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Article

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Disclosure of operational performance in DSE listed companies. Do firm and industry characteristics matter? A balanced score card approach

Shaban Ngole^{1*} and Ernest Mabonesho²

Abstract: The purpose of this study is twofold: first, to examine the disclosure level of operational performance and second; to examine whether firm and industry characteristics matter in the disclosure of corporate information. The study uses data from twenty-one companies listed at the Dar Es Salaam Stock Exchange (DSE) for the financial year 2020/2021 and applies the Balanced Scorecard (BSC) framework. Data are collected from companies' websites by using content analysis approach. Moreover, the study uses disclosure index to determine the disclosure level of operational performance and presents the results using tables. The research reveals that there is high disclosure level of operational performance information at DSE. The study also finds that industry profile, listing-age and cross-listing matter on the disclosure of operational performance. The findings highlight that information related to customers and innovations are least disclosed this may be due to confidentiality and competitive advantage issues. Meanwhile, internal business process is highly disclosed in order to showcase strength to stakeholders. This study has used small sample size thus, future research may increase the sample size to include companies listed at other stock markets in order to increase diversity and get more insight on the operational performance and BSC framework in general. The findings are relevant to policy makers and regulatory bodies. The study contributes to the literature on the disclosure of operational performance information in an emerging capital market setting.

Subjects: Economics; Finance; Business, Management and Accounting;

Keywords: disclosure; disclosure level; balanced Scorecard; operational performance; DSE

JEL classification: M40; M41

1. Introduction

This study seeks to contribute to the extant corporate disclosure literature by examining; one, the disclosure level of operational performances of companies listed at the Dar Es Salaam Stock Exchange by using the Balanced Scorecard framework and two, the influence of firm and industry

characteristics on the disclosure of operational performance. In particular, the study intends to achieve the following specific objectives; first, to determine the extent to which firms disclose operational performance and second, the extent to which industry profile, listing-age and cross-listing and characteristics influence the disclosure of operational performance.

One of the motives of corporate disclosure is to communicate to the existing and potential investors, creditors and other interested parties about financial and operational performance of firms so that to reduce information asymmetries between managers and investors (Carson & Westerman, 2023; Dobija et al., 2023; Singhal & Kapur, 2023). However, it has been a common practice that firms disclose more on financial information and pay less attention on operational performance. The prior research on disclosure of corporate information is commonly grounded by agency, shareholders, stakeholders and/or signaling theories. For instance, agency theory emphasizes that in order to reduce agency costs and information asymmetries between managers and investors. Primarily, agency theory focuses on relationship between principals (equity-holders) and agents (managers). The shareholders usually have limited information on firms' operations whilst managers have full information, as a result disclosure of operational performance is required in order to reduce the information asymmetry between principals and agents that may otherwise cause moral hazard and adverse selection (Jensen & Meckling, 1976).

Consistent with the agency theory, shareholders' theory is premised on the ground that shareholders are the main stakeholders in a firm; thus, the disclosure of corporate information is likely to protect their interests as capital providers. On the other hand, stakeholders' theory asserts that there are multiple constituencies (internal and external stakeholders) who have interests in a firm. The purpose of corporate disclosure is to signal the firm's performance to the broader interested parties of the firm; thus, this study considers the stakeholders theory to be relevant in explaining disclosure practices. Moreover, the signaling theory asserts that asymmetric information between firms and investors causes adverse selection; hence one can avoid this problem through corporate disclosure of information (Morris, 1987). Based on the discussion above, this paper adopts stakeholder's theory and signaling theory in explaining the motives behind corporate disclosure. The paper further argues that the motives of corporate disclosure are likely to be influenced by firm characteristics such as industry profile, listing-age and cross-listing (Azzam et al., 2020; and Karim et al., 2013).

Traditionally, corporate disclosure is based on the IASB Conceptual Framework and is concerned with financial information and mainly focusing on investors (IASB, 2010), while ignoring operations related information. According to section 1.2 and 1.12 of the Conceptual Framework, the objective of general-purpose financial reporting is: *"to provide financial information about the reporting entity's economic resources, claims against the entity and changes in those economic resources and claims that is useful to primary users (existing and potential investors, lenders and other creditors) in making decisions relating to providing resources to the entity"* (IASB, 2010).

This traditional approach of financial reporting has been criticized in that it is backward looking, focuses only on primary users of financial information, and does not align firms' strategies with performances (Kaplan, 2009; Kaplan & Norton, 1992, 1996; Lipe & Salterio, 2002; Massingham et al., 2019; Taylor & Baines, 2012). In order to address these caveats of traditional financial reporting approach, Kaplan and Norton (1992) pioneered and developed a performance measurement framework (PMF) which is the balanced scorecard model (BSC). This model includes both financial and non-financial information (operational performance) reporting, it is a forward-looking approach and it is consistent with the stakeholders' theory. Moreover, the model is multi-faceted and considers the interests of all stakeholders (shareholders, customers, community, employees, management, government, bankers, lawyers, and suppliers) of a firm (Al-Qubaisi & Ajmal, 2018).

The model puts the company's strategy, mission and vision at the centre of performance measurement (De Jesus Alvares Mendes Junior & Alves, 2023), and looks at the performances of companies from four perspectives namely: *financial, customer's satisfaction, internal business processes, and*

*innovation and learning perspectives.*¹ Customer satisfaction, internal business processes and innovation and learning are considered to be the drivers for creating long term shareholders' value and form the operational performance (Kaplan, 2009; Mühlbacher et al., 2016; Porporato et al., 2017).

The BSC model has been considered as a tool to support decision-making at strategic management levels, thereby, managers evaluate the operational efficiency of their businesses by supplementing financial information with other information related to: customers, internal business processes, innovations, learning, and growth (Ta et al., 2022). Moreover, the success of organizations depends on their ability to change resources into products and or services that satisfy their customer's desire. This means that the disclosure of BSC model elements is relevant for strategic decision making of stakeholders. It is therefore important for the current research to enlighten the participants in DSE the disclosure level of operational performance to enable strategic decision making.

Thus, the disclosure of operational performance is the interest of this paper because business operations change quickly as a result of advancements in technologies, changes in business competitions, and increased business regulations (Adhariani & Villiers, 2019). Also, economic, social and environmental debates, financial crisis, globalization and demographic changes have led to changes in the disclosure of corporate operations and performances (Adhariani & Villiers, 2019; Boddy, 2011; Golja & Paulišić, 2011; Lodhia, 2015).

This study is grounded by two key research questions; first, what is the disclosure level of operational performance for companies listed at DSE? Second, do firm and industry characteristics matter to the disclosure level of operational performance? Prior studies on the corporate disclosure mainly focus on financial reporting and risk disclosure for instance, Elamer et al. (2021) and concentrate in developed economies. Elamer et al. (2021) examine whether or not bank risk disclosures are informative in twelve MENA countries. They find that bank risk disclosures have a predictive effect on banks' credit ratings (BCRs) and such a relationship is contingent on the quality of governance structures. Moreover, they find that the predictive role of bank risk disclosures on BCRs is higher in banks with higher board size, greater independence, higher governance ownership and Shariah supervisory board and lower in banks with greater block ownership, higher foreign ownership and the presence of CEO duality. The implication is that governance structures matter on the relationship between risk disclosures and banks' credit ratings.

The literature on the disclosure of operational performance has shown that the four BSC elements are not fully disclosed leading to the expected benefits not being garnered (Kaplan & Norton, 1996; Mühlbacher et al., 2016). This can be attributed by the fact that; the disclosure of these elements especially the operational performance is voluntary. However, due to signalling and stakeholders' theories, this paper argues that, disclosing operational performance is important in order to assess the effectiveness, efficiency and stewardship role of management to stakeholders. Moreover, disclosing operational performance sends a signal to all stakeholders about the operations of companies.

The disclosure level of operational information is influenced by firm characteristics (Azzam et al., 2020; Chandok & Singh, 2017; Dienes et al., 2016; Hassan & Guo, 2017; Karaman et al., 2018; Said et al., 2013; Usman, 2020), such as industry listings Ta et al. (2022), firm age (Prot et al., 2021). Ta et al. (2022) argue that in order to evaluate operating efficiency, stakeholders should consider industry characteristics and that the need for BSC information for decision making is increasing in large firms. The implication is that large firms are likely to disclose more information related to operational performances than small firms (Karim et al., 2013 and Connelly et al., 2011).

Basing on the signaling theory, it is expected older and larger firms to disclose more operational performance information in order to signal their good image and reputation than their counter parts, and this is simply because they are well established in the market. For instance, Connelly et al. (2011), argue that the larger the firm, the greater the information imbalance between firm

managers and investors, and in order to reduce the impact of asymmetric information, managers can signal “good news” to the market through disclosure practices to stakeholders (Azzam et al., 2020). Moreover, due to stringent regulatory requirements in the financial sector, it is expected that, financial firms will disclose more operational performance than non-financial firms.

This study contributes to the existing corporate disclosure literature in a number of ways; first, it examines the disclosure levels of firms in an emerging economy setting, second, unlike prior studies, it uses the BSC model to determine the disclosure level of operational performance, that is, methodological contribution, third it uses the stakeholders and signalling theories as complementing theories to explain disclosure practices because a single theory would hardly sufficiently explain the motives behind disclosure practices (Mabonesho, 2013; Mabonesho, 2018), that is, theoretical contribution and fourth, it examines the influence of listing-age, cross-listing and industry profile on the disclosure level of operational performance.

The rest of the paper is structured as follows: Section 2 discusses the background. Section 3 reviews the literature and develops the research hypotheses. Section 4 presents and discusses the research design used in the study. Section 5 presents and discusses the results and section 6 provides the summary and conclusion.

2. Background

The corporate reporting in Tanzania is primarily guided by the Company Act, 2002, Guidelines on Corporate Governance practices, Risk Management guidelines for Banks and Financial Institutions, 2010, Environmental Management Act, 2004 and the International Financial Reporting Standards (IFRS) 1 (Mwenda et al., 2021). Also, the reporting practices of companies listed in the DSE are guided by the Capital Markets and Securities Authority, (CMSA) Act, 1994 and the Tanzania Financial Reporting Standard (TFRS) 1. The IFRS 1 and the TFRS 1 are principle-based accounting standards which provide room for flexibility and judgments in accounting disclosures. Tanzania Financial Reporting Standards are issued by the National Board of Accountants and Auditors (NBAA) which regulates the accounting profession in the country.

The TFRS 1 which is the standard about; *“the report by those charged with governance”* requires that the disclosure of Tanzanian business entities cover extensively four key areas namely: the overview of entities’ operations and business environments, the objectives and strategies of the reporting entity, performance analysis, and finally the analysis of risks and uncertainties. In particular, this standard requires that, *“those charged with governance must prepare the report focusing on primary users and other stakeholders to set out their analysis of the entity’s operations and financial review with a forward-looking orientation in order to assist them to assess the firm’s strategies”* (NBAA, 2023). This standard replaced the old TFRS 1 standard on directors’ report and became effective on 1 January, 2021. The standard is applicable to all entities except those which apply the Financial Reporting Standard for Micro Entities (FRSME).

Moreover, by interpretation, the TFRS 1 disclosure requirements fall under the four BSC elements, which imply that in order to comply with the TFRS 1; companies listed at the DSE should communicate their financial and operational performance information to external stakeholders (S. Cohen & Karatzimas, 2015). This means that after adopting this standard the corporate reporting shifted from the traditional approach of financial reporting to a broader and holistic approach which includes operational performance. However, due to the voluntary nature of the TFRS 1 disclosure requirements, the unresolved questions are; one, to what extent companies at the DSE have complied with this Standard? And two, are firm and industry characteristics in DSE not likely to influence the disclosure levels of information?

Dar Es Salaam Stock Exchange offers a unique research setting in examining the disclosure levels of operational performance because it is an emerging stock market and it requires that all listed firms to submit audited annual financial statements which are drawn based on the Company

Act and be prepared in accordance with the International Financial Reporting Standards (IFRS) or other standards (e.g. TFRS1) as directed by the NBAA. DSE was incorporated in 1996 and it became operational on 15 April 1998 (DSE, 2023). On 29 June, 2015, DSE was demutualized and re-incorporated into a public limited company. Demutualization refers to the “*term used to describe the transition from a mutual association of exchange members operating on a not for profit basis to a limited liability, for profit company accountable to shareholders*” (Elliot, 2002, p. 4).

Currently, DSE has twenty-eight (28) listed firms; of which twenty-two (22) are local firms and six (6) are cross-listed firms. Moreover, DSE has firms with different characteristics in terms of industry profile, listing-age and cross-listing. Consistent with Prot et al. (2021), the disclosure levels of corporate information are likely to be influenced by firm and industry characteristics.

3. Literature review and hypotheses development

3.1. Theoretical framework

The operational performance disclosure is an important concept in corporate reporting because it signals the corporate performances (Nassreddine, 2016; Zamil et al., 2023). In this research, operational performance is defined as the process of achieving the required standard in terms of efficiency, effectiveness, and equity, in respect to customers’ satisfaction, internal business processes, learning, innovations and growth parameters. Ta et al. (2022), explains that non-financial BSC elements are important tools for decision-making at strategic management levels. They further add that in order to evaluate operational efficiency, financial information must be supplemented with information related to customers, internal processes, learning, innovations, and growth. These parameters are necessary to signal operational performance and communicate it to external stakeholders (Mühlbacher et al., 2016).

The financial performance is a short-term and past oriented performance measure that merely focuses on shareholders’ wealth maximization without considering the process and parameters that actually make the sources of the wealth (Kaplan, 2009). Although, the financial performance disclosure is necessary, but the management accounting critics argue that the performance disclosure is supposed to be holistic and include both the financial and operational performance (Kaplan, 2009; Mühlbacher et al., 2016).

Kaplan and Norton (1992) were the pioneers of integrating the financial performance with operational performance, in their seminal paper; “*The Balanced Scorecard Measures that Drive Performance*”. They established the performance measurement framework (PMF), the balanced scorecard (BSC) model. The BSC model derives from the stakeholders’ theory which is multi-faceted and considers the interests and expectations of various groups in a company namely; *shareholders, customers, community, employees, management, government, bankers, lawyers, and suppliers*. Due to diversity of stakeholders, a holistic corporate reporting which includes both the financial and operational performance is arguably commensurate. The model puts the company’s strategy, mission and vision at the centre of performance measurement (De Jesus Alvares Mendes Junior & Alves, 2023), and looks at the performances of companies from the four perspectives namely: *financial, customer’s satisfaction, internal business processes, and innovation and learning perspectives*. Customer satisfaction, internal business processes and innovation and learning are considered to be the drivers for creating long-term shareholders’ value and form the operational performance measurement (Kaplan, 2009).

Kaplan and Norton (1996) raise the question whether the BSC elements can be used to communicate with external shareholders. This question has been responded by different researchers; for example, Mühlbacher et al. (2016) suggest that the BSC model should be

used to communicate new measures to potential investors. Specifically, Massingham et al. (2019), comment that corporate disclosure is improved through consideration of the BSC elements such as learning and growth. Consequently, the disclosure of the entity's performance and value creation process is crucial to internal and external stakeholders (Maines et al., 2002).

The disclosure of corporate information is mainly grounded by a number of theories including agency, signaling, stakeholders, diffusion of innovations and cost-benefit analysis, and political process (Urquiza et al., 2010). This study applies the signaling theory because disclosure of operational performance information is more voluntary and intended to signal competitive advantages of companies to their investors. The signaling theory asserts that asymmetric information between firms and investors causes moral hazards and adverse selection (Carson & Westerman, 2023; Morris, 1987). Usually managers are more knowledgeable about the firm and possess more relevant and superior information than investors (Singhal & Kapur, 2023). Thus, to avoid moral hazard and adverse selection, firms have to disclose information voluntarily (Bazhair et al., 2022; Boshnak, 2022; Shueb et al., 2022), in order to send signals to the market about their performances (Dobija et al., 2023).

This paper argues that signalling theory can not sufficiently explain the motives behind the disclosure level of operational performance. Consistent with prior empirical studies such as Mabonesho (2013, 2018), this paper uses stakeholders theory to complement the signalling theory in explaining the disclosure practices at DSE. The stakeholder theory contends that firms have incentives to convince their stakeholders that the business operations are managed in conformity with their interests (Kumar et al., 2021). In this context, signalling theory and stakeholder theory complement one another to explain the motives towards firm disclosure practices. Indeed, Al Amosh and Khatib (2022, p. 46), note that *"the theoretical lens of the disclosure literature should be expanded to include multiple theoretical grounds that may lead to a better understanding of the phenomenon of corporate disclosure"* Thus, the theoretical framework for this research is grounded on the two theories.

The extant theoretical literature suggests that the disclosure practices on operational performance information are likely to be influenced by companies' listing-age, cross-listing, industry profile and other firm and industry characteristics (Karaman et al., 2018; Nassreddine, 2016; Prot et al., 2021). For instance, Prot et al. (2021) find that older firms disclose more operational performance information in order to signal their good image and reputation. Furthermore, Mwenda et al. (2021), reveal that financial firms disclose more operational performance information than non-financial ones, this is due to stringent regulatory and supervisory requirements on financial firms. Moreover, cross-listed firms are likely to disclose more operational performance information because they are better placed in adopting word class disclosure practices (Khanna et al., 2004).

3.2. Empirical literature review

Studies on the disclosure of operational performance have mainly focused on developed economies (Mühlbacher et al., 2016, and Chenhall (2005). Mühlbacher et al. (2016) examine the disclosure of non-financial performance measures in companies listed at the Austrian capital market for the period from 2002 to 2012. The study bases on annual reports and uses BSC approach through documentary review and content analysis methods. Generally, they find that the disclosure of operational performance information has increased. Moreover, they find a greater increase in the disclosure of innovation and learning perspective. On the other hand, they find that there is a decrease in the disclosure level of internal business processes and customer perspective.

Khan et al. (2011) examine the status and the use of the financial and non-financial measures in the Bangladeshi companies. They also, examine the reasons for BSC adoption; and problems associated with the BSC model. The study uses a cross section of sixty (60) Bangladeshi companies listed on the Dhaka Stock Exchange. The results indicate that financial measures are more widely

used than non-financial measures. The results also show that companies adopt BSC framework to aid decision making. The problems associated with the adoption of the BSC model include; a cost-benefit perspective and a lack of management support. The findings imply that many companies at the Dhaka Stock Exchange have not linked well the BSC framework with strategies. Khan et al. (2011) calls for the further research to examine the development and use of holistic performance frameworks in other emerging countries.

Khomba (2015) examines the validity and relevance of the conceptualization of the BSC model within an African context; and finds that the BSC model is an important tool for assisting executives in the long-term decisions making process. Furthermore, the BSC model forms a foundation for sound external financial reporting systems. The application of the BSC model to communicate the alignment of annual reports and organizational strategies can significantly reduce the manipulation and window-dressing of financial statements (Bible et al., 2006; Khomba, 2015). Also, it can enhance the communication with key stakeholders of the reporting entity (Atkinson, 2006; Kaplan et al., 2010).

Pasaribu et al. (2016), conduct a survey to understand the implementation of the BSC framework in the public sector in Indonesia during the period spanning from 2010 to 2015. They find that learning and growth perspective is the most important perspective. The learning and growth perspective can enable an organization to enhance employee's competency levels, innovation and productivity (Refmasari & Supriyono, 2019). Thus, disclosure of this information would add value to investors' decision making.

The disclosure of operational performance information has been a call of accounting researchers for many years, see for instance; Maines et al. (2002). The adherents for the disclosure of operational performance information argue that financial measures are backward looking and provide little insight into company's future performance (Kaplan & Norton, 1992). Moreover, Maines et al. (2002), contend that the traditional financial measures have lost relevance due to changes in the business models to reflect new economies. They assert that the demand for external reporting of the operational performance has been driven by companies' adoption of internal performance evaluation frameworks that incorporate BSC model. For instance; Lipe and Salterio (2002) document that organizing performance measures according to the balanced scorecard helps users to recognize redundancies among performance measures and adjust them accordingly.

Previous studies have focused on disclosure level of operational performance with little emphasis on elements of BSC model and the influence of firm and industry characteristics. Consistent with Massingham et al. (2019), the disclosure framework takes the three BSC dimensions namely: customer, internal business processes, and innovation and learning dimensions. The study also considers the Kaplan (2009) idea that value creation for any business entity requires combination of intangible assets with tangible assets. In this context, it is believed that the three dimensions of the BSC framework interact for enhancing financial performance (Massingham et al., 2019).

This study adds to the literature by examining the disclosure level of BSC elements which fall under operational performance and the influence of firm and industry characteristics. Specifically, the study examines the disclosure level of operational performance in companies listed at DSE using the annual reports of 2020/2021. Further, it examines whether the nature of industry, listing-age and cross-listing matter on the disclosure of operational performance.

3.3. Research hypotheses development

3.3.1. Listing-age and disclosure level of operational performance

The signaling theory proposes that older firm disclose more corporate information in order to signal their experiences in their respective markets, for example, Kumar et al. (2021) note that older companies report higher sustainability information because of their extensive reporting experiences. Moreover, prior studies also find a positive relationship between the listing-age and

voluntary disclosures (Orazalin & Mahmood, 2018). Furthermore, the stakeholder's theory, proposes that as the age of firms increase, they tend to move beyond the shareholders' interest of wealth maximization and consider wider interests of stakeholders. Basing on the signaling theory, stakeholders' theory and prior studies' findings, this paper hypothesizes that:

H1: *There is higher disclosure level of operational performance in firms with more listing-age than those with lower listing-age*

3.3.2. Industry profile and disclosure level of operational performance

The signaling theory suggests that high regulated firms disclose more voluntary information than less regulated firms so that to signal compliance to stakeholders. Indeed, Mwenda et al. (2021), note that financial firms have stringent regulatory and supervisory requirements which necessitate the disclosure of corporate information. Moreover, firms are expected to disclose corporate information depending on the nature of their industries. For example, the disclosure of information related to innovations, customers and business process is inevitable in financial firms so as to signal future performance. Besides, manufacturing firms focus more on disclosing information related to environmental issues (Nuskiya et al., 2021). Basing on the signalling theory, this paper argues that financial institutions are likely to disclose more information related to BSC elements than their counter parts, this is consistent with Khan et al. (2011). In this context, this research predicts that:

H2: *There is higher disclosure level of operational performance in financial firms than non-financial firms*

3.3.3. Cross-listing and disclosure level of operational performance

Due to signaling theory, cross-listed firms are likely to disclose more corporate information so as to signal the information quality, growth visibility, shareholders' base, diversification of their investment portfolios and ability to access financial markets (Kamarudin et al., 2020; Lei et al., 2023). Indeed, S. Kumar and Singh (2023), examine and find that cross-listed firms disclose more corporate information than non-cross-listed firms. Similarly, from stakeholder's theory perspectives, cross-listing subjects managers to stricter legal and regulatory disclosure environments, which makes them harder to extract private benefits against the broader interests of the stakeholders. Moreover, cross-listed firms are better placed in adopting word class disclosure practices, thus they are likely to disclose more operational performance information (Khanna et al., 2004).

Based on this background, this study hypothesizes that:

H3: *The cross-listed firms have higher disclosure levels of operational performance than non-cross-listed ones*

4. Research design

4.1. Data source

This study uses twenty-one (21) out of twenty-eight (28) companies listed at the Dar Es Salaam Stock Exchange (DSE) during the 2020/2021 financial year. The data were collected from the latest annual reports which were available on the websites of the companies. The interest of this study is to examine the disclosure level rather than the trend of disclosure of non-financial elements of the BSC model, thus only one reporting period is considered. Moreover, the paper argues that the disclosure practices grow over time to include more information thus, the latest one-year period is preferred. In this context, the annual reports for the period 2020/2021 were used to collected data.

The data were collected from the preliminary pages of the annual reports: Chairman, Chief Executive Officers, and Chief Financial Officers' statements. Furthermore, the data were obtained from the Board of Directors and Corporate Social Responsibility reports.

4.2. Sampling

The sampling criteria of this study were: first, the company must have been listed in the DSE for at least three. This is due to the fact that the company has enough time to abide to the disclosure requirements of the stock market. Second, the company must have published an annual report that includes the preliminary pages so as to enable the researchers to collect information related to operational performance. Third, the company should not be demutualized because it "challenges the traditional approach to supervision of securities exchanges and rises issues regarding their role in the regulation and supervision of capital markets" (Elliot, 2002, p. 1). Basing on these sampling criteria, seven (7) companies were excluded leaving a final sample of twenty-one (21) companies as indicated in Table 1.

4.3. Variables definitions and criteria

The dependent variable of this paper is disclosure level. This variable comprises of the three disclosure types as indicated in Table 2. Moreover, the table shows 20 disclosure items and their associated key search words.

The scoring process was such that, the key search words were used to identify the presence or absence of a sentence that describes a particular disclosure item which corresponds to a particular disclosure type. The disclosure procedure for scoring the items was such that a zero (0) score was assigned when an item is not disclosed and one (1) when it is disclosed.

Consistent with previous studies such as Elamer et al. (2021), Lipunga (2015, 2014), Abeysekera (2013) and Khan et al. (2011), the disclosure level for this study was measured by using disclosure index (DI).

The DI was calculated by using the formula adapted from Lipunga (2015):

$$DI = \sum_{i=1,0} \frac{di}{n} = \frac{TS}{ES} \quad (1)$$

Where DI = Disclosure Index

di = 1 if item is disclosed; 0 if item is not disclosed

n = number of items

TS = Total score

ES = Expected maximum score

The expected maximum DI score is equal to "1" while the minimum score equals to "0". This means when a score is 1 or closer to 1 suggests that there is higher disclosure level. Conversely, a score of "0" or closer to "0" suggests low level of the disclosure practices implying higher disclosure gap. Lipunga (2015) calculates the disclosure gap using the formula:

$$DG = 1 - DI \quad (2)$$

Where: DG = Disclosure gap

DI = Disclosure index

The independent variables for this study are listing-age, industry profile and cross-listing. The definitions and measurements of these variables are summarized in Table 3.

Table 1. Sampling criteria and selection

Firms	Listed in DSE	Published AR at least 3 yrs	No. Demutualization	Sampled
Acacia Mining	✓	✓	✓	✓
CRDB Bank	✓	✓	✓	✓
Dar es Salaam Stock Exchange	✓	✓	x	x
DCB Commercial Bank	✓	✓	✓	✓
East African Breweries	✓	✓	✓	✓
Jubilee Holdings	✓	✓	✓	✓
KCB Group	✓	✓	✓	✓
Kenya Airways	✓	✓	✓	✓
Maendeleo Bank	✓	✓	✓	✓
Mkombozi Commercial Bank	✓	✓	✓	✓
Mucoba Bank	✓	x	✓	x
Mwalimu Commercial Bank	✓	✓	✓	✓
Nation Media Group	✓	✓	✓	✓
National Investments Company (Limited) Tanzania	✓	✓	✓	✓
National Microfinance Bank	✓	x	✓	x
Precision Air Services	✓	✓	✓	✓
Swala Oil and Gas (Tanzania)	✓	✓	✓	✓
Swissport Tanzania	✓	✓	✓	✓
Tanga Cement Company	✓	✓	✓	✓
Tanzania Breweries	✓	✓	✓	✓
Tanzania Cigarette Company	✓	✓	✓	✓
Tanzania Portland Cement Company	✓	✓	✓	✓
Tanzania Tea Packers (TATEPA)	✓	✓	✓	✓
TCCIA Investment	✓	x	✓	x
TOL Gases	✓	x	✓	x
Uchumi Supermarket	✓	x	✓	x
Vodacom Tanzania	✓	✓	✓	✓
Yetu Microfinance	✓	x	✓	x
Total	28	6	1	21

Notes: This table shows all firms listed at DSE during the financial year 2020/2021, sampling criteria and the selected firms for this study. Moreover, a tick sign (✓) means that a firm meets a particular sampling criterion, while cross sign (X) implies that a firm does not meet the criterion.

Table 2. The disclosure types, items and key search words

Disclosure Type	Elements/Items	Key Search Words
Innovation, learning and growth (Human resources & learning related)	1. Information of employees' recruitment	Recruit
	2. Staff turnover	Turnover
	3. Employee training and development	Train/Develop
	4. Employees satisfaction and performance	Satisfaction
	5. New product and services	Product/service
	6. Research and development	Research
	7. Safety issues (incidences/counts of injuries)	Injur/safety
Customer related	1. Product lines or service lines	Product/service
	2. Customer suggestions and complains	Complain/Suggest
	3. New customers	Customer
	4. On time delivery of product/ service	Delivery
	5. Customer satisfaction survey	Survey
	6. Organization image and brand	Image/Brand
Internal business process related	1. Qualifications and experience of Board members	Qualification/experience
	2. Technology capacity and development	Technolog
	3. Meetings of Audit Committees	Audit
	4. Risk management	Risk
	5. Relationships with stakeholders	Relation
	6. Products or services cycles	Cycle
	7. Operational efficiencies	Efficienc

(Source: Abeysekera, 2013; Khan et al., 2011; Lipunga, 2015).

Notes: The procedure for scoring items was such that "0" when an item was not disclosed and "1" when is disclosed. The first disclosure type is innovation, learning and growth which has seven (7) items, this means that when all twenty (21) companies disclose every item then, the study expects to have a total score of 147 (7 x 21). The second disclosure type is customer satisfaction which has six (6) scoring items, meaning that the expected maximum score is 126 (6 x 21) and the last disclosure type is internal business processes which has seven (7) items and a maximum total score of 147 (7 x 21).

Table 3. The independent variables: definitions and criteria

Variable	Definition	Criteria
Listing-age	Number of years from a firm listed date.	Firms listed before 2012 were considered to be older, otherwise newly they are listed firms.
Industry Profile	The industry profile is defined into two categories: Financial and non-financial firms. According to DSE financial firms include: Banking, Finance, Insurance and mutual funds. And the least are non-financial firms	A firm was assigned a value of 1 if it is financial and 0 otherwise. These values were used to sort the firms.
Cross-listing	Listing firm shares on more than one stock exchange. The International Securities Identification Number (ISIN) was used to identify the cross-listing of firms	A firm is considered to be cross-listed if its primary listing is outside Tanzania and locally listed if its primary listing is DSE.

Note: The variables are categorized into old and new, financial and non-financial and local and foreign firms for listing-age, industry profile and cross-listing respectively.

5. Results and discussion

5.1. Disclosure level of operational performance

The first objective of this study was to examine the disclosure level of operational performance information using BSC framework. To achieve this objective, content analysis approach was used, and the results are presented in Table 4.

The results indicate that the overall disclosure of operational performance index score is 71.4%. According to the disclosure framework by Lipunga (2015) and other prior studies in this strand of research, this disclosure score; is relatively high. In line with signaling theory, this result implies that companies are increasingly signaling their operational strengths to investors, and that investors are increasing interest on the disclosure of operational performance information for their economic decisions as revealed by Dobija et al. (2023) and Cohen et al. (2011). Moreover, the result suggests that to a greater extent, companies at the DSE align/link their visions, missions and strategic objectives with the BSC framework as noted in De Jesus Alvares Mendes Junior and Alves (2023). Precisely; companies at the DSE upholds the BSC disclosure model as an important tool for enhancing the stakeholders' confidences.

Table 4. The disclosure levels of the three disclosure types

Disclosure Type	Disclosure Level		
	Actual	Expected	Levels (%)
Innovation, learning and growth (Human resources & learning related)	92	147	62.6
Customer related	78	126	61.9
Internal business process related	130	147	88.4
Overall disclosure index	300	420	71.4

Source: Researchers (2023).

Notes: the first, second, third and fourth columns represent disclosure type, actual incidences/counts, expected incidences/counts and disclosure levels respectively.

Furthermore, the paper examines the disclosure level of the three disclosure types and the results are also presented in Table 4. The findings indicate that companies disclose more information on internal business processes (88.4%) followed by innovation, learning and growth (62.6%) and lastly followed by customer related factors (61.9%). These findings are consistent with Khan et al. (2011) in terms of the disclosures on internal business processes. Basing on stakeholders' theory, the findings suggest that companies mainly focus on communicating to stakeholders on issues related to internal business processes and the areas that they want to excel at. On the other hand, according to signalling theory, these results suggest that the internal business processes dimension is important to signal good news to stakeholders compared to the other disclosure types. The findings further imply that; disclosing operational performance information reduces the adverse selection between the companies and investors due to asymmetric possession of information (Urquiza et al., 2010).

Moreover, the study examines the disclosure levels of the individual items across the disclosure types and presents its findings in Table 5.

Table 5. Disclosure levels of individual items for each disclosure type

S/N	Items	Disclosure Level (%)
A. Innovation, learning and growth (Human resources & learning related)		
1	Information of employees recruitment	81
2	Staff turnover	33
3	Employee training and development	95
4	Employees satisfaction and performance	71
5	New product and services	52
6	Research and development	29
7	Safety issues (incidences/counts of injuries)	76
B. Customer related		
1	Product lines or service lines	95
2	Customer suggestions and complains	38
3	New customers	43
4	On time delivery of product/service	76
5	Customer satisfaction survey	48
6	Organization image and brand	71
C. Internal business process related		
1	Qualifications and experience of Board members	90
2	Technology capacity and development	81
3	Meetings of Audit Committees	90
4	Risk management	100
5	Relationships with stakeholders	90
6	Products or services cycles	67
7	Operational efficiencies	100

Source: Researchers (2023).

The results reveal that the most disclosed items are: risk management (100%), operational efficiency (100%), employee training and development (95 %), product lines or service lines (95%), qualifications and experience of board members (90%) and meetings of audit committee (90%). On the other hand, the least disclosed items are: research and development (29%), staff turnover (33%), customers suggestions and complaints (38%), new customers (43%), and customer satisfaction survey (48%). The results imply that companies put more emphasis on the continuity and efficiency of businesses, competence of staff, quality of products or services and corporate governance issues whilst they put low attention to customers, mobility of staff and research and development issues.

5.2. Effect of firm and industry characteristics on the disclosure of operational performance

The second objective of this study was to examine whether firm and industry characteristics matter in the disclosure of operational performance information. Firm and industry characteristics include; firm size, leverage, growth, the nature of the industry, listing-age and cross-listing (Urquiza et al., 2010). However, due to convenience and data availability, this study focuses on the three characteristics namely: industry profile, listing-age, and cross-listing. In order to achieve this objective, this paper developed and tested three research hypotheses.

5.2.1. Effect of listing-age on the disclosure of operational performance

The first hypothesis is that “there is higher disclosure level of operational performance in firms with more listing-age than those with lower listing-age”. In order to test this hypothesis, the companies were classified into old and newly listed firms. Since, the DSE was incorporated in 1996, with its first listing in 1998; it is considered that all firms listed between 1998 and 2011 inclusively to be older ones while those listed between 2012 and 2022 to be newly listed. Based on this classification, there are fifteen (15) older firms and six (6) newly listed firms. Table 6 presents the results based on listing-age.

The results show that older firms disclose more operational performance information (74.6%) than the newly listed firms (62%). These findings are consistent with the hypothesis. These results suggest that older firms are experienced and well established in the market thus, abide to regulatory and high-quality disclosure requirements than the newly listed firms as noted by Boshnak (2022) and Shoeb et al. (2022). The results are in line with the signaling theory which asserts that older firm disclose more corporate information in order to signal their experiences in their respective markets. Similarly, the results are consistent with prior empirical studies such as Kumar et al. (2021) and Orazalin and Mahmood (2018).

Table 6. The disclosure levels based on listing-age

Disclosure Type	Disclosure Level					
	Older Firms			Newly Listed Firms		
	Actual	Expected	Level (%)	Actual	Expected	Level (%)
Innovation, learning and growth (Human resources & learning related)	72	105	68.6	20	42	47.6
Customer related	59	90	65.6	19	36	52.8
Internal business process related	94	105	89.5	36	42	85.7
Overall disclosure index	225	300	74.6	75	120	62

Source: Researchers (2023).

Notes: the first, second, third and fourth columns represent disclosure type, actual incidences/counts, expected incidences/counts and disclosure levels respectively in older firms. Moreover, column five, six and seven represent actual incidences/counts, expected incidences/counts and disclosure levels respectively in newly listed firms.

Table 7. The disclosure levels based on industry profile

Disclosure Type	Disclosure Levels					
	Financial			Non-Financial		
	Actual	Expected	Level (%)	Actual	Expected	Level (%)
Innovation, learning and growth (Human resources & learning related)	31	56	55.4	61	91	67
Customer related	34	48	70.8	44	78	56.4
Internal business process related	52	56	92.9	78	91	85.7
Overall disclosure index	117	160	73	183	260	69.7

Source: Researchers (2023).

Notes: the first, second, third and fourth columns represent disclosure type, actual incidences/counts, expected incidences/counts and disclosure levels respectively in financial firms. Moreover, column five, six and seven represent actual incidences/counts, expected incidences/counts and disclosure levels respectively in non-financial firms.

5.2.2. Effect of industry profile on the disclosure of operational performance

The second hypothesis is that “*there is higher disclosure level of operational performance in financial firms than non-financial firms*”. In order to test this hypothesis, the companies were classified into financial and non-financial firms. Based on this classification, financial firms were eight (8) whilst non-financial firms were thirteen (13). Table 7 presents the results based on industry profile.

The findings show that the average disclosure level of financial firms is 73%. This disclosure level is relative higher than that of non-financial firms of 69.7%. The results imply that the industry profile matters in the disclosure of operational performance information at the DSE. The results are consistent with the hypothesis and they are in line with the contention that apart from the information disclosure demands from investors, creditors, debtors, and stock markets; financial firms have other stringent regulatory and supervisory requirements which necessitate the disclosure of information (Mwenda et al., 2021). Moreover, these findings are informed by the signaling theory, that suggests that high regulated firms disclose more voluntary information than less regulated firms so that to signal compliance to stakeholders.

5.2.3. Effect of cross-listing on the disclosure of operational performance

The third hypothesis is that “*the cross-listed firms have higher disclosure levels of operational performance than non-cross-listed ones*”. In order to test this hypothesis, the companies were classified into cross-listed and locally-listed firms. A firm is considered to be cross-listed if its primary listing is outside Tanzania otherwise locally-listed. Based on this classification, there are six (6) cross-listed firms and fifteen (15) locally-listed firms. Table 8 presents the results based on this categorization.

The results indicate that; on average cross-listed firms disclose more operational performance information (79.8%) than the locally-listed firms (67.5%). These results confirm the hypothesis and are in line with the contention that the cross-listed firms are better placed in adopting world class disclosure practices than the locally-listed firms (Khanna et al., 2004). The results are informed by the signaling and stakeholders’ theories in the sense that cross-listed firms are incentivized to signal corporate information quality, visibility, shareholders’ base, investment portfolios and access financial markets (Kamarudin et al., 2020; Lei et al., 2023). Similarly, from stakeholder’s theory perspective, cross-listed firms are forced to disclose more corporate information due to stricter legal and regulatory disclosure environments (Kumar & Singh, 2023). Generally, all the three research hypotheses have been confirmed by the results.

Table 8. The disclosure levels based on cross-listed versus locally-listed firms

Disclosure Type	Disclosure Level					
	Cross-listed Firms			Locally-listed Firms		
	Actual	Expected	Level (%)	Actual	Expected	Level (%)
Innovation, learning and growth (Human resources & learning related)	31	42	73.8	61	105	58.1
Customer related	27	36	75	51	90	56.7
Internal business process related	38	42	90.5	92	105	87.6
Overall disclosure index	96	120	79.8	204	300	67.5

Source: Researchers (2023).

Notes: the first, second, third and fourth columns represent disclosure type, actual incidences/counts, expected incidences/counts and disclosure levels respectively in cross-listed firms. Moreover, column five, six and seven represent actual incidences/counts, expected incidences/counts and disclosure levels respectively in locally-listed firms.

6. Summary and conclusion

This paper examines the disclosure levels of operational performance information for companies listed at the Dar Es Salaam Stock Exchange by using the BSC framework. Also, it examines whether the firm and industry characteristics matter on the disclosure of operational performance. The study uses the content analysis approach and the disclosure index adopted from Lipunga (2015) to analyse data.

The findings indicate that the disclosure level of operational performance information is high in companies at the DSE. Based on the BSC framework, companies at the DSE disclose more information on internal business processes followed by innovation and learning and lastly customer related factors. Moreover, the results have shown that firm and industry characteristics particularly industry profile, listing-age and cross-listing to have influence on the disclosure of operational performance information. Generally, due to signaling and stakeholders' theories and consistent with the requirements of the TFRS 1, the findings imply that companies at the DSE link their vision, mission and strategic objectives with the BSC model. Also, the results highlight that the main focus on disclosure of operational performance information is to communicate to stakeholders about business processes and the issues they want to excel at. On the other hand; companies put low emphasis on customers' related issues. Also, the findings suggest that; all companies at the DSE disclose information on risk management and operational efficiencies. The firms seem to be keen in assuring the stakeholders about the continuity and efficiency of businesses and the quality of their products and services.

The results further show that financial firms disclose more information than non-financial firms. Similarly; they indicate that; older firms disclose more information than newly-listed firms. Also, cross-listed companies disclose more operational performance information than locally-listed firms. This study contributes to the existing knowledge in the following ways; first, it examines the disclosure of operational performance by using the BSC model in an emerging capital market setting and second; it provides evidence that firm and industry characteristics particularly the industry profile, listing-age and cross-listing matter on the disclosure of operational performance information. In general, these findings imply that listing-age, industry profile and cross-listing matter in the disclosure of operational performance information.

These findings have implications to corporate policy makers and regulatory authorities such as NBAA and CMSA to ensure that companies at DSE embrace the disclosure of operational performance through the BSC model to enable stakeholders make economic decisions.

This study is limited by small sample size; thus, future research should consider: one, increasing the sample size so as to increase diversity; two, examine whether operational performance measures translate into higher financial performance; three, examine the effect of other firm and industry characteristics (e.g. firm size, leverage, ownership structure, and growth) on operational performance; and four, different research methods for example the use of regression models in examining the influence of firm and industry characteristics on disclosure of operational performance.

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Notes

1. The financial measures focus on profitability, growth and shareholders' value, and customer satisfaction focuses on time, quality, performance and services and cost. Internal business processes focus on technological capabilities, manufacturing excellence, design productivity and new product introduction while innovation and learning focus on technology leadership, manufacturing learning, product focus and time to market.

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