The Effect of an Analysis of Expenses by Nature or by Function on Investors' judgments[1]

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ABSTRACT

The study aims to investigate the effect of an analysis of expenses by nature and by function on judgments of investors in firm valuation. The results demonstrate that the presentation of expenses by nature can enhance judgmental capability of investor in the assessment of firm financial performance in both breadth and depth. The results also indicate that the location of the presentation of an expense analysis by nature affects the investors' judgment on overall firm performance evaluation and forecast.

Keywords: By Nature, By Function, In-complete Revelation

[1] This paper is based on my thesis at Thammasat University. I would like to thank Orapan Yolrabil (my advisor), Somchai Supattarakul, and Monvika Phadoongsitthi (my thesis committee members) for their advice, support, and encouragement. I appreciate time and effort of MBA and MAP students who participated in this study.

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บทความวิจัย

ผลกระทบของการวิเคราะห์ค่าใช้จ่ายตามลักษณะหรือตามหน้าที่ ต่อดุลยพินิจของนักลงทุน

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บทคัดย่อ

วัตถุประสงค์ของการศึกษานี้เพื่อศึกษาผลกระทบของการวิเคราะห์ค่าใช้จ่ายตามลักษณะและตามหน้าที่ต่อการใช้วิจารณญาณในการประเมินค่าองค์กรโดยนักลงทุน ผลการศึกษาแสดงให้เห็นว่าค่าใช้จ่ายที่นำเสนอตามลักษณะสามารถเพิ่มความสามารถให้นักลงทุนในการใช้วิจารณญาณในการประเมินผลทางการเงินขององค์กรทั้งในเชิงกว้างและเชิงลึก นอกจากนี้ ผลการศึกษาแสดงถึงตำแหน่งของการนำเสนอการวิเคราะห์ค่าใช้จ่ายตามลักษณะส่งผลต่อการใช้วิจารณญาณของนักลงทุนในประเมินและพยากรณ์ผลการดำเนินงานขององค์กรโดยรวม

คำสำคัญ: การแสดงค่าใช้จ่ายตามลักษณะ ตามหน้าที่ การเปิดเผยข้อมูลไม่สมบูรณ์

1. Introduction

There are several issues related to presentation of information in the financial statements. One of the key issues is aggregation and disaggregation of information. This debate has arisen from the requirement of International Accounting Standard No. 1 (IAS1) that whether a firm should present its expenses classified by nature or by function which can provide more reliable and relevant information (IFRS foundation, n.d.). IAS 1 suggests that the level of detail of accounting information presentation is of management's concern. Management should not select by function or by nature if that disaggregation is not relevant for organization structure, industry type, and their managing results. The appropriate level of disaggregation is the vital to the quality of information presentation.

The prior studies revealed that forecasts based on disaggregated information are more credible than those from aggregated information and that disaggregated information influence the analysts' judgments on price-earning assessment and enhance the financial reporting quality (Hirst, Koonce & Venkataraman, 2007; Schmelzle, Buttross, & Papiernik, 2004). The results are consistent with the Incomplete Revelation Hypothesis (IRH) proposed by Bloomfield (2002). IRH suggests that financial statement information presentation influences the cost to extract financial information in financial statement analysis. Another powerful explanatory theory is Human Information Processing literature (HIP) which explains how decision maker is influenced by amount and complexity of financial information. HIP argues that the differences in presentation format results in different judgments even if they are the same piece of information (Lindsay & Norman, 1977).

There is scarce evidence of the effect of different expenses analysis patterns on investors' firm performance valuation. This study then addresses a research question that does the presentation of expenses analysis by nature improve the investors' operation performance evaluation judgment when compared to by function analysis?

The main purpose of this study is to examine the effect of the expenses analysis on investors' operating performance evaluation judgments. This study extends a study of Yolrabil (2009) by focusing on by nature and by function information presentation. Yolrabil (2009) addresses and reaches on only the classification and disaggregation issues but there is no statistical evidence on disaggregation hypothesis. Hence, my investigation modified her study into two ways. First, I use the traditional classification scheme according to TAS 1- revised 2007 to prevent the effect of unfamiliarity with proposed classification scheme in Preliminary View on Financial Statement Presentation (2008). Second, I investigate the appropriate placement or location of expenses analysis by nature.

A 4 × 1 between-subject design with an expense analysis as an independent variable is employed to test the hypothesis. Results reveal that the presentation of expenses analysis by nature is likely to enhance capability of investors in operating performance evaluation analysis, which is consistent with the IRH. The results also

demonstrate that the placement, labeling, linkage to net income, isolation, and aggregation level facilitate human cognitive process and decrease the level of cognitive costs incurred which is in line with HIP. In addition, the study shows that appropriate amount of presented information is critical to the efficiency and effectiveness in information utilization. The results suggest that by nature information enhances the ability of investors in performance evaluation.

2. Theoretical Background and Hypothesis Development

Financial Information Reporting and Financial Statement Presentation

Preliminary View on Financial Statement Presentation (FSP), issued by the Boards in 2008, solicits comments from various parties on the proposed accounting standards on FSP. One of the issues being proposed is the expense analysis by function and by nature[2]. It stated that an entity should disaggregate expenses by function and further disaggregate the items by nature in the statement of comprehensive income. This is because the boards believed that this will enhance users' capability in predicting timing, nature and frequency of future cash flow items. However, if an entity concerns about putting too much information on the face of the financial statement, it has an option to disclose the by-nature information in the notes to financial statements rather than on the face of the financial statements.

In the comment letters on the Preliminary View on Financial Statement Presentation[3] (IFRS foundation, 2008), many respondents showed concerns on the disaggregation issue on the statement of comprehensive income. There are four recommendations from respondents. The first group suggested that in order to avoid the information overload problem, the expenses should be presented only by-function on the statement of comprehensive income and disclose the by-nature information in the notes to financial statements. The second group stated that expense items should be reported either by nature or by function, but not both, on the face of the statement of comprehensive income and disclose the other one in the notes to financial statements.

[2] According to the Preliminary View 2008 stated that "function is method which is the classification of expenses according to their function as part of cost of sales or administrative activities and nature refers to the economic characteristics that distinguish expenses items that do not respond equally to similar economic events without allocation into individual division of entity"

[3] Question 16 of Preliminary View on Financial Statement Presentation (IASB, 2008) solicited the comments on the issue of expenses analysis by function and by nature. It stated that "Entity should further disaggregate within each section and category in the statement of comprehensive income its revenues, expenses, gains, and losses by their function, by their nature or both if doing so will enhance the usefulness of the information in predicting the entity's future cash flow, would this level of disaggregation provide information that is decision useful to users in their capacity as capital provider? Why or Why not"

The third advice is to present only either by-function or by-nature information on the face of the statement of comprehensive income, but not both. Despite the format is of the concerns of the entity, the Boards insist that the by-nature information will enhance the ability to of the investors to predict the uncertainty and timing of the future cash flows.

Financial Information Reporting and Investors' Judgments

The Incomplete Revelation Hypothesis (IRH) by Bloomfiled (2002) stated that "Statistics that are more costly to extract from public data are less completely revealed by market prices". This hypothesis suggested that the stock prices are not completely revealed from public data as in the efficient market hypothesis. In other words, it is implied that the financial presentation format and/or accounting standard choice can affect to investors' judgments. This is due to different costs of information extraction, both cash cost and cognitive cost, associated with various presentation formats and various accounting choices.

As mentioned previously, the empirical evidence from numerous studies showed the findings which is consistent with IRH. The result of prior studies also indicated that the reliability of information disclosed in the notes is to some extent lower than information presented on the face of the financial statements (see Libby, Nelson & Hunton, 2006; Belzie, Fortin, & Viger, 2006, and Nelson & Taylor, 2007).

As Hopkins (1995) and Maines, and McDaniel (2000), it is reported that the financial presentation format impacts on investors' judgment and decision making. These studies also claimed that the placement of element of comprehensive income and its components on the statement of comprehensive income versus the statement of stockholders' equity can facilitate the detection of earning management. Likewise, Hopkins (1996) indicates that the differences in item classification affect investors' judgments when they appraise the financial performance of the firm, even when they are presented on the same financial statement. This is perhaps because five factors influencing investors' reliance on information when they assess corporate performance; namely, placement, labeling, linkage to net income, isolation, and level of aggregation (Maines & McDaniel, 2000).

Financial Information Reporting and Human Information Processing

According to literature review relating to human information processing, people can be categorized into 2 groups. The first group is the people who have individuals' capacity to utilize the information with diversified dimensions; i.e. they are said to have abstract conceptual information processing. In contrast, the second group has the limited capability of information processing, especially when the information is presented in complicated form; i.e. they have concrete conceptual information processing.

The amount of information input is the vital determination of complexity level and the quality

of judgments (Driver & Strefert, 1969; Lindsay & Norman, 1977). Similarly, Miller (1972), contended that the amount of information input can be the important factor of information input complexity structure. To maximize output of information processing and increase judgment's quality, the appropriate degree of information input complexity is needed. Schroder, Driver and Strefert (1967), claimed that more information presented in a constant environment will increase the usefulness of integration until it reaches the optimum level.

Financial Information Reporting and Investors' Prior Knowledge

The previous research demonstrates that the differences in the level of prior knowledge influence the investors' judgments on firm's performance evaluation. Based on level of prior knowledge and expertise, the investors can be categorized into (1) professional investors who have higher level of knowledge and (2) nonprofessional investors who have lower level of knowledge (see Hodge & Pronk, 2006; Elliott, Hodge, Kennedy, & Pronk, 2007; Maines and McDaniel, 2000; Bloomfield et al., 1999; Belzile et al., 2006; Hirst and Hopkins, 1998 and Pinsker, 2007 for example).

According to Hunton and McEwen (1997), and Hodge and Pronk (2006), the nonprofessional investors with lower level of business-related knowledge usually engage in sequential search strategy when they assess financial information. That is, these investors do not have a well-defined valuation framework and search in a step-by-step fashion. On the other hand, professional investors usually engage in directional search strategy. Hence, this group of investors has a well-defined valuation framework and search for specific items that are relevant for their predefined framework.

In summary, prior literatures on investors' knowledge suggest that non- professional investors are prone to have a disadvantage in information processing, especially when the presentation format is complicated. Thus, the level of prior knowledge of investors is measured and used as the control variable in my study.

Hypotheses

Based on the theoretical background on IRH and HIP and prior literatures on investors' prior knowledge stated above, I form the following hypotheses:

H1a: By nature information that is presented on the face of statement of income enhances capability of the investors' judgment on firm's performance evaluation as compared to the case when by function information is presented on the face of statement of income.

H1b: By function information that is presented on the face of statement of income with by nature information disclosed in the notes enhances capability of the investors' judgment on firm's performance evaluation as compared to the case when only by function information is presented on the face of statement of income without by nature information disclosed in the notes.

H1c: By function and by nature information that is presented on the face of the statement of income enhances capability of investors' judgment

on firm's performance evaluation as compared to the case when by function information is presented on the face of the statement of income with by nature information disclosed in the notes.

H1d: By function and by nature information presented on the face of the statement of income enhances capability of investors' judgment on firm's performance evaluation as compared to the case when by nature information is presented on the face of the statement of income with no by function information disclosed in the notes.

Next, section 3 outlines the research design, independent variable and the case materials used in this study.

3. Research design

To test the aforementioned hypotheses, I designed and conducted a 4 × 1 between-subject experiment with an expense analysis as an independent variable. All experimental conditions in this study are controlled for amount of profit or loss for the period on the statement of income.

Variable Defined

Independent Variable

The variable of interest is an expense analysis, which is manipulated in four levels as follows:

CELL 1: F_ONLY

First, the expenses are analyzed and disaggregated only by function on the face of statement of income without by nature information presented or disclosed (F_ONLY). The participants should be familiar with this format of presentation; however, they might not be able to extract the information as to what causes the change in operating performance due to lack of by nature information.

CELL 2: F&N_NOTES

Second, the expense analysis is disaggregated by function on the face of statement of income with by nature information disclosed in the notes (F&N_NOTES). The participants should be familiar with this presentation format as well. Moreover, the participants should be able to spot the changes in financial performance from the by nature information that is disclosed in the notes.

CELL 3: F&N_FACE

Third, the expense analysis is disaggregated by function and by nature on the face of statement of income (F&N_FACE). That is, by function information is presented as totals and, within each total, the expense is further broken down into subtotals based on the nature of the items. The boards believe that this format will enhance the relevancy and linkage of financial performance information. Therefore, the participants who received this format should be able to spot the true causes of changes in operating performance.

CELL 4: N_ONLY

Finally, the expense analysis is disaggregated only by nature on the face of statement of income without by function information disclosed in the notes (N_ONLY). By nature information is presumably useful in predicting future cash flows.

Measured Variable

The prior knowledge of the participants is measured and used as a controlled variable to ensure that the participants are randomly assigned to each of the experimental conditions. I measure participants' knowledge with two tests- self-rated test and knowledge test. Firstly, the participants are asked to self-rate their accounting, finance and general investment as well as understanding financial statements. Secondly, to prevent the optimism or pessimism in self-rated test, the knowledge test on accounting, finance and investment is solicited.

Dependent Variable

Dependent variable in this study is investors' judgments on operating performance evaluation. The case material is manipulated by reduction in operating performance. If the financial information reports is useful, the investors should be able to spot the decline and causes of the reduction in the financial operating results. The participants who receive by nature information should be able to better pinpoint the problems with operating performance and have more confidence in their judgments compared to those who received only by function information. This is due to the fact that the by nature information clearly revealed the causes of decline in the operating performance. The details of the case material are elaborated in the following section. The expected signs in hypothesis testing are tabulated in Table 1 below:

Case Material

To test the hypothesis, I modified the case materials from Yolrabil (2009 by adding some major expenses in order to make the operating performance decreased in an amount of Bath 726,000. The by nature information will demonstrate the causes of decline. Thus, the participants who received the expenses by nature form would be able to identify the true cause of the changes; that is, the increases in employee benefit.

Table 1 The Expected Results of the Hypothesis Testing

Hypotheses: H1a: (Cell4 > Cell1) H1b: (Cell2 > Cell1) H1c: (Cell3 > Cell2) H1d: (Cell3 > Cell4)

Dependent variable	Expected Results
Overall performance evaluation	–
Operating performance evaluation	–
Analysis the causes of changes in operating performance	+
Confidence in performing analysis to identify the causes of changes in operating performance	+
Future earnings per share prediction	–
Confidence in predicting future earnings per share	+
Persistence of future earnings	+

Research Participants

The totals of 160 participants were randomly assigned into four experimental conditions. Out of 160 participants, 86 participants are the students of Masters of Business Administration (MBA) of leading public university in Thailand, and 74 participants are the students of Masters of Accounting Program (MAP) from the same university. Those students are surrogates of nonprofessional investors as suggested by Libby, Blommfield, and Nelson (2002), and also Elliott et al., (2007).

4. Findings

Pre-experimental Results

Self-rated test

The participants were asked to rate their knowledge on various aspects such as their interests in business news, understanding about financial statements, risk behavior as well as their investment expertise. The 11 point rating scale (0[low] – 10[high] were carried out to self-rated variable. As for the result, The unstandardized ANOVA indicates that there is no differences in the level of self-rated of participants across the experiment conditions, except the aspect related to investment expertise (p-value = 0.0280).

Knowledge Test

The participants are asked to answer 12 true/false questions which related to accounting (5 questions) and investment and finance (7 questions) knowledge. The ANOVA results indicate that the knowledge test scores of participants in all conditions are in the comparable level (p-value = 0.5151, for accounting scores) (p-value = 0.3542, for investment and financial scores).

Even though the self-rated knowledge across experimental conditions is statistically different from each other, the ANOVA analysis shows that the knowledge test scores is not statistically different. It is possible that some of participants are overly optimistic or pessimistic about their knowledge; however, their real knowledge level is not statistically different from each other. This suggests that the random assignment is successful.

Analysis of Experiment Questionnaire

Performance Evaluation

The participants were solicited to evaluate overall performance and operating performance, identify the causes of decreasing in performance, rate the confidence level in identifying the causes and predict the future performance as well as the confidence level in predicting the future performance. The scale that used in this experiment is 11 point scale (0–10).

Panel A of Table 2 indicates that the participants' rating of overall performance in each of the experimental conditions are not statistically different from each other (p-value = 0.2219). Likewise, the operating performance rating is not significantly different from each other (p-value = 0.8803). This suggests that the participants are not susceptible to be overly optimistic or pessimistic in evaluating firm performance.

Panel B of Table 2 shows that the participants' ability in identification the causes of decreasing firm performance and the associated confidence level are statistically different among various conditions (p-value ≤ 0.0000 for ability in identification the causes and p-value = 0.0002 for the participants' confident).

Panel C of Table 2 suggests that the participants' predictions of future firm's performance and the associated confidence level are not significantly different across the experimental conditions (p-value = 0.0828 for the participants' predicting, p-value = 0.2367 for the participants' confidence, and p-value = 0.7628 for the participants' rating on earnings sustainability).

The result of planed comparison t-test analysis of H1a is shown in the panel D of table 2. It is indicated that H1a; Cell 4 > Cell 1) is supported. Specifically, the participants who received by nature information are better able to correctly identify the causes of the decline in firm's performance as compared to those who received by function information only (p-value ≤ 0.0000). Also, those in Cell 4 have higher level of confidence as to the correctness of the causes identification (p-value ≤ 0.0000).

As for the H1b and H1c; H1b; (Cell 2 > Cell 1) there is statistically supportive evidence. Similarly to the H1a, the participants who received by function information presented in the face of the statement of income and by nature in the notes to financial statements are better able to identify the causes of the decline in the operating performance and have higher confidence level in their judgments as compared to those who received only by future information (p-value = 0.0003 for the participants' rating the causes and p-value = 0.0001 for the participants' confidence in rating). Unlike H1b, H1c; (Cell 3 > Cell 2 is partially supported. That is, only the aspect of investors' judgment on future firm's performance predicting is supported (p-value = 0.0277).

Finally, the result of H1d; Cell 3 > Cell 4) suggests that the hypothesis is partially supported. That is, it shows that only the participants' overall performance evaluation is supported (t = 1.7496, p-value = 0.0421).

To conclude, an expense analysis by nature enhances capability of investors' judgments in operating performance evaluation. The detailed information presented that is broken down based on the nature of the items certainly helps investors in pinpointing the causes of decline in operating performance. The results further indicate that by nature information not solely enhances the quality of the operating performance evaluation, but also it increases the associated confidence level of the investors in their judgments. The more confidence they have in their judgments, the more effect the information has in the decision making. For the result of Cell 3 which the Boards preferred, it is only partially supported. This is perhaps because there are too many pieces of information presented on the face of the financial statements.

Table 2 The analysis of investors' judgments on firm's performance evaluation

Panel A: firm's performance evaluation

Performance Evaluation	Experimental Conditions				F-Statistic (P-Value)
	F_ONLY	F&N_NOTES	F&N_FACE	N_ONLY	
Overall					
Mean	4.3500	3.9500	3.6500	[illegible]	1.4809
Std. Deviation	1.5941	1.8804	1.3691	[illegible]	0.2219
Operating					
Mean	3.8750	3.8750	3.7250	4.0250	0.2219
Std. Deviation	1.4882	1.4709	1.7244	1.8465	0.8803

Panel B: Investors' judgment on identify the cause of firm's performance decreasing

The causes of performance decreasing	Experimental Conditions				F-Statistic (P-Value)
	F_ONLY	F&N_NOTES	F&N_FACE	N_ONLY	
Employee benefit					
Mean	5.1471	7.1282	7.0750	7.3000	8.6878
Std. Deviation	2.5001	2.1421	2.0050	1.4884	< 0.0000
The confidence					
Mean	3.9500	5.4250	5.3250	5.6750	7.1649
Std. Deviation	1.6633	2.3522	1.5914	1.6233	0.0002

Panel C: the investors' judgment on predicting of future firm's performance

Future performance predicting	Experimental Conditions				F-Statistic (P-Value)
	F_ONLY	F&N_NOTES	F_ONLY	F&N_NOTES	
Predicting of earning per share					
Mean	11.2495	14.6484	8.3539	8.4266	2.2834
Std. Deviation	12.8512	17.7144	2.6491	3.8885	0.0828
The confidence					
Mean	3.4091	2.2188	2.8387	3.0938	1.4337
Std. Deviation	3.0653	2.1211	1.8092	2.0535	0.2367

Table 2 The analysis of investors' judgments on firm's performance evaluation (Cont.)

Panel C: the investors' judgment on predicting of future firm's performance (Cont.)

Future performance predicting	Experimental Conditions				T-Statistic (P-Value)
	F_ONLY	F&N_NOTES	F_ONLY	F&N_NOTES	
Persistence of future earnings					
Mean	4.3636	4.1875	4.4194	4.6875	0.3866
Std. Deviation	1.8910	2.1767	1.8579	1.7331	0.7628

Panel D: the comparison planed T-test

N_ONLY VS F_ONLY					
Cell 4 > Cell 1 (H1a)	Mean		df	T-Statistic*	P-Value
	Cell 4	Cell 1			
Overall performance	4.2750	4.3500	78.0000	–0.1975	0.4220
Operating performance	4.0250	3.8750	74.6316	0.4000	0.3451
Identify the causes	7.3000	5.1471	51.1760	4.8968	< 0.0000
Identify confidently	5.6750	3.9500	78.0000	4.6940	< 0.0000
Predicting earning per share	8.4266	11.2495	52.0000	–1.1714	0.1234
Predict confidently	3.0938	3.4091	33.7792	–0.4218	0.3379
Persistence of future earnings	4.6875	4.3636	52.0000	0.6932	0.2456

F_&N_NOTES VS F_ONLY					
Cell 2 > Cell 1 (H1b)	Mean		df	T-Statistic*	P-Value
	Cell 2	Cell 1			
Overall performance	3.9500	4.3500	78.0000	–1.0262	0.1540
Operating performance	3.8750	3.8750	77.9893	–	0.5000
Identify the causes	7.1282	5.1471	71.0000	3.5801	0.0003
Identify confidently	5.4250	3.9500	70.2022	3.2382	0.0009
Predicting earning per share	14.6484	11.2495	52.0000	0.7704	0.2223
Predict confidently	2.2188	3.4091	34.5641	–1.5799	0.1233
Persistence of future earnings	4.1875	4.3636	52.0000	–0.3078	0.3797

Table 2 The analysis of investors' judgments on firm's performance evaluation (Cont.)

Panel D: the comparison planed T-test (Cont.)

F_&NFS_N (VS) F_&_N_FACE					
Cell 3 > Cell 2 (H1c)	Mean		df	T-Statistic*	P-Value
	Cell 1	Cell 2			
Overall performance	3.6500	3.9500	78.0000	–0.8157	0.2086
Operating performance	3.7250	3.8750	78.0000	–0.4087	0.3383
Identify the causes	7.0750	7.1282	77.0000	–0.2607	0.3975
Identify confidently	5.3250	5.4250	68.5200	–0.2227	0.4122
Predicting earning per share	8.3539	14.6484	32.4299	–1.9873	0.0277
Predict confidently	2.8387	2.2188	61.0000	1.2463	0.1087
Persistence of future earnings	4.4194	4.1875	61.0000	0.4541	0.3257

N_ONLY (VS) F_&_N_FACE					
Cell 3 > Cell 4 (H1d)	Mean		df	T-Statistic*	P-Value
	Cell 3	Cell 4			
Overall performance	3.6500	4.0750	78.0000	–1.7496	0.0421
Operating performance	3.7250	4.0250	78.0000	–0.7510	0.2275
Identify the causes	7.0750	7.3000	78.0000	–0.8264	0.2055
Identify confidently	5.3250	5.6750	78.0000	–0.9737	0.1666
Predicting earning per share	8.3539	8.4266	61.0000	–0.0864	0.4657
Predict confidently	2.8387	3.0938	61.0000	–0.5224	0.3016
Persistence of future earnings	4.4194	4.6875	61.0000	–0.6257	0.2669

Note * One-tailed t-test; denotes significant level of 5%

Information Extraction Analysis

The participants are solicited to explore expenses associated with employee benefit from the financial statements in the case materials. Further, they are asked to calculate the raw material cost per total expenses and then assess the difficulty level associated with the calculation. The statistical result demonstrates that the means of error (Error = [Amount specified – True amount] / True amount) in extracting employee benefits information is significantly different in each of experimental conditions ($F = 8.4879$, p-value = 0.0004). In addition, the means of error in the calculation of raw material per total expenses is also statistically different from each other ($F = 10.3681$, p-value = 0.0001).

The un-tabulated ANOVA points out that the participants who received the expenses analysis by nature presented on the statement of income have the lowest rate of error in information extraction. Besides, the expenses analysis by function in totals amount with by nature in subtotals amount is associated with the lowest rate of error in determining raw material per total expenses. Consistent with Maines and McDaniel (2000, the information placement, isolation and linkage affect the degree to which investors rely on information presented when forming judgments.

Post-Experimental Analysis

The post-experimental analysis addresses manipulation checks. The familiarity of the presentation format and recall test are used as tools to determine whether the manipulation is successful.

Familiarity with the Statement of Income Presentation Format

In the debriefing session, the participants are asked to answer whether the statement of income that they received in the case material is new to them. Note that, at the time of the experiment, the accounting standard on financial statement presentation that is in effect is consistent with IAS1 (revised 2007). From the cross tabulation analysis, the participants correctly respond to familiarity questions ($\chi^2 = 55.0313$, p-value ≤ 0.0000). The participants who received the statement of income that is presented in accordance with the proposed standard (Cell 3), which is not effective at the moment, stated that they are not familiar with the presentation. This suggests that the manipulation is successful.

Recall Test of By Nature Information Presentation and Disclosure

In the debriefing session, the participants are also solicited to indicate which the statements the cost of goods sold break-downs are presented. The result indicates that the participants answer the questions appropriately in all conditions ($\chi^2 = 223.6932$, p-value ≤ 0.0000). Also, they are required to recall and identify the statements that are the most useful for their analysis. The result shows that the participants who received the by nature information on the face of statement of

income indicate that the statement of income is the most useful information, while those that received in information in the notes stated that the notes provide useful information to them ($\chi^2 = 223.6932$, p-value ≤ 0.0000).

To sum up, findings of the recall test revealed that the participants acquire the information and they are attentive when they perform the task in the experiment. More importantly, the results suggest that the manipulation in this study is successful. Next, I will outline the conclusion of this paper.

5. Conclusion

The Boards' collaboration in pursuing convergence of accounting standards leads to the proposed format of financial statement presentation. This collaborative project addresses the controversial issues of an expense analysis which address the level of disaggregation of financial statement items on the statement of income.

Based on literature review, the location of items and format of financial statement presentation influenced on the investor's judgments and decision making. Besides, the volume and complexity of financial data are also critical to the quality of investors' judgments. Investors with limited cognitive ability might not be able to digest the complicated information or too many pieces of information. Therefore, the appropriateness in information presentation should be taken into account to prevent the information overload.

In order to study the effect of the expense analysis by function and by nature on investors' performance evaluation judgments. I designed and conducted a 4x1 between-subjects experiment. The independent variable is the expense analysis presentation format. The independent variable is manipulated into 4 levels: (1) F&N_ONLY, (2) F&N_NOTES, (3) F&N_FACE, and (4) FN_ONLY. The level of prior knowledge of participants is also measured and used as control variable.

The results suggest that the expense analysis by nature could improve the ability of the investors when they evaluate financial performance because the by nature disaggregated information helps pinpointing the possible causes of decline in firm's performance. In addition, the result of this study also suggests that the presentation location of by nature analysis affects the investors' judgments in evaluating of the overall firm's performance and in predicting firm's future performance.

According to the IRH, the information is presented in difficult-to-find or difficult-to-see location can increase the cognitive cost to investors because they need to put more effort in searching for the information. In some cases, that information might not be acquired or used in forming judgments at all. In addition, the volume and the complexity of the information are also important in whether the information is used in judgment formation.

Although this study can distinguish other factors from interesting influences, to generalize the results the artificial context is of concern. On the positive side, the results of this study are

useful to the Boards, investors, and other groups of market participants that it identifies the benefits of by nature information and suggested the proper presentation location of by nature information.

For future research, it is possible to examine whether the location and/or the format of other comprehensive income presentation affect the investors' judgments on performance evaluation. Also explore, the effect of disaggregated components of the statement of income on the transparency of financial reporting. In addition, the value-relevance of by nature information may be investigated by both archival and experimental study.

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