

# **MANAGEMENT AND RESEARCH – AN INTEGRATED APPROACH**

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## **PREFACE**

It is probably more difficult to write a basic text in management today than it was 50 years ago. Early theorists operated in a virtual vacuum of scientific knowledge. Their works necessarily consisted of common-sense logic, spiced with real-world examples, the latter usually more anecdotal than scientifically generated.

The sciences associated with the management discipline are still immature but are developing rapidly. Today's author faces a plethora of concepts, techniques and theories competing for his recognition.

Therefore, this work is not meant to be encyclopedic but rather a selective presentation of the principal and most generally useful thrusts in modern management thought.

The material is presented so that most college-level students can readily grasp the fundamental theories, tools and concepts.

This paper is a synthesis of the work of many others. Our aim is to share fundamental insights into the challenges, concepts and techniques associated with the management of organizations. This necessitates an understanding of the nature of human organizations, including the bases for their existence, the elements of their composition, and the processes by which they establish goals, evaluate alternatives, develop plans and procedures, and assess progress towards realizing these goals.

The criteria of a science may be usefully elaborated, as in the list compiled by Berelson and Steiner (1964).

The approach is systematic and evaluative. Ultimately the goal is to construct an organized system of verified propositions, a body of theory.

Individual research projects should relate to existing theories to achieve an overall theoretical structure. New studies may be indicated by gaps or apparent inconsistencies among findings.

Science may tell us certain facts concerning the general relationship between group size and productivity; between leadership style and job satisfaction; and between depreciation techniques and taxes.

The application of knowledge (scientifically derived or otherwise) toward the achievement of human objectives is an art. Management, therefore, may be described as a science and an art, the former seeking knowledge and the latter applying it.

Andrews (1969) believes that there are five important criteria for judging whether a field of activity is a profession:

1. Knowledge.
2. Component application.
3. Social responsibility.
4. Self-control.
5. Community sanction.

Skilled and judicious utilization of knowledge are required for the solution of complex important problems.

As Koontz (1961) describes approaches to management theory: “There are the behaviorists who see management as a complex on the interpersonal relationships and the basis of management theory the tentative tenets of the new and undeveloped science of psychology.”

### **The Management Process School**

Davis (1940) was probably influenced by the earlier work by the French theoretician, Henry Fayol, who wrote “Administration Industrielle et Generale” in 1916. Davis submitted that the three “organic functions” of a manager are planning, organizing and controlling, as defined below:

Planning – the exercise of creative thinking in the solution of business problems.

Organizing – the process of creating and maintaining the requisite condition for the effective and economical execution of plans.

Controlling – the regulation of business activities in accordance with the requirements of business plans.

### **The Empirical School**

The empirical school stresses the study of real experiences of the organization and the manager in order to arrive at principles.

### **The Human Behavior School**

This approach closely examines the theories of human motivation, perception and learning, and is basically the application of psychology to the understanding of normal individual behavior determinants. Behavioral sciences, according to this approach, hold the key to management theory and practice.

### **The Social System School**

March and Simon (1958) present the most cogent conception of an organization as an input-output system.

1. An organization is a system of interrelated social behaviors of a number of persons whom we shall call the participants in the organization.
2. Each participant and each group of participants receives inducements in return for which he makes contributions to the organization.
3. Each participant will continue his participation in the organization only as long as the inducements offered him are as great or greater (measured in terms of his values and the alternatives open to him) than the contributions he is asked to make.
4. The contributions are provided by the various groups.
5. The organization is “solvent” once the contributions are sufficient.

## **The Decision Theory School**

Development of a school of thought whose paramount concern is the study of rational decision procedure, and the means by which managers actually reach decisions.

### **The Mathematical School**

For the most part, mathematics contributes to the art of management rather than to science. Although far from amateur science, we are working in this direction, and the efforts of mathematicians are essential for the endeavor.

### **The Comparative Management School**

The comparative management school seems to be an offshoot of the empirical school.

### **Interrelations among Schools**

The first section of this paper deals with the decision process. We begin with a discussion of the control function. Then we introduce three classes of control systems: life-cycle controls, concerned with the control of the system itself; general controls, such as budgets, workmanship and time, which extend across the life-cycle of the system; and finally specific controls, such as production control, concerned with only one phase of the system's life-cycle.

All of these materials are included to assist the reader in visualizing and utilizing the materials covered and to help him place single concepts into a fuller perspective.

## **PART ONE - INTRODUCTION**

### **Decision-Making: the Essence of Management**

A decision may be the impulsive result of a hunch or the deliberate consequence of a careful evaluation; in either case, it is likely to be the beginning of an activity.

The decision process may be viewed from at least three perspectives: through the experiences and observations of practitioners of management; from the essentially experimental viewpoint of the social scientist (the behavioral approach); or from the rigorous and highly structured viewpoint of the mathematician (the decision theory approach).

### **The Decision Process**

Chester (1938), who was a competent executive and a successful author, made several attempts to conceptualize the decision-making process. Nevertheless, it is possible to examine the decision process in a more in-depth fashion and gain some insight.

### **The Wisdom of the Practitioner**

The environment in which decisions must be made will likely include people – their opinions, their beliefs and even their prejudices.

### **The Requirements for Decisions**

The occasion or opportunity for decision-making will originate from one of three distinct fields:

1. Superiors (authoritative).
2. Subordinates (appellate).
3. The initiative of the decision-maker.

## **Contributions of the Behaviorist**

The decision process may be acquired through experimentation and data collection, either in the laboratory in the real world.

### a. The laboratory

Social influence may have an effect upon the values, the judgment and the resulting decisions of an individual. According to Asch (1951), some students faced a simple decision-making situation. The experiment could be restructured as follows. It begins when a group of perhaps seven college students is assembled in a classroom for an alleged psychological experiment in visual judgment. The students are told they are to compare lengths of lines. They are seated a row and two large white cards are then placed before the group.

1. In a routine fashion, each student, in order across the row, verbally responds with the correct answer.
2. Then a second set of cards is exposed and the students again state their answers in the order in which they have been seated. Once more the group is unanimous.
3. On the third trial, something unusual occurs. The first respondent gives an incorrect answer. The second individual then gives the identical incorrect answer. In turn, each individual gives the same incorrect response until the last or the next-to-last student is asked for his reply. The reply of this last or next-to-last student is the focal point of the whole experiment.

The work of Asch, like many other research studies, probably causes more problems, than it answers questions.

### b. The real world

The preference of the lower-level manager, as one would expect, is to work on the task-oriented decision problem. Like Asch, more questions are asked than answers provided.

## **A Management Model**

1. Greater confidence – more data about the machine.
2. Additional alternatives – optimum solution, the result.
3. Reevaluation of objectives.

The management process is also a learning experience.

## **Creativity in Decision-Making**

1. One's own experience used to provide a solution.
2. An acceptable alternative using the experience of others.
  - a. The creative process begins with the perception of a problem, the incubation stage and sudden illumination.
  - b. Inhibitions and creativity eliminate possible solutions from consideration.
  - c. Group creativity.

The more ideas, the better. Greater productivity is induced. Brainstorming takes place on a wide variety of problems.

## **PART TWO: STRUCTURE OF THE RESEARCH PROPOSAL**

Two main sections will be presented in this part of the work: the introduction and the methodology. The introduction section will include a presentation of the research problem and the research objective, the rationale behind the research, a definition of the variables, and a formulation of the hypotheses. The methodology section will include a description of the sample, the research tools and the analytical methods. This will be followed by a discussion on the limitations of the research, the estimated time frame to carry out the research, references and appendices. The structure of a research proposal is presented in Figure 1, and is described below.

### **A. COVER PAGE**

The cover page includes the following details: the name of the institute within which framework the research is being carried out, the title of the research, the degree for which this work is being prepared, the researcher's name, the advisor's name and the date of proposal submission. Figure 2 presents a typical cover page of a research study submitted for a doctoral degree (PhD).

The title of the research subject must be short and concise. The desired length is between 12-15 words. It must provide the reader with the idea of what the research will be dealing with. The title will include the theoretical problem or the variables that will be examined. Examples of titles may be found in names of articles appearing in the professional literature. If an individual still deliberates as to the research title, he is advised to review the list of resources and read the titles of articles included therein. These will surely provide some inspiration to formulate a suitable title.

## **B. INTRODUCTION**

The introduction starts by presenting the research problem, and continues by explaining how the problem relates to a general area (education, psychology, sociology, etc.) as well as a specific area, explaining the need for carrying out a research study of this type. The research objective is then formulated, in which importance should be afforded to the topic under discussion in the research being carried out. Afterwards, a literature survey is made describing what has been done both theoretically and empirically in the field. Following the literature survey, the rationale behind the research is presented, as well as the definitions of the research variables and the research hypotheses. Some researchers prefer combining the rationale with the literature survey; others prefer delineating them. Both methods are acceptable, but the literature survey must be relevant to what is said in the rationale and the rationale must be related to the literature survey.

Figure 1: Structure of the Research Proposal

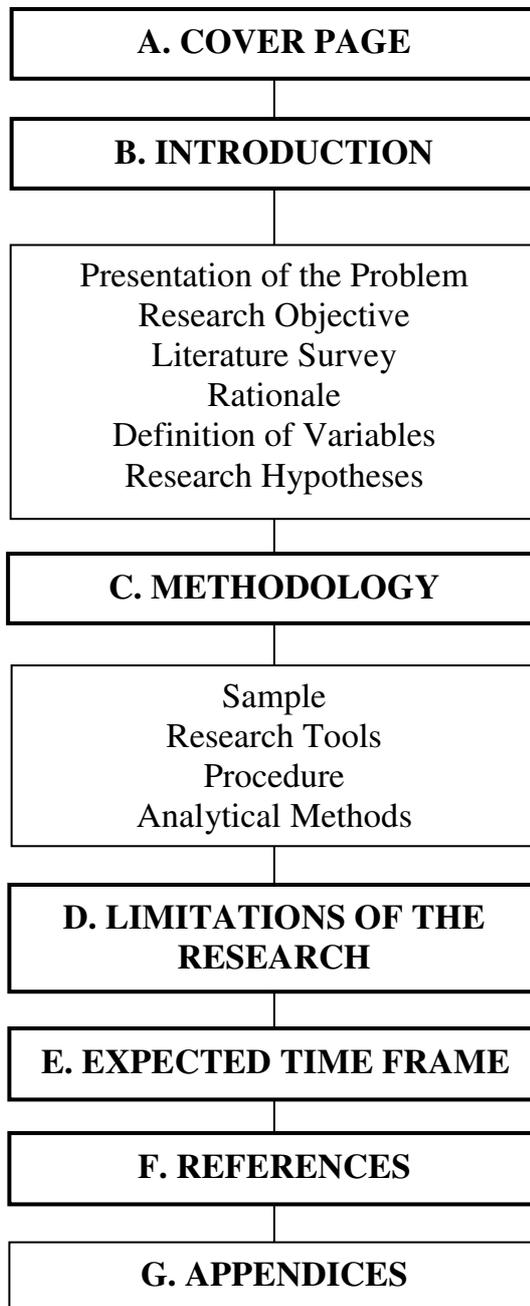


Figure 2: Sample cover page

<p style="text-align: center;"><b>“BABES – BOLYAI” UNIVERSITY</b> <b>FACULTY OF EDUCATION SCIENCE AND PSYCHOLOGY</b></p> <p style="text-align: center;"><b>PATTERNS OF THE OLD AND NEW SETTLEMENTS AND MAJOR INFRASTRUCTURES IN ISRAEL</b></p> <p style="text-align: center;">NAME OF AUTHOR:</p> <p style="text-align: center;">NAME OF ADVISOR:</p> <p style="text-align: center;">IN FULFILLMENT OF A DOCTORAL DEGREE</p> <p style="text-align: center;">CLUJ – NAPOCA 2001</p>
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## **C. METHODOLOGY**

The role of the methodology section is to describe to the reader what the researcher intends to do in order to examine the research hypotheses. This is the main section of the research proposal. Emphasis is placed here on clearly presenting the considerations guiding the researcher in choosing the research procedure and tools, and in adapting them to finding a solution to the research problem. The more information that is included in this section, the easier it will be for the reader to fully understand the author's point of view, and help him, if needed, to prevent problems occurring that might arise during the research. This section includes the following sub-sections: a description of the sample; the research tools and procedure; and the data analytical methods.

### 1. Sample

In this sub-section, the type of population represented by the sample and the sampling method are described. The estimated number of research subjects, and their division according to gender, ethnic origin, age, education level, etc. should be specified. The reason for choosing the specific research population in order to answer the research question should be stated. If a matching of the research subjects will be made, the criteria for doing so must be provided. If a sampling of population levels will be carried out, the criteria for dividing the population into specific groups must be given, as well as the method for choosing the research subjects in each group.

### 2. Research Tools

This sub-section should describe the structure of the research tools (preferably giving specific examples), the method for giving grades, and the psychometric characteristics (validity and reliability). If the research tools used are in Hebrew, reference must be made to their psychometric characteristics as they appear in the reviewer's guide. If new tools are developed or a tool from abroad is adapted for use in Israel, a pilot study should be made, including the findings regarding the psychometric characteristics of the research study being

carried out. The procedure of adapting the tool must also be described. A copy of the questionnaire must be included in the appendix. The way in which the observations and interviews were carried out must be described and examples added in the appendix.

### 3. Procedure

If the research involves carrying out an experiment, then the experimental procedure must be described, clearly detailing how the independent variable or variables are manipulated, how the research subjects are divided into treatment groups, the instructions given to the research subjects, the methods for controlling the variables, etc. If questionnaires are used, the stage at which they are distributed must be stated: if they are distributed to individuals or to groups; in which order they are distributed; and how much time is allocated to fill them in.

The issue of ethic problems that might arise in the research should be dealt with in this section. The researcher should state how he intends to receive consent from the research subjects to participate in the research and ensure confidentiality regarding their personal data. Of course, if, during the research study the research subjects will be intentionally misled or harmed, or become uncomfortable, the researcher must justify the use of these measures. He must explain how he intends to have the research subjects return to their original emotional state at the end of the research. If a secondary analysis will be made in this research of the data, which were originally collected for a different purpose, then the researcher must mention this and explain how and for what purpose the data were collected.

### 4. Analytical Methods

At the beginning of this section, the researcher must describe the statistical analysis methods that will be used to convert the raw data into a finished product (for example, how he will code certain variables such as observations or other assessments, how he will make the division into sub-scales, etc.). If

use will be made of standard deviations or other transformations, the researcher must state the reason for this. Afterwards, the analytical methods that will examine the hypotheses must be described, and explanations must be given as to why these methods were chosen. If a well-known and common method is used, there is no need to describe it in detail. If a complex or new type of analysis is used, then it must be described in detail.

#### **D. LIMITATIONS OF THE RESEARCH**

In general an ideal research cannot be carried out due to the fact that we live in a real world and must take ethic and other considerations into account. Therefore, a researcher must make compromises and do whatever he can under the circumstances. The difference between what is desired and what is actually available will dictate the content of the section on the limitations of a research study. In general, the limitations of a research study refer to the possibility of generalizing its results and of coming to conclusions about causality. In the introduction section describing the research methods, the factors threatening the validity of the experimental research systems were discussed. This material should be reviewed again in order to gain a better understanding of the limitations of the research proposed by the researcher, especially if the research is an experimental study. Figure 3 presents a classification of different threatening factors according to types of validity of the research. If the table in this figure does not suffice in refreshing the researcher's memory, he could review the book by Cook and Campbell (1979) elucidating these factors.

Figure 3: Classification of factors threatening the validity of experimental research studies.

<b>Type of Threatened Validity</b>	<b>Threatening Factor</b>
<p><b>A. Internal Validity</b> (if the treatment produced the results)</p>	<ol style="list-style-type: none"> <li>1. History.</li> <li>2. Growth.</li> <li>3. Examination.</li> <li>4. Measurement tools.</li> <li>5. Statistical regression.</li> <li>6. Selection of research subjects.</li> <li>7. Drop out of research subjects.</li> <li>8. Interaction with the selection.</li> <li>9. Frustration by the research subjects with the control group.</li> <li>10. Unique events in one of the groups.</li> <li>11. Information on the treatment affecting the control groups.</li> <li>12. Compensatory relationship to the control group.</li> </ol>
<p><b>B. External Validity</b> (for what population it is possible to generalize the results)</p>	<ol style="list-style-type: none"> <li>1. Interaction between the measurement and the independent variable.</li> <li>2. Interaction between the selection and the treatment.</li> <li>3. Interaction between the experimental environment and/or time and between the treatment.</li> <li>4. Response system.</li> </ol>
<p><b>C. Validity of the Statistical Conclusion</b> (authenticity of the relationship between dependent and independent variables)</p>	<ol style="list-style-type: none"> <li>1. Statistical strength.</li> <li>2. Error coefficient.</li> <li>3. Reliability of the indices.</li> <li>4. Reliability in using the independent variable.</li> <li>5. Factors irrelevant to the experimental situation.</li> <li>6. Incidental heterogeneity of the research subjects.</li> </ol>
<p><b>D. Validity of the Structure</b> (the increased significance of the results)</p>	<ol style="list-style-type: none"> <li>1. Ambiguity of the theoretical variable.</li> <li>2. Unsatisfactory overlap between the observed variable and the theoretical variable.</li> <li>3. Expectations of the experience.</li> <li>4. Experience of the research</li> </ol>

	<p>subjects in guessing the research hypotheses.</p> <p>5. Aspiration of the research subjects in assessing the experience.</p>
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## **E. ESTIMATED TIME FRAME**

The researcher must specify how much time, in his opinion, will be required to collect and analyze the data, prepare drafts and complete the final research report. Experience shows that students tend to provide an estimate that is too low in terms of time required to complete the task. The time required depends on several factors: scope of the subject; the measure of complexity of the hypotheses; the student's proficiency in using a computer, etc. Therefore, it is difficult to set the same time limits for different students. In general, the researcher should take into consideration the possibility that searching for data could result in revising previous sections that were previously thought to be complete. In addition, it is important to allot enough time to prepare and polish the final report (for example, 10-12 months is a reasonable amount of time to prepare a doctoral thesis from start to finish).

## **F. REFERENCES**

The list of references appears before the appendices. The list starts with the Hebrew sources followed by the English sources, each presented in alphabetical order according to the author's last name. The references should not be numbered.

It is important to note that the list of references must be precise in order to enable a reader to access the source easily, if he so desires. Names and numbers must be recorded carefully and the reference items must be arranged according to guidelines to be described shortly. This will save the researcher embarrassment if a reader cannot find the source based on how the researcher recorded the details in his list of references.

The references should be single-spaced even though the body of the text is double-spaced.

### A reference to a periodical:

Carver, C. S. & Sheier, M. F. (1998). *A control-process perspective on anxiety*. *Anxiety Research*, 1, 17-22.

A reference to a research report:

Birenbaum, M. & Kraemer, R. (1989). *Gender and ethnic group differences in causal attributions for success and failure in mathematics and language examination* (Report No. 89-2-SP), Tel Aviv: Tel Aviv University, School of Education.

A reference to a doctoral dissertation:

Gross, L. J. (1975). *The effects of three selected aspects of test wiseness on standardized test performance of eighth grade students*. Dissertation Abstracts International 36, 6551A (University Microfilms No. 7G-9056).

## **G. APPENDICES**

There are no rules or standards regarding appendices, and how the researcher divides and organizes his work is up to him. In principle, any material that has no place in the body of the text itself, but might be interesting in terms of the research being carried out, should be placed in appendices. The following material should be included in appendices: copies of the research tools (questionnaires/examinations); tables detailing findings that are not directly related to the hypotheses, for example, detailed background data of the sample, detailed psychometric characteristics of the measurement tools, results of pioneering research, correlations between all the research variables, averages and standard deviations in the division according to origin, etc.; and samples of responses by research subjects that could support a certain speculation regarding the findings. If the appendices are divided into sub-categories, they should be included in the Table of Contents. The appendices themselves should be marked with letters (for example Appendix A, Appendix B, etc.). Tables appearing in the appendices should be marked by a letter and a number (for example Figure 3 in Appendix A will be referred to as Figure 3-A, 1-D means Figure 1 in Appendix D). Each appendix starts on a separate page.

## References

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