

REVISITING THE ACADEMIC PERFORMANCE/ SALESPERSON PERFORMANCE RELATIONSHIP

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The question of whether a strong performance in an academic program improves sales productivity among salespeople has been examined in several ways, with mixed results. The present study uniquely approaches the problem by utilizing an empirical approach to the problem with a random sample across a number of industries utilizing a tested multi-item measure of performance.

The results do not support the subset of conventional wisdom that endorses the use of academic performance as an indicator of potential star salespeople. Implications for sales force recruiters and marketing educators are discussed.

INTRODUCTION

The cost of promotion has always been high. Because of this expenditure, management expects positive results from every dollar spent for sales generation. Of the three major promotion expenditures (personal selling, advertising, and sales promotion), the most money is spent on personal selling. "U.S. firms spend over \$140 billion annually on personal selling" (Kotler 1997, p. 685). Such high levels of expenditures translates into an average industrial sales call cost of more than \$500 (Lucas 1993). The importance of productivity in a sales force is highlighted by the high costs per sale. On average, a sale to an existing account requires three sales calls and a sale to a new customer requires seven calls (O'Connell and Keenan 1990). Accordingly, sales managers continue to search for and hire only salespeople who have a high probability of success.

Performance determinants in general have been investigated in numerous sales force studies. A diverse collection of factors have been empirically evaluated, as researchers have labored to understand

the influences on sales performance. Walker, Churchill and Ford's model of salesperson performance (1977) has motivated a variety of empirical research projects examining the antecedents of performance. The effects on performance of rewards (Ingram and Bellenger 1983), satisfaction (Bagozzi 1980a; Teas 1981) and role ambiguity and perceptions (Teas, Wacker and Hughes 1979; Teas 1983) have yielded impressive results. Other influences, such as career stages (Cron and Slocum 1986) and adaptability (Weitz 1981; Spiro and Weitz 1990) have also shown promise as predictors of performance.

As the antecedents of performance continue to be of interest to sales force researchers, academic performance as a predictor of salesperson performance needs to be re-evaluated. As the role of personal selling becomes increasingly technical and complex in nature, the importance of performance through the formal educational process might be expected to play a greater role in salesperson effectiveness. Salespeople lacking appropriate technical backgrounds in these fields operate with the handicap of fewer shared experiences with clients, in addition to having to cope with the obvious problems of reduced product knowledge. The proliferation of technology-intensive goods and service-oriented product mixes illustrates the importance of academic

achievement as preparation for a sales career. Many firms require a college degree in a specific field as a prerequisite to applying for sales positions. Insufficient or unacceptable academic achievement has been identified as a screening variable for applicants for sales positions (Churchill, Ford, and Walker 1997, p. 407). Given that the assumed relationship between academic performance and selling productivity has been institutionalized in this way, the need to validate this relationship empirically is obvious.

There has been a substantial amount of research conducted pertaining to academic performance as it relates to the productivity of industrial salespeople. Although valuable to the marketing literature, prior studies on this subject have been largely inconclusive when viewed *en masse*. The intent of the current project is to review previous work on this topic, including research dealing with general education variables such as formal education, measures of intelligence and knowledge structures. The study will also strive to contribute to the literature by adding a study incorporating 1) an updated measure of salesperson performance and 2) a random sample of sales personnel operating across a diverse collection of industries.

The unique nature of the sales job makes identifying the predictors of a successful salesperson difficult. As pointed out by Dubinsky, Howell, Ingram and Bellenger (1986), salespeople are physically, socially, and psychologically separated from other line and staff personnel. They must be flexible and innovative because of the non-routine nature of their job. Salespeople must work with a wide range of customers and gatekeepers who are outside the organization and they must perform multiple functions, such as making sales to new and current customers, providing customer service, assisting with market analysis, and doing other diverse tasks. Selling necessitates persistence and self-motivation and is filled with uncertainty and interpersonal conflict; thus, the demands for success are greater than in many other jobs. It would appear that educational achievement would be a contributing factor for a successful salesperson.

Finally, many selling jobs produce delayed results between the time the sales effort is exerted and rewards are received. This absence of immediate reward may lead to disillusionment and associated lack of motivation. These job characteristics indicate that additional considerations may be necessary in the selection of salespeople compared with the selection of an employee for the typical industrial job.

A LOOK AT PRIOR STUDIES

The extant literature on the relationship between academic achievement and salesperson performance spans several decades. To provide a benchmark for the present study, we review and examine this literature base. Studies included in this review pertain to the impact on sales productivity of various types of intelligence and vocational education as well as academic performance, as measured by grade point averages. Corresponding to the literature, this review is divided into two areas: research supporting an academic/ selling performance association and papers rejecting such a notion.

Literature Supporting a Relationship

Churchill, Ford, Hartley, and Walker (1985) noted the inadequacy of information concerning the determinants of industrial sales performance. Their conceptual model was meant to provide a framework and hypotheses to guide future research in sales management. The original model indicated that each of four determinants of performance: motivation, aptitude, skill and role perception, is influenced by a variety of antecedent variables. One of these variables includes the personal characteristics of the salespersons, namely, intelligence and education (p. 158). Although not articulated explicitly, the model's implication was that salespersons' intelligence and their self-perception of ability may influence the amount of effort expended on the job. The researchers suggested improving performance predictions by using measures of aptitude (p. 167).

O'Leary (1980) searched the Psychological Abstracts from 1964 through 1979, as well as other government sources, to find nineteen studies relating undergraduate academic achievement and

occupational success. Two of the nineteen studies dealt with the sales profession. They confirmed a positive association between grade point average and job success (Heckman et al. 1969; Weaver 1969).

In a study of the relationship between formal education and sales productivity of retail appliance salespeople, Cotham (1969) observed statistically significant relationships between items found on applications, notably formal education, sales volume and earnings criteria. Cotham also found a significant correlation between education and unadjusted sales volume for retail salespeople.

The use of measures of intelligence and educational performance as predictors of salesperson performance have also received guarded optimism in the psychology literature. Tenopyr (1981) concluded that experience and educational variables are as widely used in selecting salespeople as are interviews. She found little empirical evidence, however, to support the use of these variables. There were, according to Tenopyr, few attempts to determine the validity of education and experience as usable criteria. The variables appeared to have low validity, and often excluded groups of people who had been denied educational advantages (p. 1123). The author determined that cognitive tests are valid for predicting training program performance and that people who do well in training programs later perform well on the job. Her conclusions were generally supported by Schmidt and Hunter (1981) and confirmed in prior studies involving life insurance salespeople (Merenda and Clarke 1959) and retailers (Mostel 1952).

Finally, a link between knowledge structures and adaptability has been suggested (Szymanski 1988), implying that performance is enhanced as richer knowledge structures and customer-specific understanding positively impact performance. Indeed, Sujan, Sujan and Bettman (1988) found that salespeople with more interrelated and richer knowledge structures about their customers performed more effectively than their less-knowledgeable counterparts.

Can academic achievement be used as a surrogate or, perhaps preliminary measure of knowledge structures?

One could argue that the systematic entry and retrieval of information in academically-oriented exercises might condition a future salesperson to develop knowledge structures needed in the sales environment.

Disconfirming Evidence

The above studies suggest, in many cases rather cautiously, that salesperson productivity can be improved by staffing one's sales force with highly-educated sales personnel who excelled in their classroom experiences. Much of the literature relevant to this topic, however, has reported inconclusive findings or, in a few cases, even negative relationships.

Cotham (1969) reviewed more than 30 studies published since 1915. He found that the "available research indicates an association of intelligence to sales performance ranging from a fairly low positive correlation to a non-significant relationship" (p. 65). Lamont and Lundstrom (1977), in their set of personality variables and personal characteristics designed to help select industrial salespeople, found that the level of formal education and levels of sales performance were not statistically significant.

Ford, Walker, Churchill, and Hartley (1987), presented a meta-analysis of 1396 correlations between the future performance of salespeople and biographical data and psychological tests. No single criteria, including educational attainment, intelligence, cognitive abilities, verbal intelligence, and math ability, was a consistent predictor of sales performance (p. 121). Of the group, the relationship between salespeople's level of formal education and their sales performance was the weakest one examined (p. 122). This conclusion appears to be supported by two other sources, Johnston and Cooper (1981) and Randall and Randall (1990).

Bagozzi (1978) presented the hypothesis that "high verbal" people would be better salespeople. A person with "high verbal" intelligence has the cognitive ability to perceive, attend, and process information (p. 520). He found, however, an inverse relationship between verbal intelligence and salesperson

performance. Subsequently, Bagozzi mentioned that those with high cognitive abilities may find the job of selling not to their liking because they may be bored or interested in other activities. He tempered his findings by noting that the relationship was "moderate." Bagozzi eventually concluded that the relationship of verbal intelligence to performance is insignificant (1980b).

Although many sales managers subscribe to the idea that those who possess a college degree will have better sales performance than those who do not, Greenberg and Greenberg (1980) argued that this is a myth. In their study of 360,000 individuals over nineteen years, they concluded that "people with little education can do the [sales] job as effectively and as readily as those with college degrees" (p. 133). There may be, however, a variance from industry to industry according to levels of education. The college and the multi-degree recipient slightly outperformed (5%) less-educated competitors in industries characterized by big ticket, highly technical sales, and by sales requiring lengthy follow-up. More recent research suggests that education is the most frequently used salesperson selection criterion (Hill and Birdseye 1989).

Interrelationships among salespersons' demographic variables, job satisfaction, and propensity to leave were studied by Parasuraman and Futrell (1983). A significant negative correlation was found between education and satisfaction with the job, fellow employees, supervision, pay, promotion and advancement, company policy and support, and customer satisfaction. A significant positive correlation between education and propensity to leave also was noted. Salespeople who were younger, had less tenure, and had attained a higher level of education had a greater inclination to change jobs relative to their older, more tenured and less educated peers (p. 45).

Finally, in a meta-analysis of 116 studies by Churchill, et al. (1985), evidence about the factors that may affect a salesperson's performance was analyzed. The results suggest that the studies which use personal factors to predict performance have great deviation, implying that no single determinant can

explain a large proportion of the variation in salesperson performance. They concluded that "[W]hile GPA and intelligence tests will continue to be used to predict selling productivity, the findings of this comprehensive study support the idea that the determinants of sales performance are job-specific" (p. 117).

In summary, the literature provides, at best, a blurry picture of the academic performance/sales performance relationship. Part of this could be attributed to the Churchill et al. (1985) observation that the determinants of sales performance vary widely between industries and even between jobs in a given industry. Even though that may be true, the impact of academic performance on sales productivity remains relevant due to its popularity as a selection/screening tool (Tenopyr 1981; Johnston and Cooper 1981).

Measuring Sales Performance

One of the side benefits of this stream of inquiry is that researchers have been forced to address the conceptual and methodological problems of measuring salesperson performance. Team selling, missionary selling, new accounts, heterogeneous levels of difficulty of territorial assignments and long selling cycles can tend to render simplistic performance measures inaccurate.

Measurements of performance have changed from the simple single-item measures that characterized the instruments of the '60s and '70s. Marketing researchers in the late '70s realized the shortcomings associated with the use of single-item measures to represent variations in non-observable constructs (Churchill 1979; Jacoby 1978; Peter 1979). Behrman and Perreault's (1982) 31-item measurement incorporating five dimensions of performance highlights the application of this research in this area.

Much of the sales performance research is dated, suggesting a need for a fresh look at this area. Many studies employing rigorous measures of performance have not evaluated relationships with academic achievement but surrogate measures, such as

intelligence, aptitude or performance in training exercises (Tenopyr 1981; Merenda and Clarke 1959; Mostel 1952). As many more traditional approaches to recruiting commonly employ grade point averages as an initial means of screening applicants (Johnston and Cooper 1981), it would appear that the importance of the questions presented here deserves yet another look.

The current study attempts to evaluate the relationships between several measures of performance with a measure of academic achievement based solely on grade point average. Evidence that a successful educational experience influences other dimensions of a salesperson's selling behavior will be evaluated using a conceptual model. The following five questions will be addressed:

- Does academic achievement influence the salesperson's ability to meet sales objectives?
- Does academic achievement influence the salesperson's maintenance of technical knowledge?
- Does academic achievement influence the salesperson's ability to provide information?
- Does academic achievement influence the salesperson's ability to control expenses?
- Does academic achievement influence the quality of the salesperson's sales presentations?

METHOD

In order to test the above relationships, a questionnaire was developed and pilot tested for readability and clarity. Performance was measured using the 31-item self-assessment scale introduced by Behrman and Perreault (1982). The measure provides summated scores on five separate components of performance: sales objectives, technical knowledge, providing information, controlling expenses and sales presentations. Academic achievement was recorded using respondents' grade point averages (GPA) on three levels of academic activity: High School, College and Post Graduate. An academic achievement score was generated based on a simple arithmetic average of the three measures. Although the higher average grades assigned in graduate classes could be perceived as a confounding aspect of the study, it was felt that attempting a successful level of formal education

involves an achievement in itself. No attempt was therefore made to correct for differing levels of grading rigor.

A list of 2000 randomly selected salespeople from across the United States was purchased from a commercial list broker. Respondents were sent preliminary notifications soliciting cooperation in the study followed by questionnaires via a direct mailing. Of these, an estimated 93% were deliverable, 271 usable returns were received for a response rate of 14.4% (percentage of deliverable questionnaires).

The decision to include a wide variety of industrial settings in the study can be viewed as both a strength and a weakness. Certainly job-specific influences such as supervisor personality, industry-specific aptitude, etc. could be cited as preventing an aggregate level of analysis. Johnston and Cooper (1981), however, reported that academic performance was widely used by recruiters from diverse industries. An industry-specific study would not appropriately test the validity of this criterion (academic performance) as it is applied (across industries). It was felt that a multi-industry study would best evaluate the overall relationships without the biasing effects of a particular industry.

Although the response rate was disappointing, it was not unexpected as random samples of marketing professionals often suffer from this feature, perhaps due to the time constraints under which these people labor. Indeed, Gatignon and Robertson (1989) reviewed response rates for large-scale surveys of marketing professionals and found that return rates ranged from 5.9% to 22%. The influence of nonresponse was evaluated using Armstrong and Overton's (1977) suggested procedure of comparing the demographic characteristics of the first two thirds of respondents with those of the last third. No substantive differences were observed.

As shown in Table 1, the distribution of educational backgrounds is skewed toward completion of a college degree with grade point averages between 3.0 and 3.5. This above average distribution may be reflective of the pervasive use of grades as a screening tool for new applicants.

TABLE 1
Sample Characteristics

Distribution of Grades

GPA	High School (n=248)	College (n=228)	Graduate School (n=52)
< 2.5	14.5%	13.6%	2.0%
2.5 - 2.99	10.9	18.4	2.0
3.0 - 3.50	55.6	61.8	56.0
3.51 - 4.0	18.9	6.1	40.0

Responses to an open-ended question asking about the undergraduate major of the respondents are also summarized in Table 1. General business backgrounds including Finance and Management were most often cited, followed by Liberal Arts, Engineering and Marketing respectively.

The industry breakdown of respondents in Table 2 reveals a substantial representation across a wide variety of fields. As the selection process was random in nature, no attempt was made to ensure representation of particular industries. As a result, service industries are slightly under-represented in this sample.

TABLE 2
Industry Distribution of Salespeople

Industry	Percentage*
General Manufacturing	25.4%
Services	16.8
Transportation	14.2
Food Processing	10.3
Electronics	7.3
Printing/Publishing	4.7
Wood Products	3.5
Clothing/Textiles	3.0
Plastics	3.0
Metallurgical Products	3.0
Aerospace	2.2
Agribusiness	2.2
Pharmaceutical	1.7
Chemicals	1.7

*Percentages are rounded to the nearest tenth

The model discussed above was evaluated using multiple regression. Academic achievement was defined as the dependent variable, with each of the five dimensions of sales performance specified as predictors. Regression coefficients between academic achievement and each of the performance constructs were assessed.

FINDINGS

The regression results are presented in Table 3. The model was able to explain a statistically significant amount of variation in the dependent variable ($p < .0002$), but upon further investigation the evidence of a relationship between academic performance and salesperson performance is dubious at best for three reasons. First, the model was able to

TABLE 3
Summary of Regression Results

Performance Dimension	Beta	F-Value	P-Value
Meeting Sales Objectives	.011	0.042	.838
Maintaining Tec. Knowledge	-.240	18.711	.000
Providing Information	-.014	0.049	.826
Controlling Expenses	-.007	0.015	.902
Delivering Sales Presentations	-.036	0.330	.566

Dependent Variable: Academic Performance
R-Square=.0665

explain only 6.65% of the variation in the dependent variable. Second, although five performance categories were included in the model, only one -- Maintaining Technical Knowledge, contributed significantly to the explained variation.

Finally, the relationship between academic performance and Technological Knowledge Maintenance was negative, suggesting that the better respondents did in college, the worse they did in keeping up with developments in their fields. This counter intuitive finding might be explained by stronger academic performers placing a higher subjective norm on keeping current in their fields.

CONCLUSIONS

Some may feel that the poor model fit and counterintuitive findings presented above reduce the significance of this research. To the contrary, we feel that the results challenge substantial research findings and reported practitioner assumptions. The findings presented here are certainly not intended to be the "final word" on this topic. While no single study can definitively answer any research question, the present project approaches the topic from a more macro level (i.e., non-industry specific) approach than has previously been reported. The evidence presented certainly challenges the conventional wisdom that the star performers in academic institutions will make the most successful sales personnel.

It could be that salespeople with highly successful backgrounds in academic programs developed higher norms of success. If so, it would be expected that they would be more rigorous in their self-assessment of their performances, thus resulting in the statistically insignificant path coefficient estimates. No attempt was made to control for this in the study design.

The findings support the contention of Churchill et al. (1985) that "the determinants of sales performance are job-specific" (p. 117). The search for universal cues to identify promising recruits has not borne substantially helpful results. Targeting top students for sales positions is a means of applying a similar

universal standard that increasingly appears to be invalid. Seeking top academic performers, however, may be defended on the basis of specific/unique needs of a particular position or by seeking to fulfill non-performance based criteria.

Implication for Marketing Managers

Sales force recruiting efforts targeted by alumni toward their parent organizations may require a re-visitation of the decision to recruit only from prestigious schools where the applicants may command higher entry wages. Staffing decisions will, obviously, need to weigh the intangible benefits and compatibility with corporate culture of all candidates. While one would certainly expect an appropriate degree to qualify for technically-oriented positions, team selling and missionary assignments may be employed to drive compensation-related costs down by using personnel with less formal education in non-key positions.

Johnston and Cooper (1981) found that scholastic record has a great impact on interviewer choice (p. 55). This emphasis may lead to initial elimination of candidates who may become successful and committed salespeople. In non-technical fields, recruitment efforts may benefit from evaluation of potential new hires based on performance in marketing clubs, extra-curricular activities or other non-academic indicators. Commitment to the firm, defined as an "internal feeling, belief, or set of intentions that enhances an employee's desire to remain with an organization" (Hunt, Chonko and Wood 1985, p. 113), should be greater for these individuals. Given the costs of replacing sales personnel, the addition of recruits who will demonstrate organizational commitment rather than career commitment would substantially improve sales force productivity. Lamont and Lundstrom (1977) concur by stating the following characteristic in the profile of a successful salesman: "...views selling as a professional career and has little interest in achieving status beyond the selling position" (p. 525).

A second implication of the findings is that academic performance is no substitute for intelligence tests and in-basket exercises. Given the theoretical evidence

supporting an intelligence/productivity relationship, managers would be well-advised to spend the necessary resources to administer empirical tests, such as assessment centers or knowledge assessments, to measure applicants' ability to solve intellectually-based problems or to develop and recall client-based knowledge structures via experience.

Implications for Marketing Educators

Sales careers represent one of the fastest growing job opportunities in Marketing with an estimated annual growth rate of 14-24 percent for insurance and manufacturer's sales representatives to more than 35 percent for sales positions in the financial and service sectors (U.S. Department of Labor 1992). In spite of this potential, graduates of marketing programs made up a minority of the respondents in this survey. The opportunity for developing students to match the needs of this profession is thus highlighted. Marketing educators need to endeavor to prepare students for this initial job experience and to be able to convince recruiters that marketing graduates have been given a distinctive advantage because of their educational training. As long as personal selling has a stepchild image among marketing academics, the practical application of classroom material will continue to suffer. Recruiters should avoid the temptation to short cut decisions as important as salesforce staffing. Passing over otherwise strong applicants for lack of obtaining a minimum grade point average could eliminate many who would thrive in a personal selling setting.

This research can offer encouragement to students who are seeking employment after attaining only limited success in their academic pursuits. Nothing will be done to change a lack of classroom accomplishment after it has been completed, therefore a logical alternative for advisement is to stress that mediocrity need not be a cross for the student to endure as he or she moves on to the next stage of his or her sales career. Many salespeople have, evidently, rebounded from marginal performances in academia to become successful salespeople.

The findings also indicate the need for more specific, application-oriented training in personal selling in

marketing programs to prepare students who aspire to a career in sales. A measure of selling effectiveness could actually be a helpful tracking tool for alumni to allow for assessment of sales programs. Some feel that readings, lectures, written case exercises and examinations offer no substitute for videotaped role playing, peer assessments, internships and other application-specific exercises (LaForge 1992). Recruiters may do well to seek out graduates of marketing programs placing a greater emphasis on developing the personal selling skills necessary for entry-level positions. Empirical research into the differential impact of academic programs designed specifically to enhance entry-level performance and subsequent management skills would make for interesting reading.

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