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GRAPHICAL INFORMATION IN CORPORATE ANNUAL REPORT: AN EXPLORATORY SURVEY OF USERS PERCEPTIONS

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The graphical presentation of quantitative data within corporate annual reports has become one of the techniques used by management to disclose quantitative information to their users. This survey investigates the perceptions of users of CAR with regard to the graphical information in corporate annual report. Responses from completed questionnaire of a sample of 52 respondents were examined. The users of CAR in the study ranked graphical information of statistical data as second after financial statements. The five most important variables graphs preferred by respondents are sales graph, earnings, EPS, share price and cash flow graph. Graphical disclosure in CAR was considered sufficient by majority of the respondents. However, they were not fully aware of major criteria of good graphical constructions and designs.

Introduction

The corporate annual report (CAR) is seen as an important device for communication between management and stakeholders. It has documented in a number of studies as the most important source of corporate information frequently used by various users in many countries (Naser & Nuseibah, 2003; Abu-Nassar & Rutherford, 1996; Bence, Hapeshi, & Hussey, 1995; Streuly, 1994). However, research by Lee and Tweedie (1976) produced evidence to suggest that many parts of the corporate annual report were neither well read nor well understood by the users. The user's groups encompass investors,

creditors, employees, lenders, government and public at large. Users having no accounting background have to rely on the director's report or chairman's statement as the alternative source of financial information. Since then much has been done to change the face of corporate reporting, e.g. introduction of graphics to present quantitative data. Wilson and Stanton (1996) suggest that the use of graphical information would be able to enhance the communication process in a more precise and effective manner.

The graphical presentation of quantitative data within corporate annual reports has become one of the techniques used by management to disclose quantitative information to their users. Prior studies in U.K. U.S.A, Australia, and Canada show that about 80 percent surveyed companies include graphs in their annual reports (Steinbart, 1989; Beattie and Jones, 1992, 1997, 1999; CICA, 1993). In those studies, the most popular variables graphs found are sales, earning, earning per share and dividend per share. Companies in Malaysia also include graphs in their CAR. According to Azhar and Mohd Diah (2001), there was a significant increase in the disclosure of graphical information from 1974 to 1984 and 1994. In 1974, fifteen percent of companies used graphs, and the percentage increase to thirty one percent and sixty one percent in 1984 and 1994, respectively.

Graphs visually communicate statistical data and relationships using the presentation of symbols, numbers and words. Graphs potentially have several advantages over the more traditional alphanumeric tables combined with continuous narrative texts (Beattie & Jones, 1997). Some of the advantages are that they attract and hold attention of readers, facilitate understanding, save time in analyzing data, highlight trends and clarify relationship, and also break down language barriers. For these reasons, graphical display make the communication process more direct and immediate since it allows readers to 'see' the data (Beattie & Jones, 2000). Graphs become even more important given that many users (40 percent) spend only a few minutes reading an annual report (Squiers, 1989). Furthermore, the UK survey revealed that more than 75 percent of shareholders preferred the inclusion of additional graphs in annual reports to help explain financial performance (The Accountant's Magazine, 1992). In such circumstances, it is interesting to investigate the perceptions of users of corporate annual report in Malaysia with regard to the disclosure of graphical representation in the corporate annual report.

Benefits and Common Types of Graphs

The benefits of using graphics in financial information are well documented (Tufte, 1983; Holmes, 1984; Smith & Bain, 1987; Gibson & Schroeder, 1990; and CICA, 1993). Generally, graphs would be able to focus on one issue at a time and therefore help readers to develop comprehensive overview of prominent corporate attributes.

CICA (1993) suggests that graphs are especially important for communicating earnings and other performance numbers, and ratios. It encourages the use of graphs as a way of helping investors understand complex financial data. According to Beattie & Jones (2001), graphs are very effective at communicating financial information since they summarize and distil data trends and identify numerical relationship. Summarizing effect of graphs

would be able to reduce information overload. For most readers, graphical information can be perceived, absorbed, and retain easily and quickly than narrative discussion. As a result, the essence of meaning can be grasped more quickly.

Graphs are also able to highlight relationship between variables through the use of symbols and/or color even dimensions. They reveal patterns and underlying trends that facilitate comparisons and projections (Harris, 1996) which may not be obvious from tables. Capturing the essence of the company's performance by highlighting key financial indicators/variables such as sales, earnings, earnings per share (EPS), dividend per share (DPS), cash flow and return on capital employed (ROCE) permits easier understanding than the traditional financial statements. Furthermore, according to Schmid (1983), well-designed graphs may bring out hidden facts and relationships, stimulate and aid analytical thinking and investigation.

There are different types of graphs commonly used in annual corporate reports. Some of them are as follows:-

- **Simple column graphs** are easiest to understand and excellent for showing the values of one or more items at specific time or comparisons among different items. The x-axis generally is used for the independent variable such as time. The y-axis is used for the dependent variable like ringgit amount.

- **Grouped column graphs** would show two or three touching columns representing different items in the same series. The columns are grouped along the horizontal axis and either joined together, overlapped or separated by a narrow space. For example, sales, cost of sales and gross profit are grouped by year.

- **Bar graphs** are commonly used to portray categories, in which case the graph is based on a single scale. They are similar to column graphs except that they are presented horizontally. An alternative form of this graph type is the **single segmented bar**, which involves one subdivided bar and is also commonly used to display proportions and percentages.

- **Line graphs** are useful for showing trends in data and for comparing different sets of data, particularly over an extended period. More lines may be plotted on the same chart for comparison as long as the data presented by each line bear some relationship to the other data shown.

- **Pie chart** is a circle subdivided into segments. It is excellent for showing the relative portion of individual parts to the whole. A maximum of four, five or six categories is recommended by Schmid and Schmid (1979, p. 147); Schmid (1983, p. 65), and Thibadoux et al. (1986, p. 23) respectively. It is normally argued that the segments be ordered according to size and arranged in descending order in clockwise direction (Schmid and Schmid, 1979, p. 148; Thibadoux et al., 1986, p. 23).

However, readers' perception of the underlying data may be distorted when graphs are constructed without proper legends, scales, or proportions (Beattie & Jones, 1992; Bryan, 1995; Jarett & Babad, 1988; Johnson, Rice & Roemmich, 1980; Schmid & Schmid, 1979; Steinbart, 1989; Taylor & Anderson, 1986; Tufte, 1983). CICA Research Reports (1993)

lists 53 sources of graphic deficiencies under the five headings of titles and labels, scales, spacing, shading and data display. Therefore, the effectiveness of graphs to be used to communicate information would depend on 'graphical competency' of both the designers and the viewers of graphs.

Research Questions

Prior research shows companies use financial graphs widely to communicate with their users about their performances. Generally, graphs are used for two main purposes: presentation (description or communication) and analysis that motivate readers to pay attention and analyze the material (Fienberg, 1979). With the assumed superiority of graphs, the study would like to explore the users' perceptions on the graphs disclosed in the corporate annual report by sighting answers to the following questions:-

RQ 1: What are the perceptions of the users regarding the level of importance they attach to various disclosure items in CAR?

RQ 2: What are the perceptions of the users regarding the reasons to refer to graphical information in CAR?

RQ 3: What are the perceptions of the users on the usefulness of graphical information in decision-making process?

RQ 4: What are the perceptions of the users of the level of importance they attach to the selected key financial variables (KFV) in CAR?

RQ 5: What are the perceptions of the users regarding the level of sufficiency of the graphical information disclosed in CAR?

RQ 6: What are the perceptions of the users on criteria of good construction of graphs in CAR?

RQ 7: What are the perceptions of the users regarding the faithfulness of graphical representation in CAR?

Research Designs and Data Collection

This survey attempts to assess perceptions of users on graphical information disclosed in CAR. Different groups of users that have diverse information needs were drawn which included groups of share brokers, bank managers, finance/credit officers, university students, academics, business owners and other public users. The choice of the target groups was influenced by literature (e.g. Naser, Nuseibeh, & Al-Hussaini, 2003; Naser & Nuseibeh, 2003; Mirshekry & Saudagran, 2005) and in addition, the target groups are expected to use the annual report on a regular basis and hence to exercise a certain degree of knowledge and experience to complete the questionnaire.

The university students were final semester students from the Faculty of Business Studies majoring in investment analysis, and the Faculty of Accountancy of UiTM. They are

believed to be users of CAR because of the nature of their academic specialization. Throughout their study period in the university, they have active interaction with corporate annual reports because of various assignments/projects given, like financial statement analysis, financial disclosure and ratio analysis which require them to use and analyze contents of CAR. Furthermore, their potential future professions would be in the area of accounting, banking, investment analysis or other related areas which will make them become active users of CAR.

The academics group selected was those lecturers involved in teaching those courses that use CAR as part of teaching tools like, financial accounting, investment analysis, and finance. They are believed to use the CAR for two main reasons, i.e. teaching purposes, and research purposes as documented by Abu-Nassar and Rutherford (1996).

The data reported in this study were collected by a set of questionnaire distributed to the mentioned users groups in 2005. Since there was non-existence of an established set of questionnaire from literature to be adopted, the relevant questions were formulated and constructed for the purpose of the current study. Figure 1 shows the sources of developing the major groups of questions included in the questionnaire. The questionnaire has two sections. The first section was meant for the demographics information of the respondents whereas the second section required the respondents to rate a set of statements on a scale 1 to 5 from strongly disagrees to strongly agree. The closed format of questionnaire was adopted to ease the participants to answer the question in a short time period since it was a self-administered one.

	Questions	Sources
1	Rating of various parts of CAR	Self-developed
2	Reasons to refer to graphical information	Based on some of the advantages of graphs (Courtis, 1997)
3	Usefulness of GI in decision making process	Adapt from Naser & Nuseibeh (2003)
4	Rating of major KFV graphs	Based on nature of information graphics by CICA (1993) and prior examination of graphs by topic in CAR
5	Level of sufficiency of graphs disclosed in CAR	Self-developed
6	Good constructions of graphs	Based on the deficiencies and remedies in the preparation of graphs (Frownfelter-Lohrke & Fulkerson, 2001) and conventions for designing graphs (CICA, 1993)
7	Faithful presentation of graphs in CAR	Self-developed based on incentive, benefits, and impression management of GI (Beattie & Jones, 2000)

Figure 1: Sources of Major Group of Questions

An early draft of the questionnaire was piloted by a number of UiTM students and lecturers. Based on the feedback from these respondents, several modifications were made to the wording of some questions and some less important questions were deleted to reduce the length of the questionnaire.

A convenience sampling approach was adopted for the users of CAR. These users are from Perlis, Kedah and Selangor states of Malaysia. One hundred of twenty survey questionnaires were distributed by hand by the researcher herself or via friends who have contacts with the target users. Fifty completed questionnaires was the minimum target quantity to be collected which represented about 40 percent respond rate. This is considered sufficient as the survey is an exploratory one and according to rule of thumb proposed by Roscoe (1975) that suggested a sample size larger than 30 and less than 500 is appropriate for most researches.

No numbers or marks were used on the questionnaire distributed. This prevented identification of non-respondents. A reminder to prompt non-respondents could only be sent to the entire sample at the risk of infuriating those who had replied. It was decided not to perform follow-up procedures.

In the non-response bias test, early respondents were compared with late respondents as surrogate of those who have not responded to the questionnaire. After conducting the test to compare the responses to 43 Likert-scale questions in the six groups from the last 15 questionnaires received with the results of the first 15 questionnaires, no significant difference (ñ=0.05) was reported between the two groups. This indicates that those who failed to respond would not necessarily have had different perceptions from the subjects who did respond.

Survey Findings

Response Rate

The 120 questionnaires were distributed to selected users of corporate annual report in the period between January and March 2005 by convenience sampling. However, only 52 completed questionnaires were returned which represented a response rate of 43 percent.

Respondents' Background

Respondents who took part in the survey were asked to give information about their age, gender, levels of education, specialization, occupation and years of experience. There were more than seventy percent of the respondents aged 31 years and above. Respondents comprised equally of males and females. Nearly seventy percent of the respondents indicated that they held a bachelor degree or higher degree. In terms of academic specialization, 44.3 percent who took part in the survey have accounting and finance specialization, 21.2 percent in management, 5.8 percent in marketing and 28.8 percent in

others. Managers, university students, academics and others formed the majority users which constituted 80 percent. Others comprised remisiers, company's dealers, IT specialists, contract specialists and human resource executives.

Demographic characteristics	Frequency	Percentage
Age		
30 years or less	15	28.8
31 - 34 years	7	13.5
35 - 39 years	12	23.1
40 - 44 years	12	23.1
45 years or more	6	11.5
Gender		
Male	26	50
Female	26	50
Academic qualification attained		
Secondary school	2	3.8
College qualification	14	26.9
Bachelor's degree	19	36.5
Master's degree	13	25.0
Others	4	7.7
Academic specialization		
Accounting	11	21.2
Finance	12	23.1
Marketing	3	5.8
Management	11	21.2
Others	15	28.8
Occupation		
Academic	8	15.4
Share broker	5	9.6
Credit officer	3	5.8
Business owner	2	3.8
Manager	13	25
University student	13	25
Others	8	15.4
Years of experience		
3 years or less	13	25
4 - 5 years	4	7.7
6 - 9 years	9	17.3
10 years or more	26	50

Figure 2: Respondents Background

With reference to the graphical information in CAR, all of the respondents had referred to the graphical information (GI) in the corporate report. Those who referred to the graphical information 'always' and 'seldom' comprise 30.8 percent and 21.2 percent respectively. The detail statistics of frequency of reference to GI according to occupation are given in Figure 3.

Occupation	rarely	undetermined	never	seldom	always	Total
Academic	1	3	0	1	3	8
Broker	1	1	0	2	1	5
Credit officer	2	0	0	1	0	3
Business owner	0	0	0	0	2	2
Manager	1	3	0	5	4	13
University student	9	1	0	1	2	13
Others	2	1	0	1	4	8
Total	16	9	0	11	16	52

Figure 3: Frequency of Reference to GI in CAR

The ranking based on percentage, according to occupation that refer to GI most frequently (seldom to always) is as follows:- (i) Business owner 100%; (ii) Manager 69%; (iii) Others 62.5%; (iv) Broker 60%; (v) Academic 50%; (vi) Credit officer 33%; (vii) University student 23%

The credit officer and university student seemed to be the two groups of occupation that refer to the GI least frequently. The nature of these two occupations would be the possible reason that they do not always refer to GI. Students probably use CAR when they are doing their financial/finance/investment projects or assignments. Therefore, they need to gather and analyze a greater detail of information form CAR and not merely to look for trends and relationship. The major task of the credit officer is to assess and evaluate financial performance and the ability to settle debts of potential customers who apply for loans. Therefore, they need to look for detail financial information for analysis purpose and to make good judgment decision. The audited final accounts are their main sources.

The Rating of Various Parts of the Corporate Annual Reports (RQ1)

The respondents were asked to indicate the degree of importance that they attached to six different parts of the corporate annual reports using the 5 point Likert scale. It ranges 1 'not important at all' to 5 'very important'. The results of the analysis using mean scores regarding the importance of different parts of the corporate annual reports perceived by users are presented in the table below.

	Mean scores	Rank
Financial statements	4.65	1
Graphical information of statistical data	4.23	2
Auditor's report	4.05	3
Management forecast	4.00	4
Director's report	3.85	5
Profiles of BOD	3.65	6

Figure 4: Rating of Various Parts of CAR

The table shows that the financial statements were ranked as the most important part of the corporate annual report, followed by the graphical information of statistical data, auditor's report, and management forecast. The graphical information of statistical data and management forecast are important for users to make financial/investment decisions because they tell current financial performance, past company performance and relation of trend, and future direction. Whilst, the auditor's report is referred to for gaining assurance that financial reports comply with accounting standards and present a true and fair view of the company's operating results and state of affairs. The result of the financial statements ranked first is consistent with the finding of the shareholder survey conducted by Hines (1982) that reported the Profit and Loss account considered being the most important for the investment decision-making process. The second ranking received by GI has provided evidence of its perceived importance by the users of CAR.

The Reasons to Refer to the Graphical Information in CAR (RQ2)

The respondents were given five possible reasons for referring to the graphical information in CAR and asked their opinion on these reasons on a 5 point Likert scale. It ranges from 1 'strongly disagree' to 5 'strongly agree'.

	Mean scores	Rank
Portray company's performance over time simply and effectively	4.23	1
Summarize data & reduce information overload	4.21	2
Facilitate user's understanding	4.06	3
Capture & retain reader's attention	4.04	4
Reveal patterns and underlying trends	3.92	5

Figure 5: Reasons to Refer to GI

It was found that majority (more than 75 percent) of the respondents agreed and strongly agreed with all the five reasons given. Based on the mean scores (more than 4), the statements they agreed are, 'portray company's performance overtime simply and effectively', followed by 'summarize data and reduce information overload', 'facilitate user's understanding', and 'capture and retain reader's attention'. Meanwhile, the respondents ranked the statement of 'reveal patterns and underlying trends' fifth. All the above statements are the major advantages of graphs representation for quantitative data. Therefore, the findings of the survey indicate that GI make communication more effectively by providing information that users can understand it more easily and quickly.

The Usefulness of Graphics for Users (RQ3)

The respondents were asked to give their level of agreement on a Likert-type scale with five statements that may reflect the way graphics useful to them. The scale ranges from 1 'strongly disagree' to 5 'strongly agree'. The results of the analysis using mean score are given in the table below.

	Mean scores	Rank
To evaluate company's performance overtime	4.19	1
To make comparison between company's performance with others	4.17	2
To help users make informed investment decision	4.06	3
To predict expected income and earnings per share	3.90	4
To predict future dividends	3.71	5

Figure 6: Usefulness of Graphical Information to Users

The majority of respondents (more than 80 percent) either agreed or strongly agreed with the first three statements that scored more than four of mean scores as shown in Figure 6. The powerful presentation technique of graphs would be the reason for these responses. Readers are able to see the movement and/or trends inherent in the data more easily than other presentations with which financial information is conveyed. Indeed, graphs relied on spatial, rather than linguistic and intelligence (Beattie & Jones, 2000). Thus, GI in CAR could assist users in seeing relationship in the data presented, making comparison and helping them to make informed economic decision.

Users' Rating on The Importance of Selected Variable Graphs in Car (RQ4)

A list of expected variable graphs that might appear in the corporate annual report was given to participants to indicate the degree of importance that they attached to each of those items. The results of the survey using mean scores and standard deviation are summarized in Figure 7.

No		Mean scores	SD	Rank
1	Turnover/Sales/Revenue graph	4.33	0.674	1
2	Earnings graph	4.31	0.769	2
3	EPS graph	4.27	0.727	3
4	Dividend graph	4.00	0.739	6
5	DPS graph	3.98	0.889	9
6	Total assets graph	4.00	0.798	7
7	NTA graph	3.88	0.815	10
8	Shareholders fund graph	3.83	0.842	11
9	Shareholders reserve graph	3.75	0.869	13
10	Capital employed graph	3.77	0.826	12
11	Share price performance graph	4.25	0.824	4
12	Forecast graph	4.00	0.959	8
13	Cash flow graph	4.13	0.878	5
14	Other financial graph	3.31	0.837	15
15	Total employee graph	3.71	0.939	14
16	Other non-financial graph	3.04	0.929	16

Figure 7: Rating of KFV Graphs

It was found that the respondents from various groups within the sample attached a certain degree of importance to all listed variable graphs. The most five important key financial variable (KFV) graphs selected by the respondents are turnover/sales/revenue graph, earnings graph, EPS graph, share price graph and cash flow graph as reflected by mean scores and the low standard deviations. The other next five KFV graphs that are considered important by respondents are dividend graph, total assets graph, forecast graph, dividend per share (DPS), and NTA graph. The three least important rating of variable graphs are total employee graph, other financial graph, and other non-financial graph. This low rating given to non-financial graphs was expected (e.g. total employees, plantation areas, total shareholders) since they gave little indication of future plans and company performance.

When the respondents were asked on the number of years for time-series graph desired for effective decision-making, the results indicated that majority (69.2 percent) required time-series graph of within 5 years and more, while the remaining (30.8 percent) required a shorter time period of 2 years to 4 years. The possible reason for the preference of the 5 years or more time-series graphs might be due to the reason that they able to highlight trends and facilitate viewers better in identifying numerical relationship.

The Level of Sufficiency of Graphs in CAR (RQ5)

The participants were asked to indicate the extent of their agreements with the level of sufficiency of graphs disclosed in the corporate annual reports. The results revealed that 9.6 percent of the respondents agreed that 'graphs disclosed are very sufficient', 51.9 percent 'sufficient', 19.2 percent 'moderately sufficient', 17.3 percent 'undecided', and only 1.9 percent indicated, 'not sufficient'. One probable reason for the difference in opinion on this issue could be due to the users' own set of information needs. As such, there is room for the companies to improve in terms of number of graphs to be disclosed in the CAR by identifying which groups of users that their CAR are mainly catered for.

Views on Criteria of Good Construction of Graphics (RQ6)

Respondents were given the ten statements regarding criteria of good construction of graphics and asked to indicate their agreement of each statement using a 5 point Likert scale.

Their responses indicated that they were not fully aware of the criteria of good construction of graphs that should be exhibited in any graph shown in the CAR. The four statements that scored mean of four and above, and as well as low of standard deviation are: (i) bars must be uniformed with width and space, (ii) numerical labels are necessary to avoid any misjudgment, (iii) inadequate labels lead to ambiguity, and (iv) negative numbers should be in opposite direction of positive numbers. The least six statements that respondents did not quite agree (based on mean score and standard deviation) with are: (i) time series reverse order causes difficulty to perceive the trend, (ii) absence of gridlines causes judgment difficulty, (iii) highly patterned background distracts readers from information, (iv) broken scale causes misinterpretation changes in data, (v) brightly colored background

No		Mean	SD	Rank
1	Highly patterned background distracts readers from information	3.75	0.882	6
2	Brightly colored background distracts readers from information	3.48	1.00	9
3	Broken scale causes misinterpretation changes in data	3.63	0.916	8
4	Absence of gridlines causes judgment difficultly	3.75	0.988	7
5	Bars must be uniformed with width and space	4.10	0.869	1
6	Three dimensional display are not appropriate and may distort view	3.35	0.988	10
7	Inadequate labels lead to ambiguity	4.04	0.791	3
8	Time series reverse order causes difficulty to perceive the trend	3.85	0.777	5
9	Numerical labels are necessary to avoid any misjudgment	4.06	0.698	2
10	Negative numbers should be in opposite direction of positive number	4.00	0.767	4

Figure 8: Criteria of Good Construction of Graphs

distracts readers from information, and (vi) three dimensional display are not appropriate and they distort view. With these responses, users may be manipulated by the use of improperly constructed graphs disclosed in the CAR' that is, through measurement distortion[1] and presentational enhancement[2].

Quality/Faithfulness Representation of Graphs in CAR (RQ7)

Respondents involved in this study were given five statements regarding the quality/ faithfulness representation of graphs in CAR and were requested to indicate their level of agreement with each of them. The results of their response by using mean score are reported in the table below.

No		Mean scores	Rank
1	Graphs in CAR likely portray favorable picture of the data	3.67	2
2	Graphs in CAR properly constructed, highlight important trends and relationship.	3.9	1
3	Graphs in CAR often designed to persuade or convince viewers.	3.63	3
4	Graphs in CAR not audited, and management largely controls them.	3.23	5
5	Graphs in CAR present precise, accurate numeric, and without distortion.	3.52	4

Figure 9: Faithful Representations of Graphs in CAR

All the statements scored mean within the range of 3.23 to 3.90. The obvious observation from Figure 9 is that, the respondents least agreeable with the statement, 'graphs in CAR not audited', and 'management largely controls them'. 42.3 percent and 13.5 percent of

respondents indicated 'agree' and 'strongly agree' that graphs present precise, accurate numeric, and without distortion. The findings indicated that the respondents were not fully aware of the incentive of corporate reports to manipulate the contents or at least to manage the impression through graphs.

The statements that the respondents felt agreeable are with the first three statements shown in the table above. Therefore, it can be concluded that the respondents believed graphs highlight important trends and relationship, portray favorable picture of data, and often designed to convince viewers. They were not very sure of whether management manipulates the graph presentation and present them without distortion.

Summary and Conclusion

Users of CARs in Malaysia do refer to graphical information within the company's annual report because of the major benefits/advantages offered by graphs representation of quantitative data. When they were asked to indicate the importance of various parts in CAR, they ranked graphical information of statistical data as second after financial statements. This suggests that companies should voluntarily disclose graphical information in their annual reports due to the frequent reference and perceived usefulness of GI as indicated by the respondents of the current survey. Inclusion of properly constructed graphs in the CAR would be able to improve the communication effectiveness and hence ensuring quality financial reporting.

Regarding the KFV graphs, the users from the sample indicated that the five most important variable graphs they perceived are sales/revenues, earnings, EPS, share price, and cash flow graphs. Others are dividend graph, total assets, forecast variables, DPS, and NTA. For the time-series graphs, users prefer 5 years or more time-series graph. Therefore, companies may consider disclosing all of these five most preferred variables of 5 years time-series graphs in their CAR. The users of CAR would benefit from a standardization of practices which allow users to compare the financial performance of companies with greater ease.

The responses by the surveyed participants indicated that majority of the users in the sample considered that the graphs disclosed in the CAR sufficient. However, different users groups will have different set of information needs. Therefore, a more thorough survey needs to be conducted to find out the sufficiency and adequacy of the graph disclosed according to each major users group of CAR.

Regarding the ten criteria of good constructions of graphs, only four of them scored mean more than four. The reminding statements scored below four. These responses indicated that users of the sample were not fully aware of all the ten major criteria to good graphical construction and design that will lead to portraying faithful graphs. Hence, results also indicated that they were not very sure with the faithfulness representation of the graphs disclosed in the CAR. The users' ignorance may enhance opportunity for companies to manipulate financial signals sent to users. Graphical information may be designed and

disclosed specially to enhance users' perception and display bias. Educating the users through media (e.g. article on graphs in popular business magazine) would be suggested to make them aware of possible manipulation of graphs representation and guide them to assess the faithfulness of the graphs that communicate financial information before relying on them to make any economic decision.

The current study was subject to its limitations. The results are those of a relatively small sample and thus they may not be generalized to the larger population of users. Further, the study does not include all groups of CAR users and limited to the selected few groups. Future research may include other multiple users of CAR (e.g. shareholders, investors, creditors, consumers, government, employees, and public) as response groups in larger sample size. Despite the limitations, the current study that is exploratory, documents the perceptions of selected users regarding several aspects of the graphical information in CAR, which is believed to be useful in future analyses. In addition, more precise knowledge and understanding of the use of graphical information in CAR is needed (e.g. the preparers' perceptions regarding the graphical information in CAR, the current practices on the disclosure of graphical information, and the quality level of graphical information disclosed in CAR) before any concrete policy recommendations concerning graphical presentation of information in CAR can be made.

Notes

1. Measurement distortion occurs where the physical representation of the numbers on the graph is not directly proportionate to the underlying numbers (Beattie & Jones, 2001), e.g. a non-zero and broken scale axis.
2. Presentational enhancement arises where the design of the graph in some way enhances or degrades certain aspects of the information set, for example because of the use of three dimensional forms or because the final year's results are highlighted in a brighter color (Beattie & Jones, 2001).

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