

General Considerations for Research Methodology in Management Decisions

by Umesh B. Dubey

Abstract: In the context of planning and development, the quality of the supporting research is of utmost importance. It is therefore necessary to design and adhere to an appropriate research methodology. The research methodology may differ from problem to problem, but the basic approach remains the same.

The objective of this paper is to familiarize new researchers with the art of using different research methods and techniques. This outline will assist in the accomplishment of exploratory, as well as result-oriented research studies. This should build confidence that the information/data obtained from a business unit will be used appropriately. Considerations here include the following: Objective of Business Research, Types of Research, and Types of Research Approach, Benefits, Business Research Requirements and Problems, Contents of a Research Plan, Features of a Business Research Report.

Key Words: Simulation, Inferential, Diagnostic, Data Handling, Transmittal

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Introduction to Business Research

In the present fast track business environment marked by cutthroat competition, many organizations rely on business research to gain a competitive advantage and greater market share.

Business Research is the pursuit of truth with the help of study, observation, comparison and experiment. The search for knowledge through objective and systematic method of finding solution to a problem. To discover answers to questions through the application of scientific procedures. To find out the truth which is hidden and which has not been discovered as yet. To gain familiarity with a phenomenon. To portray accurately the characteristics of a particular individual, situation or a group.

Research comprises the following:

1. Defining and redefining problems.
2. The fountain of knowledge for the sake of knowledge is an important source of providing guidelines for solving different business, governmental and social problems.
3. An art of formal training which enables one to understand the new developments in one's field in a better way.
4. Search for knowledge, scientific and systematic search for pertinent information on a specific topic, an art of scientific investigation.
5. Careful investigation or inquiry especially through search for new facts in any branch of knowledge.
6. Systematized effort to gain new knowledge.
7. A movement from the known to the unknown.
8. An original contribution to the existing stock of knowledge making for its advancement.

The Business Research Problem

1. The lack of a scientific training in the methodology of research
2. Most of the business units do not have the confidence--That the material supplied by them to researchers will not be misused. They are often reluctant in supplying the needed information to researchers. The concept of secrecy seems to be sacrosanct to business organizations.
3. It proves an impermeable barrier to researchers.
4. Research studied overlapping one another are undertaken quite often for want of adequate information--these results in duplication, fritters away resources.
5. Research to many researchers is mostly a scissor and paste job without any insight shed on the collated materials. Due to this the research results, quite often, do not reflect the reality or realities.
6. There is insufficient interaction between the research departments and Business Establishments.
7. There does not exist a code of conduct for researcher, inter-university and inter-departmental rivalries are quite common.
8. Difficulty of adequate and timely secretarial assistance which includes compatriot assistance that causes unnecessary delays in the completion of research studied.
9. Library management and functioning is not satisfactory at many places due to which much of the time and energy of researchers are spent in tracing out the books, journals, reports, etc., rather than in tracing out relevant material from them.
10. Difficulty of timely availability of published data i.e. Secondary Data as various government and other agencies doing this job in our country. Researcher faces the problem on account of the fact that the published data vary quite significantly because of differences in coverage by the concerning agencies.

My Idea

There is a need for generating the confidence that the information/data obtained from a business unit will not be misused.

Good research is systematically structured with specified steps; to be taken in a specified sequence in accordance with the well defined set of rules. Care should be taken that systematic characteristic of the research does not rule out creative thinking but it certainly does reject the use of guessing and intuition in arriving at conclusions.

Good research is empirical as it is related basically to one or more aspects of a real situation and deals with concrete data that provides a basis for external validity to research results.

Good research is replicable as it allows research results to be verified by replicating the study and thereby building a sound basis for decisions.

1. Objective of Business Research

To determine the frequency with which something occurs or with which it is associated with something else and to test a hypothesis of a causal relationship between variables. To understand the market trends, or find the optimal marketing mix, devise effective HR Policies, or find the best investment options. .

2. Types of Research

2.1 Application of Descriptive Research

For descriptive studies in which the researcher seeks to measure items such as, frequency of shopping, preferences of people etc. Method of research utilized are, Survey methods of all kinds, Comparative methods and Co-relational methods

2.2 Analytical Research

The researcher has to use facts of information already available. The researcher has to analyze facts to make a critical evaluation of the material.

2.3 Applied Research

Its main purpose is to find a solution for an immediate problem facing a society or an industrial/business organization and to discover a solution for some pressing practical problems. For example, Research studies concerning human behavior carried on with a view to make generalizations about human behavior. Research aimed at certain conclusions facing a concrete social or business problem.

2.4 Fundamental Research

It is concerned with generalization and with the formulation of a theory. For example, Research concerning some natural phenomenon, Research relating to pure mathematics.

2.5 Quantitative Research

Based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. It is concerned with qualitative phenomena and phenomena relating to or involving quality or kind. For example, when we are interested in investigating the reasons for human behavior. Why people think or do certain things?

2.6 Attitude or opinion research

It is a qualitative research designed to find out how people feel or what they think about a particular subject or institution

2.7.1 Qualitative Research

It has importance in the behavioral sciences. Its aim is to discover the underlying motives of human behavior. It analyzes the various factors which motivate people to behave in a particular manner or which make people like or dislike a particular thing.

2.7.2 Motivation Research

It is a type of qualitative research aims at discovering the underlying motives and desires, using in depth interviews. It concerned with the determination of motivations underlying the consumer (market) behavior. Techniques of research are word association tests, sentence completion tests, and story completion tests.

2.8 Conceptual Research

It is related to some abstract ideas or theory. It is mainly used by philosophers and thinkers to develop new concepts or to reinterpret existing ones.

2.9 Empirical Research

It relies on experience or observation alone. It is a data-based research, coming up with conclusions which are capable of being verified by observation or experiment. It is necessary to get at facts first-hand, at their source, and actively to go about doing certain things to stimulate the production of desired information. The researcher must first provide himself with a working hypothesis or guess as to the probable results. He then works to get enough facts (data) to prove or disprove his hypothesis. He then sets up experimental designs which he thinks will manipulate the persons or the materials concerned so as to bring forth the desired information.

2.10 Descriptive Research or Ex post facto Research

It is an attempt by the researcher to discover causes even when they cannot control the variables. Its main purpose is description of the state of affairs as it exists at present. The researcher has no control over the variables. He can only report what has happened or what is happening.

2.11 Categorical Research

Research is confined to a single time-period.

2.12 Longitudinal Research

Carried on over several time-periods.

2.13 Field-setting or Laboratory or Simulation research

Depending upon the environment in which it is to be carried out.

2.14 Clinical or diagnostic Research

It follows case-study methods or in-depth approaches to reach the basic causal relations. Studies go deep into the causes of things or events that interest us, using very small samples and very deep probing data gathering devices.

2.15 Exploratory Research

Its main objective is the development of hypotheses rather than their testing

2.16 Formalized research

Studies are those with substantial structure and with specific hypotheses to be tested.

2.17 Historical research

It utilizes historical sources like documents, Remains etc. Research has to study events or ideas of the past, including the philosophy of person and groups at any remote point of time.

2.18 Target oriented Research

In this researcher is free to pick up a problem. Redesign the enquiry as he proceeds and prepares to conceptualize accordingly.

2.19.1 Decision-oriented research

For the need of a decision maker. The researcher is not free to embark upon research according to his own inclination. For example, Operation Research

2.19.2 Operation Research

Scientific method of providing executive departments with a quantitative basis for decisions regarding operations under their control. It refers to the application of mathematical, logical and analytical techniques to the solution of business problems of cost minimization or of profit maximization or optimization problems.

2.20 Market Research

It is the investigation of the structure and development of a market for the purpose of Formulating efficient policies for purchasing, production and sales.

Sources: Pauline V. Young, *Social Surveys and Research*, p.30.

3. Types of Research Approach

3.1 Quantitative Approach

It involves the generation of data in quantitative form, which can be subjected to rigorous quantitative analysis in a formal and rigid fashion.

3.2 Inferential Approach

To form a data base from which to infer characteristics or relationships of population. Means survey research, where a sample of population is studied (questioned or observed) to determine its characteristics. Finally inferred that the population has the same characteristics.

3.3 Experimental approach

Greater control over the research environment and some variables are manipulated to observe their effect on to other variables.

3.4 Simulation Approach

Term 'Simulation' in the context of business and social sciences applications refers to "The operation of a numerical model that represents the structure of a dynamic process. Given the values of initial conditions, parameters and exogenous variable, a simulation is run to represent the behavior of the process over time." It involves the construction of an artificial environment within which relevant information and data can be generated. It permits an observation of the dynamic behavior of a system (or its subsystem) under controlled conditions. It is useful in building models for understanding future conditions.

3.5 Qualitative Approach

It is concerned with subjective assessment of attitudes, opinions and behavior. Techniques used are Focus group interviews, Projective techniques and Depth interviews.

Sources: Jahoda Marie, Morton Deutsch and Stuart W. Cook, *Research Methods in Social Relations*, p. 4.

4. Benefits of Business Research

4.1 Benefits in business and Industry

- 4.1.1 Research provides the basis for nearly all government policies in our economic system the plight of cultivators, the problems of distribution, size and nature of defense services etc.
- 4.1.2 It collects information on the economic and social structure of the nation; which indicates what is happening in the economy and what changes are taking place.
- 4.1.3 Research has its special significance in solving various operational and planning problems of business and industry.
- 4.1.4 It helps to people in business and industry that are responsible for taking business decisions.
- 4.1.5 Given knowledge of future demand, it is generally not difficult for a firm, or for an industry to adjust its supply schedule within the limits of its projected capacity.
- 4.1.6 Research with regard to demand and market factors has great utility in business.
- 4.1.7 Business budgeting, which ultimately results in a projected profit and loss account, is based on sales an estimate which in turn depends on business research.
- 4.1.8 Market analysis has become an integral tool of business policy these days.
- 4.1.9 Once sales forecasting is done, efficient production and investment programmes can be set up around which are grouped the purchasing and financing plans.

4.2 Benefits to Society

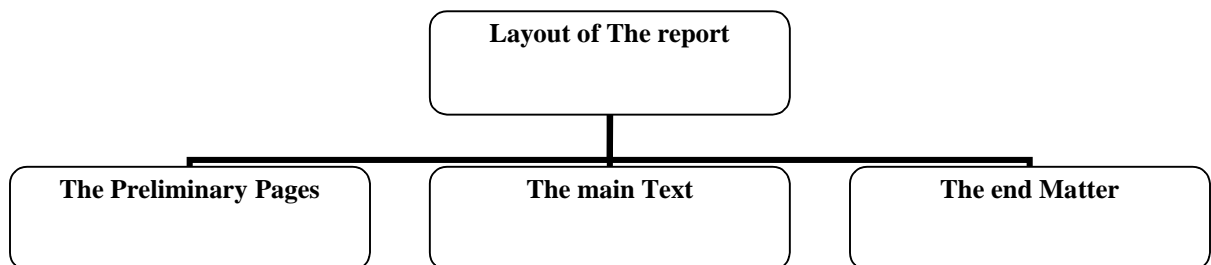
- 4.2.1 Important for social scientists in studying social relationship and in seeking answers to various social problems.
- 4.2.2 Research in social sciences is concerned both with knowledge, hopefully this will have some future application(s) and with knowledge for what it can contribute to practical concerns.

4.3 Benefits for professions, philosophers and thinkers

- 4.3.1 Its responsibility as a science is to develop a body of principles that make possible the understanding and prediction of the whole range of human interactions.
- 4.3.2 Because of its social orientation, it is increasingly being looked to for practical guidance in solving immediate problems of human relations.
- 4.3.3 To those students who are to write a master's or PhD thesis, research may mean careerism or a way to attain a high position in the social structure.
- 4.3.4 To professional in research methodology, research may mean a source of livelihood.
- 4.3.5 To philosophers and thinkers, research may mean the development of new styles and creative work;
- 4.3.6 To analysts and intellectuals, research may mean the development of new styles and creative work.

5. Contents of Research Plan

The researcher has to prepare the report of what has been done by him. Writing of report may be done in view of the following:



Note: Other formats for reports may be acceptable but the method illustrated is a method of presentation that may be generally useful. Also, for some uses, parts of the report format that is given may not be applicable, or may appear in a different order, or combined with another part of the report.

5.1 Layout of the Report

Anybody, who is reading the research report, must necessarily be conveyed enough information about the study so that he or she can place it in its general scientific context; judge the adequacy of its methods and thus form an opinion of how seriously the findings are to be taken. Following are some suggestions, though styles may differ.

5.2 Preliminary Pages

In its preliminary pages the report should carry a title and date, and put acknowledgements at the end in the form of 'Preface' or 'Foreword'. Then, a table of contents, list of tables and illustrations so that anybody can easily locate the required information in the report.

5.3 Main Text

This provides the complete and detailed outline of the research report. The title of the research study is repeated at the top of the first page of the main text and then follows the other details on pages numbered consecutively, beginning with the second page. The main texts have the following sections.

- a. Introduction
- b. Statement of findings and recommendations
- c. The result
- d. The implications drawn from the result and
- e. The summary.

The main body of the report should be presented in logical sequence and broken-down into readily identifiable sections. The key findings are concisely presented in the executive summary running into 100-200 words or a maximum of two pages. The major thrust should be on highlighting the objectives, salient features, and analysis of the results including the recommendations

5.3.1 Introduction

It includes

- a. Clear statement of the objectives of research.
- b. A brief summary of other relevant research so that the present study can be seen in that context.
- c. The hypotheses of study
- d. Definitions of concepts
- e. The methodology adopted
- f. The statistical analysis adopted
- g. The scope of the study and
- h. The various limitations should be mentioned.

5.3.2 Statement of findings and recommendations

It must have non-technical language so that it can be easily understood by all concerned. If the findings happen to be extensive, at this point they should be put in the summarized form.

5.3.3 Results

It includes

- a. The main body of the report
- b. Statistical summaries

All relevant results must find a place in the report and must be presented in logical sequence and split into readily identifiable sections.

5.3.4 Implications of the results

It includes

- a. A statement of the inferences drawn from the present study which may be expected to apply in similar circumstances.
- b. The condition of the present study which may limit the extent of legitimate generalizations of the inferences drawn from the study.
- c. The relevant questions that still remain unanswered or new questions raised by the study along with suggestion for the kind of research that would provide answers for them.

5.3.5 Summary

It has become customary to conclude the research report with a brief summary, describing in brief the research problem, the methodology, the findings and conclusions drawn from the research results.

5.4 End Matter

At the end, appendices should be enlisted in respect of all technical data such as questionnaires, sample information, mathematical derivations etc. Bibliography of sources consulted should be given. Index should invariably be given at the end of the report. The value of index lies in the fact that it works as a guide to the reader for the contents in the report.

6. Criteria of Good Business Research

1. Purpose should be clearly defined and common concepts be used. Statements should be short and direct.
2. Underlining relevant parts for better emphasis
3. Pictures and graphs accompanying tables.
4. Graphics and animations accompanying the presentation of the report.
5. Procedure should be described in sufficient detail to permit another researcher to repeat the research for further advancement, keeping the continuity of what has already been attained.

7. Features of a Business Research Report

The major thrust should be

7.1 Problem Definition

A problem is any situation which requires further investigations. Decisions made on the judgments may not always turn out to be correct, but the problem may not be important enough to justify substantial time, money and effort to be spent on solving.

It is correctly said that a problem well defined is half solved. Clear, precise, to the point statement of the problem itself provides clues for the solution. On the other hand a vague, general, or inaccurate statement of the problem only confuses the researcher and can lead to wrong problem being researched and useless results generated.

7.2 Research Objectives

- a) Form the heart of the study.
- b) Address the purpose of the project.

The basic purpose of research is to facilitate the decision making process. A manager has before a number of alternative solutions to choose from in response to every problem and situation. In the absence of information he may make the choice on the basis of his hunch. By doing so the manager is taking the risk because he has no concrete evidence to evaluate this alternative in comparison with others or to assess its possible outcome. But with the help of information provided by research the manager can reduce the number of alternative choices to one, two or three and the possible outcome of each choice is also known. Thus the decision making process becomes a little easier.

The second purpose of research is that it helps to reduce associated with the process of decision making. The risk arises because of two types of uncertainties: uncertainties about the expected outcome of the decisions will always remain no matter how much information you may have collected to base your decision on hard facts. Unforeseen factors have the uncanny ability of upsetting even the most stable apple cart.

It despite best research effort the outcome can still be unpredictable. The risk also arises because of uncertainty of what will happen in the future, the way the customer or distributor would behave, the manner in which the competition will react and so on. To the extent that research provides information about the future, it anticipates the future, thus providing the manager with a solid basis for his decision making. However, it cannot provide perfectly exact or accurate information. But since the techniques of research are based on scientific methods of collecting, analysis and interoperating data, its findings and projections, at the least, provide a definite trend of scenarios for future decision making.

The third purpose of research is that it helps firms in discovering opportunities which can be profitably exploited. These opportunities may exist in the form of untapped customer needs or wants not catered to by the existing firms. Food specialist limited have recently introduced in the Indian market a dairy whitener (as a substitute of milk) called 'Every day' to be used for making tea ,coffee. The product has proved to be a success because it is most convenient for use in offices, where tea and coffee is consumed in large quantities, but milk is not easy to procure. Every day fulfils a slot in the market for powders milk which was not being catered to by the existing milk powders.

- c) Every research follows a set of well-planned objectives.
- d) The general and specific objectives should be stated. These can be adjusted for sequencing without changing their basic nature.
- e) The research objectives can take the form of questions and statements.

7.3 Background Material

- Include a review of the previous research or descriptions of conditions that caused the project to be authorized.
- It may entail preliminary results from an experience survey or secondary data from various sources.
- The references from secondary data, definitions and assumptions are included.

7.4 Methodology

1. Sampling Design
2. Research Design
3. Data Collection
4. Data analysis
5. Limitations
6. Findings
7. Conclusions

8. Recommendations
9. Appendices
10. Bibliography

7.4.1 Sampling Design

Here Researcher defines the target population and the sampling methods put to use. It contains other necessary information such as:

1. Types of sampling (probability or non-probability) used
2. Types of probability sampling (Simple random or complex random) or non-probability sampling (quota sampling or snowball sampling) used.
3. The factors influenced the determination of sample size and selection of the sampling elements.
4. The levels of confidence and the margin of acceptable error.

7.4.2 Research Design

Should be carefully planned to yield results that are as objective as possible. It should contain information on:

1. Nature of research design
2. Design of questionnaires
3. Questionnaire development and pre-testing
4. Data that was gathered
5. Definition of interview and type of interviewers.
6. Sources (both primary and secondary) from which data was collected
7. Scales and instruments used
8. Designs of sampling, coding and method of data input.
9. Strength and weaknesses
10. Copies of materials used and the technical details could be placed in the appendix.

7.4.3 Data Collection

The collection of primary data for business research is of paramount importance to assist management in making decision. Generally, information regarding a large number of characteristics is necessary to analyze any problem pertaining to management. The collection of primary data requires a great deal of deliberation and expertise.

7.4.4 Data Analysis

Provides information on the different methods used to analyze the data. The justification for choosing the methods. It should justify the choice of the methods based on assumptions. It should be sufficiently adequate to reveal its significance and the methods of analysis used should be appropriate. The validity and reliability of the data should be checked carefully.

It provides details on:

- a) Data handling
- b) Groundwork analysis,
- c) Rational statistical test and analysis.

7.4.5 Limitations

Certain researchers tend to avoid this section but this is not a sign of professionalism. There should be a tactful combination of reference and explanation of the various methodologies and their limitations of implementation problems. The limitations need not be explained in detail. Details of limitation do not detract from the research. They help the reader in acknowledging its honesty and validity.

7.4.6 Findings

- 7.3.6.1 It is better to report one finding per page and support it with quantitative data
- 7.3.6.2 It presents all the relevant data but makes no attempt to draw any inferences
- 7.3.6.3 The section attempts to bring to the fore any pattern in the industry
- 7.3.6.4 Charts, graphs, and tables are generally used to present quantitative data

7.4.7 Conclusions

Conclusions are inferences drawn from the findings. It should be directly related to the research objectives or hypotheses. Researcher should always present the conclusions as he has first hand knowledge of the research study. It is wrong to leave the inference of the conclusions on the reader. It should be confined to those justified by the data of the research and limited to those for which the data provide an adequate basis. Towards the end of the main text, researcher should again put down the results of his research clearly and precisely. In fact, it is the final summing up.

7.4.8 Recommendations

Recommendations are a few corrective actions presented by the researcher. Highlight the actions the report calls for as per the researcher. It should be in line with the results of the report. It should be explicit. They may even contain plans of how future research for the same can proceed. Recommendation should be given if the client wants them else should be avoided because some decision-makers do not want their thought process to be limited to the recommendations given. In such a case, the report should not carry any recommendations.

7.4.9 Appendices

Appendices are optional. Used to present details that were part of the research but were not necessary to the presentation of the findings or conclusions. It includes

1. Raw data
2. Calculations,
3. Graphs
4. Copies of forms and questionnaires
5. Complex tables
6. Instructions to field workers
7. Quantitative material that would look inappropriate in the main text. The reader can refer to them if required.
8. Care should be taken that they do not exist in isolation and reference to each appendix is given in the text.

7.4.10 Bibliography

It is a list of citations or references to books or periodical articles on a particular topic, journals etc., consulted, should also be given in the end.

7.4.11 Index

Index is given specially in a published research report. It contains all the works consulted in the preparation of the report, not just those referred to in the text. A consistent reference format should be used all through the section

Sources: Selltitz Claire and others, *Research Methods in Social Relations rev.*, Methuen & Co. Ltd., London, 1959, p. 454.

Conclusions

- Research will require the collection of new data through surveys and/or the use of existing data such as is often the case in the application of econometrics. These approaches are often associated with survey statisticians and economists, respectively.
- Report should be written in a concise and objective style in simple language avoiding vague expressions such as 'it seems', 'there may be', and the like.
- Charts and illustrations in the main report should be used only if they present the information more clearly and forcibly.
- Efforts should be made to provide short duration intensive courses for meeting this requirement.
- Efforts should be made to develop satisfactory liaison among all concerned for better and realistic researches.
- Need for developing some mechanisms of a university—industry interaction programme so that academics can get ideas from practitioners on what needs to be researched and practitioners can apply the research done by the academics.
- Proper compilation and revision, at regular intervals, of a list of subjects on which and the place where the research is going on.
- Identification of research problems in various disciplines of applied science which are of immediate concern to the industries.
- There is need for developing a code of conduct for researchers which, if adhered sincerely, can win over this problem.
- Efficient secretarial assistance is made available to researchers in time.
- Effort should be made to reach all governmental publications to our libraries. Our libraries must get copies of old and new Acts/Rules, reports and other government publications in time.
- The sampling methods used should be explained and calculations could be placed in the appendix rather than in the body of the report.
- Confidence in research is warranted if the researcher is experienced, has a good reputation in research and is a person of integrity.

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