environmental CSR and CR. This view is supported by Bester and Groenewald (2021) who conclude that CR is a result of good environmental management by firms. Octaviani and Harahap (2022) assert that firms that pursue ethical CSR enhance their corporate reputation. Several studies have also confirmed that organisations with the best CSR practices and policies have good reputations (Bester & Groenewald 2021; Hilson et al. 2019; Nyikahadzoi et al. 2022). Based on such evidence, the following hypotheses were formulated:

**H<sub>1</sub>:** There is a significant positive relationship between PCSR and corporate reputation.

**H<sub>2</sub>:** There is a significant positive relationship between SCSR and corporate reputation.

**H<sub>3</sub>:** There is a significant positive relationship between ENCSR and corporate reputation.

**H<sub>4</sub>:** There is a significant positive relationship between SOCSR and corporate reputation.

**H<sub>5</sub>:** There is a significant positive relationship between ETCSR and corporate reputation.

## Corporate reputation and business performance

Although CR is an intangible attribute, it has effects on how a business organisation operates. It generates positive attention from stakeholders stemming from various strategic interactions (Alhammadi 2018). Sharma et al. (2022) assert that a good reputation enables organisations to increase revenues and profitability. It is this aspect that spurs the organisation to attract investors, expansion and growth. To this effect, positive CR is a resource that enhances the financial performance of an organisation (Gangi, Daniele & Varrone 2020). Moreover, several studies (Alhammadi 2018; Giannarakis 2016; Makanyeza, Chitambara & Kakava 2018) established the positive relationship between CR and business performance. Hence, these insights lead to the following hypotheses:

**H<sub>6</sub>:** There is a significant positive relationship between corporate reputation and economic performance.

**H<sub>7</sub>:** There is a significant positive relationship between corporate reputation and operational performance.

**H<sub>8</sub>:** There is a significant positive relationship between corporate reputation and social performance.

## Research design

This study followed a positivist philosophy as its supporting paradigm because hypotheses were postulated, and the study's outcomes were to be drawn from these hypotheses. A quantitative approach was adopted to enable the results to be generalised to other mining sector environments away from

Zimbabwe. Moreover, this approach was followed because the study was testing the causal relationships between CSR dimensions, CR and corporate performance in the Zimbabwean mining sector. The research was also conducted using a cross-sectional survey design, because data were collected from the identified respondents within a single point in time, using a questionnaire as the data gathering tool.

## Research participants

The target population of this study comprised managers and professionals working in the mining sector in Zimbabwe. The list of mining firms was obtained from the Zimbabwe Mining Development Corporation (ZMDC), and permission was sought from each of these firms. A total of 13 firms based in Mashonaland, Midlands and Manicaland provinces participated in the study. The final usable sample comprised of 330 conveniently selected respondents. A nonprobability convenience sampling technique was employed to selecting the sample given that various geographically dispersed mining firms participated in the study. Also because there were different mining firms participating in the study, a single sample frame containing the list of all targeted respondents could not be identified. To be included as a respondent in the study, respondents had to be employed in a managerial or professional position for at least 2 years in the mining sector. A final sample of 330 respondents was considered acceptable, based on the recommendation that a multivariate analysis in quantitative studies should have sample sizes of at least 300 (Taherdoost 2022). Furthermore, in determining whether this sample size was adequate, reference was given to recommendations from the literature. For example, Graham, Cumsille and Elek-Fisk (2019) stated that the sample size in a quantitative study should be more than 150 elements. Neuman (2016) also recommended that it is significant to have at least 200 respondents for a quantitative regression analysis. Based on these recommendations, the sample size ( $N = 330$ ) used in this study was considered acceptable.

## Measuring instruments

All measurement scales were anchored in a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The measurement scale for CSR consisted of 46 items adapted from previous studies by El-Bassiouny and Letmathe (2019) for PCSR; Mishra and Suar (2010) for SCSR; El-Mallah et al. (2019) for ECSR; and Sroka and Szántó (2018) for ethical CSR. Scales for measuring CR and the corporate performance were adapted from Javed, Rashid and Hussain (2019). All measurement scales were validated in previous studies, having reached Cronbach alpha values above 0.7. Following the study of Rahman (2018), all the items in the questionnaire were Likert-type scale questions to minimise the existence of response bias and to standardise the response options to be comparable between the respondents. Appendix 1 stipulates the list of the measurement instruments in the study.



## Data collection methods

Data were collected using a structured questionnaire. Due to the outbreak of the COVID-19 pandemic, which led to prohibitions regarding face-to-face contact, questionnaires were distributed to respondents using email surveys. In addition, email surveys were suitable because most respondents were geographically dispersed. Contact details of the respondents were accessed from their firms. A total of 500 questionnaires were distributed between August and December 2021, of which 342 were returned. A total of 330 were retained after the screening process, signifying a 66% response rate.

## Data analysis

A statistician analysed the collected data using the Statistical Packages for the Social Sciences (SPSS 27.0). Hypotheses were tested using Pearson correlations and regression analysis.

## Sample profile

The largest numbers of respondents were male (67.9%;  $n = 224$ ), and most of respondents were aged between 31 and 40 years (36.1%;  $n = 119$ ). Moreover, 41.5% ( $n = 137$ ) of the respondents were in various management roles while 32.1% ( $n = 106$ ) were skilled professionals in the mining sector. Also, 34.5% ( $n = 114$ ) were holders of diploma qualifications. Regarding the respondents' experience, 33% ( $n = 109$ ) have been employed for between 11 and 15 years in the mining sector. Lastly, most respondents were working under the operations department (45.5%;  $n = 150$ ).

## Exploratory factor analysis

As the measurement scales used in the study were adapted from previous studies, it was necessary to run an exploratory factor analysis (EFA) procedure using the principal components analysis (PCA) technique to assess their dimensionality and suitability for the current study. In performing this test, a Bartlett's test of sphericity and a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy were run to check the suitability of the data for EFA. All KMO values were higher than the prescribed minimum value of 0.5, indicating that the sample was adequate to perform EFA (Bougie & Sekaran 2019). Additionally, all results for the Bartlett's test were significant, also confirming that the data were an identity matrix, suitable for EFA. Three criteria were applied in the EFA. Factor loadings for retained items had to be at least 0.5 and only those factors with eigenvalues higher than 1.0 were deemed acceptable (Taherdoost 2022). Also, the retained factors had to achieve a minimum percentage of variance of at least 60% (Bougie & Sekaran 2019). The results of EFA are reported in Table 1.

Table 1 presents the EFA results, performed using PCA based on Varimax rotation. A few redundant items (PCSR1, PCSR2,

SCSR4, SOCSR1, SOCSR2, CR4, EP1, EP2) were discarded for either cross-loadings or for having attained loadings below the recommended minimum of 0.5. Ultimately, the four-factor structure involving PCSR, SCSR, ENSCR and ETSCR was confirmed for the CSR scale. Corporate reputation was unidimensional, while a three-factor structure involving EP, OP and SP was extracted for the corporate performance scale.

## Reliability and validity results

Table 2 presents the reliability results of the study, as indicated by the Cronbach alpha. All scales attained Cronbach alpha values above the recommended 0.7 minimum threshold, which confirms that the scales were internally consistent.

To test for face and content validity of the measurement instrument, the questionnaire was reviewed by the research supervisors. Additionally, a pilot study was conducted, involving a convenient sample of 41 respondents. Feedback from the review and the pilot study was used to improve the questionnaire to make it more suitable for the final survey. The EFA procedure was used to test for construct validity (refer to Table 1), where factor loadings were higher than the 0.5 lower cutoff value, indicating that construct validity was adequate. Additionally, the positive correlation values (refer to Table 3) further confirmed that construct validity was acceptable.

## Normality assessment

The data were further tested for normality of distribution, which is essential in determining the nature of the data and type of tests appropriate (Pandey & Pandey 2021). Normality tests were performed using the skewness and kurtosis statistics for the data for each research construct. The results are presented in Table 3.

Values for skewness between  $-2$  and  $+2$  and kurtosis between  $-3$  and  $3$  are considered acceptable to prove normal univariate distribution (Taherdoost 2022). Table 3 reveals skewness values ranging from  $-1.830$  to  $-0.024$ , and kurtosis values lying between  $-0.488$  and  $2.431$ . Therefore, the assumption of data normality was met in this study, allowing for the use of parametric tests in the further analysis of the data.

## Correlation analysis

As the data were normally distributed, Pearson correlation analysis, a parametric test, was applied to test the strength and direction of relationships between the research constructs. Pearson correlation analysis quantifies the strength of the linear relationship between numerical variables (Bougie & Sekaran 2019). The results are presented in Table 4.

**TABLE 1:** Exploratory factor analysis results.

Construct	Items	Factor loadings	KMO	BT	$\chi^2$	df	P	Eigenvalue	Percentage variance explained
PCSR	PCSR3	0.744	0.606	-	1242.755	10	0.000	2.834	67.816
	PCSR4	0.851	-	-	-	-	-	-	-
	PCSR5	0.778	-	-	-	-	-	-	-
	PCSR6	0.843	-	-	-	-	-	-	-
SCSR	SCSR1	0.643	0.676	-	414.517	21	0.000	2.524	-
	SCSR2	0.830	-	-	-	-	-	-	-
	SCSR3	0.634	-	-	-	-	-	-	-
	SCSR5	0.723	-	-	-	-	-	-	-
ENCSR	ENCSR1	0.679	0.816	-	333.391	15	0.000	2.580	-
	ENCSR2	0.774	-	-	-	-	-	-	-
	ENCSR3	0.664	-	-	-	-	-	-	-
	ENCSR4	0.537	-	-	-	-	-	-	-
	ENCSR5	0.664	-	-	-	-	-	-	-
	ENCSR6	0.591	-	-	-	-	-	-	-
ETCSR	ETCSR1	0.649	0.820	-	494.749	21	0.000	2.924	-
	ETCSR2	0.728	-	-	-	-	-	-	-
	ETCSR3	0.737	-	-	-	-	-	-	-
	ETCSR5	0.604	-	-	-	-	-	-	-
	ETCSR5	0.519	-	-	-	-	-	-	-
	ETCSR6	0.693	-	-	-	-	-	-	-
	ETCSR7	0.618	-	-	-	-	-	-	-
SOCSR	SOCSR3	0.848	0.737	-	381.603	21	0.000	2.931	-
	SOCSR4	0.744	-	-	-	-	-	-	-
	SOCSR5	0.611	-	-	-	-	-	-	-
	SOCSR6	0.553	-	-	-	-	-	-	-
CR	CR1	0.641	0.682	-	763.269	15	0.000	3.004	60.066%
	CR2	0.804	-	-	-	-	-	-	-
	CR3	0.611	-	-	-	-	-	-	-
	CR5	0.774	-	-	-	-	-	-	-
	CR7	0.760	-	-	-	-	-	-	-
EP	EP3	0.565	0.730	-	620.822	21	0.000	2.745	61.248%
	EP4	0.831	-	-	-	-	-	-	-
	EP5	0.776	-	-	-	-	-	-	-
	EP6	0.740	-	-	-	-	-	-	-
	EP7	0.745	-	-	-	-	-	-	-
OP	OP1	0.801	0.832	-	719.659	15	0.000	3.217	-
	OP2	0.848	-	-	-	-	-	-	-
	OP3	0.805	-	-	-	-	-	-	-
	OP4	0.763	-	-	-	-	-	-	-
	OP5	0.765	-	-	-	-	-	-	-
SP	SP1	0.750	0.731	-	522.250	15	0.000	3.835	-
	SP2	0.649	-	-	-	-	-	-	-
	SP3	0.700	-	-	-	-	-	-	-
	SP4	0.708	-	-	-	-	-	-	-
	SP5	0.702	-	-	-	-	-	-	-
	SP6	0.602	-	-	-	-	-	-	-

PCSR, Political corporate social responsibility; SCSR, stakeholder corporate social responsibility; ENCSR, environmental corporate social responsibility; ETCSR, ethical corporate social responsibility; SOCSR, social corporate social responsibility; CR, corporate reputation; EP, economic performance; OP, operational performance; SP, social performance; BT, Bartlett's test; KMO, Kaiser-Meyer-Olkin.

The correlations ( $r$ ) in Table 4 show the relation strength and direction of each construct against all other variables, while the significance is indicated by the  $p$ -value (Pandey & Pandey 2021). The strongest positive correlation occurred between SCSR and CR ( $r = 0.992$ ;  $p = 0.000$ ) while the weakest positive correlation was observed between the SOCSR and EP factors ( $r = 0.002$ ;  $p = 0.974$ ). The strongest negative correlation occurred between SCSR and OP ( $r = -0.186$ ;  $p = 0.001$ ) while the weakest positive correlation was observed between the CR and EP factors ( $r = -0.059$ ;  $p = 0.287$ ). This indicates that a change in the magnitude of one construct will change the other constructs, either positively or negatively.

## Regression analysis: Corporate social responsibility and corporate reputation

Prediction between the research constructs was tested using regression analysis. Regression analysis is a statistical technique that determines the influence of independent variables towards the dependent variable (Ross & Willson 2017). Also, regression is better suited for determining prediction or causality based on the idea that correlation does not imply causality. Further, the regression conducted in this study is distinguished, with the first being a multiple linear regression (Model 1) and later three (Models 2–4) being simple linear regression (Alexopoulos 2010).

**TABLE 2:** Reliability results.

Construct	Cronbach alpha value
PCSR	0.787
SCSR	0.707
ENCSR	0.729
ETCSR	0.751
SOCSR	0.708
CR	0.795
EP	0.782
OP	0.850
SP	0.766

PCSR, Political corporate social responsibility; SCSR, stakeholder corporate social responsibility; ENCSR, environmental corporate social responsibility; ETCSR, ethical corporate social responsibility; SOCSR, social corporate social responsibility; CR, corporate reputation; EP, economic performance; OP, operational performance; SP, social performance.

### Regression model 1: Five corporate social responsibility factors versus corporate reputation

The first regression model tested the relationships between corporate social responsibility factors (5) and CR. The CSR factors, namely PCSR, SCSR, ENCSR, ETCSR and SOCSR, were entered into the regression model as the independent variables, while CR was entered as the dependent variable. The results are presented in Table 5.

The results indicate that the five CSR practices (adjusted  $R^2 = 0.785$ ) explained approximately 79% of the variance of CR. An R value of 0.793 denotes a very high correlation

**TABLE 3:** Skewness and kurtosis values of constructs.

Construct	Variables		Skewness			Kurtosis		
	Valid cases	Missing cases	Sig.	Statistic	Std. error of skewness	Sig.	Statistic	Std. error of kurtosis
PCSR	330	0.000	0.000	-0.024	0.154	0.000	-0.486	0.300
SCSR	330	0.000	0.000	-0.899	0.154	0.000	0.963	0.300
ENCSR	330	0.000	0.000	-1.289	0.154	0.000	0.685	0.300
ETCSR	330	0.000	0.000	-1.342	0.154	0.000	1.651	0.300
SOCSR	330	0.000	0.000	-1.235	0.154	0.000	2.431	0.300
CR	330	0.000	0.000	1.219	0.154	0.000	1.667	0.300
EP	330	0.000	0.000	-1.830	0.154	0.000	2.176	0.300
OP	330	0.000	0.000	-0.511	0.154	0.000	-0.488	0.300
SP	330	0.000	0.000	-0.754	0.154	0.000	1.148	0.300

PCSR, Political corporate social responsibility; SCSR, stakeholder corporate social responsibility; ENCSR, environmental corporate social responsibility; ETCSR, ethical corporate social responsibility; SOCSR, social corporate social responsibility; CR, corporate reputation; EP, economic performance; OP, operational performance; SP, social performance; Sig., significant; Std., standard.

**TABLE 4:** Pearson's correlation results.

Research constructs	PCSR	SCSR	ENCSR	ETCSR	SOCSR	CP	EP	OP	SP
PCSR	1	-	-	-	-	-	-	-	-
SCSR	0.328**	1	-	-	-	-	-	-	-
ENCSR	0.133*	0.598**	1	-	-	-	-	-	-
ETCSR	0.174**	0.534**	0.582**	1	-	-	-	-	-
SOCSR	0.260**	0.552**	0.580**	0.609**	1	-	-	-	-
CR	0.325**	0.992**	0.594**	0.545**	0.559**	1	-	-	-
EP	-0.067	-0.063	-0.167**	0.094	0.002	-0.059	1	-	-
OP	-0.129*	0.186**	-0.252**	0.094	-0.100	-0.172**	0.767**	1	-
SP	0.317**	0.272**	0.140*	0.432**	0.271**	0.297**	0.161**	0.311**	1

PCSR, political corporate social responsibility; SCSR, stakeholder corporate social responsibility; ENCSR, environmental corporate social responsibility; ETCSR, ethical corporate social responsibility; SOCSR, social corporate social responsibility; CR, corporate reputation; CP, corporate performance; EP, economic performance; OP, operational performance; SP, social performance.

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

\*, Correlation is significant at the 0.05 level (two-tailed).

**TABLE 5:** Regression analysis model 1 results.

Independent variables: CSR practices	Dependent variable: CR					Tol	VIF
	Unstandardised coefficients		Standardised coefficients	T	Sig ( <i>p</i> )		
	B	Standard error					
Constant	0.196	0.052	-	3.807	0.000	-	-
PCSR	-0.001	0.004	-0.002	-0.345	0.730	0.868	1.152
SCSR	0.951	0.009	0.983	105.437	0.000	0.523	1.913
ENCSR	-0.013	0.011	-0.011	-1.193	0.234	0.506	1.976
ETCSR	0.221	0.010	0.212	12.252	0.000	0.532	1.881
SOCSR	0.010	0.008	0.011	1.168	0.244	0.514	1.947

PCSR, Political corporate social responsibility; SCSR, stakeholder corporate social responsibility; ENCSR, environmental corporate social responsibility; ETCSR, ethical corporate social responsibility; SOCSR, social corporate social responsibility; CR, corporate reputation; Tol, tolerance; VIF, variance inflation factor.

$R = 0.793$ ; adjusted  $R^2 = 0.785$ ;  $F = 4338.798$ .

between predicted and observed CR; thus, the model predicts rather highly (Kasuya 2019). The tolerance and VIF values for all independent variables were within recommended limits ( $T > 0.5$ ;  $VIF < 10$ ) and did not indicate any serious multicollinearity threat (Daoud 2017; Pandey & Pandey 2021). This implies that the correlated independent variables did not interfere with predictions between independent and dependent variables. In the first regression model, PCSR, SCSR, ENCSR, ETCSR and SOCSR were entered as the independent constructs that predicted CR. Two constructs, SOCSR ( $\beta = 0.983, p = 0.000$ ) and ETCSR ( $\beta = 0.212, p = 0.000$ ), were significant predictors of CR as they have acceptable  $p$ -values higher than 0.001. However, PCSR ( $\beta = -0.002, p = 0.730$ ), ENCSR ( $\beta = -0.011, p = 0.234$ ) and SCSR ( $\beta = 0.011, p = 0.244$ ) were statistically insignificant and hence did not predict CR as they had  $p$ -values higher than 0.001. The latter result implies that PCSR, ENCSR and SCSR do not contribute to CR.

## Corporate reputation and business performance

The second regression model tested the relationships between CR and business performance practices. Corporate reputation was entered into the regression model as the independent variable, while EP, OP and SP were entered as the dependent variables in separate stages. The results are presented in Table 6.

The results for the relationship between CR and EP show that approximately 0.3% of EP can be explained by CR. This

implies that the model is less effective. However, the regression analysis shows that there is no significant change in EP due to variation in CR ( $\beta = -0.059; p = 0.287$ ). The results in Table 5 also reveal that approximately 3% of OP can be explained by CR. This implies that the model is also less effective. In the regression analysis, CR exerted a significant negative influence on OP ( $\beta = -0.172; p = 0.000$ ). This infers that OP is inversely influenced by the CR. A significant change in OP will result from a decrease in the CR by  $-0.172$  units or 17.2%. The results further show that approximately 9% of SP can be explained by CR. This implies that the model is likely to be less effective, but it can be used considering that the model has a single predictor. In the regression analysis, CR exerted a significant positive influence on SP ( $\beta = 0.297; t = 5.633; p = 0.000$ ). This result demonstrates that SP is directly influenced by the CR. A significant change in SP is due to an increase of CR by 0.297 units or 29.7%.

## Hypotheses tests results

The beta coefficient value ( $\beta$ ),  $t$ -values and  $p$ -values are used to determine hypothesis decision (Mangiafico 2016). The beta coefficients ( $\beta$ ) represent the relative strengths of the independent against the dependant variables. The  $t$ -values and the  $p$ -values represent the statistical significance of the relationship, which is a measure of the confidence attached to the degree of accuracy of the result. The thumb rule used in the study is that a beta coefficient is statistically significant if its  $t$ -value is higher than 1.96 and the  $p$ -value is smaller than 0.05 (Moiseev, 2017).

**TABLE 6:** Regression analysis model 2 results.

Independent variable: Corporate reputation	Dependent variable: Economic performance, operational performance and social performance					Tol	VIF
	Unstandardised coefficients		Standardised coefficients	T	Sig. ( <i>p</i> )		
	B	Standard error					
Dependent variable: Economic performance							
Constant	5.366	0.427	-	12.575	0.000	-	-
Corporate reputation	-0.075	0.070	-0.059	-1.066	0.287	1.000	1.000
Dependent variable: Operational performance							
Constant	6.289	0.452	-	13.913	0.000	-	-
Corporate reputation	-0.236	0.074	-0.172	-5.169	0.000	1.000	1.000
Dependent variable: Social performance							
Constant	3.307	0.394	-	8.400	0.000	-	-
Corporate reputation	0.365	0.065	0.297	5.633	0.000	1.000	1.000

Note: Economic performance- $R = 0.059$ ;  $R^2 = 0.003$ ; adjusted  $R^2 = 0.000$ ;  $F = 1.136$ ; Operational performance- $R = 0.172$ ;  $R^2 = 0.03$ ; adjusted  $R^2 = 0.027$ ;  $F = 10.040$ ; and Social performance -  $R = 0.297$ ;  $R^2 = 0.088$ ; adjusted  $R^2 = 0.085$ ;  $F = 31.727$ .

Tol, tolerance; VIF, variance inflation factor.

**TABLE 7:** Hypotheses decision results.

Hypothesis	Relationship	Beta coefficient	t	p	Supported and not supported
H1	PCSR→CR	-0.002	-0.345	0.730	Not supported
H2	SCSR→CR	0.983	105.437	0.000	Supported
H3	ENCSR→CR	-0.011	-1.193	0.234	Not supported
H4	ETCSR→CR	0.212	12.252	0.000	Supported
H5	SOCSR→CR	0.011	1.168	0.244	Not supported
H6	CR→EP	-0.059	-1.066	0.287	Not supported
H7	CR→OP	-0.172	-5.169	0.000	Supported
H8	CR→SP	0.297	5.633	0.000	Supported

PCSR, Political corporate social responsibility; SCSR, stakeholder corporate social responsibility; ENCSR, environmental corporate social responsibility; ETCSR, ethical corporate social responsibility; SOCSR, social corporate social responsibility; CR, corporate reputation; EP, economic performance; OP, operational performance; SP, social performance.



Among the eight hypotheses, four were supported (H2, H4, H7, H8), whereas the remainder (H1, H3, H5, H6) could not be supported based on their satisfaction of the statistical significance rule (Mangiafico 2016), see Table 7.

## Discussion of the results

Regression analysis was used to test the direct predictive relationships between the study constructs. Of the five CSR practices, only two SCSR ( $\beta = 0.983$ ;  $p = 0.000$ ) and ETSCR ( $\beta = 0.212$ ;  $p = 0.000$ ) contributed to CR. These results are consistent with previous studies (Ioan 2011; Soroka & Mazurek-Kusiak 2014; Sroka & Szántó 2018; Nyikahadzoi et al. 2022; Sharma et al. 2022) that have asserted that both SCSR and ETSCR are of strategic importance, as a business can utilise them to shape its brand image, raising its profile in the minds of its stakeholders. By implication, CSR activities directed towards a mining firm's stakeholders are critical for boosting its reputation. Likewise, ethical CSR activities such as keeping promises and commitments and abiding by general principles like truth, fairness, honesty and respect all point the business to the right way and so build trust among their employees, customers, shareholders and the wider community, which creates a good reputation for the mining firm. As such, the study confirms the importance of both internal and external stakeholders as well as ethical CSR practices as critical ingredients for the improved performance of mining firms in Zimbabwe.

Interesting results emerged regarding the three CSR practices that do not contribute to CR. The results on PCSR ( $\beta = -0.002$ ;  $p = 0.730$ ) could perhaps be an indicator of how most people within mining communities are known to avoid the long-standing polarisation of partisan politics that have dominated Zimbabwe since the turn of the new millennium. As mentioned by Nkomo (2022), the mining sector in the country has been an epicentre of political skirmishes as parties seek the membership of such communities. This has increased the extent to which those working for mining firms distrust political role players who seek to engage with the sector. It is possible then that respondents in the current study could not understand how a mining firm's interplay with the present Zimbabwean political players can improve its reputation.

With respect to ENSCR ( $\beta = -0.11$ ;  $p = 0.234$ ), the result confirms the failure by the mining firms in Zimbabwe to place environmental sustainability as a priority on their strategic agenda. As noted by Ncube-Phiri, Mucherera and Ncube (2015), although mining in Zimbabwe has brought with it some semblance of economic development, it has destroyed the environment and natural ecosystem especially in areas surrounding the mines. The results therefore confirm the actual view by stakeholders in the Zimbabwean mining sector where firms have earned a negative reputation for destroying the environment.

Likewise, SOCSR ( $\beta = 0.11$ ;  $p = 0.244$ ) was unimportant and did not predict CR. This result is not surprising,

especially in the Zimbabwean environment where practical evidence that a firm can benefit by investing back into the environment is lacking. The results are not convinced that linkages with the firm's various societies can strengthen CR.

It was further interesting to note that there was no relationship between CR and EP ( $\beta = -0.059$ ;  $p = 0.287$ ). Consistently, Sharma et al. (2022) suggest that any changes in CR do not influence EP in the short term but can be realised as a long-term goal, especially in the mining sector. This view is supported by Irawan et al. (2022) who posit that in the mining sector, it takes time to realise the economic value of the operations, due to the capital intensive nature of mining. Hence, CR does not have an immediate positive impact on EP.

The results also show a weak negative relationship between CR and OP ( $\beta = -0.172$ ;  $p = 0.000$ ). It can be inferred that a gain in CR will trigger in a slight negative decrease in OP. For instance, to satisfy corporate needs, a firm must experience more operational costs. However, this negation towards OP can only be experienced at the formative years of the project, but this may result in simultaneous gains of CR and OP in the long term. For example, a firm purchases machinery that is not environmentally friendly. This will work adversely towards gaining a positive CR. Conversely, if the same firm acquires environmentally friendly machinery, it might be operationally expensive initially but will break even in the long term and continue gaining CR (Adeosun & Ganiyu 2013; Alhammadi 2018).

Finally, the results demonstrated that the CR construct could be used in predicting SP value ( $\beta = -0.297$ ;  $p = 0.000$ ). In parallel, Alhammadi (2018) found a positive link between CR and SP of an organisation. Zvarivadza (2018) found that mining firms that have successfully instilled a good CR in the organisation and workforce will consistently realise SP, more social investments, social solutions, lower taxes and more success at sustaining social improvements. Thus, mining firms with a good CR are more likely to achieve superior SP.

## Theoretical and managerial contributions

The study adds more recent knowledge to the existing literature on CSR, firm reputation and corporate performance in the mining sector. Furthermore, it provides a unique perspective on the relationship between CSR dimensions, CR and corporate performance. As such, the study bridges the gap in knowledge regarding the impact of CSR on CR and corporate performance. Practically, the study provides pragmatic solutions to mining firms in Zimbabwe and elsewhere on how they can improve their management strategies based on CSR initiatives to improve CR and competitive advantage, leading to improved firm performance. The study brings to the attention of mining firms that CSR is an important

management strategy that can be utilised. Considering this, mining firms can use CSR to address stakeholder concerns and interests. Furthermore, coordinated CSR activities linked to a firm's strategy significantly impact its long-term competitiveness and social impact. However, within the context of mining firms in Zimbabwe, although all CSR practices are important, greater focus could be directed to SCSR, which emerged as the highest scoring CSR practice in the study, in terms of effect on CR. This study provides managers with insights that can be used to apply CSR to attain favourable views from their important stakeholders. Overall, the study demonstrates the importance of CSR as part of best practice strategy that can effectively be applied for the improvement of performance in the mining sector context.

### Limitations and future research

The creativity of the study is limited in that it utilised measurement scales adapted from other studies and originally intended for other purposes. This fact notwithstanding, the study has implications for future research. Further research can be conducted on variables that did not predict CR in the study. These variables, specifically PCSR, ENCSR and SOCSR, could be used to generate new insights and verify the consistency of the results of the current study over time. Furthermore, causal mechanisms linking CSR to sustainable mining leading to competitive advantage can be investigated. Future studies can be conducted on a comparative basis with other regional countries like South Africa which have a more robust and diverse mining sector to examine how CSR has improved CR and corporate performance. It may also be necessary to differentiate between small-scale and large mining firms instead of treating these businesses homogeneously as done in this study.

### Conclusion

The aim of the study was to examine the interaction between CSR, CR and corporate performance in the mining sector in Zimbabwe. The study shows that two SCR practices, namely SCSR and ECSR, are positively related to CR. As such, CSR activities that place an emphasis on stakeholders and business ethics may result in the enhancement of the reputation of a mining firm. A CSR strategy oriented towards politics, the environment and the generic society may not necessarily lead to desirable CR outcomes. The study further reveals that CR is positively related to SP and OP and is thus essential in boosting the SP of a mining firm. Lastly, the study also shows that CR is not positively related to EP.

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### Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

### Authors' contributions

I.L. is the researcher who led the design and conception, collection of data and manuscript writeup. J.Z. wrote the original draft and project management and review of the final draft. C.M. is the senior researcher who substantially contributed to data analysis, interpretation of results, conception, and design of the study and provided guidance in the article's write up.

### Ethical considerations

Ethical clearance to conduct this study was obtained from the Vaal University of Technology Faculty Research Ethics Committee (FREC) (No. FRECMS-18032020-026).

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### Data availability

The data that support the findings of this study are available from the corresponding author, I.L., upon reasonable request.

### Disclaimer

The views and opinions expressed in this article are those of the author(s) and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency, or that of the publisher. The author(s) are responsible for this article's results, findings, and content.

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## Appendix 1

**TABLE 1-A1:** Questionnaire items.

Variable	Question items
PCSR	Our firm supports activities organised by civil society groups Our firm has a good working relationship with the government through honest disclosure of its activities Our firm has plans that result in harmony among public sector groups Our firm has support from the government through its philanthropic work
SCSR	Our firm has a good relationship with its suppliers Our firm has a good relationship with its customers Our firm prioritises employee training needs Our management consults the board of directors before making decisions
ENCSR	Our firm is involved in environmental awareness programmes Our firm assists communities to take care of the environment Our firm initiates environment sustainability programmes Our firm adheres strictly to environmental laws and regulations In our firm, waste management strategies are being implemented Our firm promotes and organises conservation programmes
ETCSR	Our firm is known for honesty, fairness, and integrity Our firm employs fair labour practices Our firm's procurement follows laid down procedures Our firm spends a significant percentage of its profits on community development Our firm is an equal opportunity employer Our firm is guided by the labour laws of the country Our firm uses the least harmful processes to protect people and animals
SOC SR	Our firm invests in employee motivation and social welfare We have attractive remuneration packages Our firm's social responsibility programmes are designed in consultation with the community Our firm donates in cash or kind to surrounding local communities as a gesture of social support
Corporate Reputation	Our firm is known for high-quality service Our firm emphasises courtesy to customers Our firm is known for customer satisfaction Our firm is known for transparency Our firm has competitive remuneration packages for its employees
Economic Performance	Our firm has experienced lower capital costs Our firm has a healthy financial position Our firm has increased investor confidence Our firm has experienced a high sales growth Our firm has been able to service its debts
Operational Performance	Our firm has reduced operational costs Our firm has experienced high operating cash flows Our firm has a high machinery capacity. Our firm has achieved low unit material consumption Our firm's board of directors are guided by corporate governance guidelines
Social Performance	Our firm has long term plans for social development Our firm involves the community in outsourcing materials and consumables Our firm works with other development partners in improving social amenities Our firm discloses its social responsibility programmes in the media Our firm's participation in social development programmes is based on a set budget Our firm engages in social change programmes as part of its set objectives