A CROSS-SECTIONAL STUDY OF BUSINESS SERVICE PROFITABILITY[1]
SOME IMPLICATIONS FOR STRATEGY

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ABSTRACT

A cross-sectional study has been made of the Business Service Sector in the U.S. Relative market share, revenue/employee, and perhaps investment were found to be contributors to pre-tax profitability in this sector. Consequently, strategies directed toward optimizing revenue/employee, growth, and investment may be effective in determining firm performance. The opportunities provided to small business in this sector, the importance of this sector in the economy, and the importance of strategy to small businesses would appear to make the study of interest to small business managers.

INTRODUCTION

Business services have been important in the U.S. economy -- they accounted for 5.9% of GDP in 1992, the most recent year of a U.S. business census. In the decade 1982-1992, this sector exceeded GDP growth and was supported in large part by new firm formation. Wilson and Smith (1996) studied a sample of 11 segments in this sector and found the overall growth of business services in the sample was 11.7% per annum (p.a.) for the 10 year period 1982-1992, and every segment outperformed the GDP growth of 6.7% p.a. of that period. Further, 3.748 million net, new jobs were created, which were accommodated, in part, by the formation of 200,500 new firms. Six of the 11 segments carried average salaries greater than average U.S. salaries for the period, which rejected the notion that service jobs have to be low paying jobs.

Small business managers should be interested in this sector because it tends to be served by small firms. In the Wilson and Smith (1996) cross-sectional study from census information, average sized firms were in the $ 0.3 to 1.7 million range (average $896,723), with about 18 employees (18.08) per establishment.

Rather surprisingly, services in general and business services in particular have been relatively neglected until recently in the business literature. Shostack's (1977) seminal paper on the marketing of services is less than 20 years old, and a paper addressing the quality of

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[1] The author appreciates the comments of three anonymous reviewers that contributed to this paper.

business services has only recently been published (Holmlund & Kock, 1995). Nevertheless, Shostack's suggestion that services were "different" has produced a stream of literature that has stressed the importance of quality for services in general (see Lovelock, 1992, or Cravens et al., 1988 for summaries of some relevant literature) and relationships (see Holmlund & Kock, 1995) in service management. Consequently, Grönroos (1990) has developed five rules of service that he suggests should drive service management, and Quinn (1992) has written a comprehensive text concerned with the management of "new" service enterprises. There have also been industry specific studies, e.g., management consulting (Dawes, Dowling & Peterson, 1992), CPA services (Woodside, Wilson & Milner, 1992), Advertising (Harvey & Rupert, 1988), Architecture and Engineering Services (Day & Barksdale, 1992), MRO Services (Jackson et al., 1995). The conclusion that might be reached from these studies is that there appear to be business routines specific to these industries, which must be understood in order to be successful in these segments.

Lacking in this literature has been the type of study that has contributed to strategic successes in "goods" businesses. Specifically, matrix type approaches appear to be totally lacking and there appears to be little approaching a market-based, broad-based study in either specific segments or the sector in general. Kotler (1994, 74) has suggested that "managers (are helped to) think more futuristically and strategically, to understand the economics of their businesses better, to improve communication between business and corporate management, to pinpoint information gaps and important issues, and to eliminate weaker businesses and strengthen the investment in more promising businesses" by using these tools. This attention may be especially important in small businesses because two criteria identified as indicators of small business performance have been strategic direction and strategy implementation (Cook & Wolverton, 1995).

The purpose of this paper is to report on a cross-sectional study that has been made of the business service sector. It identifies several factors that appear to be important in pre-tax profitability to business services. Because of the opportunities provided to small business in this sector and the importance of strategy to small businesses, it would appear that such a paper would be of interest to small business managers and/or the consultants who advise them. Furthermore, the importance of this sector in the economy may make this study interesting to academics.
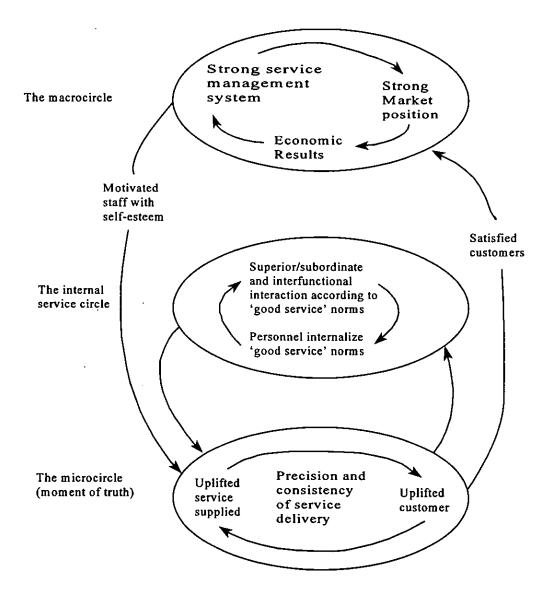
MODEL AND HYPOTHESES

Normann (1989, 122 ff) has suggested that successful service management necessarily requires three levels (circles) of attention -- micro-, internal-, and macro-levels as shown in Figure 1. In what has appeared to be a "bottoms-up" approach to understanding service management, the two lower levels of service management have tended to receive most attention to date. At the micro-level, a necessity for service supplier and client to form a mutually reinforcing system was recognized. Studies devoted to "moments of truth" (Albrecht & Zemke, 1985; Grönroos, 1990) as well as individual industry studies (Dawes, Dowling & Paterson, 1992; Woodside, Wilson & Milner, 1992; Harvey & Rupert, 1988; Day & Barksdale, 1992; Jackson et al., 1995) and those devoted to relationships (Johnston & Lewin, 1996; Holmlund & Koch, 1995; Wilson, 1995; Hall & Rao, 1994) have established the importance

of developing this level of management and control. Likewise, internal marketing has been recognized as an essential element of success in service businesses (Grönroos, 1983; Peters, 1988).

Figure 1
Three Levels of Service Management (Normann 1989, 126)

The Positive Circles of the Service Company

At the macro-, or strategic, level Normann's (1989) suggestion was that management system, market position and economic results were inter-related. Certainly, service management systems have been described and discussed (see, for instance, Fitzsimmons & Fitzsimmons, 1994; Grönroos, 1990; Lovelock, 1992) and quality, as an indicator of market position, has been recognized as being a strong contributor to economic results (see Holmlund & Koch, 1995; Lovelock, 1992; Cravens et al., 1988 for reviews). Nevertheless, definition of "strong market position" and its association with economic results have been relatively unstudied for services. In comparison, "product" marketing, has had the PIMS study (Schoeffler et al., 1974; Buzzell et al., 1977; Buzzell & Gale, 1987) available as a foundation from which managers have been able to develop strategies. That study, which established a link between strategic planning and profit performance, developed linkages between profitability and "key" profit influences from cross-sectional, pooled, industrial data. Its major conclusion was factors such as market share, investment intensity, and corporate diversity, as well as product quality, were intricately associated with profitability. For instance, a difference of 10 percentage points in market share appeared associated with a difference of about five points in pre-tax return on investment. Consequently, it was suggested the results could be applied to profit forecasting, management performance measurement, and new business opportunity appraisal.

The present study uses a sector cross-sectional analysis to test the Normann (1989) macro-level model that suggests market position and financial performance should be related for services. An analysis has been made of available secondary cross-sectional data that relates to business services. Four factors were identified as being related to market position -- market share, investment intensity, market growth rate and sales per employee. These, in turn, could be associated with economic results (profitability) as defined by pre-tax, return on sales. A return on sales was used for this study in contrast to the return on investment emphasis in the PIMS study because services are normally considered to be low investment businesses. It might be noted further in support of a ROS approach that the PIMS study used a return on sales to calculate ROI's and actually reported some ROS's. The four factors selected for study were consistent with previous cross-sectional studies of primarily manufacturing business, which suggested they did indeed define the competitive position of firms. The particular measures used were determined by information that could be obtained from secondary data.

Four hypotheses associated with the independent variables used in the analyses guided the research:

H(1): Profitability will be positively associated with increased market share.

Buzzell et al (1975, 1987) have summarized observations made in the PIMS study, which suggested both return on investment (ROI) and return on sales (ROS) tend to be positively related to market share. Apparently, economies of scale, market power, and/or quality of management contribute to profitability among high share firms. Although suggestions have been made that market share should be pursued carefully in search of profitability (Day, 1975), especially in services (Lovelock 1992, Heskett 1987), market share and profitability are generally associated with one another.

H(2): Profitability will be negatively associated with increased investment intensity.

In the original PIMS study, apart from market share and product quality, the most important determinant of profitability was investment intensity, i.e. the ratio of investment to sales (Schoeffler, et al., 1974). The explanation given in that study was that larger investment would be required to offset volume production in investment-intensive industries. That may prove to be true in manufacturing businesses, but is less likely to be the case in services, which tend to "people" businesses and thus require less investment. Further, unlike the larger manufacturing businesses that tended to be studied in the PIMS study, which could serve as their own financiers from internal funds, the business service firms studied here would tend to need external funding. Thus, carrying charges in the form of interest for the investments made are thought likely to affect service businesses. The interest on these funds would likely serve as a drain on profits.

H(3): Profitability will be positively associated with increased industry growth rate.

It should be noted that it is not obvious that high growth will necessarily bring higher profitability. Wensley (1981) has observed that there is little empirical and theoretical work to justify a preference for high market growth businesses associated with portfolio approaches. Nevertheless, Czepiel (1992) has outlined the advantages of entry into rapidly growing markets. Among the arguments for early entry were ease in gaining share, the long-term value of share gain, lower price pressure, experience advantage, and deterrence of potential competitors. Arguments against entry included high needs for resources and the fact that factors for success may change. Additionally, in assessing consideration of industry growth in marketing strategy formulation, Haas (1995) suggested that growth is generally favorable to dollar measures of profit, indifferent to percentage increases, but negative to measures of cash flow. PIMS results suggested a significant positive association between both ROI and ROS and real market growth (Buzzell & Gale, 1987). Day (1975) warned that company growth in a product line should not lag market growth unless the product was being harvested. With regard to the specific cases of services, Normann (1989) has indicated that there were two times in the life cycle of a service business where operational efficiencies were of concern -- right after the introduction stage and again during the transition from growth to early maturity. Depending upon how growth tends to occur, the latter stage may be critical. Quinn (1992), for instance, indicated that firms that tend to grow by branch formation tend to incorporate learning rather effectively. If this were the dominant form of industry growth, one would expect higher industry growth to lead to higher profitability.

H(4): Profitability will be positively associated with increased revenue/employee.

McLaughlin and Coffey (1990) have discussed the problems associated with measuring productivity in services. Nevertheless, they also observe that manufacturing measures should not be overlooked in making productivity assessments. One measure that tends to correlate with higher profitability across industries is a sales per employee measure, where high sales per employee tend to be associated with high profitability. This measure would reflect better coverage to fixed costs and perhaps less competition and thus greater flexibility in pricing in a segment, which should produce higher PBT's.

METHODOLOGY

The data base used in this study came from a combination of Census information and a commercially, private sources. Beginning with the 1967 Census, legislation provided for a census to be conducted every 5 years (for years ending in "2" and "7") by the U.S. Bureau of Census in specific areas of economic activity. The Census of Service Industries compiles information on number of establishments, number of employees, total payroll size, total sales, and other industry-specific statistics by Standard Industrial Classification (SIC) number. Primarily, information at the three digit SIC level was digested from Table 3a - Comparative Statistics for Firms Subject to Federal Income Tax in the U.S. Geographical Area Statistics for the three key years in the last decade -- 1982, 1987 and 1992. Both Statistical Abstracts and Census of Services have sections that discuss the sampling frames and statistical significance of the material reported by the Bureau of Census.

Information on profitability came from an annual compendium published by Robert Morris Associates, an association of lending and credit risk professionals. The 1993 compendium, which reported 1992 annual results, was used to coincide with the last year of the census information. The private source typically gave performance data for six separate sized categories -- $0-1MM, $1-3MM, $3-5MM, $5-10MM, $10-25MM, $25MM and over, but did not report results when fewer than 10 firms reported in a category; this practice meant results for larger firms were somewhat lacking. Although RMA carries a disclaimer suggesting results be used only as general guidelines and not as absolute industry norms, results do, however, tend to get rather broad application among bankers as suggestive of performance levels among loan applicants.[2]

The eight industries comprising the 80 percent of revenues in the 1982 Department of Commerce listing of business services were selected for study. At the time, this sector was the largest and most rapidly growing of all service sectors -- including healthcare. An 80 percent coverage was selected to focus on the more important activities in this sector. This selection eliminated ten industries at the four digit SIC level and one at the three digit level. To this listing were added accounting-auditing-bookkeeping services, legal services and engineering-architectural-surveying services because of the large portion of business service they provide. This addition appeared to be consistent with past practices in this general sector (Day & Barksdale 1992; Woodside et al., 1992; Weiler, 1987). Financial information was available at the three-digit SIC level from census information. The commercially available, private source of financial results, however, used a four-digit SIC level to compile their information. Thus, some selection of industries was necessary in the compilation of return on sales and sales to assets. The four-digit industries that were selected to characterize the three-digit counterpart were: 7374, 8742, 7361, 8731, 8734, 7351, 7353, 7311, 7342, 7381, 7382, 8111, 8711,2,3 (combined), and 8721. The six separate sizes -- $0-1MM, $1-3MM, $3-5MM, $5-10MM, $10-25MM, $25MM and over were used as a measure of market share in this analysis. Information used in this study were for multiples of the average sized firms in the industry using mid-points

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[2] This information was used with prior authorization of RMA.

as an indicator of size. This measure of relative share was used because of the general association of share with portfolio approaches, market power and strategic desirability.

Sixty-eight (68) cases, representing census information and financial results from 4006 firms, were compiled and analyzed. Some explanation may be necessary to explain what a "case" was in this study -- especially the relationship between cases and firms. Case is used in an SPSS sense, i.e., as a data unit, and not as an individual company result. That is, the 26 7374 RMA firms (Computer Processing & Data Preparation & Processing) in the $0 to 1 MM range reporting information had an average PBT of 7.4%; similarly, the 44 firms in the $1 to 3 MM range had an average PBT of 4.8%, etc. These average data made up the individual cases analyzed in this study.

Data base averages are shown in Table 1. An ordinary least squares approach was used to test the hypotheses. A multiple regression expression was developed in which the information available from the compendia was used to develop a linear relationship between pre-tax profitability and the independent variables market share, investment intensity, industry growth rate, and sales per employee. T-tests on the coefficients established the level of significance for the individual terms. The correlation matrix of the independent and dependent variables was examined to see if there were any inter-relational correlations. There was some slight inter-relation between investment intensity and revenue per employee (0.33, significance 0.01) as might be expected. Otherwise, there appeared no other effects and the signs of the coefficients were consistent with conclusions of the study.

For this study, a measure of relative market share was used. This share was calculated as a multiple of average firm size. Unlike the PIMS study, which tended to concern itself with market dominance, it was thought more relevant to consider for small businesses the impact that might occur as the firm grew in relationship to an average sized firm. Thus, "relative market share" was expressed in terms of multiples of average firm size as determined from census information, e.g., if an average sized firm from census information had sales of $1 MM, then a firm with sales of $3.5 MM would have a relative market share of 3.5. "Investment intensity" came directly from RMA information, which compiles sales to total assets as one of its ratios. Mid-range data were used for each of the separate sized firms categories. A ten year, compound growth in sales calculated from the census information was used as an indication of industry growth rate; dollar sales were used for internal consistency, primarily because company sizes were also expressed in terms of dollar sales. Revenue per employee was calculated from the 1992 census information.

Table 1
Data Base Averages in Study

Segment	PBT (%)	Size ($MM)	Inv/ Sales	Industry Gr Rate	Rev/Emp ($K)
Computer & Data Processing	3.9	1.71	0.42	16.6	114.1
Management, Consulting & Public Relations	4.2	0.79	0.34	13.6	89.0
Equipment Rental & Leasing	6.0	0.88	0.81	7.7	108.9
Personnel Supply Services	2.7	1.23	0.20	15.0	19.3
Advertising	3.1	1.03	0.29	8.9	99.3
Dwelling & Building Services	2.8	0.33	0.31	9.7	23.2
Detective Agencies & Protection	2.2	0.87	0.32	8.8	23.6
R&D, Testing Laboratories	3.5	1.68	0.48	15.4	80.3
Legal Services	17.9	0.67	0.26	11.4	109.4
Engineering & Architectural Services	3.0	1.16	0.38	8.7	95.5
Accounting, Auditing & Bookkeeping Services	14.7	0.43	0.44	8.8	65.3
Column Averages	5.9	0.98	0.40	11.7	79.2

RESULTS

Results suggest that a statistically significant correlation between pre-tax profitability and the independent variables (significance of F = 0.0001 and adjusted R^2 = 0.2680).[3] Two of the hypotheses could be supported, whereas two could not within the range of usually accepted statistical significance. Further, one expected dependency carried the "wrong" sign from that which had been hypothesized. Regression results are shown in Table 2.

Table 2
Multiple Regression Results (68 Cases)

Variable	Coefficient	Significance
Relative Market Share	0.2287 (0.0546)[4]	0.0001
Investment Intensity	-3.2353 (3.1230)	0.3042
Industry Growth Rate	-0.3014 (0.1918)	0.1210
Revenue/Employee	0.0524 (0.0197)	0.0097
Constant	4.5215 (3.0740)	0.1463

Adjusted R^2	= 0.2680
F	= 9.1312
Significance of F	= 0.0001

Market Share -- Market share was found to be significantly correlated with pre-tax profitability as anticipated. It might be noted, however, that the dependency was not as large as found in other studies. Here, results suggest that an average sized firm that doubled in size would gain about 0.23 points in pre-tax return on sales. Table 1 indicates that an average sized firm in the sector might have a pre-tax margin of about 5.8%. Thus, effects were much less than the "five

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[3] For comparison purposes, R^2 for ROS in the PIMS study was 0.31. The difference between the two studies could be totally accommodated by sample size.

[4] Numbers in parentheses represent standard error in the coefficient.

point increase in ROI for a ten point difference in market share" found for manufacturing industries (Schoeffler et al., 1974).

Investment Intensity -- This term was not statistically significant in the relationship and so nothing definitive can be said about its effect on profitability. The sign was negative, however, as hypothesized which suggests that it may have a negative influence. The investment to sales ratio for these businesses was surprisingly high (average = 0.38). Although this figure was less than similar ratio in the original PIMS study of largely manufacturing businesses (0.65), it may reflect the fact that some of these costs are truly "fixed" and common across business lines.

Industry Growth Rate -- The coefficient of this term also was not statistically significant, so again nothing definitive can be said about its effect on profitability. It might be noted, however, that the sign of this term was also negative, which was the opposite of that hypothesized. This observation could be associated with the relative difficulty in organizing for early growth as suggested by Normann (1989), or with the tendency to accommodate growth by new firm formation as suggested by Wilson and Smith (1996). Nevertheless, it should lead managers to approach apparent rapid growth situations with some concern.

Revenue per Employee -- This term was positive and statistically significant. Further, it carried a rather large apparent weight in determining profitability. A 10 thousand dollar increase in revenue per employee thus could be associated with more than one-half point (0.524) increase in pre-tax profitability.

DISCUSSION

The central theme of the PIMS study was that business strategies can be related to performance by studying past experience. This study followed that approach and is important because there has been little work in the past linking performance and strategy for business services. The observations made in this study thus may be used by small business managers in this sector to guide their activities. In this regard, these conclusions might be reached:

1. Emphasis should be given to optimizing revenue/employee.

The revenue/employee term suggests the most important strategy a business service manager might take in attempts to increase profitability. Because of uncertainties associated with growth, this area deserves the focus of managers. Focus on quality (and charging for it), specialization, and establishment of relationships are items that immediately come to mind as a means of implementing this strategy. Quinn (1990, 72 ff) discussed an "activity" share approach as a means of dominance. By this he apparently meant the use of key people focused on meeting customer needs as an approach that small firms may use to surmount apparent obstacles of size. Further, using part-time workers where possible as clerical assistants and/or associates in professional situations would appear to also work well in implementing this approach. Heskett (1988) apparently shared this view. It was indicated (55 ff) that a service strategy centered on hard-to-replicate elements would be more difficult to emulate than one based on standard one. Thus, his human resource "wheel" was focused on providing higher value-added services. In general, it has been suggested that firms should focus generally on

generating profits instead of becoming overly concerned with competitors (Armstrong & Collopy, 1994).

2. Growth is important and indeed can be profitable.

The fact that the coefficient of the share growth term was positive and significant suggests that share growth can positively affect profitability of business service firms. It is clear, however, that growth must be approached with some caution. The industry growth term, although not statistically significant, was negative which might suggest that management be forewarned in how industry growth is accommodated. The relative magnitude of the share coefficient (0.0546 increase for doubling of share) suggested that this focus should be secondary to increasing individual efficiencies.

There is guidance for profitable growth in the literature. Normann (1989) suggested that the nature of top management may be important, so growth may need to be consistent with the comfort factors of these managers. Jelinek's (1979) observations tended to support this approach. She noted that in growth there appeared to be a stage where a transition from an informal organization to a more formal one. This transition may be especially important in service businesses. Heskett (1986, 118 ff) provided examples of service businesses that started out very much associated with one individual, but whose successful growth was associated with development of a "lean" team management approach. Peters (1988), of course, has been an advocate of proactive, horizontal management and empowerment of people in achieving effective service organizations.

3. Be careful with investments.

The sign of the investment/sales term suggested that heavier investment sectors performed more poorly than lighter segments, which supported the hypothesis in this area. The magnitude of the coefficient, however, was not statistically significant. Nevertheless, one must use a certain amount of common sense in interpreting results (see, for instance, Buzzell and Gale 1987, 3). Some observations can be made on the basis of examination of the data. If one considers the Equipment Rental & Leasing segment (Table 2), it is seen to have the highest investment to sales ratio, but is about mid-way in profitability. Comparison with the R&D, Testing Laboratories segment, which is second highest in investment to sales but one of the lowest in PBT, suggests something peculiar may be occurring. One might expect that Equipment Rental & Leasing managers find it relatively easy to anticipate usage of equipment and price accordingly on a value-added basis. R&D, Testing Laboratories managers, on the other hand, may find it more difficult. Equipment tends to be used in job performance and there may be some attraction to having the latest equipment available to do a job. This equipment availability may not be accurately reflected in pricing. Therefore, to what use and how to incorporate that value into price may be more difficult to appreciate and assess. Thus, in any segment there must be more to purchase than "latest thing" and "tax deductible" considerations in making purchases. Considerations such as, "Will it make operations more efficient? Will it bring more business? Will it pay for itself?" are important. The negative sign suggests that many times investment do not make these contributions, so investment must be carefully considered in these businesses.

CONCLUSIONS

A cross-sectional study has been made of some of the factors that apparently affect profitability in the business service sector. These factors may be academically interesting in themselves. As a consequence of this study, however, some observations are made that relate to strategies for small business service businesses. These observations may have an impact on how managers may grow these businesses in the same way the PIMS study has contributed to developing strategies for larger manufacturing businesses.

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