

PREDICTING SALESPERSON SUCCESS USING PERSONAL AND PERSONALITY CHARACTERISTICS:
A THEORETICAL FRAMEWORK

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Abstract

Research in the area of salesperson performance has failed to establish critical theoretical foundations for testing and predicting salesperson success. Many researchers have attempted to generalize results over all categories of salespeople without consideration of those tasks and traits crucial to success in specific categories of sales employment. A theoretical framework is proposed to guide future research toward an elimination of these shortcomings. Development of a job analysis, application of socio-analytic theory and behavioral consistency theory are presented as areas that need developing to enhance this research stream.

Introduction

The costs to businesses for hiring and training salespeople are staggering. For example, it currently costs firms in the United States more than \$7 billion per year to locate and train sales personnel. A Sales and Marketing Management Survey (1983) listed the average cost of sales training per salesperson for industrial products at \$22,480, consumer products \$15,090, and services \$14,720, an overall increase of 8.5 percent since 1981.

These are not the only costs to business from hiring the wrong people. The actual sales call itself is very expensive. It is difficult to calculate the cost of a sales call in general because of the many different types of sales positions, yet the cost of a sales call (1979) by a manufacturer representative was estimated anywhere from \$100-\$200. Many companies are, in effect, losing \$100-\$200 per call if their salespeople are ineffective.

Another wasted cost includes the on-the-job learning period during which the new salesperson is not productive, but for which salary and expenses are paid. Additionally, a mistake in hiring may cost dollars in lost orders, in the alleviation of established customers and in low productivity in establishing new accounts. The losses to business for mistakes in hiring salespeople are truly astronomical and they start with the cost of the first advertisement for the position, through recruiting, hiring, and training to the last paycheck (Randall et al. 1981).

Scholars recognizing the manager's need to choose successful salespeople have attempted to find relationships between a salesperson's characteristics and their performance (Dunnette and Kirchner 1960; Cotham 1969; Lamont and Lundstrom 1977; Mayer and Greenberg 1964; Miner 1962). It has been the hope of many researchers to identify the profile of the "ideal" salesperson. Identifying the "ideal" salesperson has been attempted by relating observable personal characteristics such as educational background, age, experience,

height, or in terms of personality characteristics such as dominance, empathy and ego strength to sales success. The results have been quite disappointing. Studies attempting to relate personal or personality traits to salesperson's performance have generally lead to contradictory conclusions. Several reasons may account for these findings.

One major issue that has plagued past efforts to identify successful salespeople is the variety in sales jobs. Randall et al. (1981) found that one of the major problems in discussing the selection of sales personnel is the many different types of sales positions in existence today. The personality characteristics required to be successful vary dramatically with the type of selling position. An implicit assumption in many of the studies to date is that the same personal characteristics may be associated with effective selling regardless of the type of product sold, whether the customer calls on the salesman or the salesman calls on the customer, or some other differentiating characteristics.

Another problem that has received some attention is the lack of theoretical development in the sales success performers relationships. The purpose of this paper is to lay the foundation for theory building in the area of sales force performance and selection. Behavioral consistency theory and personality theory will be discussed and applied in understanding this process. A theoretical framework will be presented for the different selling types followed by recommendations for future research.

Biodata and Personality
Tests to Predict Salesperson Success-Background

As was previously mentioned, most early research on salesperson effectiveness has been directed toward relating salesperson performance to scores on personality tests, ability tests, and application form information typically used in the employee selection process. Unfortunately, a majority of these studies were atheoretical. It was uncommon for anticipated relationships to be specified, and when they were, an explanation of how the salesperson's characteristics affected performance was not considered. This may be attributable to the fact that the research was not grounded in theory to pre-specify these relationships.

It was not uncommon to find researchers using a single measure of sales success to describe a complex selling task, or using bivariate statistical techniques to applied multidimensional relationships (Mosel 1952; Baier and Dugan 1957; Kirchner et al. 1960; Dunnette and Kirchner 1960; Miner 1962; Chiselli 1969). Many researchers were forced to use performance data made available from the company being studied. As a result, the study results were tainted. At the outset of variable

selection, it is important to set certain "chronological priorities." First, criteria must be developed and analyzed, for only then can predictors be constructed or selected to predict relevant criteria. Far too often, unfortunately, predictors are carefully selected, followed by a hasty search for "predictable criteria" (Cascio 1982).

It will also be argued that the selection of appropriate measures of the independent variables typically dealt with in sales research were neither grounded in theory nor chosen with any particular relationships in mind. It is not uncommon to find a list of twenty or thirty variables to be tested for significant relationship with sales success. One might assume that by sheer numbers alone something must be statistically related to success.

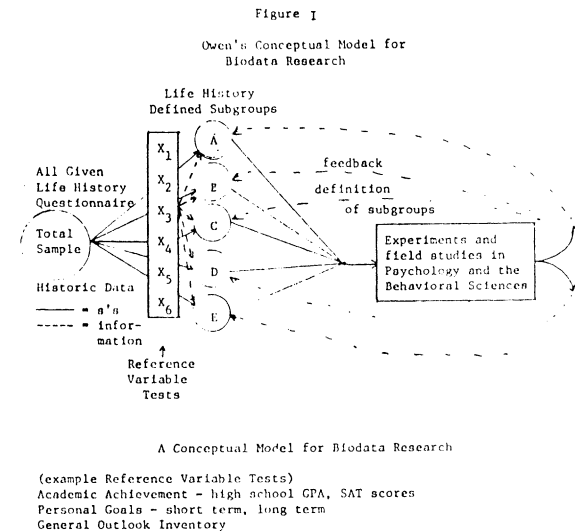
Biodata and Behavioral Consistency Theory

Research involving biodata has been subject to more or less constant criticism on the basis that although some power of prediction has been achieved, it is accompanied by modest, if existent, gains in understanding. There has also appeared to be many studies that attempt to predict job performance, but they fail to increase our knowledge about predictor-criterion relationships. Given these efforts in predicting salesperson success, a conceptual framework has yet to be developed. Guilford (1959) quite properly observed that biodata research has been characterized by an empirical shotgun approach to prediction, largely devoid of both theory and generality. Almost twenty-five years later nothing has been done to correct this problem.

Owens' (1976) conceptual model for biodata research will be proposed as a starting point to overcome past problems. Behavioral consistency theory will be offered to explain the relationship between biodata and sales success. Owens (1976) views biographical information as providing a picture of where an individual "has been," (i.e., a record of a person's path). One can then invoke the behavioral consistency theory arguing that a person's past experiences can aid greatly in predicting where he or she is "likely to go" in the future. Owens argues forcefully that "biodata" be regarded as providing a post-mortem view of the development of the individual. Behavioral consistency theory is to be best described by that familiar bit of conventional wisdom, "the best indicator of future performance is past performance."

Owens' conceptual model (see Figure I) for biodata research will be reviewed followed by a review of consistency theory with a discussion on how it enhances the model. Owens' model is in some sense a flow chart. In overview, the circle at the left represents a large sample of subjects--say all salespeople in an industry or company. The subjects are first administered a comprehensive biodata form designed to cover the salient dimensions of their prior experiences. Owens then uses factor analysis to compose profiles (Cronbach and Gleiser 1953; Mahalanobis 1936) from which subjects are hierarchially grouped (Ward and Hook 1963)

into groups of closely similar profiles representing similar patterns of prior experience. These subjects or families are represented by the smaller circles lettered A through E. The tendency of subjects within these subsets who have exhibited internally similar and externally differential prior behaviors, to continue to so behave in the future is evaluated in three ways. First, the letters X_1 to X_n represent reference



variable tests selected as useful in characterizing subgroups. The distinctiveness of the subgroup behavior is initially evaluated in terms of their tendency to score differentially across the spectrum of tests. Secondly, the entire sales career of these subjects may be regarded as being composed of a series of potential field studies in which the differential behaviors of the subsets are revealed and evaluated. Thus, differences may be expected in different background areas (i.e., academic achievement, experience) depending on the type of selling and the crucial tasks required in the selling. Third, selected subgroups may be hypothesized to differ in their performance in a variety of controlled experimental situations. These situations should be chosen so to cover the major behavioral domains (i.e., perception, sensations, learning, memory, etc.) and to represent experimental contexts in which prior experience may be expected to play a role. Finally, feedback from the three contexts is collated and summarized, by subgroup, to provide an ever expanding taxonomy of subset behaviors.

One criticism of the model is that it still does not overcome the problem of identifying relationships until after the fact. That is, researchers gather large amounts of biodata information, subgroup the sample, and then specify situations to test those hypotheses that are needed to cover the major behavioral domains. Owens' model needs only to be modified to include a job analysis beforehand to determine salient behavioral domains and tasks necessary to complete the job successfully (see Figure II). Past research has been void of using a job analysis to determine crucial behaviors and tasks in performing a sales job. One explanation of the conflicting nature of the

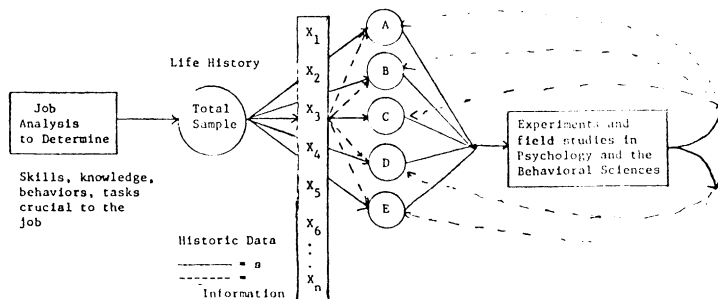
results to date could be accounted for by the testing of variables (education, age, product knowledge, etc.) in one sales setting where the variable is essential to good selling while in another situation the variable has little relationship with success. A thorough job analysis would help flush out these valuable characteristics. A job analysis further establishes or indicates that sales jobs must be differentiated into classifications of sales types for further testing.

model, behavioral consistency theory, and a thorough job analysis, a researcher can come to stronger conclusions concerning relationships that should be hypothesized.

Personality Characteristics and Personality Theory

Most, if not all, personality theorists would agree that a person's personality can be described

Figure II
Modified Owen's Model



Only then can we have some degree of assurance that specific sales types and characteristics are related. Thus, a thorough job analysis will guide the researcher in choosing relevant independent and dependent variables and testing for those relationships. Another benefit of a job analysis is the guidance it gives the researcher in the selection of reference variable tests as opposed to using all available tests. Owens (1976) lists 25 potential reference variable tests that might be used. Another advantage of the job analysis is that it ensures the life history questionnaire will include all relevant information necessary for subgrouping individuals.

in terms of consistent behavior patterns. It is these consistent behavior patterns that make it possible for our future behavior to be predicted with a certain degree of accuracy (Hergenhahn 1980).

How might one tie biographic information, a job analysis, and the notion of behavioral consistency theory together? In general terms, what would the selection or prediction procedure look like if one tried to apply a consistency model? First, a comprehensive study of the job would be made. The results of this effort would be in the form of dimensions of job performance well defined by broad range of specific behavior incidents, which in turn, have been scaled with respect to their "criticalness" for effective or ineffective performance. Next, a thorough search of each applicant's previous work experience, educational history, etc. through a life history questionnaire would be carried out to determine if any of the relevant behaviors or outcomes have been required of him or her or have been exhibited in the past. Items and rating methods would be developed to facilitate judging the frequency of such behaviors, the intensity with which they manifested, the similarity to their context to the job situation, and the likelihood that they will show up again. These judgements can then be related to similar judgements concerning significant and consistent aspects of an individual's job behavior.

The personality characteristics studies seem to employ the same procedures that were used in the biodata studies, that is the generation of as many personality characteristics as possible on the assumption that one must be related to sales success. Dominance, for example, has been found significant in one study while insignificant in another. As was argued in the biodata section, past personality studies have failed to use a job analysis to determine crucial behaviors in performing the job. An explanation of the contradictory nature of the results could be accounted for by the testing of personality variables in one sales setting where the variable is essential to good selling while in another where the variable has little to do with success. A more guided method could be established as opposed to a researcher arbitrarily choosing of the variables to be studied. The selection of personality variables should reflect the performance criteria, with heavy emphasis placed on the behaviors necessary to perform the selling function. The use of a thorough job analysis can tap these behavior requirements. Cascio (1982) states "the objective of a job analysis is to define each job in terms of behaviors necessary to perform it."

Past researchers have not had the tools to theoretically predict relationships. Using Owens'

What is needed is theoretical framework to help explain why certain variables are related to success in a sales job. Researchers in the past have utilized factor lists of traits as representations of personality structure (Lamont and Lundstrom 1977; Greenberg and Mayer 1964; Harrell 1960; Miner 1962). Hogan (in press) argues factor lists typically have an atheoretical quality that hampers the understanding of predicted relationships. Furthermore, many tests were used that

were developed to test abnormal behavior (e.g. MMPI). Thus, past researchers have not had the tools to adequately make predictions and add to the understanding of sales characteristics performance phenomenon. Hogan, drawing from the work of Eysench (1953) and Holland (1973) takes one step up from using traits and uses type theory.

The past four years Hogan and his staff at John Hopkins University have developed a structured personality inventory designed specifically to measure success on a job. The inventory is driven by socioanalytic theory. Hogan contends, the scales of the inventory assess dimensions that type theory predicts are related to successful real world performance. The test shows promise because of its ability to measure and predict types that are needed to be successful in a job. It is well established in the literature (Gordon 1956; Tupes and Christal 1961; Golberg 1981) that Allport's (1936) large list of English trait words can be defined in terms of six oblique factors. Hogan has reduced these personality traits to six fundamental dimensions; intelligence, adjustments, self-control, ascendance, likeability, and sociability. Once the dimensions were established, Hogan and his staff developed a set of items to form a kind of miniature scale, which they refer to as a Homogeneous Item Composite (HIC) (see **Figure III**).

Figure III
Hogan's Personal Inventory Scale

<u>Scale</u>	<u>Intelligence</u>	<u>Adjustment</u>
Homogeneous Item Composite (HIC)	HIC	HIC
	<ol style="list-style-type: none"> 1. Good Memory 2. School Success 3. Math Ability 4. Reading 5. Cultural Taste 6. Curiosity 7. Intellectual Games 8. Generates Ideas 9. Intelligence 10. Divergent Thinking 	<ol style="list-style-type: none"> 1. Not Anxious 2. No Somatic Complaint 3. Not Depressed 4. No Guilt 5. No Social Anxiety 6. Self Confidence 7. Self-Esteem 8. Identity 9. Calmness 10. Good Attachment
	<u>Self Control</u>	<u>Ascendance</u>
	HIC	HIC
	<ol style="list-style-type: none"> 1. Caution 2. Avoids Trouble 3. Predictability 4. Planful 5. Not Experience Seeking 6. Not Thrill Seeking 	<ol style="list-style-type: none"> 1. Sets High Standards 2. Leadership 3. Status Seeking 4. Tenacity 5. Influence 6. Entertaining
	<u>Likeability</u>	<u>Sociability</u>
	HIC	HIC
	<ol style="list-style-type: none"> 1. Attentive 2. Dependable 3. Tolerant 4. Flattering 5. Caring About Others 6. Even-Tempered 7. Cheerful 8. Cooperative 9. Trusting 	<ol style="list-style-type: none"> 1. Sociable 2. Enjoys Crowds 3. Exhibition 4. Expressive

Hogan contends their staff has spent three years working on the internal psychometric properties of the inventory which has produced a set of measures which are reasonable, coherent, and independent. Finally, Hogan contends the particular construction of this inventory solves an old problem in measurement--the assumed tradeoff between band width and fidelity. By running analysis at the scale score level, one gets a broad band screening

across six fundamental dimensions; running at the HIC level, one gets a fine grained and very discrete mapping of predictors on criterion.

The test introduced by Hogan is appealing because of its ability to tap those characteristics that are associated with success. Furthermore, instead of searching for a number of tests to measure the independent variables, one instrument can be used. Hogan's theory and test is directly linked to type theory and now only needs to be tested in sales settings. Hogan's work looks like it has potential but its success in other domains does not guarantee its success in sales.

Past efforts in psychological testing have not proven fruitful because of their reliance on factor lists (traits) which are atheoretical in nature. Type theory was introduced and Hogan's work in the area overviewed. Hogan's work was introduced as a promising new theory that could possibly be applied in a sales setting.

Theoretical Framework

The framework presented in **Figure IV** has been developed in an attempt to overcome past deficiencies in the prediction of salesperson success through the integration of both biodata and personality characteristics. The framework allows for the formulation of hypotheses concerning the prediction of success only in the classified sales type. As previously developed, a number of sales jobs exist that are incompatible with one another in regards to what makes people successful in that job. Retail sales studies, for example, should not attempt to explain industrial selling situations and vice-versa. A model predicting performance must, therefore, make this critical assumption in order to be useful in a sales environment. The sales type diagram is not exhaustive but developed for illustrative purposes. The framework presented has four established classifications of sales positions but further breakdowns should be undertaken (see **Figure IV**).

Once the classification of sales jobs has been completed, a thorough job analysis becomes necessary. This analysis includes, for each sales type, a job description and a list of job specifications. Cascio (1982) contends that a job description includes a description of those tasks that must be performed on the job in order to do is successfully. Furthermore, the job specification is derived to determine the knowledge, skills, abilities, and interests deemed necessary to perform a job successfully.

Direct observation and interviewing of job incumbents can be used to gather job information. Observation must, however, include a representative sample of job behaviors in order to obtain a valid picture of job requirements. Due to the fact that workers may act differently when being observed, other methods also should be used in conjunction with observation.

Although the cost of a thorough job analysis will be high, it is imperative that different methods be used and managers as well as workers realize

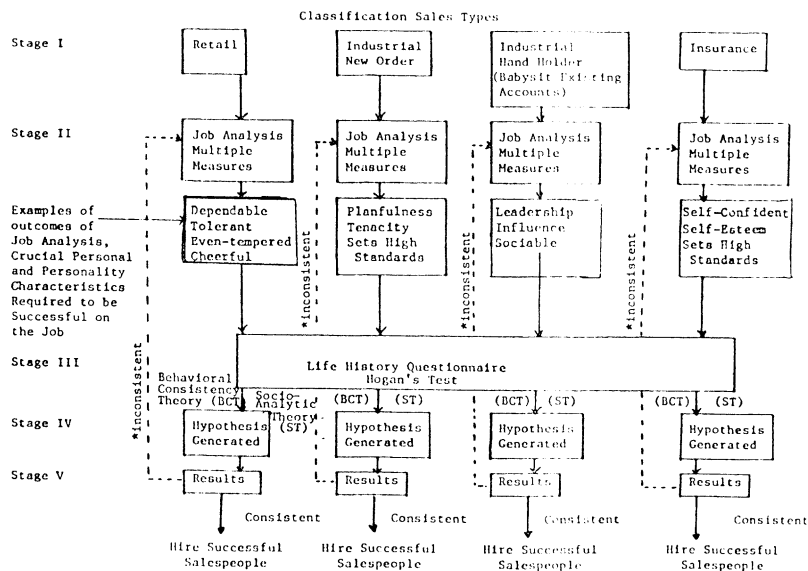
their usefulness in improving on the accuracy of their efforts. If accuracy is diminished, the job analysis objective has been effectively undermined and the expenses incurred in its development and implementation have been for naught. The job analysis forces the research to narrow the choices of predictors of sales success. As opposed to previous research that has tested for anywhere from 15 to 42 variables (Mosel 1952, 42 characteristics; Merenda and Clark 1959, 25 characteristics; Baehr and Williams 1968, 15 characteristics; Cothams 1969, 16 characteristics) only those variables important to the success of that particular job will be tested.

Once the classification procedure and the job analysis have been completed, traits and biodata information will emerge. As was mentioned earlier, the characteristics required to be successful will vary dramatically with the type of selling position. Life insurance salespeople, for instance, whose survival depends upon prospecting, may be found to require a great deal of self-confidence and self-esteem. The industrial new order salesperson (i.e., computer sales) will typically be in a

success. Hogan's socioanalytic theory, based on both trait and type theory, is an emerging paradigm that shows promise in determining success in jobs. It now needs to be applied to sales setting in a number of situations and job classifications.

Once the results are assimilated, the researcher may then take one of two paths. If the results are consistent with the job analysis, theory, and hypotheses generated, then the researcher can move in the direction of prediction and generalizations. One study does not give conclusive results, but as more evidence is accumulated, the strength of arguments can be enhanced. If the results are inconsistent with what the job analyses, theory, and hypotheses generated, then the researcher must go back and review the procedures that took place. Possibly, the job analysis was not properly done as multiple measures were not implemented or improper conclusions drawn. The theory may not be applied properly and should be reviewed. Finally, the hypothesis generated may not represent the job analysis and previous steps as the life history

Figure IV
Framework for Predicting Sales Performance Using Bio-Data and Personality Characteristics



three-month to two-year negotiating period to complete the sale. This requires a great deal of and tenacity on the part of the salesperson involved. Education in one selling job (industrial new order) may be very important while not a major concern in another (retail insurance).

Once stage II is completed, the independent variables that are found to be important to success in a particular job classification can be tested using Owens' biodata model and Hogan's Socioanalytic Tests. This framework attempts to guide the researcher into a systematic approach to prediction of salesperson success. Behavioral consistency theory offers the researcher a bridge that theoretically relates biodata and sales

questionnaire may not tap the tasks required to perform the job. Retracing these steps may find the problem with the conflicting results.

Stages IV and V are of vital importance as past research has failed to help the manager understand why the predictions concerning relationships should exist. The bottom line is organizations need to hire successful salespeople to cut down on the costs associated with turnover.

Until researchers realize the objectives in this paper; sales classifications, job analysis, and application of theory, successful application will be infrequent and researchers work for naught as in past efforts.