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Research paper

The Effectiveness between Emoticons and Traditional Figures on Presenting Accounting Information

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Abstract

Accounting is business language. A language has two components that are symbol and grammatical rule. Accounting information usually presented as the set of procedures for creating financial reports. Based on framework for the preparation and presentation of financial statements, information provided in financial statements are useful to users if it has qualitative characteristics. One of the characteristics is understandability. For this purpose, users are assumed to have a reasonable knowledge of business and economic activities and accounting and a willingness to study the information with reasonable diligence. Accounting information usually presents as numbers and conventional graph. Previous studies suggest that schematic faces is used as alternative communication for accounting information. Existing application of schematic faces is found by Chernoff. In the modern age, people is get used to know emoticon as symbol for communicate easily, so this paper employs emoticon not the Chernoff faces. This research is aimed to know the impacts on the effectiveness between emoticon and traditional figure on presenting accounting information. The analysis of company net income, current ratio, liquidity ratio, return on asset and earning per share are presented in traditional figures and emoticons. Respondent has to find out which company is better performance compare to the other. Method of analysis are descriptive statistic and differential t-test. Respondents are accounting and management students which are taken by purposive random sampling. The result show that respondents have better average score on choosing the better company using emoticon (88.18) compares to traditional figure (82.72). The effectiveness of financial information is also significantly evidenced in emoticons compare to traditional figure.

Keywords: *Accounting information, schematic faces, emoticons, decision making, financial statement.*

1. Introduction

This Accounting is business language. A language has two components that are symbol and grammatical rule. Accounting information usually presented as the set of procedures for creating financial reports. Based on framework for the preparation and presentation of financial statements, information provided in financial statements are useful to users if it has qualitative characteristics. One of the characteristics is understandability. For this purpose, users are assumed to have a reasonable knowledge of business and economic activities and accounting and a willingness to study the information with reasonable diligence.

Accounting information usually presents as numbers and conventional graph. Complex tabular presentations is hard to be an integration of the key features performance and a segmented multicolumn format may leave disaggregation aspects of performance rather than an overall valuation (1). Traditional graph and chart are easily to understand for only two or three dimensions and quickly become over-complicated when multivariate information is employed.

An alternative means of presentation might provide better and more efficient representation, thus complementing existing methods. The pie-chart, bar chart and trend graph have become familiar and acceptable in the financial report as alternatives to the narrative and numerical form. The used of diagrams, charts, graphs and similar illustrative descriptive can help articulate the role of both financial and non-financial data in accounting system design (2). The look will not matter toward information, but information is only useful if can be used toward decision making. Based on the premise, this research addresses the relative usefulness of emoticon and financial ratios as information formats for business decision making.

2. Literature Review

People try to valuate company using common measures such as ratios. Based on the ratios, people could valuate the company or make decision as needed.

2.1.Ratios

Financial ratio is information that describing relation between accounts. This information is giving picture of the situation that company is facing. Financial ratios analysis is exploring the financial ratios. Financial ratios are divided into two types:

a. Univariate Ratio Analysis
   The analysis is only employing one variant to describe the situation. Return on Asset is dividing Return toward Asset. The ratio has been used extensively to picture the financial performance of company.

b. Multivariate Ratio Analysis
The analysis is using more than one variants to describe the situation.
Based on scope and goal to achieve, the financial ratios are divided into five types (3):

a. Liquidity Ratios
Liquidity ratio is the ability of company to pay the debt in present time. Current ratio and net working capital are the examples. Current ratio is current asset divided with current liability. Net working capital is shown the ability of company to run the business.

b. Profitability Ratios
The ratios are shown the ability of company to generate return. The examples are gross profit margin, net profit margin, operating return on assets, return on assets, return on equity, and operating ratio.

c. Solvency Ratios
Solvency ratio is the ability of company to pay the debt in long term. Sometimes, this ratio is called as leverage ratio because company incurs the debt to generate revenue. Leverage ratios are debt ratio, debt to equity ratio, long-term debt to equity ratio, long term debt to capitalization ratio, times interest earned, cash flow interest coverage, cash flow to net income, and cash return on sales.

d. Activity Ratios
This ratio is describing the company's ability to manage the asset efficiently. The examples are total asset turnover, fixed asset turnover, accounts receivable turnover, inventory turnover, average collection period and day's sales in inventory.

e. Market Ratios
The ratio is describing the value of company in term of return on market based on the stocks. The examples are dividend yields, dividend per share, and prive to book value.

2.2.Previous Research

Data become complex and difficult to present graphically. Scholars started to find way to represent multivariate data easily. The research started to flourish when (4) encoded data in facial mapping to help viewers in detecting patterns, groupings, and correlations. It is called Chernoff's faces. It is used to graphically display complex multivariate data (4).

In business, decision making is using complicated sets of multivariate data. Graphic display is one of tools to overcome it. Chernoff's faces have been explored to support the decision making in the different situations. Existing studies in financial environment suggest that they may be superior compare to traditional methods in the communication and decision making qualities.

There were research using Altman model for predicting bankruptcy (5). To measure the efficiently and effectiveness of predicting, employment of schematic faces compare to ratios and financial reports are used. The scholars found out that schematic faces are processed more quickly (efficient) than traditional methods (1,6–8).

Scholars foundings on effectiveness are divided into two results. One group agrees that schematic faces are most effective with no loss of accuracy compare to traditional methods (1,8). In the other group, they found out that there is inconsistencies among respondents on error type 2. This error is more concerned because it is failure to stated unhealty company as healthy company while using Chernoff's schematic faces (6). The different result is found out that financial ratios are the best to put misclassification error type I and II compare to Doraemon schematic faces (7). All the findings could be seen on table 1.

Table 1: Summary of Findings

Authors	Research Findings
Smith, Taffler, & White (2002) (1)	100 MBA Finance Students are required to make failed/non-failed decisions on a group of companies when presented with financial information in the form of simplified accounting statements, financial ratios and schematic cartoon faces. Evidence is provided that schematic faces are processed more quickly than either of the more traditional methods, with no loss of accuracy.
Febrianto & Rafdinal (2006) (6)	The respondents (bachelor students, graduate students, academicians, and practices) are most efficient and effective when they classify accounting information using Chernoff's schematic faces than any forms of conventional accounting information. They are inconsistencies among respondents for error type 2 (unhealthy company stated as healthy company).
Kartadjumena, Jayanti, & Hadi, (2011) (8)	Financial report readers in average have a shorter time (efficient) and a smaller deviation (effective) in interpreting accounting information about company's profitability, liquidity, and leverage sent using schematic faces format presentation instead of conventional ones such as financial ratios and financial data.
Oktafiyani (2013) (7)	Using Doraemon face as schematic face to test efficiency and effectiveness to present financial information. The doraemon way is the most efficient on time processing compare to ratios and conventional financial statement. The most effective decision on liquidity, leverage and profitability is ratios. The effectiveness of financial ratios is also significantly evidenced in misclassification (type I and II) compare to others.

Based on the previous researches there are some issues for more considerations:

1. The differences in the number of misclassification errors resulting from the schematic faces compare to ratios and financial statements.
2. The differences in the effectiveness for decision making resulting from the schematic faces compare to ratios and financial statements.
3. The differences of using schematic model between Chernoff's faces to Doraemon to describe multivariate data.

The exploration of schematic faces are varies. This research is using emoticon because more popular compares to Chernoff's faces with the hypothesis:

Ha1: Financial information presented using Emoticon has lower errors compare to ratios when declaring better company.

3. Methodology

It is quantitative method using questionnaires. Purposive sampling method is applied. Respondents are business school students from accountancy and management that have taken accounting principle and finance. Both classes are normally taken in second and third semester. It is distributed after class and voluntarily responded. The students have business knowledge about measuring company performance. They are 110 respondents from 133 questionnaires distributed with the return rate is 82.70%.

Respondents are giving questions about respondents profile in term of age, education, and study program. There are 77 from accountancy and 33 from management students. The average study time is 2.88 years. They have basic knowledge of financial performance and ratios. The average age is 20.72 years.

They are five questions in term of net profit, current ratio, solvability ratio, return on asset, and earing per share. Respondent is giving one set of ratio and another set of emoticon. They will give another set after finishing one set.

Respondents are 110 that can be assumed to be normal because more than 30. T-test pair sample is used to analyze the result with descriptive statistics between conventional and emoticon.

4. Result and Findings

The average correct answers using conventional are 82.73 and schematic are 88.18. The schematic value is higher than conventional presentation. Respondents have less errors using schematic compare to conventional (see table 2).

Table 2: Paired Samples Statistics

		Mean	N	Sandard Deviation	Std. Error Mean
Pair 1	Conventional	82.7273	110	19.43746	1.85329
	Schematic	88.1818	110	18.43321	1.75754

Based on the result of T-Test pair sample, the significant value is 0.000 less than $\alpha = 5\%$. It can be concluded that Ho is rejected. Ha is accepted that financial information presented using Emoticon has lower errors compare to ratios when declaring better company (see table 3).

Table 3: Pair Samples Correlations

Pair 1	N	Correlation	Significance
Conventional & Schematic	110	0.408	0.000

When we look at the t counting is 2.775 is bigger than t value 1.645 on $\alpha = 5\%$ and degree of freedom is 109. It can be concluded that Ho is rejected. Ha is accepted that financial information presented using Emoticon has lower errors compare to ratios when declaring better company (see table 4).

Table 4: Pair Samples Test

Pair 1	Mean	Std. Deviation	Std. Error Means	t	Sig
Conventional & Schematic	-5.454	20.616	1.966	-2.775	0.006

Both significant and t test shown that Ho is rejected and Ha is accepted. Financial information using Emoticon has lower errors compare to ratios when declaring better company. The emoticon faces is more effective to take decision making in term of better company to choose.

The result finding is aligned with (1,8). The emoticon is more simple and popular compare to Chernoff's faces and Doraemon. The emoticon is the ultimate conclusion for happy and sad, so that reader is easier to get conclusion on the better company. The weakness of previous research was the unfamiliar faces with the eyes, nose, mouth and eyebrows that represent of liquidity, profitability and leverage.

It is different finding with (7) that stated the most effective decision on liquidity, leverage, and profitability is ratios (7). There is no inconsistencies among respondents as on (6).

For the next research, the emoticon face should be explore more because they are so many emoticon faces avaiable. The decision making of better company should be expand to fail and non fail company and further on sensivity analysis and others.

5. Conclusions

Based on the finding, there is significantly different between emoticon and ratios presented on decision making. The emoticon is more effective compare to ratios presented. The result finding is aligned with previous research by (1, 8). The emoticon should be explore more on complex decision making that using multivariate information.

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