



Section 1

The research proposal and the MSA 685 project

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WELCOME TO THE MSA 685 PROJECT

MSA 685 is designed as the culminating activity in the Master of Science in Administration degree program of Central Michigan University. Unlike most courses you have taken, MSA 685 will be completed on an individual basis. Only 12 hours will be taken in a classroom setting. Much of the planning, organizing, research, analysis, and writing will be done independently in close association with the MSA 685 monitor.

This guide has been prepared to provide you with assistance in a readily accessible form; use it for specific guidance as you undertake your MSA 685 project.

What is the MSA 685 Project?

The MSA 685 project is a managerial research activity designed to accomplish three specific goals. First, it provides an opportunity for you to bring together the concepts, information, and methodologies learned in the MSA core and the concentration courses. The course is taken toward the end of your program, after you have completed the required core courses, MSA 600, MSA 634 or MSA 635, and MSA 640, and at least 12 additional semester hours of other core and concentration courses. As you begin the project, review notes, texts, and papers you have written so your project will benefit from your previous learning experiences.

Second, the project challenges you to apply what you have learned to your profession. Academic learning becomes increasingly valuable when used to solve administrative problems. Ideally, the project you undertake will relate directly to your professional activities in such a way that you, your employer, and the organization in which you work will benefit directly. The project should focus on a subject of personal or potential professional value to you (where your particular situation makes this possible). Its principal purpose is applying administration theory and research to practical issues and problems found in occupational situations.

Third, the project paper will demonstrate that you understand the literature and have knowledge of the subject area you studied, and that you can apply that knowledge both analytically and practically. The recommended action proposed in your project report also demonstrates your ability to define an issue/problem, carry out necessary applied research using appropriate methodologies, report your conclusions, and present your recommendations to management in a professional and persuasive manner.

You are advised to consult others while developing and working on your project. No senior decision-maker works in isolation and neither should you. Discuss your ideas with colleagues at work, with your spouse, and with other students. Be open to their ideas; at the same time be discriminating. **Because the monitor has final authority over your project, it is important that you confer regularly with him or her.**

Section I of this guide presents the basic requirements for successful completion of your MSA 685 project and its associated report. Section 2 includes the Institutional Review Board Policies and Procedures. (*Note: Approval must be obtained before you begin to collect data.*) Section 3 provides instructions for completing human subject research training through CITI. Section 4 includes instructions for registering in IRBNet and creating your IRB application. Section 5 provides frequently asked questions, sample IRB applications and forms, MSA 685 registration information, and library information.

OVERVIEW OF THE MSA 685 PROJECT

Section I discusses four issues. First, a description is given of the content and procedures for the MSA 685 project. The second part discusses ethics and plagiarism; the third addresses the research proposal and the fourth outlines the paper.

The MSA 685 project report is a decision-oriented research paper which addresses an issue in an existing organization. In doing the paper, the student applies the knowledge that he or she has gained in the MSA program to determine appropriate administrative action.

For purposes of the MSA 685 project, *research* refers to any systematic and organized effort to investigate a specific problem or issue. That problem/issue must be a practical one (related to the work place). Generally the researcher must:

1. Know what she or he wants to study.
2. Gather information about what has occurred and was said (written) in the past.
3. Define a methodology by which the problem can be studied.
4. Collect the data from appropriate sources.
5. Analyze, interpret, draw conclusions and make recommendations on the basis of the findings.

The problem/issue to be used for MSA 685 research should meet three criteria. It should:

1. Be a problem identified by the student and defined in researchable terms.
2. Be work related — it does not have to be from the student's immediate job or work but should be from that organization or company.
3. Be management in content. It must deal with a management problem — resource allocation and/or utilization.

The goals of the MSA 685 research project are to:

1. Provide the student with an opportunity to create a synthesis of the concepts, information and methodologies learned in the MSA core and concentration courses.
2. Challenge the investigator to apply theory to the world in which he or she functions.
3. Produce a document that demonstrates professional competence and warrants the awarding of the MSA degree.

As such, the final report should reflect an understanding of the relevant literature, knowledge of the area investigated, skill in conducting the study, ability to analyze data and to

apply knowledge and theory, and should report conclusions and recommendations to management in a professional, coherent, logical and persuasive manner.

Since MSA 685 is an *integrative* project, the student is expected to apply skills and theory acquired in the various courses of the program, including quantitative/financial techniques learned in at least one of the following courses: HSC 544, MSA 600, MSA 634, MSA 635, MSA 640, or MSA 675. Also of importance is the application of the knowledge and judgment learned in other core courses, specifically, how different environments impact the organization, as in MSA 610, and how modern concepts of management, learned in MSA 620 and MSA 650, apply. Concentration courses, too, can provide insight into psychological, sociological, industrial engineering, human resource management, and other theories that can be applied to the topic under investigation.

Several drafts and rewrites are often needed before the report is ready for final submission. It is the student's responsibility—not the instructor's—to ensure that spelling, syntax, structure and other aspects of the report are correct. Monitors usually return poorly prepared reports unread. To avoid the loss of time that occurs in this situation, it is always wise to have someone read the report for content, technical and other errors before submitting it to the monitor.

PLAGIARISM AND ETHICS

Plagiarism

"To steal and use the ideas or writing of another as one's own" (*Webster's Dictionary*, 1985, p. 88) is unacceptable for this or any other MSA project. Whenever you use the ideas of others, you must cite the source. Exact words must be quoted and cited. Any ideas or conclusions presented as yours must be your own.

Please review the academic integrity policy found in your CMU Bulletin.

Ethics

Ethics are an important aspect of research. The primary ethical principles, which must be considered in all research involving human subjects, include:

1. Maintaining subject autonomy.
2. Maintaining the safety of subjects.
3. Promoting benefit to the subjects and larger community.
4. Conducting research in a fair and equitable manner.
5. Honoring commitments made to subjects in a study.

THE RESEARCH PROPOSAL

The research proposal consists of the following components:

- Title Page
- Chapter I: Definition of the Problem
- Chapter II: Literature Review
- Chapter III: Methodology
- References
- Appendices

An explanation of each of these follows.

Title Page

The title page contains the following essential information: title of the proposal project, name of the student, date of submission, and the monitor's name. The title should be brief, but descriptive and suggest the project's purpose. An example of a title page is given in "Appendix to Section I."

Chapter I: Definition of the Problem

Problem Statement

The administrative problem, its organizational context and its significance should be described. The problem statement is a description of the organizational problem or issue the student is studying. Generally it is accepted that if the researcher cannot state the issue or problem clearly and succinctly, she or he does not understand what she or he is attempting to study. It provides fundamental direction to the project. **Chapter I focuses on WHAT is to be researched.**

Research Objective

The research objective flows from the problem statement. It explains what research question(s) should be examined to address the organization's administrative problem. The research question(s) can be broken down further into more precise sub-questions or research proposition statements.

Assumptions

Careful researchers, particularly those in an academic setting, set forth statements of assumptions as the basis upon which their study rests. Assumptions are like axioms in geometry-self evident truths. The assumptions must be valid in order for the research to have meaning. In your research, it is essential that others know what you are *assuming* to be true with respect to your study. To help bring your assumptions into clear view, ask yourself What am I taking for granted with respect to my problem?

Definition of Terms

Many studies have words and terms that are not widely known or recognized by persons who may read your work. A complete listing of unique and important terms and definitions should be included. Terms should be defined as they are used in the study. Operational definitions (how to measure) should be included when appropriate.

Limitations and Delimitations

No study is perfect; all research studies have their limitations. The sincere investigator recognizes that readers may need help in judging the study's validity and reliability. The limitations of the study are those characteristics of design or methodology that set parameters on the application or interpretation of the results of the study. The most obvious limitation would relate to the ability to draw descriptive or inferential conclusions from sample data about a larger group.

Nor should any study attempt to accomplish too much or answer too many questions. A good researcher must establish the limits or boundaries of his or her study (delimit). A section or statement should also be included to make explicit what the researcher does not intend to investigate or accomplish (or what the design of the study inherently will not allow). Like some other sections of the proposal, such a statement will benefit the writer as much as the reader.

Chapter II: Literature Review

The proposal should contain all major research studies that are relevant to the student's research question(s). Literature that can be used falls into three categories. One is information from published articles in academic and trade journals and from books. Most issues are not totally new and other managers have encountered and coped with them. The published literature gives their experiences and prevents duplication of effort. Another source is the organization's formal and informal written documentation. This includes policy and procedures manuals and the correspondence and various papers which, in one form or another, set the norms, policies and practices of the organization. A third source, which should be used sparingly, is preliminary interviews with experts on the topic. **Chapter II focuses on WHAT OTHERS have found that relates to the topic being researched.**

Chapter III: Methodology

The methodology chapter addresses how the researcher will study the problem that has been identified. It includes, as a minimum, the research approach, procedures, decision criteria, and reliability and validity of instruments. Some studies may require a hypothesis statement. These topics include the respondents, how and why these were chosen, the type of data that will be collected, the sources of these data, and how the information collected will be analyzed. Descriptions are chronological and so detailed that, if someone wishes to do so, she or he can replicate the study exactly. Also, if a questionnaire or survey is utilized, the reasons for inclusion of each question and the reliability and validity of the instrument are described. The section usually concludes with a scope and limitations statement. A timetable for

completing the work can be given if the student or instructor so desires. **Chapter III focuses on HOW the research is to be done.**

Research

A number of methodological approaches are available to the researcher. Included are feasibility study, benefit/cost or cost-effectiveness approach, hypotheses testing, operations research, policy analysis, and program design or evaluation (see "Appendix to Section I"). The methodology should be appropriate to the study of the problem chosen. Students should consult with their monitor before selecting the methodology for their projects.

Because this is an integrative paper, at least one application of a quantitative technique is required. A technique appropriate to the research may be one of the many covered in MSA 600, MSA 634, MSA 635, MSA 640, MSA 675, HSC 544, or other quantitative course. Many MSA 685 projects involve a survey or questionnaire of some sort. One method to apply quantitative techniques would be to provide statistical validity to the interpretation of questionnaire results, using such common concepts as measures of central tendency, dispersion, significance levels, confidence levels or intervals.

Data Collection

In the data collection portion of the methodology statement, it is customary to include any or all of the following:

- Categories of data to be collected
- Likely sources of these data
- How the information is to be collected
- Objectives and rationale for questionnaires, surveys, interviews, and other data gathering instruments (and for the various parts or questions)
- Whether individuals, groups, or other types of units will be utilized in the research, if respondents or participants are to be used
- How many respondents will be utilized
- How respondents will be selected and assigned
- The underlying reasoning for this selection or assignment

Note: Before collecting data, the IRB application and supporting materials must first be reviewed and approved by the faculty monitor. The monitor will forward the application for review by Kim Gribben in the MSA office. Revisions may be requested at this point. Kim will then forward the application to the IRB office for a final review. Students must wait until IRB approval is received through the IRBNet system before collecting data. See Section 4 for IRBNET instructions and details.

Data Analysis and Synthesis

In the data analysis and synthesis portion, it is customary to include the following:

- Tools and techniques of analysis (e.g., t-tests, ANOVA, economic forecasting, trend analysis, etc.) and their limitations
- Models to be used in interpreting data

- Appropriate degrees of rigor in validating conclusions
- Anticipated cause-effect or chain sequences, if any

Reliability and Validity

Generally, students do not have too much difficulty in developing methodologies which identify data they will collect. Many, however, have difficulty describing how they are going to acquire reliable and valid data. *Reliability* describes the accuracy or precision of the research instrument (questionnaire, survey, etc.) and *validity* describes the extent to which the instrument measures what it is presumed to be measuring. A watch, for example, can be reliable or not reliable (it keeps time accurately or inaccurately). The watch also is accepted as an instrument for telling time; it, therefore, is valid for this purpose. A barometer, which measures pressure, also can be reliable (be precise and accurate in measuring pressure) or not reliable. It, however, would not be a good instrument to use for telling time. If a researcher reported that he had used a barometer for telling time, this research instrument would lack validity. A sundial, on the other hand, would be a valid instrument for telling time; it, however, would be less reliable than a watch. The same principle applies with research instruments. Some measure the concept under study very accurately; that is, they are reliable. If they measure what they are supposed to be measuring, they are valid instruments.

Scope and Limitations

The scope and limitations statement describes: the limits and boundaries within which data will be collected, analyzed and interpreted; the ability to generalize the research results; and other information that in any way limits or controls the way information is collected, interpreted and presented.

Appendices

Anything which might be distracting, or which is not needed in the body of the proposal, is placed in the Appendices. Included are copies of questionnaires, models, computer programs designed for the researcher's study, analytical formulas and calculations, and detailed descriptions of tests or equipment used.

References

Each proposal must have a list of *references* — a listing of the books, articles and other sources that the researcher has used, and which are cited by name within the proposal. Endnotes are also occasionally used to give additional information or explanation. Endnotes may be incorporated at the appropriate point in the text. Where these are placed should be governed by what would be most convenient to readers. **All MSA 685 students must use the APA Style Manual for references.**

Timetable

Some instructors and monitors want students to include a time line suggesting appropriate times for developing each section and writing the final report and others do not. You should ask your instructor or monitor for her or his preference.

THE RESEARCH PAPER

The Structure of the Paper

The usual structure of the paper is as follows:

- Blank sheet
- Executive Summary (Abstract)
- Title Page
- Copyright (only if copyright has been registered)
- Dedication (if desired)
- Acknowledgments (if desired)
- Clearance
- Preface (if there is some compelling reason for including one)
- Table of Contents
- List of Tables (if any are presented in the text)
- List of Figures (if any are presented in the text)
- Body of the report
- Endnotes or footnotes (if not included in the body)
- References
- Appendices

Each of the parts mentioned above starts on a new page. A discussion follows.

Executive Summary

The executive summary appears first. It is a one or two page description of the research that was undertaken, the findings and the recommendations. As the name implies, it provides the busy executive with a synopsis of what the research covers so that he or she may determine whether to give additional attention to the paper. Because it *sells* the paper, all important details should be described. To do this, planning, condensing and a number of rewrites often are necessary. Because the executive summary is not a direct part of the study undertaken, it is neither numbered nor counted as a page.

Title Page

The title page is the first page that the reader sees. It identifies the title of the paper, purpose for which it is submitted, institution to which it is submitted, name of monitor, student's name and affiliation, and date of completion. Material that appears on the page should be centered horizontally and vertically. (See example in "Appendix to Section I")

Dedication

Occasionally, the student may want to dedicate the work that he or she has completed to someone or the memory of some person who has had a profound impact on her or his life. This page is auxiliary to the paper and therefore is placed before the table of contents.

Acknowledgment

The acknowledgment page is optional. Here the student can acknowledge assistance received from others. Of particular importance are those who were respondents or participated in the data collection.

Clearance

CMU requires students who use company information in their papers to obtain the appropriate release or clearance to do this. Also additional permission is required from the MSA director before human subjects can be used in studies. See Section II for further details concerning the IRB.

Preface

A preface is not necessary for an MSA 685 paper. If information must be given that cannot be included within the chapter defining the problem, this may be stated in a preface.

Table of Contents, Tables and Figures

The table of contents shows the location of all the structural elements of the report, that is, the location of chapter headings and major topics within chapters, the references and various appendices. If a section continues for a number of pages, only the initial page is given. The list of tables and the list of figures state the page on which each table or figure can be found.

Body of the Paper

The body of the paper contains five main components, which may equal the number of chapters or result in more chapters, depending upon the topic, the methodology employed and the number of different issues studied. The five components are as follows:

- Chapter I: Definition of the Problem
- Chapter II: Literature Review
- Chapter III: Methodology
- Chapter IV: Data Analysis
- Chapter V: Summary, Conclusions and Recommendations

The above or similar headings are always used. Each chapter starts on a new page. Consult the APA Style Manual for further direction on handling headings and subheadings.

A common error made by students preparing the paper is to assume the reader knows as much about the topic as does the student. This, of course, is not true. Care must be taken to use a systematic and detailed approach to describing all facets of the report, including interpreting and analyzing the data. An effective technique for testing understanding and readability is to have an uninvolved but interested third party, such as a friend, read the report and provide feedback on its meaning.

No page requirements have been set for the final report but the student will have difficulty meeting substantive requirements if the presentation is less than 35 written pages excluding tables, graphs and appendices.

Chapter I, "Definition of the Problem," is often a rephrasing of Chapter I from the research proposal. Since the research is now complete, the discussion is either in the present or past (rather than future) tense and the coverage reflects a completed rather than a planned action. Some fine-tuning of the issue definition also may be required.

Chapter II, "Literature Review" presents a summary of the information/concepts derived from the published literature and from the review of organizational documents. Of central importance is a demonstration of the literature's relevance to the study. The researcher probably will want to augment the review of sources that was done for the proposal.

Chapter III, "Methodology" is very similar to the proposal's methodology chapter. It includes the research strategy, data collection methods, rationale for questionnaires and interviews, information about respondents or participants, methods used in the quantitative and/or qualitative analyses, and methods of evaluating alternatives.

The fourth and fifth chapters have not been discussed previously. In Chapter IV, "Data Analysis," the information derived from interviews, questionnaires, documents, observations, analysis of symptom — cause or chain sequences is presented and analyzed. Tables, charts, illustrations and other visual means are used to present the information and analyses in a meaningful and persuasive manner. Usually the chapter begins with a description of the sources of data, such as the personnel interviewed and/or surveyed. This is followed by summaries of the results of the data collection.

The data analysis chapter contains a summary of the collected data and its technical interpretation. Sufficient background information is given to allow the reader, should he/she wish to do so, to make calculations and draw conclusions. Generally, too, pertinent data are given in the body of the report. If these are excessive, less relevant materials can be placed in the appendices. Charts, tables, illustrations that are pertinent to the analysis generally appear within the body of the report on the next page following their first mention. These, however, do not take the place of the written description. In fact, the data should be described so comprehensively that if the tables and charts were removed, the reader could understand the analysis and its interpretation.

Chapter V, "Summary, Conclusions and Recommendations," provides the essence of the study. First, the summary gives the context (introduction), the problem, research objective, methodology, the decision criteria (if applicable), and the findings. The conclusions section discusses the root causes of the problem and the bases for opportunity. While no data or analyses are presented in this chapter, references are made to the information and technical conclusions that were determined in Chapter IV. All conclusions should grow out of the data presented in Chapter IV.

The recommendation section highlights the proposals that the researcher has for resolving the problem that was stated in the first chapter. The recommendations *are based on the analysis of the data* and the literature that was reviewed and should be related to the conclusions that were drawn from the analysis. They should be specific, realistic, practical (possible to accomplish) and measurable to the extent possible. An action plan follows each recommendation. They must have reasonable likelihood of implementation and result in solving the researched problem. Recommendations and action plans are usually addressed to the various bodies or levels within the hierarchy of the organization which are empowered to

act upon them. In providing recommendations, the researcher should have considered all opposing views and be prepared to stake his or her professional reputation on the feasibility and implementability of the recommendations and the action plans.

A WORD OR TWO OF ADVICE

Because this is an integrative project, library research or that which is limited to summarizing company annual reports or public relations publications is not sufficient. Information must be collected and interpreted — by studying records and documentation, by interviewing or surveying respondents, by observations, and so forth.

A good approach to take in outlining (and doing) your research is to assume that you are an external consultant presenting proposals and findings to a “lay” board of directors. Be objective; avoid the use of the first and second person; and define all terms that may not be known by the lay person.

The monitor who is assigned to work with you has the final authority to approve the work that you have outlined in the proposal. Considerable revision may be necessary before research can begin. Questionnaires and/or surveys must not be distributed or interviews conducted without the prior permission of IRB.

Important Notice:

Important Notice: Students who collect data without written IRB approval are subject to the following sanctions:

- 1) Student will not be able to use the data collected. If the project has already been written, it will be rejected **and**
- 2) Student will have to request IRB approval to collect new data for the MSA 685 project.

CMU Writing Center Information:

Online service is available for students enrolled in Off-Campus Programs/ Prof Ed courses only. For questions about this service, email writcent@cmich.edu or call 989.774.2986. Additional information can be found at <http://webs.cmich.edu/writingcenter/>

(SAMPLE PROPOSAL TITLE PAGE)

NEW OPPORTUNITIES FOR SERVICE BY THE XYZ AGENCY:
RECOMMENDATIONS FOR THE CHIEF OF AGENCY

PROPOSAL FOR MSA 685 PROJECT

Submitted by
John D. Smith
Student ID #

January 15, 20xx

Instructor
Dr. Jane R. Jones

(SAMPLE PROJECT PAPER TITLE PAGE)

NEW OPPORTUNITIES FOR SERVICE BY THE XYZ AGENCY:
RECOMMENDATIONS FOR THE CHIEF OF AGENCY

MSA 685 Project Report

Submitted in Partial Fulfillment of Requirements
for the Degree of
Master of Science in Administration
(Concentration in General Administration)

by
John D. Smith
Student ID#

Project Instructor
Dr. Jane R. Jones

June 15, 20xx

SUGGESTED FORMATS FOR FREQUENTLY-OBSERVED RESEARCH TYPOLOGIES

The following information is taken from *Master's Thesis: Procedures and Approaches Manual* (1993) by John T. Cirn, Ph.D., with the assistance of Bruce C. Stuart, Ph.D. Reprinted by permission of John T. Cirn, Ph.D. The section dealing with feasibility studies was developed by faculty from Off-Campus Programs.

1. HYPOTHESIS TESTING

- a. Formulation of the hypothesis
- b. Research design
- c. Operational definitions and data
- d. Statistical methods
- e. Findings
- f. Discussion and conclusions
- g. Significance

Typical title: "The Effect of Three Different Styles of Packaging on Buyer Behavior"

Hypotheses are formal statements about the relationship of two or more variables, events, or concepts. They are expressed in the form of conditional statements such as: "If X increases, then Y will decrease, other things being equal." To test hypotheses, the terms (such as X and Y) must be clearly defined and measurable. Data must be systematically collected and analyzed. Statistical analyses are then typically performed to help decide whether expected relationships are supported by the data. The techniques of inferential statistics may be used to draw conclusions about a population on the basis of data from a carefully selected sample. Among the elements of a hypothesis test may be the following:

- a. Formulation of the Hypothesis
Specification of the research problem and research objectives and development of the one or more hypotheses to be tested. This may include a discussion of how the hypothesis has been derived deductively from theory, generated from previous hypothesis tests, or simply based on observations of social phenomena. The relationship of the hypothesis to the pertinent literature should be specified and analytically examined.
- b. Research Design
Description of the overall research strategy (cross-sectional, longitudinal, experimental, survey, etc.), and discussion of the strengths and weaknesses of this strategy. This discussion may include a description and defense of the populations chosen for investigation, and the criteria and methods for sample selection.
- c. Operational Definitions and Data
Translation of concepts in each hypothesis into measurable terms (operationalization). Also, description and defense of the types and sources of data, and the methods and instruments used for data collection (including assessment of measurement reliability and validity).

- d. Statistical Methods
Description and rationale for the statistical techniques used for data reduction and analysis.
- e. Findings
Verbal and tabular presentation of results of the data analysis, generally refraining from interpretations.
- f. Discussion and Conclusions
Reaching of a judgment as to whether the hypothesis is supported or refuted. There may be a discussion of how the findings: (a) are consistent or inconsistent with the findings of previous hypothesis tests; (b) support, extend, specify, or undermine the theory from which the hypothesis was deduced; (c) suggest one or more new theories or explanations that may account for the findings; and/or (d) suggest the need for more research, and if so, of what type.
- g. Significance
Discussion of the relevance and practical benefits of the findings and conclusions to clinicians, administrators, policymakers, members of the general public, or other possible audiences besides researchers.

2. COST/BENEFIT OR COST-EFFECTIVENESS STUDY

- a. Alternatives
 - b. Accounting perspective
 - c. Identification of benefits and costs, including direct/indirect, tangible/intangible, programmatic, opportunity, etc.
 - d. Measurement of the above
 - e. Valuation of benefits and costs
 - f. Discounting
 - g. Consideration of equity
 - h. Decision criteria
 - i. Choice
 - j. Treatment of uncertainty
- Typical title: "A Cost-Effectiveness Study of a New Child Care Facility at the Westinghouse Plant in Maryland"

A formal cost-benefit analysis is the evaluation of a program, project, treatment, or other course of action in terms of the relationship between its costs or the resources it consumes, and the outputs or benefits it produces. These costs and benefits are typically translated into dollar values. This allows for the comparison and ranking of alternatives on the basis of economic efficiency criteria. Such an analysis may be prospective: undertaken before an investment decision is made, based on estimates of anticipated costs and benefits, and thus useful in making future decisions about resource allocation. Or the analysis may be retrospective: undertaken after a program has been implemented, based on empirical data on actual program operations and impacts, and thus useful as a type of impact evaluation.

Cost-effectiveness analysis is used for comparing the productivity of alternative courses of action having similar objectives. In this approach, costs and benefits are quantified in commensurable terms, but only the costs are assigned monetary values. Benefits are expressed in terms of efficacy in correcting a given problem or reaching specified goals. This allows for the comparison and ranking of alternatives in terms of their costs of reaching given goals, or in terms of their costs for different levels of goal achievement. The assumptions and procedures for measuring costs in this approach are the same as those used in cost-benefit analyses. Among the elements of cost-benefit and cost-effectiveness analyses may be the following:

- a. Alternatives
Specification of competing uses of resources, alternative approaches to a problem, and the courses of action to be analyzed. There should be a precise description of any differences among the alternatives in terms of scope, size, limits, location, and design characteristics, that may lead to differences in costs and benefits. Alternatives may be specified as combinations or packages.
- b. Accounting Perspective
Specification of a reference point to serve as the basis for identifying, measuring, and monetizing costs and benefits. The major perspectives that may be considered are those of: (a) individual program participants or service recipients, (b) the public or private funding source, and (c) society as a whole. Separate calculations may be carried out for various affected subgroups.
- c. Identification of Costs and Benefits
A catalog and description of each type of cost and benefit associated with the alternatives. These may include direct and indirect, tangible and intangible, and intended and unintended costs and benefits. Costs will include program costs, net opportunity costs, and existing benefits that are reduced by the alternative. Benefits may represent a desirable change in present conditions or the maintenance of conditions that would deteriorate if the alternative under study is not chosen.
- d. Measurement of Costs and Benefits
Estimation for each alternative of the magnitude of each type of cost and benefit. This may entail the development and defense of a model which outlines the causal relationship between the characteristics of the alternatives and their costs and benefits.
- e. Valuation of Costs and Benefits
Expression of costs and benefits in monetary values. Tangible costs and benefits are generally measured by their market prices, but corrections (shadow prices) may need to be used to more accurately reflect true social values when there are sources of serious market price distortion. If indirect approaches are used to impute dollar values to program effects, there should be a defense of the underlying assumptions. Some intangibles may be better left out of the cost-benefit computations and either expressed in quantitative measures other than dollar values or simply described in qualitative terms.
- f. Discounting
Application of a rate of interest or discount to costs and benefits accruing in the future

so that they are adjusted to present values. There is usually an articulation and defense of the assumptions that underlie the choice of discount rate, and the analysis may value costs and benefits using several different rates. Alternatively, there may be a calculation of each alternative's internal rate of return (i.e., the benefits are discounted at whatever rate would set the present value of benefits equal to costs).

g. Consideration of Equity

Identification of who the losers and gainers are, discussion of the fairness of the resulting distributional effects, and making of adjustments by either (a) applying a system of "equity" weights to the costs and benefits affecting different groups, or (b) developing and applying equity criteria in conjunction with the efficiency criteria.

h. Decision Criterion

Description and defense of a summary measure or other rule to be used in choosing among the alternatives. In cost-benefit analyses, this may be the highest ratio of total benefits to total costs, or highest net present value (discounted benefits minus costs). In cost-effectiveness analyses, the search may be for: (a) the alternative which attains a particular goal or specified level of output at the lowest possible cost; or (b) the alternative which produces the most benefits or highest level of outputs at a given cost (or within a fixed budget).

i. Choice

Comparison and ranking of the alternatives in terms of the criterion chosen. This may include a discussion of how different decision criteria result in different rankings.

j. Treatment of Uncertainty

Investigation of how the ranking of the alternatives is affected when the problems of uncertainty are addressed by such techniques as contingency analysis or sensitivity analysis.

3. FEASIBILITY STUDY

a. Assumptions

b. Business history and future

c. Demand for product or service

d. Market

e. Management

f. Financial information, including supplies balance sheet, income statement, loan conditions, cash flow information, estimated sales, operating expenses, taxes, ROI, etc.

g. Appendices, including product description, maps, land, appraisals, building estimates, sampling techniques, etc.

Typical title: "Feasibility Study for establishing a Computer-Aided Design Firm"

The opportunity to develop a feasibility study and use it as a research strategy allows a student to focus on the myriad aspects of starting or enlarging a business. Writing a feasibility study for an

entrepreneurial venture is no easy task. Since most business ventures require outside capital, the best way to approach the project is to prepare the feasibility study as though it will be presented to a lending institution, a bank or venture capital organization.

The successful feasibility study not only sells the concept to the lender with qualitative information, but must be convincing in its inclusion of quantitative details about every aspect of the business. The lender must feel confident that the individuals planning the venture know exactly what they are doing, have solid knowledge of the industry and competition, and have carefully thought through all aspects of the business

A feasibility study starts with background information that acquaints the reader with placement of the business in the general societal context and then proceeds with the specifics of the business.

Every strategic and operational detail is covered so the reader fully understands what the business focus will be and how management intends to position the business in the marketplace relative to the competition. The plan includes exactly what the business will be, what products or services it will provide, and who are the intended customers and market. The study also includes the intended location of the business (with a map in the Appendix), the key personnel and their qualifications, and the daily operations of the business. The total required capital investment for the business is stated, with a detailed breakdown, and the sources for capital are listed. There is also projection of total revenues for the business for the first five years.

The feasibility study cannot be created in a vacuum. The industry and environmental analyses provide the reader with a background of the nature of the competitive environment and the driving forces in the firm's external environment. Typical driving forces that can impact the success of the firm are the development and implementation of new technology, government regulation, general economic conditions, exchange rates, and global political stability.

In creating a plan for a new business, the researcher is to analyze the economic characteristics of the industry in terms of market size and market growth rate. The competition is to be described and discussed in detail. Include demographics, products/services, relative geographic proximity to the proposed business, and strengths/weaknesses in the analysis. Identify, define, and analyze and define the driving forces that affect the industry. Identify the characteristics of a successful firm.

The feasibility study also includes much thoughtful introspection. The internal functional analyses need to cover management, marketing, and finance. The management analysis should include the strategic management plan and how it will be implemented. The marketing analysis includes product identification, pricing, distribution, and promotion along with the firm's position in the marketplace. The financial analysis covers startup of the business and maintaining viability. The researcher must estimate the monthly and annual cost structure along with developing a revenue schedule. This may be analyzed using a "best case scenario," "worst case scenario," and "most likely case scenario" approach. A five-year pro forma income statement, balance sheet, and monthly cash flow statement should be developed for each year. If stock is involved, the compensation for major stockholders is to be discussed. There

also needs to be discussion of the feasibility of the business including the probability of success and possible threats and opportunities.

4. POLICY ANALYSIS

- a. Definition of problem or opportunity
- b. Previous responses
- c. Criteria for choice
- d. Description of alternatives, to include capital and human resources, organizational activities, size, sponsorship, time to implement, etc.
- e. Consequences of alternatives
- f. Evaluation of alternatives, including political feasibility in areas of institutional factors, interest group factors, and potential factors
- g. Choice

Typical title: "An Analysis of User Fees for Police Services"

A policy analysis specifies, and provides evidence for, the pros and cons of various options facing policymakers. It involves drawing together and evaluating facts and informed judgment regarding the causes and consequences of alternative strategies for dealing with a specific problem or opportunity in the delivery of human services. The focus may be on private or public policy. Previously-considered options may be compared, or one or more new options or new combinations of options may be formulated and included in the analysis. Among the elements of a policy analysis may be the following:

- a. Definitions of the Problem or Opportunity
A review of why an issue is, or should be, receiving attention from policymakers. This will typically include a presentation of alternative viewpoints representative of various affected interests. There may be a review of the arguments on the nature and interaction of socio-economic and other factors generating or sustaining the problem or creating the opportunity. Justification for some government action is often based on evidence of unsatisfactory performance in the private sector. There may be a prediction of trends if no action is taken. This prognosis may include "worst case," "best case," or "most probable" scenarios for the short term and long term.
- b. Previous Responses
A review of the history and effectiveness of relevant policy activities, including important legislative, administrative, and judicial actions. This review may include an analysis of previous program evaluations in the policy area.
- c. Criteria for Choice
A clear and consistent statement of the criteria by which the policies under study are to be judged. This should include a specification and defense of the objectives to be pursued, and of the operational indicators to be used in assessing the success of policies in achieving these objectives. This discussion may assess the values that would be furthered by the policies in question and the implications should the policy limits be exceeded.

d. Description of Alternatives

A description of the alternative programs or strategies for coping with the problem or taking advantage of the opportunity. These may be compared in such terms as human and capital resource needs, organizational activities, size, sponsorship, and time required for implementation.

e. Consequences of Alternatives

Prediction of direct and indirect consequences of each alternative considered in the analysis framed in terms of costs and benefits for various affected interests. If consequences are uncertain, estimates of their probability may be presented. There may be specification and defense of the underlying assumptions about cause-effect relationships and of the techniques used for making these predictions.

f. Evaluation of Alternatives

An evaluation of each alternative (including the alternative of doing nothing) in terms of the specified criteria of choice. When alternatives are found to be superior with respect to certain criteria but inferior with respect to others, it may be necessary to rank or weight the criteria, or develop additional criteria for evaluating the trade-offs, the different combinations of goal achievement.

It may be important to evaluate each alternative in terms of the political feasibility of its enactment and implementation.*

g. Choice

A reasoned recommendation as to which specific course of action should be pursued on the basis of the specified criteria.

*Assessment of political feasibility might include analysis of the major facilitating and constraining factors falling into the following categories:

Institutional factors: analysis here would include identification of the institutions most important for the generation, adoption, and implementation of policy in the area under study, and a description of their characteristic responses to reform proposals and of any structural features which may help to explain policy outcomes in this area.

Interest group factors: there may be a description of the active interest groups. This may include an examination of: their formal positions, other values at stake which help to account for motivations, organizational attributes, alignments and coalitions among groups, lobbying tactics, and the availability and use of political resources.

Potential factors: there may be a study of the inactive affected interests, reasons for their inactivity, and their likely orientations if aroused.

5. PROGRAM DESIGN

a. Program or setting

b. Needs assessment

c. Objectives

d. Target population

e. Design specifications, including frequency, duration, and form of activities or services, personnel, equipment, location and structure of delivery sites, time-frame for

implementation, coordination with other programs, lessons learned from similar programs elsewhere, design materials (charts, procedural manuals, lesson plans, catalogues, job descriptions, forms, detailed budgets, etc.)

- f. Sources of required resources
- g. Program benefits/costs
- h. Financial feasibility
- i. Political feasibility
- j. Monitoring and evaluation plan

Typical title: "Welfare Reform: An Analysis of the Temporary Assistance for Needy Families Program"

A program design is a detailed plan for a human services delivery program, accompanied by arguments supporting implementation of the program by a particular organization. The proposal may be for a significant extension or modification of an existing program, the adoption of a program as it has been in operation elsewhere, or an original creation that calls for a new approach or a new combination of familiar elements. The design should be specific to an actual site; real data should be used, and the advocacy should be directed to an identified audience. At the same time, the design should be a vehicle for demonstrating administrative knowledge and skills applicable in various settings.

The design may be a preliminary one, but the information should be sufficient to form a framework for a more developed plan, and to serve as a means for eliciting feedback and constructive criticism from work colleagues, superiors, and other interested parties. The program description and defense should be comprehensive enough to convince the organization's leadership, or an external funding or regulatory agency, that the proposed program is appropriate and feasible.

A program design done in the field will typically entail more effort than is normal for the purposes of a master's thesis. The following list offers an extensive checklist from which some subsets of elements might suffice to meet the expectations of a thesis. Many public and private agencies have quite specific format requirements for program proposals and designs, but among the elements may be the following:

a. Program and Setting

A description of the characteristics of the implementing organization and the proposed service delivery program. This introductory section should also present an overview of relevant market characteristics or other environmental factors. Existing features of the delivery system and future trends may be briefly discussed.

b. Need Assessment

A systematic appraisal of the problem or new opportunity to be addressed. Consideration can be given to known discrepancies between available and required services or facilities, forecasted supply and demand, potential and actual utilization of services. The results of censuses, sample surveys, or utilization trend studies may be

reported, or there may be a defense of other indicators and techniques used for identifying the problem and community support for the proposed program. There may be a discussion of variations in perspectives on needs and priorities as held by professionals, potential service recipients, and other constituencies, and an examination of the reasons for these discrepancies.

c. Objectives

Articulation of the intended general and specific accomplishments of the program. There may be short-term and long-term predictions. This section may set forth the guiding hypotheses about modification of individual or community conditions — hypotheses which underlie the assumed cause-effect relationships between the program and the objectives.

d. Target Population

Identification of the individuals or other units to which the program is to be directed, and specification of the criteria for selecting the service recipients. (This should follow closely the evidence presented in the need assessment.) The target population may be analyzed in terms of size, geographical location, social and demographic characteristics, distribution of problems and conditions, and sociocultural and transportation factors likely to affect utilization of services and program effectiveness.

e. Design Specifications

Detailed description of the structure and operation of the proposed program, including: frequency, duration, and form of activities or services; personnel, equipment, and other resource requirements; staff functions and organization; location and structure of new service delivery sites; time-frame for implementation; and plans for coordination with other programs both within and outside the organization. It may be advisable to demonstrate how the elements in this section conform to two major sources of design specifications:

1. The standards set forth in the State Health Plan, the Health Systems Plan and Annual Implementation Plan of Health Systems Agency; the institution's own plan, if there is one; the requirements or regulatory agencies and accreditation bodies; and the guidelines promulgated by professional associations.
2. The lessons to be learned from model programs in operation or completed elsewhere.

Design materials which may be attached as appendices could include organization charts, operations flow charts, policy and procedure manuals, job descriptions, record forms, price lists and catalog descriptions of required equipment, detailed budgets, and architectural plans.

f. Sources of Required Resources

Analysis of the availability of labor and materials needed for construction, and of the equipment and personnel needed for operation. This may include assessments of the relevant labor markets, and plans for the recruitment of scarce professionals.

g. Program Costs and Benefits

An estimate of expected direct installation and operating costs. There may also be an estimate of indirect costs, or additional burdens placed on general administration, housekeeping and maintenance, and other services and departments. This section

addresses the question: “Is this program an efficient use of resources compared with alternative uses of resources?” Ideally this would be answered using a prospective cost-benefit analysis. The proposal might also contain discussion of two or more alternative approaches to achieving the specified goals, with each alternative carrying a different total cost. A comparative cost-effectiveness analysis of these options could then be carried out.

h. Financial Feasibility

An assessment of the need for, and potential sources of, capital financing including invested equity, mortgages, loans, conventional bonds, tax-exempt bonds, stock offerings, government grants, and fund drives. Beyond the payment of program start-up costs, the institution must also have reasonable assurances that ongoing operating costs (including interest on loans) will be covered by program revenues or funds earmarked from other operations. Various types of financial analyses (cost-of-capital calculations, ratio analysis) can be brought to bear in this part of a program design.

i. Political Feasibility

An appraisal of the probable sources and level of support for and opposition to the proposed program as a whole or to various components of it, at the launching and the operational stages. This could include an examination of the likely arguments and tactics of opponents, and the counterarguments and countertactics likely to be most effective. Insights for such an analysis could be drawn from the history of past program promotions, both successful and failed initiatives, at the proposed implementing organization or elsewhere.

j. Monitoring and Evaluation Plan

A description of how data will be gathered to determine to what extent: (a) the program is reaching the appropriate target population; (b) the delivery of services or other program activities are being undertaken in conformity with the design specifications; and (c) the program is meeting the objectives and having the desired impacts. This plan may include: criteria for assessing success, operational indicators of goal achievement, identification of information needs, and an outline of a data collection system.

6. OPERATIONS RESEARCH

- a. Problem definition
- b. Model construction
- c. Model validation
- d. Data collection
- e. Model testing and analysis
- f. Evaluation of alternatives and recommendations

Typical title: “Algorithmic Scheduling Techniques for the Ballistics-Testing Center”

Operations research (OR) is a method of problem solving involving the use of mathematical and/or computer-based models to evaluate or predict the consequences of alternative courses of action on an operating system. OR techniques can be applied to certain well-structured decision situations in the planning and administration of health services, including cost minimization and output maximization problems, simulation exercises, scheduling and

inventory control questions, and much more. Among the elements of an operations research project might be the following:

- a. **Problem Definition**
Precise identification of the problem and of the feasible alternative courses of action that may be effective in solving the problem. The problem may be a query of whether a particular action will have a desired result, or it may be a more general search for the results of a change in internal or external variables or for an improved or optimal result given a variety of alternative courses of action.
- b. **Model Construction**
Development of one or more representations of the most crucial aspects of the structure and operation of a system, and of the differences among the alternatives. These representations are in the form of mathematical models which can then be used to test hypotheses about the relationships between alternatives and measures of system performance. The type of model chosen (e.g., Markov chains, queuing models, Monte Carlo simulations, linear optimization models, etc.) will depend on the problem at hand.
- c. **Model Validation**
A test of the reasonableness and predictive power of the model using past data, or data from an analogous set of circumstances. This step may take the form of a literature review which analyzes the past applications of the chosen model(s).
- d. **Data Collection**
Collection of information relating to the parameters and variables incorporated in the chosen model(s) in the form which makes testing possible.
- e. **Model Testing and Analysis**
Application of the model to the data to test hypotheses or to derive optimal outcomes in a problem-solving setting. Further validation of the model(s) (e.g., sensitivity analysis) may be appropriate at this stage.
- f. **Evaluation of Alternatives and Recommendations**
Evaluation of the alternatives in terms of the measures of performance through the use of the model(s). In many cases the results of initial evaluation may indicate the need for refinement in the level of detail of the model (it may be too simple or too complex), adjustment of the database to support the new model, and re-evaluation of the alternatives. Recommendations for implementation of the solution(s) found should follow logically from the interpretative analysis.

7. PROGRAM EVALUATION

- a. Statement of Purpose
- b. Description of Program Inputs
- c. Description of Program Activities
- d. Performance Criteria
- e. Operational Indicators
- f. Research Design and Data Analysis
- g. Conclusions and Recommendations

Typical title: "A Program Evaluation of the WIC Program in Clayton County"

A program evaluation, or evaluation research, is the use of systematic methods of empirical investigation to produce information useful for making a judgment about a program's worth or performance, according to specified criteria. It may be an investigation of how and why a program operates as it does, and/or the measurement of the extent to which it has achieved certain objectives or has had certain other outcomes, and at what costs. It may include recommendations about the continuation, modification, or termination of the program.

Among the elements of a program evaluation may be the following:

- a. Statement of Purpose
Identification of the ways that the collected information might be useful, and the intended or possible users of the information. Possible uses of the information would be to: (a) demonstrate the quality of a program and gain support for its continuation or expansion, (b) identify ways that the program could be improved, and/or (c) impartially compare competing programs or alternative methods or practices. Possible users of the information would be: legislators, budget officers, program sponsors, planners, administrators, service providers, and service recipients. To maximize the utility of the research for particular audiences, it is frequently important to include among the examined variables some which are amenable to manipulation and control.
- b. Description of Program Inputs
Description of human and capital resources available to the program, together with information on the program's location, sponsorship, staffing patterns, length of time in operation, and other relevant structural characteristics.
- c. Description of Program Activities
Precise description of who has done what to whom, in what sequence, with what resources, under what supervision, within what period of time at what sites, and other relevant dimensions of program operation, so that there may be accurate specification of what program activities account for what effects.
- d. Performance Criteria
Presentation of the standards to be used in assessing the merit or the success or failure of the program. This may include a specification of the objectives of the program as well as beneficial and harmful outcomes and impacts that were unintended or unforeseen.

The objectives may include the stated formal objectives or official mandates of the program, and/or objectives formulated by the research or others. Note may be made as to whether the objectives are consistent or conflicting, or varying in importance.

Judgments may be made regarding the time period in which the objectives were to have been achieved or through which the effects were to continue to be felt. The timing and frequency of the measurements will depend on the interest in capturing delayed as well as immediate effects, and temporary as well as permanent effects.

Program objectives may fit into a hierarchy from immediate to ultimate, from lower-order to higher-order. A program evaluation may thus focus on (a) implementation variables in the administrative operation of the program, and/or (b) effectiveness, the extent to which the program as implemented achieved objectives or had other effects.

An implementation or process evaluation is concerned with how the program was established and carried out. It may simply measure “effort” or “utilization” (number of dollars spent, number of manhours or other resources consumed, number of activities performed or services produced, number of persons who received services, etc., and relationships among these variables). Alternatively, the study may investigate the degree to which the program was implemented or used as intended, the causes and consequences of the deviations from various implementation strategies, how well or how poorly the availability and use of resources and the performance of activities met programmatic expectations or standards, or what proportion of eligible users of the program actually used the program.

An effectiveness or outcome or impact evaluation measures the extent to which the program produced changes in the status or behavior of users or had other desirable and undesirable outcomes. The study may include a concern with “adequacy,” i.e., actual performance level relative to the level needed to eliminate all or a realistic amount of the total problem or need that existed. Or the study may be concerned with “efficiency,” the relationship between the program’s benefits and the costs incurred in producing those benefits.

e. Operational Indicators

Translation of each criterion into procedures by which outcomes can be observed and measured, so that it can be determined whether or to what extent the criterion has been satisfied.

f. Research Design and Data Analysis

Description and defense of the strategies used for the collection, reduction, and analysis of data; and presentation of findings based on this analysis. In outcome evaluations, there may be a need for collection and presentation of base-line and post-intervention data on the conditions which the program is intended to change. There must also be identification and, ideally, control (by data collection or statistical procedures) of activities and events occurring within the implementing organization, among the affected groups, or in the larger environment which were not part of the

program under study but which may offer competing explanations for any observed changes.

g. Conclusions and Recommendations

Judgments as to whether the program satisfied each of the specified criteria to an acceptable degree, and recommendations on that basis to continue, expand, reduce, modify, or terminate the program. If the level or mix of outcomes is found to be less than ideal, it is important to try to determine whether the results were due to resource inadequacies or other problems in implementation, or to error or underdevelopment in the underlying assumptions about the relationship between program activities and outcomes. Suggestions may be made for replacement of the program with an alternative, or for reforms in program objectives, design, operation, scope, or funding level.

POSSIBLE COMBINATIONS

There are numerous instances in which a capstone project is most appropriately pursued by a combination of approaches. Research representing one approach may be a component of one of the others, or be a specialized version of another approach. Some of the examples listed in the bibliographies exemplify hybrid versions of two or more approaches. Among the possibilities for overlap among the approaches are the following:

1. Some of the evidence for or against the options under consideration in a policy analysis may be composed of a comparison of the findings of one or program evaluations, cost-benefit or cost-effectiveness analyses, or legal studies.
2. A legal study is often a vehicle for a wide-ranging policy analysis, in view of the many societal problems of significance that are dealt with in some fashion by our legal system.
3. Identification and measurement of costs and benefits in a cost-benefit or cost-effectiveness analysis may rely upon one or more program evaluations.
4. At the core of some operations research topics are hypotheses about the importance of various factors in explaining system operations.
5. A program design may draw heavily upon program evaluations, case studies, legal studies, and cost-effectiveness analyses for design features and/or for defense of estimates of the technical and political feasibility of the proposed program or of its satisfaction of legal standards.
6. An analytic literature review of some scope and depth should form a section of *each* of the other approaches.

Commonly Used MSA 685 Research Typologies

Element/Item	Hypothesis Testing	Cost/Benefit or Effectiveness	Feasibility Study	Policy Analysis	Program Design	Operations Research	Program Evaluation
Research Question	Is there a relationship between Concept A and Concept B?	Will the benefits of a specific program, strategy, or marketing plan exceed its costs?	What is the probability of success of a specific strategy or plan?	Determination of the "best" policy or program based on stated criteria.	Design of a specific program based on needs assessment and given objectives.	Building, validation, and recommendations of a specific operations model.	Compare program operation with required outcomes
General Research Focus	What effect do the independent variables have on the dependent variables?	What are the costs and benefits of the...?	What are the critical situation factors and how do they affect choice of the plan?	What are the critical factors to be considered in evaluation of the policies?	What are the specific aspects, including costs, of a program addressing stated needs?	What are the specific attributes of the model?	Investigation of how and why a program operates as it does. Has the program met stated objectives?
Hypothesis or Specific Research Question	H ₀ : There is no significant difference in Group A as compared to Group B. H _a : There is no statistically significant relationship between the independent variables and the dependent variables.	Do the total benefits exceed the total costs of the program, plan, or strategy?	What is the probability that the plan will meet or exceed outcome projections?	Is the chosen policy the best policy chosen from a group of viable alternatives?	What is the specific program and how does it address the specific criteria?	What is the best model designed to solve a set of organizational problems?	Should the program continue, be modified, or be terminated?
Format Chapter I	DEFINITION OF THE PROBLEM <ul style="list-style-type: none"> • Introduction • Statement of the Problem • Purpose of the Research (including H₀). • Limitations • Definitions 	DEFINITION OF THE PROBLEM <ul style="list-style-type: none"> • Introduction • Statement of the Problem • Purpose of the Research • Limitations • Definitions 	DEFINITION OF THE PROBLEM <ul style="list-style-type: none"> • Introduction • Statement of the Problem • Purpose of the Research • Limitations • Definitions 	DEFINITION OF THE PROBLEM <ul style="list-style-type: none"> • Introduction • Statement of the Problem • Purpose of the Research • Limitations • Definitions 	DEFINITION OF THE PROBLEM <ul style="list-style-type: none"> • Introduction • Statement of the Problem • Purpose of the Research • Limitations • Definitions 	DEFINITION OF THE PROBLEM <ul style="list-style-type: none"> • Introduction • Statement of the Problem • Purpose of the Research • Limitations • Definitions 	DEFINITION OF THE PROBLEM <ul style="list-style-type: none"> • Introduction • Statement of the Problem • Purpose of the Research • Limitations • Definitions

Element/Item	Hypothesis Testing	Cost/Benefit or Effectiveness	Feasibility Study	Policy Analysis	Program Design	Operations Research	Program Evaluation	
<i>Chapter II</i>	LITERATURE REVIEW <ul style="list-style-type: none"> • Introduction • Specific Topics • Summary 	LITERATURE REVIEW <ul style="list-style-type: none"> • Introduction • Specific Topics • Summary 	LITERATURE REVIEW <ul style="list-style-type: none"> • Introduction • Specific Topics • Summary 	LITERATURE REVIEW <ul style="list-style-type: none"> • Introduction • Specific Topics • Summary 	LITERATURE REVIEW <ul style="list-style-type: none"> • Introduction • Specific Topics • Summary 	LITERATURE REVIEW <ul style="list-style-type: none"> • Introduction • Specific Topics • Summary 	LITERATURE REVIEW <ul style="list-style-type: none"> • Introduction • Specific Topics • Summary 	
<i>Chapter III</i>	METHODOLOGY <ul style="list-style-type: none"> • Research Question • Instrument • Sample • Protocol 	METHODOLOGY <ul style="list-style-type: none"> • Specific Research Question • Operational Definitions • How Costs and Benefits to be measured 	METHODOLOGY <ul style="list-style-type: none"> • Specific Research Question • Operational Definitions • How Critical Items will be measured 	METHODOLOGY <ul style="list-style-type: none"> • Specific Research Question • Operational Definitions • How Critical Items will be measured 	METHODOLOGY <ul style="list-style-type: none"> • Specific Research Question • Operational Definitions • How Critical Items will be measured 	METHODOLOGY <ul style="list-style-type: none"> • Specific Research Question • Operational Definitions • How Critical Items will be measured 	METHODOLOGY <ul style="list-style-type: none"> • Specific Research Question • Operational Definitions • How Critical Items will be measured 	METHODOLOGY <ul style="list-style-type: none"> • Specific Research Question • Operational Definitions • How Critical Items will be measured
<i>Chapter IV</i>	DATA ANALYSIS <ul style="list-style-type: none"> • Data Collection • Response Rate • Sample • Responses 	DATA ANALYSIS <ul style="list-style-type: none"> • Findings of Measurements 	DATA ANALYSIS <ul style="list-style-type: none"> • Findings of Measurements 	DATA ANALYSIS <ul style="list-style-type: none"> • Findings of Measurements 	DATA ANALYSIS <ul style="list-style-type: none"> • Findings of Measurements 	DATA ANALYSIS <ul style="list-style-type: none"> • Findings of Measurements 	DATA ANALYSIS <ul style="list-style-type: none"> • Findings of Measurements 	DATA ANALYSIS <ul style="list-style-type: none"> • Findings of Measurements
<i>Chapter V</i>	SUMMARY, CONCLUSIONS & RECOMMENDATIONS <ul style="list-style-type: none"> • Summary • Conclusions • Recommendations 	SUMMARY, CONCLUSIONS & RECOMMENDATIONS <ul style="list-style-type: none"> • Summary • Conclusions • Recommendations 	SUMMARY, CONCLUSIONS & RECOMMENDATIONS <ul style="list-style-type: none"> • Summary • Conclusions • Recommendations 	SUMMARY, CONCLUSIONS & RECOMMENDATIONS <ul style="list-style-type: none"> • Summary • Conclusions • Recommendations 	SUMMARY, CONCLUSIONS & RECOMMENDATIONS <ul style="list-style-type: none"> • Summary • Conclusions • Recommendations 	SUMMARY, CONCLUSIONS & RECOMMENDATIONS <ul style="list-style-type: none"> • Summary • Conclusions • Recommendations 	SUMMARY, CONCLUSIONS & RECOMMENDATIONS <ul style="list-style-type: none"> • Summary • Conclusions • Recommendations 	SUMMARY, CONCLUSIONS & RECOMMENDATIONS <ul style="list-style-type: none"> • Summary • Conclusions • Recommendations

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