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The PIMS program of strategy research
A retrospective appraisal

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Abstract

The article provides a brief overview of the historical background and the early methodological innovations of the PIMS project, which has dominated strategy research between 1975 and 1990. Several findings are discussed, especially the so-called key success factors like market share, product quality, order of market entry and capital intensity. These findings had a considerable impact on the strategy formulation of firms and stimulated subsequent academic research outside the core PIMS program. The article also develops some perspectives for future research on key factors of success.

Keywords: PIMS; Market share; Appraisal; Strategy

1. Introduction

The year 2000 marked the 30th anniversary of the PIMS program of research on business strategy and performance. The Strategic Planning Institute (SPI), where PIMS was housed after 1975, recently closed its office in Cambridge, MA. PIMS Europe, SPI's overseas affiliate, continues in operation with several offices in London and elsewhere. But PIMS is effectively out of business in North America. In addition, the flow of research publications based on PIMS data, once a steady stream, has dwindled to a trickle. This seems an appropriate time to consider how the PIMS research has affected management thinking, how it has influenced subsequent research, and what lessons can be drawn from all of this for future work.

The discussion that follows is a personal perspective of the author, who was actively involved in the PIMS research from its inception until the late 1980s. I have not attempted to provide a review or "meta-analysis" of all of the research that has been done on all of the topics covered by PIMS. Some useful reviews of several of these areas have been published, and these are mentioned in appropriate sections below.

2. Background of PIMS

PIMS was initiated in 1970 as a project of the Marketing Science Institute (MSI), which had just 2 years earlier moved to Cambridge and become affiliated with the Harvard Business School. In 1975, the program was "spun-off" into the SPI, which provided management consulting services to its participating firms, as well as managing the research activities.

From the beginning, the objective of PIMS research was to identify the factors associated with differences in business performance and quantify their impacts. These performance influences include market or industry conditions, the beginning competitive position of a business unit and the strategies adopted by the unit's managers during a given time period. The research was focused on strategy and performance at the level of a *business unit*, typically a product division of a multidivisional corporation.

The approach used in PIMS was patterned after earlier work conducted within the General Electric by Sidney Schoeffler. Schoeffler analyzed the financial performance and strategic characteristics of GE's numerous business units during the 1960s. He developed a so-called "Profit Optimizing Model" that was utilized by GE corporate management as a benchmarking device for divisional plans and forecasts (see Springer, 1973; Gale, 1994).

PIMS built on the earlier GE research and extended it to a much wider variety of industries and companies. GE's endorsement, together with the sponsorship of MSI and

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Harvard Business School, induced 57 large, US-based corporations to join the program by late 1972. Eventually, more than 500 companies participated for varying time spans, providing data and financial support for the research. By the mid-1980s participating firms included foreign corporations and smaller companies, as well as the original "Fortune 500" types.

The team that designed and carried out the PIMS research included economists (Sidney Schoeffler and Bradley Gale) and HBS marketing professors (Ralph Sultan and the author). Ideas were also contributed by managers and corporate planners at GE and other participating firms. At that time, the field of "strategic management" had not yet emerged, there was no Strategic Management Society or Strategic Management Journal. As a result, the approach we adopted was an amalgam of "classical" industrial organization economics and then-current thinking about marketing.

Our approach to modeling was constrained by the limits of computer hardware and software available in the early 1970s. All of our computation was carried out on "dumb" terminals linked to a DEC minicomputer. The software that we employed was developed by Robert Schlaifer for use at HBS; it provided only a limited repertoire of equation types and estimation procedures.

Because of the limitations of available hardware and software, multivariate statistical methods were not widely used in the field of marketing at the time PIMS was organized. In the period 1965–1970, for example, *not a single article based on multiple regression analysis appeared in the Journal of Marketing*. A few regression-based articles did appear in the *Journal of Marketing Research*, but these dealt with the analysis of consumer survey data, not strategic issues. The journal *Marketing Science* did not yet exist. Thus, there was no body of prior work, much less any research tradition, on which we could draw in designing the PIMS program. We were compelled to make it up as we went along.

3. The PIMS research findings

The companies that supported PIMS were primarily interested in determining what level of performance could reasonably be expected for a business unit that competed in a market with given characteristics and followed a given strategy. Virtually, all of them defined business unit performance in terms of return on investment (ROI) or some variation thereof. They were also interested, naturally, in how to improve a business unit's profitability by modifying its strategy and in how to improve overall corporate performance by reallocating resources among units. To address these questions, we focused initially on developing a regression model with ROI as the dependent variable and various market characteristics and strategy dimensions as independent variables. This was the so-called "PAR ROI" model.

Among the most important profit influences in the PAR ROI model were market share, relative product quality, capital intensity, capacity utilization, labor productivity and the growth rate of a business unit's served market. Overall, the PAR model explained about 40% of the variance in ROI for the business units in the database as of 1986 (Buzzell and Gale, 1987).

While our initial focus was on explaining business unit profitability, the PIMS database was eventually used for research on a wide variety of subjects. These included analyses of market structures, marketing costs, returns to R&D outlays, changes in market shares, vertical integration, market entry and exit, and new business ventures (for a partial bibliography, see Buzzell and Gale, 1987, pp. 301–312).

4. Market share and profitability

PIMS is undoubtedly best known for the finding that market share and profitability are positively related. On several occasions, I have even read in textbooks or heard at conferences that PIMS stands for "profit impact of market share."

Our initial findings about market share and profitability were first published in the mid-1970s (Schoeffler et al., 1974; Buzzell et al., 1975). They immediately attracted widespread attention and have been the subject of controversy ever since.

Among academics, our findings on market share and profitability have stimulated a substantial body of further research, some of it highly critical of our original work. A meta-analysis of the topic published in 1993 cataloged 48 empirical studies in which 276 estimates of profit–market share elasticities had been reported (Szymanski et al., 1993). At least half of these studies were based on PIMS data, most of which were done by independent academics. The vast majority of the elasticities of profitability with respect to market share, not surprisingly, were positive. Since 1993, interesting studies have appeared (Boulding and Staelin, 1990, 1993; Ailawadi et al., 1999), although the popularity of the topic does appear to have waned.

The most serious criticisms of the PIMS findings on market share are those suggested by Jacobson (1988, 1990) and Jacobson and Aaker (1985). He utilized serial correlation models to explain *annual* profit performance (ROI) of PIMS businesses. Based on this type of analysis, he concluded that the association between market share and ROI was "spurious," and that both of them reflected the influence of common unobservable factors such as management skill and luck (1988). In a subsequent reanalysis, he went further, concluding that *none* of the 20 factors in the PIMS "PAR ROI" model—including market share—has a significant effect on profitability. Instead, he concluded, "firm-specific unobservable factors are the principal determinants of business performance" (1990, p. 80). This conclusion is, I believe, an artifact of the methodology used by Jacobson,