A STUDY OF THE USE OF FINANCIAL RATIOS IN SMALLER BUSINESS ENTERPRISES

by Alfred V. Robinson, Jr.

Introduction

In 1983, approximately 612,000 new businesses were launched in America, more than triple the number founded twenty (20) years ago. (1) This fact is the current testament to America's belief in an economic system that reflects growth, innovation and response to a new technological and financial environment and changing consumer preferences. Additionally, recent government data sources reveal that small business firms may produce closer to twenty-four (24) times more innovations per research and development dollar than large firms. (2)

These facts offer formidable inspiration to those individuals currently pursuing or anticipating a small business venture. However, these entrepreneurs should be aware of the currently high rate of failure for small business firms and the consequent need for well-formulated and strategic planning, implementation and evaluation of the smaller business firm. Many of these basic forms of analyses can be derived from financial statement and reporting disclosures for the smaller business firm. These tools for management planning and decision-making are increasingly available with the use of electronic data processing (EDP) systems in the creation of financial data for a business organization.

Recognizing the need for systematic use and evaluation of these financial data by small business owners, this study focused upon the use of a set of widely discussed financial ratios by a sample group of small business owners in the Chicago metropolitan area.

Research Methodology

Using funds provided by the Committee on Organized Research at Northeastern Illinois University, Chicago, Illinois, the investigator pursued a research project designed to determine the familiarity and use of a series of key business ratio indicators by small business owners in the Chicago metropolitan area. Given the University's stated urban mission and community-based continuing education program, the respondents were chosen from a listing of minority business owners in the Chicago area, as selected from the Minority Contractors' Guide, published by the Chicago United Foundation. (3) The respondents were randomly chosen from the 198 business firms listed by the Foundation, using a systematic random sampling process. (4)

A letter of introduction and a questionnaire containing nine key financial ratios (see Exhibit A) were mailed to the respondents, requesting their response using a scale of:

1. Very Familiar
2. Fairly Familiar
3. Not Familiar

Exhibit A

QUESTIONNAIRE
A STUDY OF THE USE OF ACCOUNTING RATIOS IN THE MANAGEMENT OF SMALLER BUSINESS ENTERPRISES

001-_____ (1- 8)
I.D. Number

Name of Firm _____

Mailing Address _____
Street Address

_____
City/State Zip Code

Location of Firm (if different from above) _____

_____ (9-13)
City/State Zip Code

1. First year of Firm's operations _____ (14-17)

2. Which of the following industrial classifications best describes your firm?

Manufacturing	1
Transportation/Utilities	2
Wholesale Trade	3
Retail Trade	4
Finance Insurance and/or Real Estate	5
Selected Services	6
Other Industries (please specify)	7 (18)

3. How many employees are there in your business? _____ (19-21)

4. Which of the following best describes the business ownership structure of your firm?

Sole Proprietorship	1
Partnership	2
Corporation	3
Other	4 (22)

For the following ten items indicate in Column 1 your degree of familiarity with the concept and in Column 2 your perception of its importance in effective planning and control for your firm:

Exhibit A

QUESTIONNAIRE
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CONCEPT	DEGREE OF FAMILIARITY			IMPORTANCE TO YOUR FIRM				
	Not Familiar	Fairly Familiar	Very Familiar	Not Used	Used Infrequently	Moderate Use	Used Frequently	Maximum Use
1. Working Capital-Ratio: Current Assets / Current Liabilities	(23) 1	2	3	(45) 1	2	3	4	5
2. Acid-Test Ratio: Cash, Mkt. Securities, Accts. Rec. / Current Liabilities	(25) 1	2	3	(47) 1	2	3	4	5
3. Ratio of net income to total revenue: Net Income / Total Revenue	(27) 1	2	3	(49) 1	2	3	4	5
4. Return on Capital Employed Net Income / Total Assets	(29) 1	2	3	(51) 1	2	3	4	5
5. Equity Ratio: Total Owners' Interest / Total Assets	(31) 1	2	3	(53) 1	2	3	4	5
6. Ratio of selling expenses to total revenue: Selling expenses / Total Revenue	(33) 1	2	3	(55) 1	2	3	4	5
7. Inventory Turnover: Cost of Goods Sold / Average Inventory	(35) 1	2	3	(57) 1	2	3	4	5
or Net Sales / Average Inventory at Retail Price	(37) 1	2	3	(59) 1	2	3	4	5
8. Average Accounts Receivable Turnover: Net Credit Sales / Average Accts. Rec.	(39) 1	2	3	(61) 1	2	3	4	5
9. Collection Period: Accounts Receivable at the End of Period / Net Credit Sales x 365	(41) 1	2	3	(63) 1	2	3	4	5
10. Other: Please specify	(43) 1	2	3	(65) 1	2	3	4	5

In addition, the respondents were requested to indicate their degree of use of the financial ratio in business management and operations using a scale of:

1. Not Used
2. Used Infrequently
3. Moderate Use
4. Used Frequently
5. Maximum Use

Finally, the respondents were requested to list any ratios not included in the data gathering instrument that were perceived as requiring a placement in the categorization "Maximum Use" but not included on the questionnaire.

The data were analyzed using the University's Computing Services and the capabilities of the Statistical Packages for the Social Sciences (SPSS). A total of fifty (50) responses were received from the original inquiries, representing all of the Standard Industrial Classification (SIC) codes, and thus providing a meaningful base for data interpretation and analysis.

Presentation and Analysis of Data

The responses, presented in Rank Order (see Exhibit B) concerning the familiarity of the small business owners with financial ratios, clearly reveal an overwhelming degree of acquaintance with "Working Capital". This notable

EXHIBIT B
A STUDY OF THE USE OF
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A Rank Order Listing Familiarity of the Financial Ratios	In the Order of Highest Percent
Working Capital (Current Assets less Current Liabilities)	57% (Very Familiar)
Net Income/Total Revenue	50% (" ")
Equity Ratio	50% (" ")
Acid Test (Cash + Accounts Receivable + Short-term Marketable Securities/Total Current Liabilities)	43% (" ")
Net Income/Total Assets	43% (" ")
Selling Expense/Total Revenue	43% (" ")
Cost of Goods Sold/Avg. Inv.	43% (" ")
Average Credit Sales/Average Accts. Rec.	43% (Familiar)
Collection Period for Accounts Rec.	43% (Very Familiar)
Net Sales/Avg. Inventory at Retail	36% (Not Familiar)

familiarity with the relationship between current assets and current liabilities can best be interpreted and explained within the context of the small business firm's concern for financial survival and liquidity. The measurement of current cash balances, inventory levels and current payables are all vital to the continued success of the small business firm, beset often with limited resources and borrowing capabilities.

The investigator would only stress in any future research opportunities the need for differentiating and analyzing the degree of materiality of various forms of current assets and liabilities. For example, the determination of a favorable Working Capital position, largely determined by current inventory levels, coupled with a period of rapidly contracting consumer demand for the product, lead to faulty decisions concerning the entity's ability to survive in a period of intense economic changes.

The next item presented in the rank order listing, (Net Income/Total Revenue) represents one of the more traditional types of financial measurements. It is concerned with the measurement of "operational efficiency" and strategic planning implementation in the typical business firm.

Given the numerous allocation bases and accounting reporting vs. "tax reporting" issues involved in the determination of a new income figure for any fiscal period, the investigator would only add caution to the use of this ratio for any firm. This is particularly in view of the computational methods currently available for computing depreciation expense using the Accelerated Cost Recovery System (ACRS) and the resulting measurement of taxable net income. Net income, using financial accounting and reporting measures, must be viewed as a temporary measurement of entity efficiency and potential profitability. The long-term capacity of the firm must now often be interpreted in view of the present increase and potentiality for increase of the firm's "net assets", using current fair market values of the firm's assets, and recognizing any outstanding business obligations, in determining the traditional measurement of "net worth". Given the long-range objective of this research project in defining and interpreting the key components of financial statements to small business owners, these data inclusions and the necessary interpretations can be more clearly outlined in the future.

A concern for this type of account interpretation and usage is clearly revealed in Exhibit C (A Rank Order Listing of the Degree of Use of the Financial Ratios). The ranking of the "inventory turnover ratio" (Cost of Goods Sold/Average Inventory for Sales Period) indicates an awareness for the analysis of individual account balances and their impact in assessing future business operating patterns. Given modern EDP systems and the ability to analyze the subcomponents of inventory in the typically diversified firm, we can expect any continuing education program for small business owners to emphasize the importance of determining the liquidity and profitability of given product lines/service categories of the firm's activities. A quick perusal of the rank order of the other financial ratios reveals a concern for the liquidity and profitability factors central to the continued survival and efficient operation of the smaller business enterprise.

EXHIBIT C
A STUDY OF THE USE OF
FINANCIAL RATIOS IN SMALL BUSINESS ENTERPRISES

A RANK ORDER LISTING BY DEGREE OF
USE OF FINANCIAL RATIOS

Degree of Use Ratio	Ranking of Values
Cost of Goods Sold/Average Inventory at Sales Period	57%
Inventory Turnover $\left(\frac{\text{Net Sales}}{\text{Average Inventory}}\right)$	50%
Acid Test $\left(\frac{\text{Cash + Accounts Receivable + Short-Term Marketable Securities}}{\text{Current Liabilities}}\right)$	50%
Working Capital $\left(\frac{\text{Current Assets}}{\text{Current Liabilities}}\right)$	50%
Selling Expense/Total Revenue	50%
Net Income/Total Revenue	36%
Equity Ratio $\left(\frac{\text{Total Debt}}{\text{Total Owners' Equity Proprietorship}}\right)$	29%
Collection Period for Accounts Receivable	29%
Net Income/Total Assets	21%

Summarization of Research Findings and Suggestions for Future Investigations

The results of this study clearly reveal the preference of small business owners for those financial ratios and indicators disclosing liquidity and profitability. The emphasis on these factors is immediately discernible, given the small business enterprise's need for emphasis on short-term survival rather than long-term stability, coupled with present economic and financial factors.

Any design factors for continuing education programs for these entrepreneurs must stress the orderly process of analyzing the complexity of financial economic forces and business operating factors influencing these account balances for a smaller enterprise, and the use of EDP systems (in both main-frame systems and personal computer systems) in providing more detailed information on the composition of these accounts. Further, although financial ratios may be used as reliable comparative indicators of a firm's current achievements, the continuing use of these data in financial planning and budgeting for future operations should be stressed. This analyses process will allow for more meaningful feedback interpretations in the development of budgets and financial plans.

Given the current rate of diversification and change in small business enterprises, we can expect that these continuing education programs must also address the rate and type of technological change, market identification/preference forces, financial markets and credit sources, and other associated operating factors as they continue to impact the smaller business firm in a rapidly changing operating environment.

Footnotes

(1) Senator Lowell P. Weickler, Jr., "Majority Rules", Management Focus, New York: Peat Marwick International, Volume 31, No. 5, September - October, 1984.

(2) Ibid.

(3) Minority Contractors' Guide, Chicago: Chicago United Foundation, 1983.

(4) Donald E. Kieso and Jerry J. Weygandt, Intermediate Accounting, Fourth (4th) edition, New York: John Wiley and Sons, 1983, p. 1217.

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