

THE TREND OF INTEGRATED CAPITALS REPORTING: THE ASIAN PERSPECTIVE

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ABSTRACT

Research aim: This paper examines the trend of integrated capitals reporting in Asia, given the introduction of the integrated reporting (IR) framework in some of the countries across the continent.

Design/ Methodology/ Approach: Using content analysis, the study examines the quality and extent of IR capital reporting based on IR capitals checklist developed based on the International Integrated Reporting Council's (IIRC) framework. The data were drawn from 332 integrated reports hosted on the website of IIRC related to listed companies across the Asian continent over a four-year period (2015-2018).

Research finding: The findings indicate a significant increase in the extent and quality of IR capitals disclosure. It also shows significant improvements in each element of IR capitals such as human capital, intellectual capital, social and relationship capital and natural capital based on the sampled integrated reports. Furthermore, financial capital is the most disclosed capital, while manufactured capital is the least disclosed. Though there is a significant increase in the level of disclosure, the extent of disclosure is more pronounced compared to that of the quality of disclosure.

Theoretical contribution/ Originality: This study provides a scientific conclusion on the trend of IR capitals disclosure in the Asian continent using most recent integrated reports.

Practitioner/ Policy implication: The findings would assist those charged with governance to monitor their reporting strategies about the IR capitals. It helps to point out the areas of improvement in disclosing each element of the IR capitals. The IIRC would also appreciate the trend of quality and extent of IR capital reporting in the Asian continent. This would, in turn, help in the review for any improvement needed to the framework.

Keywords: Asia, Integrated Reporting, Multiple Capitals, Content Analyses, Trend Analyses

Type of article: Research Paper

JEL Classification: M41, M42

1. Introduction

Like any other concept, accounting and reporting concepts have witnessed some changes due to their significant roles in the decision-making process by various users. The relevance of the reports from corporate entities have been the object of criticism and have attracted the attention of earlier scholars (Gray, Kouhy, & Lavers, 1995; Guthrie & Parker, 1989). Just like any other concept, corporate reporting has evolved over the years as various forms of reports have been introduced to improve the value relevance of information content of corporate annual reports and accounts. These reporting approaches have been subject to research efforts. For instance, corporate social and environmental reporting (Gray et al., 1995; Guthrie & Parker, 1989), intellectual capital reporting, and most

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recently, integrated reporting (Haji & Anifowose, 2016; Brown & Dillard, 2014; de Villiers, Rinaldi, & Unerman, 2014).

The wave of acceptability of integrated reporting has been ongoing across various continents. While its adoption is mandatory in South Africa, Japan and India, it remains voluntary in other jurisdictions. In mandatory regimes, regulators made integrated reporting compulsory. However, in the voluntary regimes, adoption of IR is at the sole discretion of the entities. Notwithstanding this development, little is known about the trend of the extent and quality of its reporting. Apart from studies by Haji and Anifowose (2016) and Setia, Abhayawansa, Joshi, and Huynh (2015) that examine the trend of integrated reporting practices in South Africa, there is no such effort to consider in the Asian perspective. Meanwhile, the study of Setia et al. (2015) covers 2009/2010 and 2011/2012 while that of Haji and Anifowose (2016) is from 2011 to 2013. Despite the tremendous acceptance of the IR concept in the continent, no other studies have considered the trend. Hence, the objective of this study is to examine the trend of IR capitals disclosure among selected companies in the Asian continent. It covers the financial years from 2015 to 2018, unlike earlier studies (Haji & Anifowose, 2016; Setia et al., 2015) that considered the early adoption of integrated reporting practices in South Africa.

Integrated reporting was a collaboration between the Prince's accounting for sustainability project and Global Reporting Initiative, leading to the formation of the IIRC (Flower, 2015). In response to global financial crises, the IIRC developed a framework to expand the reporting attitude of corporate entities (Dragu & Tiron-Tudor, 2013) not only to improve reporting but also to explain how the companies create value with various kinds of capital available to those charged with governance (IIRC, 2013). The new reporting concept is termed 'integrated reporting', symbolised as <IR>. <IR> is a combination of the reporting of various facets of organisational events on a common platform with a codified aim (Abeysekera, 2013). KPMG (2011) considers it as a method of displaying corporate strategy 'fits' with the financial aspects so that capital market participants can thoroughly examine and appreciate how corporate strategy influences company value and performance.

Unlike the earlier forms of reports, the <IR> is made up of six forms of capital, namely financial, manufactured, human, intellectual, natural and social and relationship capitals (Flower, 2015; IIRC, 2013). With a closer look at these capitals, we can deduce that <IR> is a combination of all existing forms of report prior to its emergence. While there is overlapping among these capitals, <IR> focuses on how these capitals promote corporate value. The IIRC summarises these capitals into four basic forms of reports through traditional financial statements; management commentaries; governance and remuneration reports; and sustainability reports (IIRC, 2013) to be presented in a single report.

Whereas few of these capitals seem to be new, financial capital has been the best-known capital type of corporate reporting (Dagiliene, 2017). Its disclosure comprises information concerning various forms of shares and bonds, bank deposits and interest, bills, dividends, debt, and many other financial instruments, including cash. This would provide opportunities for stakeholders to interact and interrelate with the entities. Some studies on financial capital disclosure were

based on quantitative and qualitative (descriptive) information on a company's share capital structure, securities' purchases and sales, circulation, as well as dividends paid or proposed (Dagiliene, 2017).

Social capital is defined as the summation of *"the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit"* (Nahapiet & Ghoshal, 1997, p. 243). Nahapiet and Ghoshal (1997) explain that social capital enhances the extent of return on investment in other categories of IR capitals (e.g., human and financial) through a pattern of interrelations and interactions that exist between friends and customers.

Natural capital, on the other hand, refers to the elements of nature linked directly or indirectly with human welfare (TEEB, 2010). In addition to typical natural resources such as timber, water, energy, and mineral reserves, it includes biodiversity, threatened species and the ecosystems which perform essential ecological services. Balmforth (2014, p. 1) defines natural capital as *"the stock of natural ecosystems that yields a flow of valuable ecosystem goods and services"*. It supplies the ecosystem goods and services that reinforce much of the economy as inputs or indirect benefits to business. However, drawing down too much on natural capital, nature may be unable to replenish them. As for manufactured capital, it relates to physical objects produced that are available to organisations for the production of goods or services, including buildings, equipment, and infrastructure (IIRC, 2013).

The study utilises content analysis to score quality and extent of IR capitals disclosure from 332 integrated reports across the Asian continent over the 2015-2018 period. The six elements of IR capitals were analysed individually together with overall disclosure. The result reveals that there are significant increases in quality and extent of disclosure over the period. The remaining part of this study is as follows: In Section 2, we present empirical reviews and conceptual studies on IR. In Section 3, the research method adopted in this study is presented. Section 4 analyses the data and discusses the findings. Section 5 presents the conclusion and implications of the findings.

2. Literature Review

Following the emergence of the <IR> concept in 2011, there have been efforts from both practitioners and academicians to examine its significance. Like any other emerging concept, the literature in this area remains imperceptible. Consequently, the need for more research has been advanced by recent studies (Rinaldi, Unerman, & de Villiers, 2018; Vitolla, Raimo, & Rubino, 2019). Interestingly, studies on the trend of disclosure have been carried out at every stage of new reporting framework. For instance, Wild and van Staden (2013) revealed that 90 per cent of 58 integrated reports disclosed human and social and relationship components of IR capitals.

There are six basic capitals recognised in <IR> (IIRC, 2011, 2013; KPMG, 2011), range from natural, manufactured, financial, social and relational, intellectual to human capitals (Dumay, Bernardi, Guthrie, & La Torre, 2017; Rinaldi et al., 2018), most of which have been explored. For instance, human, social and relational

capital are considered as components of intellectual capital (see, Dumay et al., 2017; Luthy, 1998; Stewart, 1998).

The basic aim of conducting a conceptual analysis is to synthesise previous developments in corporate reporting practices in the context of the IR agenda while at the same time offering ways that can broaden and open up current attempts towards IR practice (Brown & Dillard, 2014). Also, conceptual studies would assist in mapping IR research and basic for increasing academic paper numbers (Adams, 2015; de Villiers, Venter, & Hsiao, 2017). The IR concept is considered very significant to organisations and users (Adams, 2015) as it provides information not only on financial capital, human capital, intellectual capital, social and relationship capital that have been in earlier frameworks but also on relatively new natural capital and manufactured capital. It also goes beyond mere disclosure as it links these capitals to potential value addition organisations can derive from their usage (IIRC, 2011, 2013). Specifically, IR concept is considered as a paradigm “shift from a ‘financial capital market system’ to an ‘inclusive capital market system’ through these capitals and integrated reporting and thinking” (Coulson, Adams, Nugent, & Haynes, 2015, p. 290).

There are motivating factors that studies have established which contribute to the adoption of IR. For instance, Adams (2015) says that IR offers enhanced decision-making process, communication, materiality determination and risk management processes to the business organisation. It is reasoned that IR assists those charged with governance to recognise and appreciate nonfinancial elements in decision-making (Hampton, 2012). It also ensures long-term thinking instead of short-termism and focuses on profit maximisation (Adams & Whelan, 2009). Furthermore, IR provides a wide range of information to various stakeholders which helps in business agility and meaningful accounts of organisations (Eccles & Krzus, 2010).

Lodhia (2015) suggests that IR leads to effective cross-departmental communication as it breaks down organisational silos. That is, IR is a collaboration from different units of the organisations. Stubbs and Higgins (2014) find that IR process enhances close collaboration among various teams than under the traditional financial and sustainability reporting approaches. It caused the use of cross-functional teams for its process. Eccles and Armbruster (2011) asserted that IR drives companies to craft medium- and long-term sustainable strategies to generate value and communicate it to stakeholders. On this premise, they conclude that such a push helps increase the companies’ share price. In a study of South African executives, Steyn (2014) finds that it also boosts the companies’ reputation.

Going by the perceived importance of IR, it is necessary to examine the trend of quality and extent of reporting of IR capitals across the Asian continent as it is currently embracing new reporting frameworks.

2.1 Theoretical Framework and Hypothesis Development

Disclosure studies have relied on various theories. Some have employed competing theories (Anifowose, Abdul Rashid, & Annuar, 2017a, 2017b), while others have used contradicting ones (Chander & Mehra, 2011; Haji & Anifowose, 2016). The present study adopted the stakeholder theory. The theory broadly

defines stakeholders as “any group or individual who can affect (or is affected by) the achievement of the firm’s objectives” (Freeman & Phillips, 2002). In a narrow interpretation, “a primary stakeholder group is one without whose continuing participation the corporation cannot survive as a going concern” (Clarkson, 1995). Stakeholder theory has been generally used in corporate disclosure studies (Guenther, Guenther, Schiemann, & Weber, 2016). It is based on the concept that <IR> would satisfy stakeholders, including the shareholder. Disclosure of information on six identified capitals would go a long way in enhancing an informed decision by the stakeholders, which include known and unknown ones. In line with this theory, the study hypothesis is in alternate form as follows.

H1: There is a significant increased trend in integrated capital reporting among the selected companies in the Asian continent.

3. Methodology

3.1. Data Source and Sample Selection

The paper utilises quantitative research to examine the trend of quality and extent of reporting of <IR> capitals across the Asian continent (IIRC, 2018). The data were sourced from the annual integrated reports of companies over the period from 2015 to 2018 based on the availability of data as published by the IIRC. The distribution of the companies across the countries and companies is displayed in Table 1.

Table 1. List of Sampled <IR> Across Countries and Companies

S/N	Industry	Panel A		Country	Panel B	
		Number	Percentage		Number	Percentage
1	Conglomerate	9	11	China	3	4
2	Consumer Goods	6	7	India	4	5
3	Financial Services	6	7	Japan	63	76
4	Industrial Goods	3	4	Korea	4	5
5	Manufacturing	15	18	Others	9	11
6	Pharmaceutical	10	12			
7	Services	34	41			
	Total	83	100		83	100

As indicated in Table 1, there are 83 sampled companies across various countries and economic sectors. The countries were drawn from the Asian continent and mainly include Japan, India, Korea, and China, among others. Japan dominates the countries by making up 76 per cent of the sampled companies. This could be justified as Japan’s Ministry of Economy, Trade and Industry (METI) has recommended IR as a means for providing essential information disclosure for better dialogue between companies and investors to enhance corporate value creation (IIRC, 2015). Meanwhile, the service industry makes up 41% of the sampled companies.

3.2. Checklist Development

The study employs content analysis to extract data on the disclosure of six classes of capital components of <IR>. Table 2 displays the details of each item according to category.

Table 2. Checklist List of <IR> Disclosure Items

Capitals	S/N	Elements
Natural capital	1	CO ₂ emissions
	2	Energy consumption per energy source
	3	Amount of waste
	4	Environmental accidents
	5	Recycled waste
	6	Environmental protection investments
	7	Animals purchased for trials
Human capital	1	Number of employees
	2	Diversity
	3	Total investment in training
	4	Employees in corporate e-learning
	5	Average age
	6	Average training days per employee
Human capital	7	Employee survey results
	8	Injuries per million working hours
	9	Rate of absenteeism
	10	Severance rate
	11	Minimum wage ratio
Social and relationship capital	1	Great place to work" ranking
	2	Number of volunteers
	3	Claims/lawsuits
	4	Involvement in social actions
	5	Involvement in cultural projects
	6	Customer satisfaction index
	7	Provision for social projects
	8	"Social investment" (money spent on philanthropy)
Intellectual capital	1	Number of patent applications filed
	2	Money spend on R&D
	3	Number of tests with new technology
	4	Brand awareness
	5	number of new products developed
	6	expenditure on organisational change/process development
	7	expenditure on software development for internal systems
	8	sales generated by R&D-derived products
Manufactured capital	1	The production of goods or the provision of services
	2	Information on buildings
	3	Information on equipment
	4	Information on equipment
	5	Infrastructure (such as roads, ports, bridges, and waste and water treatment plants)
Financial capital	1	Debt, equity or grants; operations; investments
	2	Information on equity share capital
	3	Information on debt share capital
	4	information on government grants
	5	Operations

Source: Extracted from the IIRC framework, 2013

As seen in Table 2, there are 44 selected items of IR, comprising 7 natural capital, 11 human capital, 8 social and relationship capital, 8 intellectual capital, 5 manufactured capital and 5 financial capital items based on the IIRC reporting framework. A checklist was developed to score the quality of disclosure of these components among the sampled companies.

3.2.1. Scoring of Disclosure Index

After finalising the research instrument (checklist), weighted and unweighted approaches were employed to score the annual reports. The unweighted method (based on binary) assigns equal values to the checklist items regardless of the quantum of disclosure of items in corporate reports (Boesso & Kumar, 2007). This is considered as more objective as it largely avoids any degree of subjectivity commonly known in other content analyses approaches. Meanwhile, the weighted approach goes beyond this general and qualitative disclosure by assigning higher weights to specific and detailed capital disclosure (Boesso & Kumar, 2007). The current study utilises both approaches to benefit from the merits of each approach.

Building on prior disclosure literature (Anifowose, Abdul Rashid, & Annuar, 2017), the study used a detailed scoring scheme to measure the quality of IR capital disclosure. The study developed a scoring scheme of '0-3', where "0" was assigned for non-compliance, one (1) where the companies provided general qualitative disclosures. A score of two (2) was assigned for specific information. The highest score of three (3) was assigned for a detailed discussion with quantitative figures. Thus, the total scores for overall disclosure and each of the components (TXS) were calculated as the proportion of actual score (AXS) to maximum possible score (MXS) (i.e. $3 \times 44 = 132$). The TXS of a company is obtained by:

$$TXS = \frac{AXS}{MXS}$$

The validity and reliability of the scores are a source of concern in corporate information disclosure (Dumay & Cai, 2014) as a result of the inherent problems of the approach. To counter this, the study employed a two-stage checklist scoring approach. It began with a pilot scoring using the top ten listed companies to familiarise with the annual reports. The sampled annual reports were scored independently and compared their scores. The areas of discrepancies were rescored jointly for correction.

3.3. Technique of Data Analysis

To examine the trend of IR capital disclosure over time, the study conducted one-way repeated measure ANOVA analyses based on the established five bases which include continues nature of the dependent variable, the independent variable should consist of at least two categorical, related groups or matched pairs; differences between two related groups should not have significant outliers; the dependent variable distribution in the related groups should be normally distributed; and sphericity assumption: the variances of the differences between all combinations of related groups must be equal (Field, 2013; Pallant, 2011). Although it is difficult to certify sphericity assumption, the latest version of SPSS statistical package is automatically corrected for any problem by adjusting the degree of freedom to produce a more conservative probability value.

4. Empirical Analysis and Discussion

This study explored various data analysis techniques to examine the present trend of IR capital disclosure among the sampled companies across the Asian continent.

The study begins with a description of data with the aid of descriptive statistics which was conducted on both elements and overall IR capitals over the four years. The results reveal no normality problem; hence the study proceeded with the parametric approach to data analysis (for review, see Field, 2013).

4.1. Descriptive Results

The study utilised a detailed scoring approach and a binary scheme to examine IR capitals reporting trend in Asia. The analyses were conducted based on these approaches, and discussions were done concurrently for easy understanding. While the details scoring approach discussed the quality of IR capitals disclosure, the second method was based on the extent of the disclosure emphasising on the presence or absence of information pertaining to the items under consideration. The possible total score for the detailed scoring approach is 132 (i.e.44 items \times 3=132), while the extent of disclosure is 44 (44 \times 1=44). The six elements of IR capital of the checklist tend the same line. Table 3 presents the descriptive results for the quality and extent of IR capitals disclosure for the four years under investigation (2015-2018).

Table 3. Descriptive Statistics on Integrated Reports: 2015-2018

	Quality of IR scores-scoring (0-3)				Extent of IR scores-scoring (0, 1)			
	2015	2016	2017	2018	2015	2016	2017	2018
Minimum (%)	11.38	9.76	13.82	15.45	24.39	19.51	29.27	29.27
Maximum (%)	91.22	91.38	94.96	92.20	97.56	100.00	100.00	95.12
Average (%)	44.99	47.76	52.18	53.58	71.57	73.94	77.47	73.94
Std. Dev.	24.86	25.12	25.38	23.83	22.15	21.09	19.00	17.75
Skewness	1.04	.86	.71	.51	-.77	-.98	-.77	-.77
Kurtosis	-.17	-.47	-.85	-.93	-.62	.45	-.01	.01

The results in Table 3 reveal that the average scores in the quality of capitals disclosure in integrated reports have increased over time; increasing from 44.99 per cent in the year 2015 to 47.76 per cent in 2016, to 52.18 per cent in 2017 and 53.58 per cent in 2018. This finding is in line with earlier studies that observed improving IR practices, especially in the early mandatory adopter nation, South Africa (Haji & Anifowose, 2016).

The results also indicate that the maximum IR capitals disclosure score is 91.22 per cent in 2015, 91.38 per cent in 2016, 94.96 per cent in 2017 and 92.20 per cent in 2018, whereas the least scores were 11.38 per cent in 2015, 9.76 per cent in 2016, 13.82 per cent in 2017 and 15.45 per cent in 2018, showing that some of the items are to fully disclosed. Table 3 also reports the results for the extent of IR practice. The findings indicate a similar improving trend, with the average scores increasing from 71.57 per cent in 2015 to 73.94 per cent in 2016, to 77.47 per cent in 2017 and slightly nosedived to 73.94 per cent in 2018. The results indicate higher scores in the binary approach of IR capitals disclosure compared to the detailed approach of IR capitals disclosure. The possible implication of this finding is that the disclosure of IR capitals is mostly generic rather than company-specific.

Table 4 provides deeper insights into the IR capitals disclosure scores in terms of the distribution of the sampled companies.

Table 4. Distribution of IR Scores Among Companies-Using Quality Scores

	Quality of IR Capital Disclosure	Number of companies	Per cent
2015	≥80	0	.00
	70-79.9	3	3.61
	60-69.9	19	22.89
	50-59.9	15	18.07
	40-49.9	16	19.28
	30-39.9	25	30.12
	20-29.9	5	6.02
	Total	83	100
2016	≥80	1	1.20
	70-79.9	6	7.23
	60-69.9	15	18.07
	50-59.9	22	26.51
	40-49.9	13	15.66
	30-39.9	21	25.30
	20-29.9	5	6.02
	Total	83	100
2017	≥80	0	.00
	70-79.9	10	12.05
	60-69.9	13	15.66
	50-59.9	25	26.51
	40-49.9	20	27.71
	30-39.9	15	18.07
	20-29.9	0	.00
	Total	83	100
2018	≥80	2	2.41
	70-79.9	12	14.46
	60-69.9	16	19.28
	50-59.9	23	27.71
	40-49.9	19	22.89
	30-39.9	9	10.84
	20-29.9	2	2.41
	Total	83	100

As Table 4 shows, based on the quality of IR capital disclosure, the results indicate that the IR capital disclosure scores of the sampled companies were above 20 per cent but below 80 per cent in year one and below 90 per cent in years two and three. Most companies (30.12 per cent) had scores ranging from 30 to 39.90 per cent in 2015, with only 37 (44.58 per cent) having scores of 50 per cent or more. In 2016, 2017 and 2018, however, most companies had scores of 50 per cent to 59.90 per cent. Despite the improved number of companies with appreciating levels of IR capitals disclosure, the results indicate that quality of IR capital disclosure was below 90 per cent, and only few companies disclosed above 70 per cent throughout the four-year period.

4.2. Analyses of Integrated Reporting Categories

In line with IR framework (IIRC, 2011, 2013), the study examined IR capitals disclosure using six elements of IR capitals. The scores for each element are presented in Table 5.

Table 5. Summary of IR capital disclosure quality

Years	Capitals	Max. Score	Actual Score	Per cent	Ranking
2015	Natural capital	861	286	33.22	5th
	Human Capital	1353	599	44.27	4th
	Social & Relationship Capital	984	439	44.61	2nd
	Intellectual capital	984	439	44.61	2nd
	Manufactured Capt.	615	111	18.05	6th
	Financial Capital	615	561	91.22	1st
2016	Natural capital	861	319	37.05	5th
	Human Capital	1353	643	47.52	4th
	Social and Relationship Capital	984	477	48.48	3rd
	Intellectual capital	984	479	48.68	2nd
	Manufactured Capital	615	105	17.07	6th
	Financial Capital	615	562	91.38	1st
2017	Natural capital	861	356	41.35	5th
	Human Capital	1353	688	50.85	4th
	Social and Relationship Capital	984	521	52.95	3rd
	Intellectual capital	984	536	54.47	2nd
	Manufactured Capital	615	139	22.60	6th
	Financial Capital	615	584	94.96	1st
2018	Natural capital	861	386	44.83	5th
	Human Capital	1353	728	53.81	4th
	Social and Relationship Capital	984	540	54.88	3rd
	Intellectual capital	984	535	54.37	2nd
	Manufactured Capital	615	144	23.41	6th
	Financial Capital	615	567	92.20	1st

In terms of the quality scores in the “financial capital” category is ranked highest in all four years, accounting for 91.22 per cent in 2015, 91.38 per cent in 2016, 94.96 per cent in 2017 and 92.20 per cent in 2018. Ranked second, third, fourth and fifth are “intellectual capital”, “social and relationship capital”, “human capital” and “natural capital”, respectively. The lowest disclosed element is “manufactured capital” (ranked sixth). Table 6 reveals the findings of the extent of IR capital elements disclosure.

Table 6. Summary of Extent of IR Capital Disclosure

Years	Capitals	Max. Score	Actual Score	Per cent (%)	Ranking
2015	Natural capital	287	197	68.64	5th
	Human Capital	451	350	77.61	2nd
	Social and Relationship Capital	328	232	70.73	4th
	Intellectual capital	328	248	75.61	3rd
	Manufactured Capital	205	68	33.17	6th
	Financial Capital	205	189	92.20	1st
2016	Natural capital	287	208	72.47	5th
	Human Capital	451	359	79.60	2nd
	Social and Relationship Capital	328	249	75.91	4th
	Intellectual capital	328	261	79.57	3rd
	Manufactured Capital	205	63	30.73	6th
	Financial Capital	205	192	93.66	1st
2017	Natural capital	287	208	72.47	5th
	Human Capital	451	370	82.04	3rd

Table 6. Summary of Extent of IR Capital Disclosure (Continued)

Years	Capitals	Max. Score	Actual Score	Per cent (%)	Ranking
2018	Social and Relationship Capital	328	257	78.35	4th
	Intellectual capital	328	274	83.54	2nd
	Manufactured Capital	205	84	40.98	6th
	Financial Capital	205	198	96.59	1st
	Natural capital	287	204	71.08	5th
	Human Capital	451	349	77.38	3rd
	Social and Relationship Capital	328	250	76.22	4th
	Intellectual capital	328	257	78.35	2nd
	Manufactured Capital	205	83	40.49	6th
Financial Capital	205	190	92.68	1st	

4.3. Trend of Integrated Capital Reporting

The object of this analysis is to consider the trend of IR capitals disclosure among the sampled companies in Asia both in total and each element. Based on this aim, the study conducted the parametric one-way repeated measure ANOVA to examine the trend of IR capitals over time. The findings from the data analyses on the quality and trend of IR capitals disclosure are presented in the Table 7.

Table 7. One-Way Repeated Measures ANOVA: Mean Scores in IR Over Time (2015-2018)

Panel A. IR Capital Quality Disclosure					
	2015	2016	2017	2018	
Elements and Total	Average Scores				<i>p</i> -value
Natural	33.22	37.05	41.35	44.83	.000***
Human	44.27	47.52	50.85	53.81	.000***
Social & Relationship	44.61	48.47	52.95	54.88	.000***
Intellectual	44.61	48.68	54.47	54.37	.000***
Manufactured	18.05	17.07	22.6	23.41	.000***
Financial	91.22	91.38	94.96	92.19	.000***
Total	44.99	47.76	52.18	53.59	.000***
Panel B. IR Capital Extent Disclosure					
Natural	68.64	72.47	72.47	71.08	.000***
Human	77.61	79.6	82.04	77.38	.000***
Social & Relationship	70.73	75.91	78.35	76.22	.000***
Intellectual	75.61	79.57	83.54	78.35	.000***
Manufactured	33.17	30.73	40.97	40.49	.000***
Financial	92.19	93.66	96.58	92.68	.000***
Total	71.18	73.84	77.11	73.89	.000***

***increased at the 1% significance level

Table 7 results reveal that there is a significant increase in the total and elements of quality IR capitals disclosure over the four-year period at 99 confidence level, $p < .000$. Similarly, there is a statistically significant increase at the 1 per cent level of significance in the extent of IR capitals disclosure, both in the overall and of each element among the sampled companies over the four-year period of study.

The study conducted further robustness tests given that the one-way repeated measures ANOVA only exhibit a difference somewhere over the four-year period.

A two-year paired sample t-tests were conducted to demonstrate the extent of significance further, as presented in Table 8.

Table 8. Paired Samples T-Test for Differences in IR Scores Between Any Two Years

Years	Overall IR capital quality disclosure		Overall IR capital extent disclosure	
	t-value	Prob. level	t-value	Prob. level
2015 and 2016	-4.100	.000***	-2.085	.000***
2015 and 2017	-6.262	.000***	-3.800	.000***
2015 and 2018	-6.201	.000***	-4.173	.000***
2016 and 2017	-5.781	.000***	-2.970	.000***
2016 and 2018	-5.912	.000***	-4.205	.000***
2017 and 2018	-2.076	.000***	3.382	.000***

***increased at the 1% significance level

Table 8 reveals that on top of the four-year period of study, there are significant increases between any of the two years both in terms of quality and extent of IR capitals disclosure. This implies that there are concerted efforts by those charged with governance to continuous improvement on the quality and extent of IR capitals reporting. The finding is similar to earlier studies (Haji & Anifowose, 2016; Setia et al., 2015; EY, 2018) that have documented significant increases in IR practices among listed companies on the Johannesburg Stock Exchange (JSE).

4.4. Discussion of Findings

This study examines the recent trend of quality and extent of IR capitals disclosure from selected integrated reports from Asia following the concerted efforts by regulators from the continent to embrace the IIRC 2013 framework. The findings reveal that financial capital is the most disclosed category of IR capitals as it is ranked first in terms of quality and extent of disclosure. This might be connected with the fact that financial capital provides a basis for other capitals in decision-making processes both by stakeholders within and without companies. Without this capital, companies' going concern might be threatened, and other capitals might not be guaranteed.

Meanwhile, human capital and intellectual capital were the second and third disclosed IR capitals as they exchange the positions across the years. The explanation for this might be that before the advent of IR, the intellectual capital report was proposed as the best form of an all-inclusive financial report. In its reporting framework, intellectual comprises human capital as one of its components (Anifowose et al., 2017; Cortesi & Vena, 2019; Rimmel, 2018). This might make it difficult to draw a line between these capitals as suggested by the IIRC framework (IIRC, 2013).

In terms of the trend of the disclosure over the four-year period, the findings reveal a statistically significant trend in terms of quality and extent as well as in overall and sub-elements of IR capitals. The possible explanation for these findings is that there is an understanding among the preparers of annual reports on the significance of improving information content to comply with the IIRC framework. That is, the companies provide contextualised, input-output linkage about IR capitals, company-specific disclosures about the interdependencies and

trade-offs between/among the capitals and their effect towards the value creation. In essence, the adoption of the IIRC framework has brought some changes in how companies present information concerning these capitals. There is evidence of consistency in the pattern of disclosure, especially companies within the same economic jurisdiction. The input-output approach is visually present in all integrated reports utilised for this study (IIRC, 2013; Setia et al., 2015; Slack & Tsalavoutas, 2018).

To provide a better analysis of incremental, a two-yearly comparison analysis was conducted using pairwise t-test. The results show that there is a significant difference between each pair of years, both in terms of quality and extent of disclosure. This further proves that there is a continuous improvement in the understanding of preparers concerning the content of the IIRC framework (Atkins & Maroun, 2015; Setia et al., 2015). With these findings from Asia, IR would be considered the best reporting framework across the continent. The findings support the stakeholder theory preposition, and the study failed to reject the hypothesis that there is a significant increasing trend in integrated capital reporting among the selected companies in Asia.

5. Conclusion and Implication

This study examined the trend of IR capitals disclosure in Asia. Specifically, the study considered the trend of IR capitals disclosure on overall and each of the sub-classes of capitals. To achieve this, the study employed content analysis to score the extent and quality of disclosure from integrated reports of 83 companies over a four-year period from 2015-2018. Based on 332 integrated reports over the four-year period, the findings revealed a statistically significant increase in the quality and extent of IR capital disclosure over time. We found that companies are increasingly appreciating the interdependencies among the IR capitals (human, natural, financial, intellectual, social and relationship and manufactured capitals) using the input-output approach of explanation in integrated reports.

Several implications can be drawn from the findings of this study. First, there is appreciating adoption of the IIRC framework across Asia, especially countries like Japan and India that have made it mandatory for the listed companies in their jurisdictions. The quality of IR capitals disclosure among the sampled integrated reports is also appreciating. Hence, the future of the new reporting framework in the continent could be considered promising. There is evidence that IR capital reporting is taking shape with increasing disclosure level among the sampled companies; hence, academicians could engage companies for industry-related research.

One of the unique features of the study is that samples were drawn from mandatory and non-mandatory environments. It is, therefore, possible that companies might be voluntarily applying the IR framework due to its perceived importance. The finding of the study is limited to the extent of the data availability as the <IR> is still in the infancy stage of adoption in the continent and focus on capitals. Nonetheless, the current study is among the pioneer studies in the continent and could provide the basis for future studies. For instance, a study on the link between <IR> dimension and <IR> capital could be considered. Finally,

the value relevance of disclosing these capitals might be subjected to academic research.

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