






“The impact of environmental costs on financial performance: An explorative analysis of two plastic companies”

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THE IMPACT OF ENVIRONMENTAL COSTS ON FINANCIAL PERFORMANCE: AN EXPLORATIVE ANALYSIS OF TWO PLASTIC COMPANIES

Abstract

There is little research on the impact of environmental costs on plastic manufacturing companies' financial performance and sustainability. This paper aims to explore the relationship between environmental costs and financial performance of two large national plastic manufacturing companies, namely Bowler Metcalf Limited (BML) and Nampak Ltd, between 2018 and 2019 since research allows for five year old information. Further, the study used pre-Covid-19 data to conceptualize. It adopted a qualitative method of inquiry using content analysis to analyze the financial statements and reports of the two companies (secondary data analysis) available in the public domain. The interpretative analysis further supported the analysis and interpretation of the two variables of environmental costs and financial performance. The results showed a positive relationship between environmental costs and profits in the financial statements of these two companies during 2018 and 2019. BML had a decrease in plastic penalties from R 23.171 million in 2018 to R 14.596 million in 2019, which supported a reduction in spending on legal and constructive obligation items. Nampak also decreased stakeholders' equity from R 10,140.3 million in 2018 to R 8,932.33 million in 2019, which meant that the stakeholders' equity funds were reduced, possibly due to reduced spending on environmental costs during that period. It can be concluded and established that when these two plastic companies spend more on environmental costs, this positively affects overall financial performance and improves financial sustainability. It is recommended to allocate more resources/funding to support environmental costs to increase the profitability of the two plastic manufacturing companies.

Keywords

financial reporting, financial sustainability,
environmental costs, financial performance, content
analysis

JEL Classification

D02, L25, M41

INTRODUCTION

There have been debates about whether environmental costs positively affect manufacturing companies' financial position and performance; however, there are few pieces of evidence on this issue (Aggarwal, 2013). This paper explores the relationship between environmental costs and financial performance of two plastic manufacturing companies in South Africa (SA). The relationship between financial performance and environmental costs is a contentious research gap yet to be resolved (Eccles et al., 2019). Thus, this study is relevant due to the effects of plastic pollution in dams, rivers, seas, and oceans over the years. Further, the SA government has environmental policies to ensure that plastic companies adhere to reducing pollution, or else this will have a severe or detrimental impact on climate change. Industries, which people drive, have abused the planet's resources and negatively affected the environment, and sustainability has become a significant concern globally. Akti et al. (2013) claimed that the increase in global

environmental awareness and the struggle for sustainable economic improvement is essential for environmental conservatism in the business sector. The criteria for organizational success related to environmental awareness and development opportunities are essential aspects in reassembling a long-term corporate environment, especially for companies at the forefront of manufacturing plastic items (Ameer & Othman, 2012).

The rationale for the study is that plastic manufacturing companies need to consider environmental matters, especially environmental sustainability, which is necessary for their continued existence and financial sustainability. Jackson et al. (2011) contended that environmental sustainability concerning financial sustainability would create basic structural obstructions to how an organization succeeds. Thus, these findings have shown that Nampak Ltd and BML have had challenges in keeping up with the ever-increasing environmental requirements from government policies, especially during the period of 2018 and 2019. BML is a leading diversified packaging company in metal, plastic, paper, and glass items and provides a wide range of plastic packaging in South Africa and Africa. These companies have a strong position amongst other plastic packaging companies in South Africa and elsewhere on the continent (Aggarwal, 2013). Nampak is another leading national plastic packaging producer in South Africa. It delivers customized packaging items with a product portfolio, including product offerings such as laminated tubes, plastic bottles, jars, and closures. The major challenge these two plastic manufacturing companies face is the management of productivity to increase profits while minimizing environmental pollution yearly. Thus, the purpose of this paper is to explore whether increased spending on environmental costs by these two national plastic manufacturing companies has positively impacted their financial performance between 2018 and 2019.

Between 2018 and 2019, BML Ltd and Nampak were required to react to environmental costs when they perceived their commitment to the plastic manufacturing companies' partners and society since increased spending on environmental costs might also improve their reputation. However, Ermenc et al. (2017) asserted that they had wasted billions of rands in the past as their commitment to socio-economic advancement faced difficulties. Furthermore, a company's financial sustainability and performance depend on environmentally responsible practices through an incorporated waste reduction system, recycling, and innovative technologies. Hence, emphasis is placed on environmental and financial sustainability through the company's activities, time, and assets (Eccles et al., 2019). Therefore, this paper found a gap in research on environmental costs and financial performance of plastic manufacturing companies and it may offer advantages to allocating more resources to environmental costs.

1. LITERATURE REVIEW

Bråtenius and Melin (2015) defined environmental costs as environmental measures and environmental losses, including cleanup costs, costs of re-using materials, preserving energy, capital utilization, and development expenditure. According to Aggarwal (2013), environmental costs are those incurred due to the actual or potential degradation of the environment because of manufacturing companies' activities. In addition, Chen et al. (2014) stated that environmental cost is the total cost of all estimates necessary to re-establish the environment to its original condition before the harmful incident occurred. Costs that could be identified with the natural effects of an item

or a manufacturing procedure are also environmental costs. For example, plastic litter was initially identified as an issue by the Department of Environmental Affairs and Tourism (DEAT) in early 2000 due to its high visibility and the fact that, unlike other types of waste, there lacked an allocation dedicated to its transportation and recycling at the time (Eccles et al., 2019).

Furthermore, any costs that emerge because of general natural work in an organization are additional environmental costs (Dikgang et al., 2012). In any case, environmental losses are costs that carry no points of interest in the business. For example, fines, penalties, remuneration, and transfer losses identified with resources may be dismissed be-

cause environmental costs hurt the environment (Bagh et al., 2017). Some of them can be seen after understanding the resources exercise, while others are seen during the use of environmental resources (Friedrich & Trois, 2013). Environmental costs are operating costs, and environmental protection costs can be ordered as uncommon costs and social costs. In addition, environmental costs, social qualities, and advantages are viewed as struggling with shareholder benefits (Ellram & Tate, 2015). Chen et al. (2014) claimed that environmental cost activity is a high cost that may affect a company's financial performance, financial position, and environment sustainability. Interestingly, environmental costs support financial development, possibly reducing poverty in less developed nations due to sustainable approaches that support and grow the environmental asset base (Ameer & Othman, 2012).

In Africa, the New Partnership for African Development gives locally-focused gatherings access to actualizing and observing sustainable development activities (Ellram & Tate, 2015). New legislation, namely the Broad-based Black Economic Empowerment (BEE) Act, which was signed into law in January 2004, has elevated BEE to the top of the corporate agenda in South Africa (Bagh et al., 2017). The Act required the Department of Trade and Industry to issue illustrative BEE training codes to assist businesses in implementing BEE regulations and developing corporate area change charters (Friedrich & Trois, 2013). These codes and charters, taken together, establish new ground rules for broad-based empowerment and transformation (Feng et al., 2016).

Regarding the consideration of Corporate Social Investment (CSI) in the Codes, charters have presented other arrangements of company concerns and needs (Eccles et al., 2019). The Codes establish the initial phase in actualizing an organized national BEE administrative system and cover seven key change components: be a specific proprietorship; the board and control; business value; abilities development; particular procurement; enterprise improvement; and a residual (CSI) component (Filbeck & Gorman, 2004). The Codes (CSI) focus on BEE consistency, and progress is estimated by the Scorecard, which has determined focus areas for every one of the seven

components (Friedrich & Trois, 2013). By setting priorities, the Scorecard provides plastic manufacturing companies with clear guidance about where they should center their transformational endeavors (Murerwa, 2015). Most corporate pioneers concur that a significant economic objective is an environmentally sustainable development. Environmental and financial sustainability envisages companies striving for eco-effectiveness, and simply quantifying by delivering precise data on environmental costs, salary, and financial performance (Feng et al., 2016).

Jackson et al. (2011) postulated that environmental costs are various costs that organizations realize when giving products and administrations to their clients. MacArthur et al. (2016) highlighted that organizations should not just spotlight improving their incentives through augmenting benefits and results but focus on environmental cost and financial sustainability.

Akti et al. (2013) asserted that identifying environmental costs for an item, procedure, or office is critical for acceptable management choices. Accomplishing such targets as reducing environmental costs, growing salary, and improving financial performance requires concentrating on current, future, and potential environmental costs (Murerwa, 2015). The volume and degree of activity determine how a company characterizes an environmental cost and how it expects to use the data, for example, cost distribution, capital planning, process/item structure, and other management considerations (Feng et al., 2016). Further, it is not always clear whether a cost is "environmental" or not; a few expenditures fall into a category that could be described as "environmental" in part but not entirely. It is not necessary to determine if an expense is "environmental"; the purpose is to guarantee that high costs are adequately considered (Aggarwal, 2013). These two plastic manufacturing companies face environmental costs: government levies, taxation, and charges based on environmental issues (prevention and environmental management) (Friedrich & Trois, 2013).

The term "revenue" refers to an entity's income or rise in net assets due to its routine operations. As a result, commercial revenue is often known as sales (Aggarwal, 2013). Gross profit is computed by de-

ducting the cost of products sold from revenue on a company's statement of comprehensive income and profit and loss (Murerwa, 2015). It can be deduced from the revenues (sales) of plastic products that various components significantly impact a company's financial performance compared to its environmental costs (Filbeck & Gorman, 2004). Therefore, revenues are important, and a successful company can provide high and long-term funds to its stakeholders. Financial proportions are a form of financial statistic used to evaluate a company's ability to generate revenue in relation to its costs and other related expenses over a specific period (Ameer & Othman, 2012).

The net profit is an actual profit that has been paid for a given time after working expenses that were not included in the gross profit calculation. Eccles et al. (2019) mentioned that net profit is the company's high or low financial performance reflected in the large or small profits that companies can obtain in 12 months. Therefore, the higher net profit of a company was considered to cause high plastic pollution, plastic recycling, and plastic wastage (Aggarwal, 2013). In addition, Brammer et al. (2006) argued that manufacturing companies' financial performance is crucial for financial partners and the economy as a whole. Schröder et al. (2023) noted that the amount of net profit after deducting all the expenditures or paid expenses during the period will increase the profit for the period without any negative impact on the product quality, which drives the company's operations more efficiently.

Total liability is defined as a potential commitment deriving from past events, which will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events outside the entity's control (Bråtenius & Melin, 2015). It can also be defined as a current commitment like environmental costs arising from previous events that are not recognized since an outflow of resources in the form of cash rewards is unlikely to be required to satisfy the obligation. The commitment amount cannot be adequately measured (Eccles et al., 2019). A total liability can arise as a result of a liability, which can be detected and communicated through the notes in financial statements and financial reporting (MacArthur et al., 2016). In this context, a provision is defined as a current

commitment that accepts that, though the timing or quantity of the commitment is uncertain, a reliable estimate may be produced and an outflow of resources representing financial benefits will most likely be necessary to settle the commitment (Aggarwal, 2013). This builds the significance of bringing awareness of these national plastic manufacturing companies and promoting initiatives for spending on environmental costs (Haines, 2014). In addition, Akti et al. (2013) mentioned that net profit was the high or low performance of a company, which was reflected in the large or small profits that can be obtained by companies in a given period. Therefore, the provisions and total liabilities of the two plastic manufacturing companies will negatively affect their net profits and dividends declared. In contrast, it will have a holistic benefit on the financial performance, possibly benefiting shareholders, investors, and environmental stakeholders in the long term. Various studies have utilized profitability and financial performance to define differences in disclosure levels. Proponents contend that there are extra costs related to social and environmental costs, which diminish the financial performance of the reporting company (Naidoo & Olaniran, 2014). Dikgang et al. (2012) found a clear linkage between a company's profitability and environmental costs. However, Jackson et al. (2011) struggled to establish any significant positive relationship between profitability and environmental costs.

1.1. Relationship between environmental costs and financial performance

Carroll (2016) investigated the relationship between US corporations' eco-efficiency ratings (given by Innovest), performance, investment style, and industry impacts. They found a positive and critical relationship between high environmental levels and high performance. In particular, a high-positioned portfolio outperformed a low-ranked one reporting about the environmental parameters recognized (Gehring et al., 2014). Endiana et al. (2020) contended that discretionary improvement in environmental costs regularly gives financial advantages because pollution decreases future cost reserve funds by expanding proficiency, diminishing environmental costs, and limiting future liabilities. Similarly, Elsheikhi

et al. (2020) claimed that companies that adhere to a single set of strict environmental guidelines worldwide have greater market valuations than those that do not.

Lee and Suh (2022) claimed a positive relationship between environmental control records and profitability. Dikgang et al. (2012) highlighted a more positive response from the stock market after environmental crises. Endiana et al. (2020) contend that the connection between environmental costs and profitability must be impartial. Gehring et al. (2014) upheld this argument, arguing that pollution control consumption and companies' profitability are not connected. Derila et al. (2020) saw comparable outcomes and found that share returns and environmental costs have no direct relationship. Previous studies recommended that the connection between environmental costs and financial performance needs to be clarified. Thus, stakeholder theory shows companies as an influential aspect of a social system while concentrating on the different stakeholder groups within society (Carroll, 2016).

1.2. The theoretical framework of the study

Stakeholder theory looks at capitalism that emphasizes the linked interactions between a company, its stakeholders, and communities. As Endiana et al. (2020) indicated, stakeholder theory deals with these connections in light of various factors: the nature of the undertaking's condition, the remarkable quality of stakeholder groups, and the estimations of decisions that decide the stakeholder's positioning procedure. The stakeholder theory expresses those stakeholders as "those whose relations to the undertaking cannot be contracted for; yet upon whose collaboration and imagination it depends for its survival and thriving" (Nhamo, 2005). Stakeholder theory clarifies explicit corporate activities and exercises a stakeholder-agency approach, which focuses on how associations with stakeholders are overseen by companies as far as the affirmation of their host societies is concerned (Filbeck & Gorman, 2004). Furthermore, these stakeholders communicate with their managers to characterize their approach to environmental costs through meetings (Carroll, 2016). In administration, the managers of the two plastic compa-

nies are authorities on the environmental costs of plastic, penalties, and imperative issues, with an assessment of financial performance (Dikgang et al., 2012). The stakeholder theory was used to assess the relationship between environmental costs and financial performance of two national plastic manufacturing companies. When these two plastic companies spend on environmental costs such as provisions or total liabilities, it will show that they are ultimately concerned about the environment and financial sustainability. Operational greatness managers install the coordination of procedures, practices, approaches, and connections among the organizations. Lastly, the stakeholder theory stipulates the company's responsibilities to all stakeholders, such as responsibility for financial performance and learning (Watson et al., 2004).

Therefore, the aim of the study is to explore the relationship between environmental costs and the financial performance of two of the largest plastic manufacturing companies in South Africa.

2. QUALITATIVE METHOD

This paper utilized content analysis, which is a qualitative method, to demonstrate a result derived from numerical changes that emerge from the paper groups being considered. Qualitative method aims to explore and gain an in-depth understanding from a situational perspective (Derila et al., 2020). According to Thambu et al. (2021), a qualitative method is especially appropriate once a connection between factors is established. Content data analysis is an adaptable qualitative method as it may be very well applied to a wide variety of secondary data and can permit data to be produced that are difficult to physically access (Carroll, 2016). Secondary data were chosen because the data of these two plastic companies were available in the public domain. Three data sets were downloaded from two plastic companies' annual reports. The selection of secondary data sources assumed that the data would be reliable, appropriate for the paper's scope, and error-free. The first data set was the statement of comprehensive income and profit and loss, the second was the statement of financial position, and the third was the sustainability and financial reports for these

companies' environmental costs. The qualitative method of content analysis for 2018 to 2019 financial statements and financial reports was utilized for the paper. The financial statements and financial reports of the two companies were analyzed comparatively. In this way, validity is achieved as the analysis of the environmental costs was utilized to measure what it is expected to quantify (Murerwa, 2015).

3. RESULTS

These two plastic companies seem to have decreased revenue from 2018 to 2019, and net profit decreased from 2018 to 2019 for BML due to low productivity experienced while settling their obligations, possibly related to environmental costs. The decreased net profit from 2018 to 2019 could be linked to decreased spending on environmental sustainability matters from 2018 to 2019. Hence, the decrease in plastic penalties from 2018 to 2019 could have a ripple effect, which was a decrease in revenue from 2018 to 2019 (BML). There was a decrease in provisions from 2018 to 2019 for Nampak, which meant that this company reduced spending on environmental costs, which supports environmental sustainability and might impact financial performance. In addition, there was a decrease in profits from 2018 to 2019 and an increase in provisions from 2018 to 2019, which is related to environmental costs as it showed that the company had less revenue, which correlated to the increase in environmental costs.

Furthermore, stakeholders' equity funds decreased from 2018 to 2019 due to a decrease in spending on environmental costs from 2018 to 2019. There seems to be a considerable concern that environmental costs could reduce stakeholders' equity funds, which might impact financial performance. The paper identified a gap in environmental costs and financial performance research of these two national plastic manufacturing companies.

The findings focused on the presentation, interpretation, and discussion. The paper used content and interpretative analysis for financial statements and financial reports as a data anal-

ysis technique to obtain the findings. The study used financial statements from 2018 to 2019 of two of the largest national plastic manufacturing companies in South Africa. All the data presented are abstracts from the two plastic manufacturing companies. Hence, the values are reflected in millions of South African Rands (Table 1).

Table 1. Abstract of the two plastic companies' revenue, profits, and shareholder's equity in the financial statements for 2018–2019 (In millions of the reported Rand currency)

Source: BML's annual reports (2018–2019); Nampak reports (2018–2019).

Financial performance items	Years	BML	Nampak Ltd
Revenue (Sales)	2018	R 536.578	R 15,963.3
	2019	R 572.019	R 14,642.4
Profit for the period	2018	R 78.309	R 569.10
	2019	R 71.959	R 1,513.6
Shareholders' equity	2018	R 766.12	R 10,140.3
	2019	R 678.899	R 8,932.3

Table 1 revealed a corresponding decrease in revenue (sales) and net profit on plastic products of the two national plastic manufacturing companies between 2018 and 2019. Therefore, the revenue, net profit, and stakeholders' equity of BML and Nampak significantly negatively affected the two-year period's financial performance.

3.1. BML's revenue, net profit, and stakeholders' equity

Table 1 indicated that BML had an increase in revenue from R 536.578 million in 2018 to R 572.019 million in 2019. This could imply that the company spent more on total liabilities related to environmental costs between 2018 and 2019 in Table 2. BML decreased its net profit from R 78.309 million in 2018 to R 71.959 million in 2019. The net profit decreased, which correlated with the decrease in payment of plastic penalties between 2018 and 2019, shown in Table 2. BML had a decrease in stakeholders' equity from R 766.12 million in 2018 to R 678.899 million in 2019, which meant that the stakeholders' equity funds were reduced due to less spending on environmental costs. There is a correlation between a decrease in profits between 2018 and 2019 and a decrease in total liabilities, which can be linked to a decrease in environmental costs from 2018 to 2019.

3.2. Nampak Ltd's revenue, net profit, and stakeholders' equity

Table 1 reflected that Nampak had a decrease in revenue from R 15,963.3 million in 2018 to R 14,642.4 million in 2019. However, the company increased its net profit (mentioned on Nampak's annual report as profit for the year) from R 569.1 million in 2018 to R 1,513.6 million in 2019. This increase in net profit from 2018 to 2019 could be due to an increase in total liabilities to R 528.3 million in 2019. Nampak also decreased stakeholders' equity from R 10,140.3 million in 2018 to R 8,932.3 million in 2019, which meant that the stakeholders' equity funds were reduced due to less spending on environmental costs. However, Table 2 shows that the company will spend more on legal and constructive obligations possibly related to environmental cost provisions in the future.

Table 2. Abstract of the two plastic companies' environmental costs in the financial statements for 2018–2019 (In millions of the reported Rand currency)

Source: Metcalf's annual financial reports (2018–2019); Nampak's annual financial reports (2018–2019), and Nampak's sustainability report (2018–2019).

Liabilities items	Years	BML	Nampak
Plastic penalties (taxation and levies)	2018	R 23,171	R 119.5
	2019	R 14,596	R 254.8
Total liabilities	2018	R 118,218	R 14,999
	2019	R 75,302	R 13,222.3
Provisions (emissions)	2018	–	R 20.10
	2019	–	R 32.26

Table 2 demonstrates the need to improve issues relating to the total liabilities, provisions, and plastic penalties of these two plastic companies. Further, these two plastic manufacturing companies have had challenges in keeping up with ever-increasing total liabilities and provisions in 2019, which will be further discussed below for BML and Nampak.

3.3. BML's environmental costs

Table 2 shows that BML had a decrease in plastic penalties (taxation) from R 23.171 million in 2018 to R 14.596 million in 2019, which meant that the company spent less on legal and constructive obligations, also known as total liability items. The decrease in plastic penalties from 2018 to 2019 could not be linked to an increase in revenue from 2018

to 2019 (Table 1), which is fewer sales (revenue) of plastics. Interestingly, BML decreased total liabilities from R 118,218 million in 2018 to R 75,302 million in 2019. This could be due to the company spending on plastic penalty costs from 2018 to 2019 and focusing more on environmental costs and sustainable financial matters.

The environmental costs are fines, taxes, and charges that could be based on environmental issues (prevention and environmental management). Hence, the decrease in plastic penalties and total liabilities correlates to a decrease in net profit from 2018 to 2019 shown in Table 1. Therefore, a negative relationship exists between environmental costs and the financial performance of BML.

3.4. Nampak Ltd's environmental costs

Table 2 reflects that Nampak had a decrease in plastic penalties (the government levies and taxes) from R 119.5 million in 2018 to R 254.8 million in 2019, which shows that the company spent less on legal and constructive obligations. Furthermore, there was an increase in provisions (for emissions intensity, refer to sustainability report 2018 and 2019) from R 20.10 million in 2018 to R 32.26 million in 2019, which meant that the company spent less on improving the company's environmental matters and supporting environmental sustainability. Table 1 indicates a decrease in revenue from 2018 to 2019 and an increase in net profit from 2018 to 2019. Table 2 presents a decrease in total liabilities from 2018 to 2019 and a decrease in plastic penalties from 2018 to 2019. Hence, the relationship between environmental costs and financial performance is positive for Nampak.

4. DISCUSSION

The findings show (Table 1) that the increase in revenue from R 536,578 million in 2018 to R 572,019 million in 2019 for BML could not be related to the decrease in plastic penalties and other environmental costs from R 23,171 million in 2018 to R 14,596 million in 2019. Net profit decreased from R 78,309 million in 2018 to R 71,959 million in 2019 in BML; this could be related to less spending or allocation of funds to plastic penalties from R 23,171 million in 2018 to R 14,596 million in 2019,

as shown in Table 2. BML had a slight decrease in stakeholders' equity from R 766.12 million in 2018 to R 678,899 million in 2019, which meant that reduced spending on environmental costs had a negative impact on stakeholders' equity. This is consistent with the Chief Executive Officer (CEO) of BML, who claimed that the company sold plastics in 2018, which could be an interest in sustainability practices through an incorporated system of waste decrease, recycling, innovative technologies, and the improvement of community awareness (BML, 2019). Gibbons et al. (2020) mentioned that net profit is a company's high performance, which is reflected in the large profits that companies can obtain in a period. Therefore, the decrease in net profit and decrease in environmental costs might have had an impact on BML.

Nampak had a decrease in revenue from R 15,963.3 million in 2018 to R 14,642.4 million in 2019, which meant that the decrease could be related to a decrease in plastic penalties or the company reduced spending on environmental costs from R 119.5 million in 2018 to R 254.8 million in 2019. Nampak also decreased stakeholders' equity from R 10,140.3 million in 2018 to R 8,932.3 in 2019, possibly due to decreased spending on environmental costs. On the other hand, the Chief Executive Officer (CEO) highlighted that Nampak had an increase in revenue which could be an interest in the re-using activities. It keeps putting much time and assets into improving sustainable items other than to cover its total liabilities, provisions, and environmental costs funds (Nampak, 2019). Thus, the paper has shown that the revenue (sales) and profits on plastic products of BML and Nampak significantly affected the company's financial performance between 2018 and 2019. The decrease in net profit from R 78,309 million in 2018 to R 71,959 million in 2019 for BML is possibly due to reduced spending on plastic penalties from R 23,171 million in 2018 to R 14,596 million in 2019, which was also in the data analysis of Table 2. This is consistent with Lee and Suh (2022), who discovered that firms with a high environmental cost and those that surpass regulatory criteria have strong financial performance. In contrast, companies with poor environmental costs have poor financial performance. Nhamo (2005) states that these positive outcomes probably improve the firms' spending and decrease the cost of

capital. Elsheikhi et al. (2020) explored the impact between environmental costs and financial performance. They found a vivid positive association between them, which means that the company had higher profits.

Table 2 presents the need to improve issues relating to the total liabilities, provisions, and plastic penalties of these two plastic companies. Gibbons et al. (2020) claimed that the utilization of total liabilities funds and provisions funds effectively at the reporting time will improve the value of companies. Various elements, such as community improvement fines, waste management expenditure, and environmental taxes, determine how many environmental costs affect the industry's financial performance (Carroll, 2016). Financial performance is the proportion of financial achievement accomplished by manufacturing companies comparable to the capital resources put into it. Furthermore, total liabilities and provisions represent the best estimate of the consideration necessary after the reporting period, taking risks into account. The CEO asserted that Nampak acknowledges the role it has to play in providing products and services that minimize their impact on waste and emission control costs (Nampak, 2019). Hence, there seems to be a positive relationship between environmental costs and financial performance for one plastic manufacturing company – Nampak – between 2018 and 2019.

Many plastics manufacturing companies must guarantee equal responsibility regarding total liabilities and provisions issues. The high costs of satisfying obligations, known as total liabilities and provisions, lower a company's profit (Elsheikhi et al., 2020). It was shown in Table 2 that the plastic penalties are higher for these two plastic manufacturing companies. The CEO is committed to ensuring that BML is an environmentally responsible company in the future and believes that integrated actions they take within the operations to conserve natural resources and protect the environment make sound business sense (BML, 2019). Further studies could determine whether there is a causal relationship between environmental costs and the financial performance of other manufacturing companies. In addition, future research should examine the link between environmental costs and the financial performance of other national and abroad manufacturing firms.

CONCLUSION

The study aimed to explore the relationship between environmental costs and the financial performance of two of the largest plastic manufacturing companies in South Africa. Hence, important conclusions are drawn regarding the relationship between environmental costs and the financial performance of the two companies. Findings showed that increased environmental costs positively affect financial performance, benefiting all other stakeholders. The paper concludes that when more resources are allocated toward environmental costs, it has a positive relationship between financial performance and stakeholders' interest. In addition, the findings have shown that the increased spending on environmental costs also positively impacted revenue. Thus, the companies can support environmental sustainability and improve their financial sustainability in the future. They should allocate more investments toward environmental costs. In addition, the paper has shown that if these two plastic companies wish to be competitive nationally or internationally, they need to reduce the carbon footprint, promote climate change; thus, they would become more financially and environmentally sustainable. The good financial performance of these plastic companies will promote revenue, supply superior-quality products to clients, and create a better environment for cooperative production units in the future. Therefore, plastic manufacturing companies should allocate more resources/funding to environmental costs in the future as this will have a positive relationship with all stakeholders concerned.

AUTHOR CONTRIBUTIONS

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