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Paradoxical factors of external and internal reporting

Michael D. Akers*

Webster (1966) defines a paradox as "a statement or sentiment that is seemingly contradictory or opposed to common sense and yet perhaps true in fact." A paradox that existing in the amount profession is the use of the same accounting techniques for external and internal reporting. Accounting literature argues that accounting techniques that are required for external reporting are not useful for internal reporting. Yet, accounting research indicates the accounting techniques used for external purposes are also used for internal reporting. The use of the same accounting techniques for external and internal reporting seemingly contradicts accounting theory but appears true in fact.

Two hypotheses (Anthony, 1983; Horngren, 1984a; Horngren, 1984b; Kaplan, 1984; and Usry, 1985) regarding this accounting paradox have been developed. One, the "external reporting mentality" hypothesis, states that "Firms use accounting conventions for internal planning and control, not because they support corporate strategy, but because they have been chosen via external political processes by regulators at the FASB and the Securities and Exchange Commission (SEC)" (Kaplan, 1984, p. 410). Second, the cost-benefit hypothesis states that accounting conditions required for external reporting may be used by firms for internal reporting because of cost-benefit relation (Anthony, 1983; Horngren, 1984a; Horngren, 1984b; Usry, 1985). Neither of these hypotheses is strongly supported in the literature with empirical research. The limited empirical research (Reece and Cool, 1978; Vancil, 1979; Rosenzweig, 1985), previously conducted, has addressed only certain narrow aspects of the external reporting issue.

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The purpose of this study is to provide empirical evidence concerning these two hypotheses. This study uses a broader perspective than previously and, thereby, provides additional insights.

Section one discusses the research design. The results of the study are examined in section two. The final section contains concluding comments.

RESEARCH DESIGN

Sample Selection

In order to obtain empirical evidence concerning the paradoxical factors of external and internal reporting, a two-page questionnaire (see Appendix A) was sent to the Chief Financial Officers (CFO) of 200 of the second 500 largest publicly held U.S. corporations. The 1,000 largest publicly held U.S. corporations were identified using *Ward's Directory of 51,000 Largest U.S. corporations*. A systematic procedure was used to select the sample from the population of corporations 501 to 1,000.

Two factors affected the sample selection. First, Fortune 500 companies are excluded from the study because they receive numerous questionnaires each year and consequently, they do not have time to respond to all of them (Davis and Parker, 1979). It was expected that the response rate would be higher if Fortune 500 companies were excluded. Second, the external-internal reporting issue directly impacts large publicly traded corporations. These corporations prepare both internal reports for management and external reports (i.e., financial statements for investors, tax return for IRS, 10k for SEC). The corporations included in the sample are considered large enough to provide meaningful insights concerning the paradoxical factors of external and internal reporting.

Questionnaire Design

The questionnaire (Appendix-A) is based on the literature regarding the two hypotheses and is composed of three main categories of questions as follows :

1. The CFO's perception of the two hypotheses (questions one through three).
2. The CFO's perception of organizational factors that would impact the two hypotheses (questions four through eight).
3. Accounting techniques and conventions identified in the accounting literature (Kaplan, 1984; Vancil, 1979) as being used in the same manner for external and internal reporting (questions nine through fourteen).

Statistical Methods

Since the study was primarily exploratory, statistical techniques that indentify relations among the responses were considered appropriate the statistical methods used were frequencies and Pearson correlation coefficients.

RESULTS OF STUDY

Response Rate

Of the 200 questionnaires mailed, 71 were returned, which represents a response rate of 35.5%. Appendix-B summarizes the responses by SIC Code. This is a satisfactory response rate for a mail questionnaire.

Analyses of Questionnaire Responses

The responses to each question were analyzed by using frequencies and Pearson correlation coefficients. Appendix-A contains a detailed summary of the responses (frequencies, mean, and standard deviation) for each question.

CFO's Perception

The first three questions are designed to elicit responses regarding CFO's perceptions. Questions one and two are designed such that the CFOs must

distinguish between external accounting conventions *dictating* or *influencing but not dictating* internal accounting conventions. While it may be argued that "dictating" is too harsh, "dictating" accurately reflects the position of proponents of the external reporting mentality hypothesis. Question three addresses the cost-benefit hypothesis. The results indicate that 52.1% of the respondents agree or strongly agree that accounting methods developed by the FASB and /or SEC dictate the accounting methods used for internal reporting. Such results are interesting when compared with the results of question two. Here, 74.3% of the respondents agree or strongly agree that external accounting methods *influence*, the accounting methods used for internal purposes.

The combined results indicate that the respondents had difficulty distinguishing between *dictating* and *influencing*. The positive responses (strongly agree or agree) for question two should approximate the negative responses to question one. The results indicate that approximately 26% (74.3-47.9) are unable to make the distinction. Subsequent field research (Akers, 1988) has revealed that many practitioners do have a problem distinguishing between *dictating* and *influencing but not dictating*. The problem, in most cases, does not occur because of the terminology used or a lack of understanding the question. Discussions with the Chief Financial Officers and Controllers during this research (Akers, 1988) revealed that the problem that primarily relates is the hasty manner in which the questionnaire is completed.

Considering the apparent inconsistencies indicated by the results of the frequency analyses, the result of the correlation analysis of questions one and two is quite interesting. The Pearson correlation coefficient is −.27305 (statistically significant at 0.011). This result confirmed *a priori* expectations that the relation between the responses to questions one and two is low and negative.

The CFO's perceptions of the cost benefit hypothesis are also mixed. Approximately half (53.5%) of the respondents indicate that external accounting methods are used for internal reporting purposes because it is not cost beneficial to use different accounting methods. The mixed results are consistent with the results of question one and indicate that practitioners, like academicians, are not in mutual agreement regarding the two hypotheses.

Organizational Factors

Questions four through eight elicit responses regarding the CFO's perception of organizational factors impacting the two hypotheses. The following organizational factors are examined: capability of the system (four), design of the system (five), needs of management (six), development of internal reporting methods (seven), and considerations of development (eight).

The results indicate that the majority (91.5%) of the respondents feel their information systems have the capability to create internal reports that are different than external reports required by the FASB and/or SEC. Considering the sophistication of computer systems, it is surprising that 100% of the respondents did not respond positively.

Besides capability, a system must be designed so that the creation of internal reports, which are different than external reports, is cost-beneficial. More than half (63.8%) of the respondents feel their systems are designed in such a manner that it is cost beneficial to generate internal reports different than external reports. The responses to questions four and five indicate that approximately 28% (91.5 - 63.8) of the respondents feel their systems have the capability to generate different reports but that the process is not cost-beneficial. This is contradictory to what accounting students are taught concerning systems design.

Comparing the results of question five (design) and three (cost-benefit) reveals another apparent inconsistency. Since approximately 54% of the respondents indicate that it is not cost-beneficial to use different accounting methods for internal reporting, expectations are that a similar percentage of the respondents would not consider the design of the system to be cost beneficial. Only 36.2% of the respondents, however, indicate that the design of their system is not cost-beneficial. It is interesting to note, however, that the correlation between question three and question five does not reveal the apparently inconsistency. The Pearson correlation coefficient is −.3694 (statistically significant at 0.001). This result confirms *apriori* expectations that the relation between the responses to questions three and five is low and negative.

The needs of management (question six) also directly impacts on the types of internal reports that are generated. Accounting text books state that internal reports used by management are usually different than reports used for external purposes. The results of this study provide support for this assumption as 88.8% of the respondents indicate that management requests internal reports that are different from external reports. How these reports differ is often difficult to determine from research studies that utilize a questionnaire as the primary approach for gathering data. Question fourteen of this study, however, identifies one area where external and internal reporting of the respondents is different.

In recent years, management accountants have been criticized because they have not developed new methods of internal reporting. Kaplan (1984, p. 401) noted that there have been "virtually no major innovations by practising managers or management accountants during the most recent 60 years." The results of this study do not support Kaplan's comment. All of the respondents, except one, indicate that the management accounting function is continually seeking to develop new methods of internal reporting. Discussions with the business people and colleagues, who are conducting field research, reveal that the results of this study are consistent with the activity of some firms. These firms make and continue to develop new and innovative methods of internal reporting. An organization that has been innovative in internal reporting methods throughout the 1980's is the Harley Davidson Company.

The results of this study indicate, however, that external reporting requirements are considered when new methods of internal reporting are developed. Only 38.6% of the respondents indicate that external reporting requirements are not considered when developing new internal reporting methods. *A priori* expectations are that the negative responses to question eight would approximate the positive responses to question one. The results confirm such expectations as the negative responses (61.4%) to this question do approximate the positive responses (51.4%) to question one.

Accounting Techniques

The accounting literature (Kaplan, 1984; Vancil, 1979) indentifies some accounting techniques (leases, research and development, absorption costing, and residual income) that may be used in the same manner for external and internal reporting purposes. Questions nine through fourteen address accounting techniques that are used externally and internally.

The results indicate that the majority of the firms in this study are treating leases (81%) and research and development costs (96%) in the same manner for external and internal reporting purposes, consistent with Vancil's (1979) findings. Vancil (1979, p. 348) reports that the majority of the respondents in his study treat research and development costs (98%) and leases (93%) in the same manner for external and internal reporting purposes.

The correlation between these two accounting techniques and question one (dictating), two (influencing but not dictating), and question three (cost-benefit) are examined to provide some insight as to why these accounting techniques are similar for external and internal reporting purposes. If external regulatory requirements do dictate the accounting conventions used for internal purposes, there will be a positive significant correlation between question one and questions nine and ten. If the cost-benefit analysis is the primary consideration, there will be a positive significant correlation between question three and questions nine and ten. The correlations are found in Exhibit 1.

Exhibit 1

		Leases	Research and Development
Dictates	(Q. 1)	−.1249	−.1500
Influences	(Q. 2)	.2105*	.0448
Cost-Benefit	(Q. 3)	−.1436	−.1813**

*Significant at .05
**Significant at .10

The results of the correlation analyses do not provide any insight as to why these accounting techniques are treated similarly for external and internal reporting. This may indicate that other factors impacting this external-internal reporting issue are not addressed in this study. Subsequent field research (Akers, 1988) reveals that there are organizational and behavioral factors that affect the external-internal reporting issue.

Question eleven deals with the use of absorption costing for internal evaluation purposes. Results indicate that the majority of the respondents (86.5%) use absorption costing for internal evaluation purposes. While these results are contradictory to what is found in accounting text books, such results are consistent with the results of research examining product costing methods used for internal purposes (Akers, 1988; Imhoff, 1978; Lere, 1976). This is not surprising, considering the difficulty of implementing variable costing. Although accounting text books imply implementation of variable consting is easy, accounting research (Briner, Akers, Truitt and Wilson, 1989) indicates that implementation can take up to two and one-half years.

Correlation analyses examining the relation between questions one, two and three, and the internal use of absorption costing are found in Exhibit 2.

Exhibit 2

		Absorption Costing—Internally
Dictates	(Q. 1)	−.2000
Influences	(Q. 2)	.0000
Cost-Benefit	(Q. 3)	.0201

The correlations are not statistically significant at .10. The results of the correlation analyses does not provide any insight as to why absorption costing is used for internal evaluation purposes. The lack of results may be attributed to two factors. First, there may be other factors, not addressed in this study, that impact the decision to use absorption costing internally. Field research (Akers, 1988)

indicates that organizational and behavioral factors do affect the selection of a product costing method. Second, corporations may be using a combination of methods for internal purposes. Responses of the CFOs to the absorption costing question provide support for this premise.

Yes, but considerable focus on incremental approach.

We also use marginal contribution.

This is the cost system used in most of our manufacturing divisions.

Yes and no—various operations use the costs system most appropriate to it.

Question twelve deals with the accounting methods used to evaluate management performance. The results indicate that approximately 62% of the firms evaluate managers with internally developed accounting techniques.

Correlation analyses examining the relationship between questions one, two and three and question twelve are found in Exhibit 3.

Exhibit 3

		Internal Evaluations of Managers
Dictates	(Q. 1)	-.4521*
Influences		.1475
Cost-Benefit	(Q. 3)	-.4410*

*Significant at .01

The significant negative correlation between question one and twelve provides support for the premise that external reporting requirements do not dictate the accounting conventions used for internal evaluations of managers. Consequently, expectations are that the correlations between questions three and twelve is positive. The observed significant negative correlation implies that the cost-benefit analysis is not a significant factor. The positive correlation (significant at .137) between questions two and twelve indicate that external reporting requirements may influence, to a limited extent, the internal accounting techniques used to evaluate managers.

Question fourteen, which had been used in a prior study (Reece and Cool, 1978), examines the manner in which profit is calculated for internal purposes. Approximately 64% of the respondents indicate that the calculation of profit for external and internal purposes is different. Three primary differences, consistent with the findings of Reece and Cool (1978), are noted:

1. No taxes are assessed to profit centers.
2. No corporate administrative expenses are allocated to profit centers.
3. No interest charges on corporate debt are allocated to the profit center.

The three items above were also addressed by Vancil (1979). The results of this study, however, are not consistent with Vancil's (1979) findings. Vancil (1979) found that a higher percentage of the firms in his study, as compared to this study, were doing the following: (1) assessing taxes to profit centers; (2) allocating administrative expenses to profit centers; (3) allocating interest charges to profit centers. The differences in the results of this study and Vancil's (1979) may be due to the difference in sample sizes.

Correlation analyses were used to evaluate the relationship between the responses to question fourteen and questions one, two and three. The correlations are found in Exhibit 4.

Exhibit 4

		Internal Profit Calculations
Dictates	(Q. 1)	-.2708*
Influences	(Q. 2)	.1796**
Cost-Benefit	(Q. 3)	-.1920**

*Significant at .05
**Significant at .10

The results for question fourteen are similar to those for question twelve. The correlations between question fourteen and questions one and three are both negative while the correlation between questions two and fourteen is positive. The results indicate that external reporting requirements influence internal profit calculations.

It also appears that there are other factors that affect internal profit calculations.

While this study indentifies current practices of U.S. public corporations, the reasons for such practices have not been fully ascertained. This will require field visits that will include interviews with key accounting and management personnel as well as examination of internal accounting reports.

Conclusion

Accounting students are taught that accounting techniques required by the FASB, SEC and IRS are used for external reporting, while management can determine the accounting techniques used internally. Limited accounting research and descriptive accounting literature indicate that many firms use the same accounting techniques for external and internal reporting. While two hypotheses have been proposed that would explain the use of the same accounting techniques externally and internally, these hypotheses have not been tested empirically. The purpose of this exploratory study was to obtain some empirical evidence concerning these two hypotheses.

The results of the study provide moderate support for both hypotheses. The respondents are divided almost equally in their support of the two hypotheses. Thus, either or both hypotheses may be valid for subsets of firms. While external reporting requirements may or may not dictate the accounting conventions used internally, the results indicate that such requirements do influence the accounting conventions used internally. The majority of respondents also indicate that external reporting requirements are considered when new internal reporting methods are developed.

Most (91.5%) of the respondents feel that their systems have the capability to create internal reports that are different than the reports used externally. Yet, only 64% of the respondents indicate that the creation of such reports is cost-beneficial. The implication is that there are some systems that are not cost-beneficial.

In recent years, management accountants have been criticized for not developing new methods of internal reporting. The results of this study do not support that premise. All but one of the respondents indicate that management accountants are continually seeking to develop new methods of internal reporting. Almost all (89%) of the respondents indicate that management requests internal reports that are different from those used for external purposes. Such results imply that external and internal reporting are different for some items.

The above implication, however, is contradicted by the fact that three accounting techniques (leases, research and development costs, absorption costing) are used in a consistent manner for internal and external reporting by the firms that participated in this study. The lack of correlation between these accounting techniques and the two primary hypotheses, however, implies that there are other factors that affect external and internal reporting.

While this study has not produced definitive explanations of why companies may use the same accounting conventions for external reporting and internal accounting, it has shown that the hypotheses found in the literature need further examination through empirical research. It is apparent from this research study that it will be difficult to test these hypotheses with a questionnaire. Consequently, field study research is necessary in order to adequately understand the paradoxical factors of external and internal reporting.

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APPENDIX A

QUESTIONNAIRE AND RESULTS

1. External accounting methods (Generally Accepted Accounting Principles per the Financial Accounting Standards Board) (FASB) and/or the Securities and Exchange Commission (SEC) *dictate* the accounting conventions for internal reporting (management accounting) in your organization.

		Frequency	*Per cent*
Strongly Agree	(4)	8	11.3
Agree	(3)	29	40.8
Disagree	(2)	30	42.3
Strongly Disagree	(1)	4	5.6
		71	100.0

Mean 2.577 Standard Deviation .768

2. External accounting methods *influence*, but do not dictate, the accounting conventions used for internal reporting in your organization.

		Frequency	Per cent
Strongly Agree	(4)	14	20.0
Agree	(3)	38	54.3
Disagree	(2)	13	18.6
Strongly Disagree	(1)	5	7.1
		70	100.0

Mean 2.871 Standard Deviation .815

3. External accounting methods are used for internal reporting purposes because it is not cost-beneficial to create reports that are different than what is required for external reporting purposes.

		Frequency	Per cent
Strongly Agree	(4)	5	7.0
Agree	(3)	33	46.5
Disagree	(2)	28	39.4
Strongly Disagree	(1)	5	7.0
		71	100.0

4. The information system is able to create internal reports that are modified or different than the external reports required by the FASB and/or SEC.

		Frequency	Per cent
Strongly Agree	(4)	9	12.9
Agree	(3)	55	78.6
Disagree	(2)	5	7.1
Strongly Disagree	(1)	1	1.4
		70	100.0

Mean 3.014 Standard Deviation .510

5. The information system is designed such that the creation of internal reports that are different than reports for external financial reporting purposes is cost-beneficial.

	Frequency	Per cent
Strongly Agree	8	11.6
Agree	37	52.2
Disagree	24	34.8
Strongly Disagree	1	1.4
	69	100.0

Mean 2.739 Standard Deviation .678

6. Management requests internal reports, which will be used for internal evaluation purposes, that are different than reports required for external financial reporting purposes.

	Frequency	Per cent
Strongly Agree	20	28.2
Agree	43	60.6
Disagree	8	11.2
Strongly Disagree	0	0.0
	71	100.0

Mean 3.169 Standard Deviation .609

7. The management accounting function continually seeks to develop new methods of internal reporting that will enhance internal evaluations made by management.

	Frequency	Per cent
Strongly Agree	36	50.7
Agree	34	47.9
Disagree	1	1.4
Strongly Disagree	0	0.0
	71	100.0

Mean 3.493 Standard Deviation .531

8. The new methods of internal reporting referred to in question seven are developed without consideration of the consistency of these methods with external regulatory (FASB and/or SEC) requirements.

		Frequency	Per cent
Strongly Agree	(4)	6	8.6
Agree		21	30.0
Disagree		33	47.1
Strongly Disagree		10	14.3
		70	100.0

Mean 2.329 Standard Deviation .829

9. Is the treatment of leases for external reporting and internal evaluation purposes (a) consistent or (b) different ?

(A) ________ (B) ________ Non-applicable ________

If different, please indicate how.

		Frequency	Per cent
Consistent	(0)	50	80.6
Different	(1)	12	19.4
		62	100.0

Mean .194 Standard Deviation .398

10. Is the treatment of research and development costs for external reporting and internal evaluation purposes (A) consistent or (B) different ?

(A) ________ (B) ________ Non-applicable ________

If different, please indicate how.

		Frequency	Per cent
Consistent	(0)	53	96.4
Different	(1)	2	3.6
		55	100.0

Mean .036 Standard Deviation .189

11. Is absorption costing used for internal evaluation purposes ?

Yes ________ No ________ Non-applicable ________

Indicate the reason for your response.

		Frequency	Per cent
Yes	(0)	35	89.7
No	(1)	4	10.3
		39	100.0

Mean .103 Standard Deviation .303

12. Are division managers evaluated using (A) external accounting methods (Generally Accepted Accounting Principles as per FASB and/or SEC) or (B) internally developed accounting techniques ? Indicate the accounting methods that are used to evaluate performance.

		Frequency	Per cent
External methods	(0)	22	37.9
Internal methods	(1)	36	62.1
		58	100.0

Mean .621 Standard Deviation .485

13. If residual income is used as an evaluation technique, are divisions charged (A) a risk-adjusted cost of capital on all assets under the control of a division manager or (B) a pro-rata share of the company's actual interest expense for the year ?

(A) ________ (B) ________ Non-applicable ________

		Frequency	Per cent
Risk adjusted cost of capital	(0)	10	50.0
Pro-rata share of company's actual interest expense	(1)	10	50.0
		20	100.0

Mean .500 Standard Deviation .500

14. Is profit for profit centers and investment centers for internal evaluation purposes calculated in the same manner as profit for external financial statements ?

Yes ________ No ________

		Frequency	Per cent
Yes	(0)	24	36.4
No	(1)	42	63.6
		66	100.0

Mean .636 Standard Deviation .485

If the calculations are different, please indicate in which of the following ways the profit center's calculation differs from the net income calculation. (Check as many as apply.)

	Number*	Per cent of 42 Companies Answering No to Question 14
No taxes are asses to profit center	34	81%
No depreciation charge is deducted	1	2%
The depreciation calculation differs	7	17%
No corporate administrative expenses are allocated to the profit centres	23	55%
No interest charges on corporate date are allocated to the profit centers	33	79%
Profit centre reports are direct costing rather than full absorption costing	5	12%
Other differences	16	38%

* Includes multiple responses

APPENDIX B

INDUSTRIAL CATEGORIES OF RESPONDENT CORPORATIONS*

	Frequency	Per cent
Mining	4	5.6
Construction	2	2.8
Manufacturing	25	35.2
Transportation, communication, electric, gas and sanitary services	15	21.1
Wholesale and retail trade	17	23.9
Finance, insurance and real estate	4	5.7
Services	4	5.7
	71	100.0

* Most companies were conglomerates. The first two digits of the first SIC code listed in the *Standard and Poor's Register of Corporations, Directors and Executives, 1986*, were used to determine the industry category. ❐