Current reporting and relationship with integrated reporting for listed companies in Kenya: disclosure levels and company factors

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Abstract
Purpose – This study draws on agency, stakeholder and legitimacy theories, to analyze the extent to which 'integrated reporting' information is currently being disclosed by Kenyan listed companies and to investigate the firm-level factors associated with the disclosures.
Design/methodology/approach – The study relies on content analysis procedures to assess the level of disclosure of integrated reporting information in the annual reports (2010-2016) of 50 companies listed on the Nairobi Securities Exchange (NSE). The study also uses the unbalanced panel data econometric models to establish the association between the integrated reporting disclosures and firm-level factors (including corporate governance and sustainability reporting).
Findings - As of 2016, the formal adoption of integrated reporting was very low at the rate of only 14% (i.e., 7 out of the 50 companies). Nonetheless, disclosure levels for information required as per the integrated reporting framework have increased from 59% in 2010 to 72% in 2016. Disclosures are mainly for organizational overview, strategies, governance, risk and performance. Stakeholder engagement, business model, future challenges and outlook are the notable areas of non-compliance. Findings also show that large companies are likely to adopt integrated reporting due to their high levels of disclosures, while the nature of sectors, like banks, is also likely to influence the adoption of integrated reporting. Although integrated reporting is positively correlated to both financial and non-financial information (with high significance for both sustainability reporting and corporate governance reporting), sustainability reporting is still a challenge for companies.
Originality/value – There is little in the way of contemporary evidence establishing if/how companies in emerging markets are adopting the integrated reporting framework. Our findings are important for regulators and policymakers to establish the challenges of providing additional information in such contexts, e.g., sustainability reports.
Keywords International Financial Reporting Standards, Sustainability Reporting, Corporate Governance Reporting, and Integrated Reporting.
Paper type Research paper

1. Introduction

1.1 Introduction and motivation

Corporate reporting provides financial and non-financial information to aid in decision-making (Healy and Palepu, 2001). Financial information is guided by accounting standards such as the International Financial Reporting Standards (IFRS), and non-financial information comprises sustainability and corporate governance reporting. The preparation of sustainability reports is guided by national and global bodies such as the Global Reporting Initiative (GRI-G4) reporting guidelines (Drobetz et al., 2014). Corporate governance reporting is guided by local codes of corporate governance or global governance principles provided by bodies such as the Organization of Economic Cooperation and Development (OECD) corporate governance principles (Bouchez, 2017).

As the above reports are prepared separately, an attempt to blend the information in one report has been made through integrated reporting. The journey to integrated reporting commenced in 2010 by the formation of the integrated reporting council; subsequently, the IIRC launched the International Integrated Reporting Framework to guide companies on how to prepare an integrated report in 2013 (IIRC, 2013). The IIRC defines an integrated report as: "a concise communication about how an organization's strategy, governance, performance, and prospects, in the context of its external environment, leads to the creation of value over the short, medium and long term." (IIRC, 2013, pg. 7)

According to Eccles and Sarafeim (2013), investors and other stakeholders consider financial performance, environmental, social and governance performance as intertwined and therefore, this provides the rationale for integrated reporting. This implies that integrated reporting combines financial, sustainability and governance issues into one report. IIRC encourages the global adoption of integrated reporting because its advocates view it as an improvement of corporate reporting (Krzus, 2011). In 2016, the Capital Markets Authority of Kenya (CMA) issued revised corporate governance guidelines, and one of the recommendations was for public companies to adopt integrated reporting voluntarily (CMA, 2016). However, efforts by IIRC and CMA to encourage adoption of integrated reporting assume that the current corporate reporting practices are ready for adoption of integrated reporting, i.e., annual reports contain sufficient financial and non-financial information that can then be integrated.

Integrated reporting as an innovation in corporate reporting, has seen the growth of research focusing on adopters, quality of the reports and views of various stakeholders. Based on the available literature, however, there is little evidence of studies carried out to evaluate whether companies in different jurisdictions are prepared to adopt or are engaging with the integrated reporting principles in terms of their level of disclosure in annual reports. Also, given contextual situations for some emerging economies, studies need to establish factors that may contribute to the adoption of integrated reporting. Emerging economies like those of Kenya, Egypt, and Nigeria have capital markets that are growing but less efficient in terms of equity prices, i.e., equity prices are highly volatile (Urban and Hwindingwi, 2016). Emerging markets have other challenges ranging from the unstable macro-economic environment to weak capital market regulation (Singh, 1999). Therefore, these features may pose a challenge for the adoption of integrated reporting or possibly provide an opportunity to improve the capital markets through the adoption of integrated reporting.

This paper has three main research questions: What are the current disclosure levels of financial and non-financial information for listed companies in Kenya? To what extent are companies providing information for integrated reporting? What is the association between various company factors and integrated reporting disclosures?

1.2 Institutional Background of Kenya

1.2.1 Economy and capital markets

Kenya, an East African country, has a population of about 47 million (Kenya, National Bureau of Statistics, 2017). The GDP of about $69.5 billion as at the end of 2016 makes it the dominant economy in East Africa, forth in Sub-Saharan Africa and ninth in Africa (Bhorat and Tarp, 2016). Kenya is also classified as an emerging economy (Schwab, 2014).

Kenya's capital market is vibrant but still developing. It is the largest in East and Central Africa and fifth in the continent with a market capitalization of $20 billion as at the end of 2016. It is made up of the equity market, bond market, derivative market, and other products that comprise of exchange-traded funds and REITs. It has about 20% foreign investor participation outside East Africa. As a result, listed companies in Kenya are of interest to a broader category of investors and hence matters of corporate reporting are essential. The number of listed companies has increased from 55 in 2010 to 66 in 2016. The market capitalization had also increased from $11 billion in 2010 to about $20 billion in 2016. Total equity traded (turnover) has shown mixed results over the period, but with about $2 billion by the end of 2016. In addition, it shows that foreign investors holding has increased from 12.6% to slightly over 20% (CBK, 2017).

1.2.2 Corporate Reporting Framework for listed companies in Kenya

The first perspective on the corporate reporting regulation in Kenya is based on the various laws and prudential guidelines provided by regulators in the banking and insurance sectors. Before 2017, companies in Kenya had to comply with the Companies Act of 1978 (Kenya's Companies Act, 1978), that required companies to present in their annual report financial statements, directors' and auditor's reports. From 2017, the new Companies Act of 2015 (Kenya's Companies Act, 2015) requires compliance with IFRS in addition to a company presenting a business review report, sustainability and future-oriented information in their annual report. The Banking Act (Banking Act, 2009) allows the Central Bank of Kenya to issue prudential guidelines, while the Insurance Act (2013) requires the Insurance Regulatory Authority to issue prudential guidelines. Both prudential guidelines require the preparation of a corporate governance report by banks and insurance companies. Also, insurance companies are required to comply with IFRS. The prudential guidelines provide banks with a template for presenting financial statements.

The second perspective looks at regulators. Listed companies in Kenya are subject to various regulators from Institute of Certified Public Accountants of Kenya (ICPAK), the Institute of Certified Public Secretaries of Kenya (ICPSK), the Capital Markets Authority (CMA), Nairobi Securities Exchange (NSE), Central Bank of Kenya (CBK) and the Insurance Regulatory Authority of Kenya (IRA). ICPAK, CMA, NSE, and IRA require compliance with IFRS, CMA, ICPSK, NSE, CBK, and IRA require the preparation of

Corporate governance reports and CMA, through the corporate governance code recommends the voluntary adoption of integrated reporting by listed companies. Given that the regulators and various laws pay less attention to sustainability matters, this paper expected the provision of financial information and non-financial information regarding corporate governance to be high, while that of sustainability to be low.

2.Literature Review, disclosure theories, and hypothesis development

2.1 Background to integrated reporting

The initial idea of integrated reporting began in 1999 from PWCs value reporting framework which required organizations to provide information on market overview, strategy, value-creating activities and financial information (PWC, 2018). The key point from the framework was the ability of the business to show how value is created from both financial and non-financial perspectives.

The path to integrated reporting started taking shape around 2002 when South Africa required companies to integrate their financial and non-financial information and to have social and environmental actions being given prominence just like financial information (Deloitte, 2012). Globally, the formal journey to integrated reporting commenced with the establishment of IIRC in 2010 whose primary objective was to promote integrated reporting and provide the relevant mechanism for adoption of integrated reporting (IIRC, 2010). Key stages and milestones up to the launch of the integrated reporting framework are summarized in Figure 1.

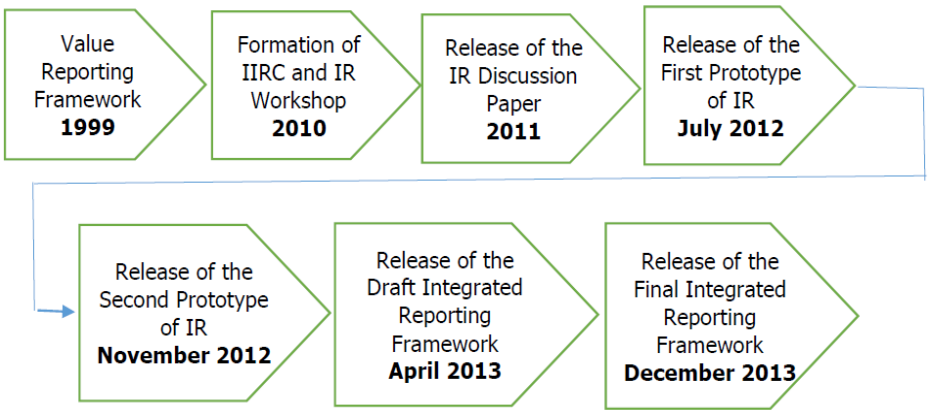

Figure 1: Key stages and milestones of integrated reporting (Source: Authors)

The formation of IIRC and the launch of the discussion paper provided an avenue for global adoption and gave the structure of an integrated report, and benefits and challenges of integrated reporting. The development of integrated reporting prototypes and finally the framework was meant to convince and guide companies to prepare an integrated report.

2.2 Summary of the content of an integrated report as per the framework

The framework provides seven content elements of an integrated report. These are; organizational overview and external environment, Governance, Business Model, Risks and Opportunities, Performance, Outlook and the basis of preparation and presentation. There are potential challenges in terms of the nature of some information. For example, organizational overview and external environment together with outlook are strategic and

hence the organization is exposed to competitive harm. The business model may enhance the ability of users to identify how the organization creates value, but the challenge is understanding the concept of the business model and the company providing competitive information. Zott, Amit, and Massa (2011) analyzed literature on the concept of business model and explained that there is a lot of discussion of business model, but there is no formal definition of a business model in academic literature. Risks disclosures are usually provided by accounting standards and other regulations like corporate governance and more detailed in the banking and insurance sectors. However, risk narratives vary across organizations with a lack of proper guidance (Linsley and Shrives, 2006). Information on opportunities fall within the concept of strategies, and this is also competitive. For performance, non-financial information is usually standardized, and hence it is possible to report on performance given IFRS. The major challenge is still on non-financial information, for which even though there are attempts to standardize disclosures, in many countries, non-financial information like sustainability is voluntary.

2.3 Key empirical studies on integrated reporting

Researchers in corporate reporting and other disclosures made in annual reports of companies have recently focused on integrated reporting. This section will highlight the relevant studies excluding stakeholder perspectives (see Gasperini et al., 2013; Slack and Tsalavoutas, 2018 for stakeholder views on integrated reporting).

Jensen and Berg (2012) used institutional theory to compare associated factors of sustainability reporting to those that are associated with integrated reporting by analyzing various variables (level of investor protection, tertiary education, corporate social responsibility, and secular values) in different countries. According to the findings integrated reporting companies are likely to come from countries where there is high investment in tertiary education, a high national corporate social responsibility, great self-expression of secular values, and high economic development. The study found that integrated reporting is driven by factors such as strong investor protection through capital markets and corporate social responsibility. Similar findings were made by Sanchez et al. (2013) using a sample of 750 companies from the Forbes Global list for 2008 to 2010 where companies from countries with legal systems that protect investors are more likely to prepare integrated reports.

Deloitte (2012), analyzed the quality of integrated reports of companies quoted on the Johannesburg Stock Exchange between March 2011 and February 2012 and classified the period into three, based on when the reports were submitted (Period 1 – March 2011 to May 2011; Period 2 – June 2011 to September 2011 and Period 3 – October 2011 to February 2012). The analysis reported that the overall quality of integrated reporting had improved, though the rate of improvement had decreased from period 2 to 3 as compared to period 1 to 2. Also, companies had challenges in engaging and reporting sustainability issues in their integrated reports. While the integrated reports are too long, ethical issues are not well articulated and assured by auditors. The study also revealed that industries in the financial services, extractive, and consumer businesses outperformed other industries in terms of quality of reporting.

Kass (2012) analyzed the rate of adoption of integrated reporting by South Africa companies and obtained the views of South African companies on integrated reporting, together with challenges and opportunities. The study found an adoption rate of about

58% for companies. The challenges highlighted are that integrated reporting requires more time and financial resources, the disclosure of confidential information and information overload and loss of target audience. The opportunities were that integrated reporting would enhance the inclusion of sustainability issues in corporate reporting, more integrated thinking in management and decision making and better risk identification and better management of the organization.

Van Zyl (2013) aimed to determine whether integrated reporting by large private companies in South Africa had led to an improvement in the quality of sustainability reports that are prepared. The study found that there is little improvement in social and environmental report and companies are yet to embed social and environmental issues in their strategies and in reporting. The study is very useful as it highlights the relationship between sustainability reporting and integrated reporting.

Isabel-María, Lázaro, and José-Valeriano, (2013) carried out a study that sought to establish how cultural systems may affect integrated reporting. The 1590 companies that cut across countries were selected from the Forbes Global 2000 list. The findings were that size, industry and profitability are positively correlated with integrated reporting and that countries with a collectivist, feminist cultural system tend to publish integrated reports. The findings are important as they contribute to company factors that may influence the adoption of integrated reporting.

In another study, Dragu and Tudor (2013), sought to determine the emergent factors for integrated reporting from an institutional perspective. The study used content analysis, disclosure indexing, and regression analysis. A sample was made up of 58 companies in the IIRC pilot program and had integrated reports between 2010 and 2012. The main conclusion was that the emerging determinants of the voluntary adoption of an integrated report are political, cultural and economic factors. The regression model showed a positive relationship between integrated reporting and political and economic factors, while a negative relationship with culture.

Another study by Chiara and Marco (2013) analyzed the determinants of materiality in the integrated reports of companies attempting integrated reporting as given by IIRC. According to the study, materiality disclosure is mainly affected by the industry the companies operate in rather than by company-specific factors. In the study, materiality, being the dependent variable, was regressed against various company-specific and industry factors. Materiality was transformed into quantitative data by using content analysis. The study used three proxies for materiality disclosures, i.e., Materiality Word Count, Materiality Word Count in the IR assurance statement and Relevance.

Stubbs and Higgins (2014) carried out 23 in-depth semi-structured interviews across 15 organizations in Australia who were at different stages of implementing integrated reporting. The purpose of the study was to investigate internal mechanisms that are employed by the companies in order to manage their reporting processes. According to their findings, even though organizations are changing their processes and structures, the adoption of integrated reporting has not led to innovations in disclosure mechanisms. The processes are moving incrementally towards sustainability reporting.

Churet and Eccles (2014) sought to determine whether there is a relationship between an integrated report and the quality of management and financial performance. In their study, the authors conducted a systematic search for a few specific indicators of Integrated Reporting in the 2011 and 2012 Annual Reports of over 2,000 companies

across the world. Based on a regression model, the study found that there is a positive relationship between the quality of management and integrated reporting, but no relationship between integrated reporting and firm profitability.

Haji and Hossain (2016), sought to determine how the adoption of integrated reporting by organizations in South Africa, has influenced their reporting practices especially with the focus of the multiple capitals. By use of qualitative analysis, the authors examined annual reports and other means of reporting like websites for the period between 2011 and 2014. The authors conclude that the concept of multiple capitals as promoted by integrated reporting has not improved organizational reporting practices. Instead, the authors posit that companies are using integrated reporting capitals as a means of defending and promoting the company's reputation rather than articulating clearly how the company's actions are impacting on the capitals.

Given the above studies, the general themes are based on country and company factors that may affect the adoption of integrated reporting. Jensen and Berg (2012) applied institutional theory to analyze the level of investor protection, tertiary education, corporate social responsibility, and secular values. Sanchez et al. (2016) focused on the laws while Isabel-Maria et al. (2013) focused on cultural systems and other company factors and finally, Dragu and Tudor (2013) focused on political, cultural and economic factors. In the studies of Deloitte (2012) and Van Zyl (2013), the focus was on the quality of integrated reporting and sustainability reporting where, even though the adoption of integrated reporting is claimed to make improvements on disclosures, there is little or no improvement in sustainability reporting. Factors like sector influence the quality of an integrated report. Also, the study of Stubbs and Higgins (2014) shows that there is no improvement in disclosure mechanisms.

These studies have focused on companies or countries that have already adopted integrated reporting and mostly in developed markets, rather than whether companies are prepared to adopt integrated reporting. Like the study of Kass (2012) which checked the adoption rate of integrated reporting, this study aimed to contribute to the literature by evaluating the extent to which companies in an emerging market like Kenya have adopted and made disclosures of integrated reporting. Also, the study evaluates company factors and the relationship between integrated reporting and other non-financial information.

2.4 Disclosure theories and hypothesis development

The relevant theories for this study are Agency (Jensen and Meckling, 1976), Stakeholder (Freeman, 1984) and Legitimacy (Suchman, 1995). According to the agency theory, a company prepares reports and other disclosures to shareholders to enable effective monitoring as one of the approaches of mitigating self-interest by management and directors. Therefore, this study expected the disclosures by listed companies in Kenya to be high (especially financial information). Stakeholders' theory as proposed by Freeman (1984), suggests that companies will provide more information, especially on corporate governance and sustainability, to demonstrate loyalty to all stakeholders. Therefore, this study expected companies to prepare annual reports that consists of both financial and non-financial (Sustainability and Corporate governance) to make them relevant for all stakeholders as posited by stakeholders' theory. In addition to stakeholders' theory, and relation to sustainability, the study also used the legitimacy

theory and expected that companies to provide sustainability reports, to prove their legitimacy.

Various studies on corporate disclosures have identified general or key company factors that contribute to levels of disclosures of financial information (compliance with IFRS) and non-financial information (sustainability reports and corporate governance reports). This section is not able to list all the studies, but for compliance with IFRS, Al-Shammari (2011) used Size as measured by total assets, Profitability (as measured by Profit after tax and return on assets and equity), Auditor and sector, Juhmani (2012) and Yiadom and Atsunyo (2014) added leverage to these factors while McFie (2010), added dividend pay-out and ownership, i.e., local or foreign. Most of these variables have also been used in non-financial information studies like those of Drobetz et al. (2014) and Sharif and Rashid (2014). Additional variables like Board Size (Number of directors on the board), Board composition (number of non-executive directors and women directors) and Ownership concentration (As given by block ownership) have been included in other studies like those of Barako et al. (2006), Cheung et al., (2007) and Elmagrhi et al. (2016). Isabel-María, Lázaro, and José-Valeriano, (2013) for integrated reporting used factors like size, industry, and profitability.

These studies have reported mixed results in terms of the association between disclosures and compliance levels, but generally, the trend is positive for the majority of the factors as given in their findings. In the current study, we also propose to include additional variables that are relevant for investment decisions to assess how they relate with integrated reporting disclosures. Variables such as Price-to-Book (Tam, Kiang and Chui, 1991 and Emans, 2015), Market Capitalization (Tam, Kiang and Chui, 1991 and Piotroski, 2002), Price/Earnings ratio (Schreiner and Spremann, 2007), Dividends Yield, Earnings Yield and Cashflows (Ohlson, 1990, 1991 and 1995) are essential investment variables. Please note that the majority of the studies on investment and various financial items focus on the relationship between key financial variables like book value, dividend yield and the share price (Omokhudu and Ibadin, 2015). In addition, the paper considered the relationship between integrated reporting disclosures and financial information (IFRS) and non-financial information (corporate governance and sustainability reporting).

Based on empirical literature and the theories, the following are the key variables (independent variables) and hypotheses (against the Integrated reporting disclosures as the dependent variable) are summarized in table 1:

Table 1: Hypothesis and Key variables

Variable	Hypothesis
Size (I)	H1: There is a positive relationship between Size and integrated reporting disclosures (Size = Total Assets, Total Equity, and Market Capitalization)
Profitability (I)	H2: There is a positive relationship between Profitability and integrated reporting disclosures (Profitability = Revenue, Profit after tax, Earnings Per Share, Return on Equity and Return on Assets)
Type of Auditor (M)	H3: There is a positive relationship between the type of auditor and integrated reporting disclosures
Sector (I)	H4: There is a positive relationship between the sector and integrated reporting disclosures
Leverage (I)	H5: There is a positive relationship between Leverage and integrated reporting disclosures (Leverage = Total Debt/Total Assets)
Investor value (I)	H6: There is a positive relationship between Investor value and integrated reporting disclosures (Investor Value = Dividend Yield, Dividend Payout, Cash Flow From Operations, Price-to-Book Value and Price Earnings Ratio)
Board Size (I)	H7: There is a positive relationship between Board Size and integrated reporting disclosures
Board Composition (I)	H8: There is a positive relationship between board composition and integrated reporting disclosures (Board Composition = Number of Non-Executive Directors and Number of Women on Board)
Ownership (I)	H9: There is a positive relationship between foreign ownership and integrated reporting disclosures
Ownership Concentration (I)	H10: There is a positive relationship between ownership concentration (measured as block shareholding) and integrated reporting disclosures.
IFRS, Sustainability and Corporate Governance Disclosures (I)	H11: There is a positive relationship between other corporate reporting disclosures (IFRS, Sustainability, and corporate governance disclosures) and integrated reporting.

Key:
D – Dependent Variable
I – Independent Variable

3. Methodology

3.1 Content analysis of audited annual reports

On average 65 companies were listed on the Nairobi Securities Exchange (NSE) between 2010 and 2016. However, the study examined the disclosures made in the annual

reports of 50 companies, because the annual reports of some companies were not available while others only contained extracts of financial statements rather than the complete annual report. Gray et al. (2001) explain that audited annual reports are more credible and more informative as compared to other sources of information like websites and company newsletters. Content analysis has been used by most of the studies provided in the empirical studies as a way of examining disclosures.

3.2 Measurement of the dependent and independent variables

The following independent variables were selected directly from the annual reports:

Table 2: Variables provided directly from the annual reports

Variables	Report
Total Assets	Statement of Financial Position
Total Equity	Statement of Financial Position
Revenue	Statement of Profit or Loss
Net Profit (Profit after tax)	Statement of Profit or Loss
Earnings Per Share (EPS)	Statement of Profit or Loss
Type of Auditor (With each auditor given a code)	Auditor's Report
Total Liabilities	Statement of Financial Position
Cash Flow From Operating Activities (CFO)	Statement of Cash Flows
Board Size	Corporate Governance Report
Board Composition as no. of non-executive directors	Corporate Governance Report
Board Composition as given by the number of women on board	Corporate Governance Report
Ownership concentration as provided by block shareholding	Report of Key Shareholders
Ownership as given by Foreign (1) or Local (0)	Report of Key Shareholders

Table 3: Independent variables

Variable	Measurement
Market capitalization	Number of ordinary shares issued x end of year market price
Debt ratio	Total liabilities/ Total Assets
Dividend Yield	Dividend per share/ End of year market price
Price-to-book value	Market Capitalization / End of year Equity
Price Earnings (P/E)	End of year Market price/ Earnings Per Share

The ten sectors were based on classification by Nairobi Securities Exchange and are provided in Table 4.

Table 4: Sector classification as provided by NSE

Agriculture	Energy & Petroleum
Automobile & Accessories	Insurance
Banking	Investments
Commercial & Services	Manufacturing and Allied
Construction & Allied	Telecommunication & Technology

The independent variables of IFRS disclosures' scores, sustainability disclosures' scores, and corporate governance disclosures' scores were computed by using constructed indices of IFRS (Note that the IFRS index is complex and hence not provided here), GRI-G4 for sustainability (Appendix A-1) and OECD/CMA for corporate governance scores (Appendix A-2). For the dependent variable of integrated reporting, the scores were determined from an index prepared from the integrated reporting framework as provided by IIRC (Appendix A-3). For all the indices, the study replicated the measuring level of Brenan's (2001) and Barako et al. (2006) two way 0 for required but missing and 1 for required and disclosed (Dichotomous) approach of grading. After that, the study used Maali et al. (2006) approach of unweighted disclosure index for disclosure practices. About eight coders with research and accounting background were trained on awarding scores, initial pilot grading was done and then any variations discussed and eliminated. Continued supervision was done to ensure consistency in scoring.

Due to the numerous disclosures required by IFRS, the first step was to determine which accounting standard was applicable, the relevant sector and then the number of disclosures that are required for each sector. These disclosures were also confirmed with those used in FiRe evaluation where various experts guide disclosures on grading. However, care was taken to ensure that if a disclosure item was required, then it was applicable to the company first and then confirm if it was disclosed.

3.3 Data and econometric models

The variables and scores for the companies were determined from the listed company's annual reports with year ends between 2010 and 2016. This data combines both cross-sections, and longitudinal features are referred to as a panel (Wooldridge, 2010). Some data items were missing for some companies in some years in which is unbalanced data and considering that the number of companies exceeds the number of years (seven years and about 50 companies), this is referred to as a short panel (Wooldridge, 2010).

Various econometric models apply to unbalanced panel data. These include: Pooled Ordinary Least Square (OLS); static models (Fixed effects and Random Effects) and dynamic Models (The Arellano-Bond and Arellano-Bover Models). Pooled Ordinary Least Square (or Pooled OLS) derives the standard linear regression of a panel data assuming that the cross-section data is pooled, and the population items have the same intercepts and slope coefficients (Greene, 2008). Panel data models are more beneficial than ordinary least squares because of the ability to control for individual differences, to measure changes in individual characteristics and features over time and reduce biases

by aggregating data across individuals and time (Hsiao, 2003). The Poolability test recommended by Chow (1960) aids the choice between Pooled OLS or Panel methods.

This paper considered several variants of the fixed effects model; One-way Fixed effects Models (Group-also called least square dummy variable), One-way Fixed Effects Model (Time), and Two- way fixed effect model (Park, 2009). One-way models use individual or time as a basis of the intercepts and check whether the model is suitable given the intercepts. The two-way model combines the effects of both group and time and hence is more efficient in inferences and estimations. The robust Hausman test is recommended to choose between the random effects and fixed effects model when we have unbalanced models and in the presence of autocorrelation (Cameron and Trivedi, 2010). If the robust Hausman test confirms that the random effects model is suitable, then the strength of the model is checked using the F statistic, and the R^2 in the model results. Besides, Breusch and Pagan (1980) devised a Lagrange Multiplier test for the random effects model based on the OLS residuals.

Due to the limitations of static models, dynamic panel data models are recommended. The static panel data models discussed in the previous paragraph usually assume strict exogeneity, i.e., the dependent variable is unaffected by the independent variables and errors in both current and future periods (Engle, 1983). When the strict exogeneity assumption is violated, static panel data models are poor estimators, because the value of the current dependent variable is affected by prior period errors or dependent variables.

In order to address this problem, dynamic panel data models include lagged levels of the dependent variable as regressors. The Arellano-Bond (1991) and Arellano-Bover (1995) dynamic panel estimators are increasingly popular. Arellano Bond estimation starts by transforming all regressors, usually by differencing, and uses the Generalized Method of Moments (Hansen 1982), and so is called Difference GMM. Rather than predict the lagged dependent variable based solely on its previous value, Arellano and Bond (1991) propose more instruments that use all previous values to predict the present. The Arellano-Bover estimator augments Arellano-Bond by making an additional assumption, that first differences of instrument variables are uncorrelated with the fixed effects. This assumption allows the introduction of more instruments that can dramatically improve efficiency. It builds a system of two equations—the original equation as well as the transformed one—and is known as System GMM.

This paper, therefore, settled on Pooled OLS, Fixed effects Two-way and Random effects Two-way models for static panel data analysis. Regarding dynamic panel models, this study settled for Arellano-Bover Estimator, with 1 and 2 lags.

4. Findings and discussions

4.1 Descriptive Statistics

Out of the 50 companies analyzed, only seven companies (14%) prepared an integrated report by the end of 2016. Four of the companies were banks. Table 5 presents the summary statistics for integrated reporting disclosure scores.

Table 5: Integrated reporting disclosures and other descriptive statistics

		2010	2011	2012	2013	2014	2015	2016
Mean Scores		58.96%	63.36%	64.22%	66.58%	69.83%	71.45%	71.28%
Std. Deviation		17.18%	16.94%	17.33%	17.37%	17.91%	18.30%	18.75%
95% Confidence Interval-Mean	Lower	53.39%	58.01%	59.01%	61.48%	64.74%	66.14%	65.78%
	Upper	64.53%	68.70%	69.42%	71.68%	74.93%	76.76%	76.79%
Median		62.45%	63.04%	65.22%	67.39%	68.48%	70.66%	71.74%
Minimum		28.26%	30.43%	30.43%	32.61%	26.09%	8.70%	6.52%
Maximum		97.83%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Range		69.57%	69.57%	69.57%	67.39%	73.91%	91.30%	93.48%
Interquartile Range		21.74%	23.39%	22.83%	28.26%	21.12%	21.20%	20.91%

Table 5 shows that integrated reporting scores are on an upward trend. In order to determine if the trend is significant, the test of normality is conducted (Ghasemi and Zahediasl, 2012) and the results presented as follows in table 6.

Table 6: Tests of normality for the trend in Integrated reporting scores

	Kolmogorov-Smirnov			Shapiro-Wilk			
Year	Statistic	df	Sig.	Statistic	df	Sig.	Decision
2010	0.093	39	.200*	0.976	39	0.553	Normal
2011	0.068	41	.200*	0.981	41	0.725	Normal
2012	0.071	45	.200*	0.983	45	0.76	Normal
2013	0.072	47	.200*	0.982	47	0.658	Normal
2014	0.098	50	.200*	0.969	50	0.217	Normal
2015	0.096	48	.200*	0.948	48	0.033	Normal
2016	0.097	47	.200*	0.945	47	0.028	Normal

Based on the results in table 6, integrated reporting scores follow a normal distribution at both 95% and 99% confidence levels. A repeated measures ANOVA with a Greenhouse-Geisser correction determined that mean IR scores differed statistically significantly between the years $F(2.164, 80.082) = 15.01$, $P < 0.001$). Post hoc tests using the Least Significant Difference (LSD) correction revealed the mean IR score for the year

2016 is statistically significantly different from the mean IR scores for the rest of the years except 2013 to 2015. Therefore, we can conclude that there has been an increase in IR reporting from 2010 to 2013, but the difference in the increase in IR reporting from 2013 to 2016 is not statistically significant (this is contrary to expectations given that regulators made companies aware of integrated reporting at this time).

The increase in integrated reporting disclosures over time was mainly due to improvements in reporting organizational overview, external environment, governance, and risks. Generally, critical areas of non-disclosures by some companies include stakeholder engagement, outlook, and projections of future performance, challenges that may arise in the future and how the organization is equipped to face these challenges, the business model including a logical narrative of the flow of business, and key performance indicators.

After carrying out Principal Component Analysis (Recher, 2002), total asset (transformed to log of assets) was selected as the measure of size, Revenue and Return on Assets were selected for Profitability, while Dividend Yield and Dividends Paid (transformed to log of dividends) were selected as the measure for investor value. However, revenue was subsequently removed due to multicollinearity with total assets.

Table 7 also presents additional statistics that incorporate firm characteristics and relationship between integrated reporting and other scores. It shows that the average integrated reporting scores over the seven years as 67%, and due to some companies having adopted integrated reporting, 100% maximum score is reported. In addition, one of the companies prepares a sustainability report as per the GRI-G4 sustainability guidelines. However, overall IFRS compliance is high, followed by corporate governance and then sustainability reporting. In addition, table 7 shows that most of the variables (items) were different, i.e. variation across companies but not over time. The possible explanation for this observation is that differences in company characteristics may cause companies to report different results on a cross-sectional basis, but the same features cause companies to report the same results based on trends.

Table 7: Summary statistics for integrated reporting and independent variables

Variable		Mean	Std. Dev.	Min	Max	Observations
Integrated Reporting Scores	Overall	66.66%	18.17%	6.52%	100.00%	N = 318
	Between		16.01%	37.39%	99.69%	n = 50
	Within		8.67%	16.35%	87.97%	T-bar = 6.36
IFRS Scores	Overall	89.41%	4.55%	76.69%	95.93%	N = 318
	Between		4.53%	77.06%	95.34%	n = 50
	Within		0.84%	86.74%	91.90%	T-bar = 6.36
Sustainability Scores	Overall	29.18%	16.89%	3.90%	98.04%	N = 318
	Between		14.88%	7.98%	79.95%	n = 50
	Within		7.59%	-8.94%	71.50%	T-bar = 6.36
Corporate Governance Scores	Overall	77.34%	17.51%	22.22%	100.00%	N = 318
	Between		15.48%	22.22%	100.00%	n = 50
	Within		8.00%	39.25%	99.55%	T-bar = 6.36
Total Assets	Overall	66,800,000.00	99,200,000.00	4,479.00	595,000,000.00	N = 318
	Between		91,500,000.00	4,479.00	426,000,000.00	n = 50
	Within		35,600,000.00	108,000,000.00	240,000,000.00	T-bar = 6.36
Return on Assets	Overall	3.62%	22.90%	-330.10%	38.44%	N = 318
	Between		48.10%	-330.10%	31.00%	n = 50
	Within		10.00%	-140.29%	34.33%	T-bar = 6.36

Variable		Mean	Std. Dev.	Min	Max	Observations
Debt to Assets	Overall	0.60	0.28	0.05	3.31	N = 318
	Between		0.23	0.15	1.15	n = 50
	Within		0.16	0.15	2.76	T-bar = 6.36
Dividend Yield	Overall	3.96%	7.20%	0.00%	88.24%	N = 318
	Between		5.91%	0.00%	36.68%	n = 50
	Within		5.30%	-32.72%	55.51%	T-bar = 6.36
Dividends Paid	Overall	1,567,494.00	3,647,104.00	0.00	30,400,000.00	N = 318
	Between		3,012,745.00	0.00	16,000,000.00	n = 50
	Within		1,912,551.00	0.00	16,000,000.00	T-bar = 6.36
Board Size	Overall	9.08	2.53	4.00	23.00	N = 318
	Between		2.35	4.71	15.43	n = 50
	Within		1.00	6.48	18.50	T-bar = 6.36
Non-Executive Directors	Overall	5.62	2.17	1.00	11.00	N = 318
	Between		2.08	1.00	9.57	n = 50
	Within		0.76	2.19	8.05	T-bar = 6.36
No of Women on Board	Overall	1.77	1.44	0.00	9.00	N = 318
	Between		1.34	0.00	4.71	n = 50
	Within		0.56	0.06	6.06	T-bar = 6.36
Age	Overall	62.06	30.55	4.00	130.00	N = 318
	Between		32.50	4.00	130.00	n = 50
	Within		0.00	62.06	62.06	T-bar = 6.36
Block Shareholding	Overall	30.88%	17.43%	2.50%	73.89%	N = 318
	Between		16.86%	3.57%	73.19%	n = 50
	Within		3.60%	15.11%	51.85%	T-bar = 6.36

Table 8: Correlation Matrix for all variables

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**
IR Scores (1)	1.000						
IFRS Scores (2)	0.535*	1.000					
Sustainability Scores (3)	0.547*	0.204*	1.000				
Corporate Gov. Scores (4)	0.624*	0.0458	0.467*	1.000			
Log Assets (5)	0.531*	0.425*	0.279*	0.297*	1.000		
Return on Assets (6)	0.0128	0.0189	0.146*	0.023	0.221*	1.000	
Debt to Assets (7)	0.146*	0.326*	-0.048	0.007	0.419*	-0.304*	1.000
Dividend Yield (8)	0.042	-0.010	0.033	0.0034	0.095	0.102	0.023
Log of Dividends (9)	0.242*	0.135*	0.263*	0.178*	0.421*	0.279*	-0.036
Board Size (10)	0.488*	0.355*	0.382*	0.304*	0.549*	0.068	0.148*
Non-Executive Directors (11)	0.256*	0.167*	0.182*	0.262*	0.512*	0.047	0.210*
No. of Women on BD (12)	0.356*	0.459*	0.393*	0.195*	0.301*	0.097	0.056
Age (13)	0.123*	0.209*	0.139*	0.100	0.141*	0.135*	0.314
Block shareholding (14)	-0.050	-0.160*	-0.094	0.184*	-0.033	-0.0098	-0.046
Variables	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Dividend Yield (8)	1.000						
Log of Dividends (9)	0.376*	1.000					
Board Size (10)	-0.034	0.342*	1.000				
Non-Executive Directors (11)	-0.016	0.273*	0.706*	1.000			
No. of Women on BD (12)	-0.005	0.137*	0.574*	0.259*	1.000		
Age (13)	-0.026	0.187*	0.075	0.030	0.104	1.000	
Block shareholding (14)	-0.059	-0.050	-0.09	0.006	-0.134*	0.173*	1.000

Significant at 5 Level.

Table 8 indicates that most of the variables are positively correlated with integrated reporting and are significant at 5% Level, except for block shareholding, which even though is negative, it is not significant.

4.2 Econometric Analysis

For the remaining variables, autocorrelation and heteroskedasticity were first tested and test results confirmed their existence. The panel data models were therefore analyzed where relevant using robust standard errors. Table 9 provides a summary of the output from the various panel models.

In order to establish whether Pooled OLS is suitable for the panel data, the Chow test of poolability returns an F= 4.2985. At F (30,258) < 1.67. Therefore, the null hypothesis of Poolability is rejected and hence Pooled OLS is not appropriate for this data.

Table 9 Summary of the panel data models

	Pooled OLS	Fixed Effects Two- Way	Random Effects Two - Way	Arellano - Bover 1 Lag	Arellano - Bover 2 Lags
No. of Observations	318	318	318	268	219
F/Chi	.	13.42	1670.52	330.04	292.95
P> F/Chi	.	0	0	0	0
Integrated Reporting Disclosure Scores with:	**Coeff. (Prob)**	**Coeff. (Prob)**	**Coeff. (Prob)**	**Coeff. (Prob)**	**Coeff. (Prob)**
1 Lag				0.3387(0.001*)	0.2098(0.070)
2 Lags				N/A	0.0625(0.343)
Log of Total Assets	0.1082(0.000*)	0.0265(0.523)	0.1082(0.000*)	-0.0243(0.235)	-0.0132(0.512)
Return on Assets	-0.1242(0.139)	-0.126(0.024*)	-0.1242(0.119)	-0.0380(0.618)	-0.1120(0.169)
Audit Code 2	-0.0032(0.837)	Omitted	-0.0032(0.829)	0.0009(0.975)	-0.0166(0.647)
Audit Code 3	-0.087(0.001*)	Omitted	-0.0867(0.000*)	0.0009(0.975)	-0.0166(0.647)
Audit Code 4	-0.085(0.001*)	Omitted	-0.0849(0.000*)	0.0009(0.975)	-0.0166(0.647)
Audit Code 5	0.0491(0.179)	Omitted	0.0491(0.157)	0.0009(0.975)	-0.0166(0.647)
Audit Code 6	-0.160(0.015*)	Omitted	-0.1604(0.010*)	0.0009(0.975)	-0.0166(0.647)
Audit Code 7	0.0321(0.448)	Omitted	0.0321(0.425)	0.0009(0.975)	-0.0166(0.647)
Audit Code 8	0.0404(0.885)	Omitted	0.0404(0.879)	0.0009(0.975)	-0.0166(0.647)
Sector Code 1	-0.121(0.000*)	Omitted	-0.1205(0.000*)	0.0049(0.798)	0.0266(0.218)
Sector Code 3	-0.0668(0.150)	Omitted	-0.0668(0.129)	0.0049(0.798)	0.0266(0.218)
Sector Code 4	-0.0117(0.712)	Omitted	-0.0117(0.698)	0.0049(0.798)	0.0266(0.218)
Sector Code 5	0.0838(0.003*)	Omitted	0.0838(0.002*)	0.0049(0.798)	0.0266(0.218)
Sector Code 6	0.1482(0.000*)	Omitted	0.1482(0.000*)	0.0049(0.798)	0.0266(0.218)
Sector Code 7	0.0982(0.021*)	Omitted	0.0982(0.015*)	0.0049(0.798)	0.0266(0.218)
Sector Code 8	0.1508(0.002*)	Omitted	0.1508(0.001*)	0.0049(0.798)	0.0266(0.218)
Sector Code 9	0.0809(0.045*)	Omitted	0.0809(0.035*)	0.0049(0.798)	0.0266(0.218)
Sector Code 10	0.1498(0.012*)	Omitted	0.1498(0.008*)	0.0049(0.798)	0.0266(0.218)
Debt to Assets	-0.0365(0.484)	-0.0648(0.086)	-0.0365(0.461)	-0.0357(0.464)	-0.0788(0.134)
Dividend Yield	0.0910(0.323)	0.0202(0.726)	0.0910(0.298)	0.0107(0.893)	0.0901(0.579)
Log of Dividends Paid	0.0008(0.556)	0.0013(0.438)	0.0008(0.536)	-0.0005(0.660)	0.0002(0.849)
Board Size	0.0068(0.134)	-0.018(0.033*)	0.0068(0.114)	-0.0073(0.188)	-0.0081(0.172)
No. Non- Executive Directors	-0.0009(0.861)	0.0062(0.401)	-0.0008(0.854)	0.0013(0.834)	0.0071(0.339)
No of Women on Board	-0.015(0.012*)	0.026(0.023*)	-0.0152(0.008*)	0.0133(0.137)	0.0076(0.452)
Ownership Foreign	-0.051(0.003*)	Omitted	-0.0513(0.001*)	0.4854(0.016*)	0.5912(0.003*)
Age	0.0002(0.388)	Omitted	0.0002(0.364)	0.0035(0.002*)	0.0046(0.000*)
Block Shareholding	-0.0032(0.942)	0.0422(0.744)	-0.0032(0.939)	0.0375(0.766)	0.0775(0.534)
IFRS Disclosure Scores	-0.2419(0.324)	0.7563(0.189)	-0.2419(0.299)	-1.0619(0.057)	-1.218(0.045*)
Sustainability Discl. Scores	0.2380(0.000*)	0.2656(0.049*)	0.2380(0.000*)	0.2346(0.004*)	0.2165(0.008*)
Corp. Gov. Discl. Scores	0.4389(0.000*)	0.5803(0.000*)	0.4389(0.000*)	0.3608(0.000*)	0.3967(0.000*)
_constant	-0.3294(0.095)	-0.6329(0.279)	-0.3294(0.078)	0.8516(0.068)	0.7514(0.136)

*Significance at 5% Level

To determine which panel data model is suitable between fixed effects and random effects, the robust Hausman test was conducted. The model output from Stata reported a Chi-square value of 27.699, with a p-value of 0.0011. The test reveals that fixed effect is

more appropriate for the current panel data. However, the random effects is also considered due to the ability to measure time-invariant variables.

Using the Random Effects Model, reports a significant relationship between integrated reporting disclosures and Size, Sector, Foreign Ownership, Corporate Governance scores, and Sustainability Scores, while there is a negative and significant relationship between integrated reporting disclosures and auditor. Under the dynamic panel data model, size reported a negative and significant relationship with integrated reporting scores, while only corporate governance and sustainability reported a positive and significant relationship with integrated reporting scores.

Table 10 Provides a summary of the decisions regarding hypothesis provided in Table 1 (Recall that the hypothesis was that integrated reporting disclosures are positively related with the variables):

Table 10: Hypothesis testing Findings and Decision

Variable	Findings	Decision
Size (I)	Positive and Significant	Supported
Profitability (I)	Negative and not Significant	Not Supported
Type of Auditor (M)	Negative and not Significant	Not Supported
Sector (I)	Positive and Significant	Supported
Leverage (I)	Negative and not Significant	Not Supported
Investor value (I)	Positive and not Significant	Not Supported
Board Size (I)	Positive and not Significant	Not Supported
Board Composition (I)	Negative and Significant	Not Supported
Ownership	Negative and Significant	Not Supported
Ownership Concentration (I)	Positive and not Significant	Not Supported
IFRS, Sustainability and Corporate Governance	Positive and significant for Sustainability and Corporate Governance, but negative and not significant for IFRS	Supported for Sustainability and Corporate Governance

This means that for emerging markets like Kenya, large companies will likely adopt integrated reporting. In addition, the type of sector also plays an important role hence the adoption of integrated reporting is also dependent on the sector (The findings on size and sector support the study of Isabel-Maria et al. (2013)). The reason why sector may influence the adoption of integrated reporting like in the case of Kenya's listed companies is because of issues relating to the strict regulation in the banking and insurance sectors. A notable finding of this study is that profitability and IFRS disclosures report a negative relationship with integrated reporting, though this is not significant (The finding on profitability support the study of Churet and Eccles, 2014 while they contradict those of Isabel-Maria et al. (2013)). So, does it mean that high IFRS compliance does not necessarily contribute to the quality of integrated reporting? Alternatively, it may imply that integrated reporting gives prominence to disclosure of non-financial information.

Another finding is that the more women on board, the lower the integrated reporting disclosure. Besides, companies that have foreign ownership will likely make lower integrated reporting disclosures. The negative relationship between women on board and integrated reporting needs further research and assessment because board

composition such as the number of women on board generally reports a positive relationship with disclosures (see Ben-Amar and Boujenoui, 2012). For foreign ownership, if a parent is domiciled in a foreign country where integrated reporting is not practiced, then the subsidiary need not adopt integrated reporting.

Finally, integrated reporting disclosure is high and improving partially due to high levels of corporate governance disclosures. This study has also established that there is not only a positive relationship between integrated reporting and corporate governance, but this relationship is dynamic. The same case applies to sustainability disclosures, which means that corporate governance disclosures and sustainability reporting disclosures will likely influence subsequent period integrated reporting disclosures.

5. Conclusion

Corporate reporting provides financial and non-financial information that is useful for decision making and is therefore given a lot of attention by stakeholders. Even though companies usually prepare financial statements, corporate governance and sustainability reports separately, integrated reporting is an innovation that attempts to blend all these reports into one. The IIRC promotes the global adoption of integrated reporting, by working together with various regulators. In Kenya, the Capital Markets Authority issued revised corporate guidelines that recommended the voluntary adoption of integrated reporting. However, recommendations for companies to adopt integrated reporting assume that despite economic and capital market challenges that emerging markets face, companies are open to these innovations. Furthermore, such recommendations also assume that companies are providing sufficient financial and non-financial information to adopt integrated reporting.

Therefore, the main objective of this study was to augment studies on integrated reporting, by analyzing disclosures made in the annual reports of listed companies in Kenya from 2010 to 2016. The key questions were: What are the current disclosure levels of financial and non-financial information for listed companies in Kenya? To what extent are companies providing information for integrated reporting? What is the association between various company factors and integrated reporting disclosures? This is in order to establish the extent to which integrated reporting is being adopted and relationship with other company level features. The next paragraphs discuss the findings and implication for adoption of integrated reporting.

Findings show in terms of financial information, compliance with IFRS is high, while for non-financial information, corporate governance disclosure is also high, but sustainability disclosure is lower. Findings also show that that only seven companies out of the fifty, i.e., 14%, have adopted integrated reporting by the end of 2016. Besides, disclosure scores for integrated reporting are on an upward trend from 59% to 72%, with the trend being statistically significant between the year 2010 and 2015. Majority of companies disclose organizational overview, external environment, governance, and risks. Areas of non-disclosures by some companies include stakeholder engagement, outlook, and projections of future performance, challenges that may arise in the future and how the organization is equipped to face these challenges, the business model including a logical narrative of the flow of business, and key performance indicators. These findings imply that despite the low adoption of integrated reporting, high disclosures of financial information and corporate governance indicate a potential for

adopting integrated reporting. However, low sustainability disclosures indicate a challenge in support of integrated reporting as established in the studies of Deloitte (2012) and Van Zyl (2013).

According to the findings, large companies, those in sectors like banks, those that are foreign-owned and companies with higher corporate governance and sustainability disclosures will likely adopt and make better disclosures of integrated reporting. For size, the findings support the study of Isabel-María, Lázaro, and José-Valeriano, (2013). For banks, the findings are in support of Deloitte (2012). This study has established size for emerging market as a key company factor for adoption of integrated reporting. In addition, the current period corporate governance and sustainability disclosures influence the subsequent periods integrated reporting disclosures. These findings show support for the adoption of integrated reporting.

The above findings are very important for various stakeholders from preparers, users and regulators. Given the context of an emerging market where capital markets are still developing, even though innovations in corporate reporting like integrated reporting may take time to be actualized, high disclosures of financial information and corporate governance provide opportunities for adopting integrated reporting. However, stakeholders need to overcome a challenge of low sustainability disclosures. Either improvements are required to sustainability reporting first, or additional focus needs to be made by all stakeholders on how the adoption of integrated reporting can lead to better sustainability disclosures.

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