WRITING RESEARCH STUDIES IN BUSINESS ADMINISTRATION

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A great deal has been written about methodology in the social sciences but little about scientific research in business specifically. In this paper the authors present a positive adaptive outline to help structure business research.

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Research has many uses in helping business managers and administrators make more meaningful and factually correct decisions. Managers may be interested in basic information about the interrelationships of environmental or systems factors, a description of the historical development of events, or a comparison of the progress of similar events; but whatever the purpose of research, a problem must exist in order to justify an investigation of phenomena within the environment.

THE FUNCTION OF RESEARCH — INQUIRY INTO THE SOLUTION OF PROBLEMS

Herodotus, in his book *History*, as noted by Cohen and Nagel,[1] was interested in why the Nile overflowed its banks in Egypt. Thus the behavior of the Nile was more than a given fact; it presented a "problem" that could be solved only by finding some general connection (cause-and-effect relationship) between the periodic inundation of the Nile Valley and other facts, such as the average rainfall and the seasons of the year.

[1] Morris R. Cohen and Ernest Nagel, *An Introduction to Logic and Scientific Method*, Harcourt, Brace and World, Inc., New York, 1934, pp. 197-200.

No inquiry, therefore, can proceed unless some problem is felt to exist in a practical or theoretical situation. The problem guides the search for some order or "binding thread" among the facts and implies that some satisfactory level or degree of accomplishment is perceived to exist in terms of the problem to be solved. For example, a scientific reason for the inundation of the Nile Valley could not be determined until someone first recognized that the inundation made navigation and agriculture most difficult and wasted many natural resources (a problem demanding a solution).

There are many kinds of research investigation, but the implication is that the research emanates from and is designed to help solve problems. The very nature of research, then, refers to a systematic investigation and examination of a problem area to discover new information and knowledge, establish or test the appropriateness of postulated new relationships, or verify existing, generally accepted knowledge. Within the area of business administration, the scientific method must be used as fully as possible if problems are to be solved for the purposes of generalizing from limited observations and extending, correcting, or verifying knowledge, whether that knowledge aids in the construction of a theory or in the practice of an art.[2]

Objective of Paper

This paper presents the concept that when one undertakes a research study he must have perceived through some experience the existence of a problem and possibly a problem whose solution has a bearing on the solution of related problems. Sensitivity to problems, where others perceive no difficulties, is one mark of a researcher. Research is the use of serendipity in a problem-solving process in which answers based on effective factual data and logical reasoning are obtained. In addition, the study and practice of business administration can become "scientific" in nature only when there is problem-related research conducted on a scientific basis.

Theoretical and Practical Research

Research studies may take one of two possible approaches — the theoretical (descriptive) approach or the practical (cause

[2] *Encyclopedia of the Social Sciences*, Vol. 13, Macmillan, New York, 1934, pp. 330-334.

and effect) approach.[3] The type of approach used, however, does not affect the validity of the scientific element of the research. It should be noted that research in business administration, regardless of the qualitative or quantitative aspect of the study, will be scientific when verifiable facts are discovered, applied, and interpreted in light of existing problems.

Research, then, is an outgrowth of perceived gaps or incongruities in prevailing concepts and beliefs that become doubtful during or after alterations of a familiar, established environment. As a result, research, as in any scientific investigation, must begin with a problem and aim at an ordered state connecting what may seem to be unrelated facts.

Research Must Be Scientific

Many requirements have been established to determine when research is scientific rather than a maze of value judgments and generalizations. Some of the more general and relevant requirements are:

(1) A concept or practice must be validated upon its truth or falsehood.

The implication in this proposition is that ethical assumptions are not valid in the role of science since they cannot be proved or disproved. In the development of a body of knowledge in business administration, one is not concerned with whether or not it is ethical to reach certain organizational objectives, but rather under what conditions and how the objectives may be reached. In other words, a science of business administration is not concerned with the ethical value of objectives, but in determining what organizational practices are the most useful and have the most applicability for types of organizational structures in different situations in reaching stated goals. A science, therefore, is concerned with explaining the how—never the why and the wherefore of phenomena.

(2) Empirical tests must be capable of duplication at other times and other places.

[3] Herbert A. Simon has made the same distinction that is used here in terms of two kinds of sciences. See *Administrative Behavior*, The Free Press, New York, 1966, pp. 248-253.

The major consideration of this proposition is the distinction between the natural and the social sciences. Activities such as business administration which are associated with so many variables that can never be duplicated in exactly the same way in experimental environments cannot qualify as a science in the same sense as a physical science. Even though the human variables in the social sciences cannot remain constant, this does not imply that valid factual relationships in business administration cannot be established on a scientific basis. Simon suggests that the social scientists must include in the research study a statement of the variables that note the knowledge and experience of the persons (variables) whose behavior the research purports to describe.[4]

(3) An adequately stated problem requires familiarity with the subject matter.

Before undertaking a research study, one must be able to determine, on the basis of previous knowledge, certain elements in the subject matter that are significant and relevant.

(4) Research must logically move from the problem to a suggested explanation or solution of the problem.

The development of such explanations is referred to as the formulation of relevant hypotheses. Business administrators accept this proposition in their decision-making process by listing alternative solutions to stated problems as a means to direct their analyses toward an order among the facts. (no attempt is made in this paper to suggest the formal conditions a satisfactory hypothesis must fulfill.)[5]

Argyris summarizes the four above propositions by stating that the requirements of a scientific, theoretical framework are that it is public, not private; is systematic, not random; does not allow prejudices to enter; and is continuously tested not by one case, but by many.[6]

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[4] *Ibid.*, p. 251.

[5] For an excellent discussion of this subject, see Cohen and Nagel, *op. cit.*, pp. 201-202.

[6] Chris Argyris, *Personality and Organization*, Harper and Row, New York, 1957, p. 19.

Importance of Scientific Research

Scientific researchers attempt to develop some order or cosmos from a problem or area of difficulty. Their purpose is to logically derive all of the known results from a few basic facts and phenomena that can be accepted as true for use by researchers, businessmen, and laymen. Research standards, then, must be used if managers and administrators are to obtain research data that can be useful for business-policy formulation, decision making, and human relations.

The significant lack of research in current writings today is highlighted by Coe and Weinstock[7] in a recent study of editorial policies and standards of academic and professional journals. They found that a frequently mentioned reason for the rejection of manuscripts by journals was the inadequacy of research. In addition, insignificance, superficiality, and poor writing of articles were also noted as major reasons for rejection.

Use of the Scientific Method in Research

Application of science to business administration through research implies adherence to the scientific method. The steps that must be followed in this method of solving problems are presented in different ways by different authors;[8] but basically, the steps are:

(1) Develop a statement of the problem or the difficulty that is to be solved.

(2) Review the literature about the problem area and discuss the problem with informed sources and experts in the field. (At this point, the factors that have a bearing on the problem are thoroughly investigated.)

(3) Arrive at a statement of an hypothesis or a tentative solution to the problem.

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[7] Robert K. Coe and Irwin Weinstock, "Publication Policies of Major Business Journals," *The Southern Journal of Business,* University of Georgia, Athens, Georgia, January 1968, pp. 7-9.

[8] For example, see Robert D. Hay, *Written Communications for Business Administration,* Holt, Rinehart, and Winston, New York, 1965, p. 254, and George R. Terry, *Principles of Management,* Richard D. Irwin, Homewood, Illinois, 1964, pp. 96-98.

(4) Collect secondary and primary (experimental) data and carefully organize and classify all relevant information.

(5) Analyze the data, as related to the problem and hypothesis, by interpreting existing causal relationships.

(6) Set forth the findings, conclusions, and recommendations that depend upon the correlation and degree of causal relationships.

(7) Follow up to determine the success of the solution and the validity of the findings.

A Suggested Outline for Scientific Research Studies in Business

Generally, the scientific method as noted above provides an excellent framework for a business research project. However, a more positive, adaptive outline to help structure business research includes:

1. *Statement of the Problem*—A clear, concise statement of the problem should be set forth. Once the problem is defined the writer has a basis for a clear understanding of the research that results in more efficient use of time and money. Within this section, a statement of the hypothesis or a tentative solution or conclusion to the problem should be presented.

2. *Significance of the Problem*—The importance and value of investigating and solving the problem are highlighted in this section. The reason the problem is of current interest and its impact upon business administrators are included.

3. *Purpose of the Study*—The purpose of the study shows what is attempted in the report in terms of alleviating or solving the problem. When the purpose is clearly stated, the researcher can determine what must be done in a logical sequence—that is, describe, analyze, and evaluate the data from which conclusions can be drawn and recommendations made.

4. *Scope of the Study*—The scope of the study sets forth the parameters or boundaries of the study. In other words,

this section describes the range or limits within which the subject is discussed. If specific terms used in the study require defining, this section is appropriate for this purpose.

5. *Sources of Data and Method of the Study*—The sources of data give the reader a description of how the information was obtained. The method of the study presents the approach through which research on the subject was conducted. Both the sources of data and the method of the study allow the reader to evaluate the reliability, validity, and credibility of the entire research project.

6. *Limitations of the Study*—Limitations to the study in terms of data and method are mentioned in this section. Often the limitations may imply a restatement of scope; however, redundancy in this section of the study is often of value.

7. *Plan of Presentation*—This section is an outline of the text of the report. Generally, this is a description of the succeeding chapters that relates how the chapters are integrated into the entire report.

8. *Text of the Study*—The analysis of the factors and the findings of the study as related to the problem and purpose of the research are included in the text of the study. In general, this section includes the analytical, descriptive, and evaluative materials related to the topic.

9. *Conclusions and Recommendations*—The conclusions and recommendations section may include a summary of the major findings in addition to the conclusions drawn from these findings. Recommendations for actions to be taken or recommendations of further research with suggested approaches may also be stated in this section.

This outline is intended to be broad so that flexibility will be achieved to encompass the wide variety of research activities undertaken in business administration. It should be recognized, however, that the above elements are essential if research is to be scientific and help add to a systematized body of knowledge and accepted understanding of general truths of business administration.

Summary and Conclusions

This paper emphasizes that true research must be problem oriented. In addition, if business administration is to become more scientific, research must be conducted on the basis of the scientific method. Business administration will not become a science in the same sense as the physical sciences; however, this does not imply that research activities in business should be any less scientific in approach than the physical sciences.

One of the major conclusions derived from this discussion is that both students and academicians in business administration should be as scientific as possible in their writing of research papers so that all efforts in the field are directed toward developing a systematized body of knowledge and accepted general truths. If this is not achieved, the time and money costs of the research are virtually wasted in terms of the development of the writer as a problem solver; and the field of business administration proliferates with meaningless generalizations and value judgments. By becoming conscious of the value of a science of business administration, researchers in business will become more oriented toward scientific research. This will allow the field to develop valid principles and laws and credible general statements that are meaningful to administrators in performing the management functions.