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# UNIT 16 RESEARCH PLAN

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## 16.0 OBJECTIVES

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After reading this Unit, you will be able to:

- know what is a research plan;
- appreciate its need and purpose;
- understand its functions;
- know its different types and structure;
- comprehend the tools and techniques used in a plan; and
- prepare a research plan.

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## 16.1 INTRODUCTION

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We have discussed in Unit 15 on Research Design, the importance of organisation and planning in research. Research design involves formulating a strategy for your research. There are a number of factors involved while taking a decision in this regard. Once you

have formulated a research design, the next step is to prepare a research plan. As a with a research design, research plan also gives your research a sound footing. This Unit is devoted to a discussion of the different aspects of research plan in detail.

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## 16.2 DEFINITION

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Research plan has been used synonymously with proposal and synopsis. They refer to a blue print of your research. Both are used for documents that describe in detail:

- What are you going to do?
- Why are you going to do?
- How are you going to do?
- In what resources (time, money, infrastructure, etc.) are you going to do?
- What are you not going to do?

A research proposal is thus, a document to your plans and ideas of carrying out your research. You may be wondering, how is it different from research design? Research design is also a strategy of how you are you going to conduct your research. But it precedes research plan. Research design is a plan of the technical decisions regarding the what, why, and how of your research. Here we take decisions regarding the nature of investigation, data collection methods to be adopted, and number of contacts to be made with the subjects, and the period of reference with the subjects of study. Research plan can be formulated only when research design has been decided. In fact, research design helps to formulate research plan. It is the document that describes all the decisions that have been taken in the design stage plus the administrative decisions concerned with your research. It presents systematically everything starting with the title of your project to the tentative structure of your thesis.

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## 16.3 NEED AND PURPOSE

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As stated earlier, we repeat that research is a systematic endeavour towards quest for new knowledge. There is a role of intuition also in research but a systematic step-by-step approach needs to be followed in research. Studying informally and casually may also yield new knowledge but that is not research. In research, organised efforts need to be put right from thinking of a topic to the presentation of results. Research is a long journey from knowing and understanding the present state of knowledge in a particular field to exploring raw areas where additions and improvements can be done and finally making those improvements. It is a project, which involves investment of considerable resources. And thus, needs planning as a proposal.

The purpose of a research plan is to:

- present for him the proposed plan of action;
- present for the supervisor and other authorities also the plan of action for their approval;

The purpose of a research design is to provide information regarding:

- What is the study?
- Why is the study being carried out?
- Where will the study be carried out?

- How will the study be carried out?
- What will be the processes and tasks involved?
- What will be the data?
- How will the data be collected?
- What methods of sampling will be used?
- How will the analysis be done?

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## 16.4 FUNCTIONS

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The functions of a research plan are to:

- give directions on what needs to be done, when and how and in what order;
- provide a route from stating the topic to finalising the results;
- enable to evaluate your progress during research;
- define your topic to limit its scope; and
- prove to your supervisor that you have gone into the fine details of your topic and will be able to conduct research.

### Self Check Exercise

1) Define research plan. How is it different from a research design?

- Note:** i) Write your answer in the space given below.  
ii) Check your answer with the answers given at the end of the Unit.

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## 16.5 TYPES

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There are two types of research plans. These are: quantitative and qualitative proposals. Quantitative proposal is given for experimental and descriptive research whereas qualitative proposal is given for descriptive and exploratory research. Though, there is no hard line of demarcation, generally qualitative research doesn't have hypothesis and operationalisation of concepts. Operationalisation of concepts refers to giving operational definitions, finding out the independent and dependent variables, sample selection, and finalising the measuring instruments and their reliability and validity. Instead the qualitative proposal will have research procedures which quantitative research doesn't have.

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## 16.6 STRUCTURE

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A research proposal is presented in the following structure:

### 16.6.1 Title

The title of your study (dissertation or project) is the first part of your plan. We should ensure that the title is self-explanatory. It should convey what we intend to do. There should be no ambiguity. It should be clear, precise, and grammatically correct. It should

not be broad or more specific than what we plan to study in the research. If we wish to study the impact of personality development programmes on the tackling of users by staff, then the topic could be: Handling of users by staff in libraries: Impact of personality development programmes.

### 16.6.2 Introduction

The introduction provides background information to the topic of your study. It includes a thorough review of what is available related to your area of study. Try to clarify the conceptual area zeroing down towards the topic. Ranjit Kumar enumerates the following list of the aspects to be covered in the introduction:

- An overview of the main area of study;
- A historical perspective (development, growth, etc.) pertinent to the area of study;
- Philosophical or ideological issues related to the topic;
- Trends in terms of prevalence, if appropriate;
- Major theories, if any;
- The main issues, problems and advances in the subject area under study;
- Important theoretical and practical issues relating to the central problem under study; and
- The main findings related to the core issue(s).

Let us clarify with an example. If the topic of study is, “Impact of automation on the services of academic libraries in India”. The introduction should discuss:

- Brief discussion on the concept and history of automation;
- Attempts at automation of libraries in India;
- Trends of automation of academic libraries in India; and
- Impact of automation on libraries and their services.

### 16.6.3 The Problem

Introduction and the problem could be visualised as occurring together in continuation as background to the study. The difference is that introduction is more general as compared to the problem. The problem starts with where introduction has left the topic. It is continuation of introduction, focusing specifically on the topic. Why have you chosen the topic? Is there any need to conduct such studies? What is the rationale of your topic? What gaps in the existing knowledge does it intend to fill? Ranjit Kumar enumerates the following issues that need to be discussed in the problem:

- Identify the issues that are the basis of your study;
- Specify the various aspects of/perspectives on these issues;
- Identify the main gaps in the existing body of knowledge;
- Raise some of the main research questions that you want to answer through your study;
- Identify what knowledge is available concerning your questions, specifying difference of opinion in the literature regarding these questions if differences exist; and
- Develop a rationale for your study with particular reference to how your study will fill the identified gaps.

Let us discuss what needs to be discussed in the problem if our topic of research is: “Impact of automation on the services of academic libraries in India”. It should include the following based on a review of literature:

- categorise the different kinds of services and the impact of automation on them;
- discuss the views and theories propounded by experts in this regard;
- present case studies of attempts by professionals towards studying impact of automation on services;
- separate the impact on service providers and users;
- bring to light issues that remain to be studied or point towards a need for more investigation; and
- state the relevance of your study, why is it needed, how is it going to fill the gaps, if anything exists. If such studies have already been conducted, you could justify the need for your study if some aspects have not been studied, or some issues have cropped up from earlier studies, or your study is being conducted in a new environment or conditions, or it is a longitudinal study. You would recall, we have discussed about longitudinal studies in Unit 15 on Research Design. These are studies conducted again on the same population after a gap of time to know the change in dependent variables over a period of time. It helps to provide a pattern of change in the dependent variable.

#### 16.6.4 Scope

After the problem has been stated, it is important to explain its scope also. In the scope one should indicate to what extent one intends to probe the topic. He should clarify the scope as far as the subject content is concerned as well as the geographical area is concerned. There should also be a submission of the scope regarding the coverage of the time period. The scope must give an indication of the limitations of the topic.

#### Self Check Exercise

2) Describe what would you discuss in the introduction to the plan of your Study.

- Note:** i) Write your answer in the space given below.  
ii) Check your answer with the answers given at the end of the Unit.

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#### 16.6.5 Objectives

After the problem, the plan should state the objectives of your study. This is one of the most important parts of your plan. It helps to know what you intend to do. Anyone interested in your study gets to know the whole picture from just the objectives. You can very well judge the importance of objectives. Therefore, it is important that they are stated in a crisp language so that are clear and unambiguous. Moreover, they should convey what is the intended outcome of your study. Where do you reach to when you

start from here? For that you need to use action verbs like: to know, to find out, to evaluate, to automate, to design, etc. Another thing to be borne in mind while stating objectives is that they should not be broad. One should clearly make out the intentions of one’s study that could help him/her or even you while evaluating. It is a pointer to measure how far you have succeeded in your project. Let us discuss the same example again, “Impact of automation on the services of academic libraries in India”. The objectives of the study could be stated as to study the impact of automation on:

- Change in the form of services;
- Any new services introduced;
- The service providers;
- The frequency of use of services; and
- Ease of use of services.

**Self Check Exercise**

3) Taking a hypothetical example, state the objectives of your study.

- Note:** i) Write your answer in the space given below.  
 ii) Check your answer with the answers given at the end of the Unit.

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**16.6.6 Hypotheses**

The next section of your plan should be devoted to hypotheses. Hypothesis is an assumption, presumption, or in simple words guess towards some situation or condition. It is an assumption of relationships between the dependent and independent variables. Hypotheses provide the researcher a line of action along which he/she moves to find out answers to the problem he/she is working on. It is not necessary that every research study has a hypothesis.

Though we have stated that hypotheses formulation involves guess that does not mean there is no base to it. It involves a thorough review of literature to understand the concept and the relationships existing between the various variables existing. It is on the basis of this review and discussion with peers and others in the field that we propose a relationship between the variables. This is tested during the course of study. It is pertinent to recall what we have studied in the earlier units, that hypotheses if proved true later results into theories and finally into laws.

There are two kinds of hypotheses, null and alternative. Hypothesis is stated as null hypothesis, which is a negative statement. We state the relations expected between the variables in a negative way, e.g., if we expect that automation has resulted in increased use of library services. We would frame the null hypothesis as:

HO = There is no increase in use of library services due to their automation. The alternative hypothesis would then be:

H1 = There is increase in use of library services due to library automation

Thus, if null hypothesis is proved to be false, the alternative hypothesis is proved to be true.

### 16.6.7 Review of Related Literature

After the hypotheses are stated, a brief review of literature is presented. It helps the researcher to know and assimilate what others have already done in the field. It gives him the direction of movement into his research. He comes to know the ripe areas for research. Whenever we plan to research, we have to start from somewhere, which we come to know by literature review. Literature review is conducted at two different stages of research work. This is the first stage when it is a brief review of related literature. It is done again after the proposal is approved and the study is conducted. Later the scope of review of literature is greater covering all aspects and a period of coverage is decided which depends on the subject and topic of study.

#### Self Check Exercise

4) Define hypothesis. Differentiate between null and alternative hypothesis.

**Note:** i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of the Unit.

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### 16.6.8 Research Design

The plan of research from the point of operationalisation of hypotheses to the analysis of data is presented as research design. The research design is the blueprint of your nature of investigation, data collection methods to be used, number of contacts to be made with the subjects, and the reference period of study. Broadly your nature of investigation can be either exploratory, or descriptive, or experimental. It depends upon your topic which one you choose. A study can adopt more than one also. For example, any research starts with an exploratory investigation where you tend to explore your topic. It is a stage where you tend to formulate your topic based on the review of literature and discussion with others in the field. The research here does not rigidly follow research methodology. The data collection methods also do not follow strictly probability sampling. As in social sciences, in library science also descriptive methods of research are followed. It describes the situation of a n object, phenomenon, or a process or an event in the past or present. If it does in the future it becomes experimental research. If our topic of research is: “Impact of automation on the services of academic libraries in India” it has to be descriptive research. Similarly you have to describe the data collection design, whether it will be survey, or case study, or content analysis. It will be survey in case of the topic, “Impact of automation on the services of academic libraries in India”. A mention of the number of contacts to be made with the subjects and period of reference also needs to be made here.

In the research design you should also mention the population under study clearly. Describe the data that you intend to collect in terms of the dependent and independent variables. Then you also need to clarify whether you will collect data from the whole of the population or from only a sample. If it has to be a sample study, you need to specify what methods of sampling would be used. Whether it would be probability sampling or non- probability sampling. Within probability and non- probability sampling

also state which type of sampling method would be used. The size of the sample should be mentioned here. Next in the research design, the researcher should mention the techniques and tools of data collection. In the techniques, he/she should mention, whether it would be observation, questioning, or interview. What tools of data collection would be used, questionnaire (mailed or self-administered), interview schedule, etc. The research design should also state when and where the data collection will be done.

After the data collection methods are discussed, the methods of its presentation and analysis should be described. Here a mention should be made of the types of tables and graphs that you intend to use to present your data. Also explain how you would analyse your data. What statistics do you intend to use? If you plan to do the analysis using some software package like SPSS, MS-Access, or MS-Excel, etc. mention in the design.

### 16.6.9 Tentative Chapterisation

The physical structure of the research report is also presented in the research plan as tentative chapterisation. What will be the chapters in your thesis are presented here. Normally, the final report also contains the chapters: Introduction, which comprises the introduction, the problem, scope, objectives, hypothesis, limitations, and operational definitions. The other chapters are review of literature, conceptual structure, research design, data collection, analysis of data, discussion, and conclusion.

### 16.6.10 Limitations

Every research study has limitations. These could be from the point of view of the contents (coverage of the subject), geographical area, time period of study, etc. The researcher should very earnestly admit the limitations in his/her study. This is no drawback for the study. The limitations vary according to the level of study and that of the researcher. If the limitations are presented, the evaluation of the thesis is done keeping in view of these.

### 16.6.11 Operational Definitions

The research like any other work has to deal with vocabulary. We know the nature of any language is such that there is a lot of flexibility. The occurrence of synonyms, homonyms, and other such concepts may result in confusion. Thus, in the beginning itself, terms that are to be used are standardised in the form of operational definitions given in the research plan.

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## 16.7 FUNDING

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Research involves financial investment. The researcher can get support for this investment from different agencies. In India, these agencies are University Grants Commission, Council of Scientific and Industrial Research, Indian Council of Agricultural Research, Indian Council of Medical Research, Indian Council of Social Science Research, etc. Researchers in library and information science can get their research proposals funded from any of these agencies depending upon their area of study.

Why should an agency fund for your research? It would fund:

- to encourage you to do research;
- research adds to the intellectual wealth of a nation; and
- your research topic lies within the scope of the institution and would be beneficial for it

## Research Process

The research plan in case of a research for funding should also submit a financial estimate. The financial estimate should be presented under different heads, i.e., the purpose for which you are asking for grants. These may be:

- space/rooms;
- equipment;
- books/ journals;
- stationary;
- travel; and
- publishing.

The agency may provide grants for some or even all of these expenses. As far as publishing is concerned this grant is provided after the completion of the project/ theses.

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## 16.8 MONITORING

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Monitoring is an important component of research like any other project. Research plan should also indicate your plans to monitor your research work. You need to apply time management and prepare a work plan to be submitted along with your research plan. The work plan should indicate when (month and year) would you:

- start your research;
- review related literature;
- prepare data collection instruments;
- collect data;
- do coding of data;
- do statistical analysis of data;
- prepare draft of your report; and
- finally submit report.

It is not possible to follow the time schedule exactly as specified. It is a plan therefore there may be some fluctuations here and there. It is important while planning to make adjustments for any possible disturbances in the time schedule. Monitoring should be done regularly to avoid any delays in fulfilling the schedule. The researcher should be regular in his/her work and subdivide his plan into short time plans. He/She should translate the plan into tasks to be undertaken everyday. And should evaluate his/her days work to focus the cause of delays and overcome the reasons of delay. In case of academic research for the award of degrees the progress report is to be submitted quarterly or half- yearly approved by the supervisor to be submitted to the authorities. Similarly the progress report has also to be submitted to the funding authorities to prove accountability.

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## 16.9 ETHICS

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Researcher should follow a code of ethics in research. We need not overemphasise that it is important in research as in any other activity. Following ethics in work implies doing the work in the right way. Right way implies that it is done in a way acceptable to the society. Ethics has been used interchangeably with morals. Ethics is concerned with what one ought to do.

To analyse and make it convenient to understand Chris Hart divides the ethical issues in research as those concerned with:

- Research;
- Researcher;
- Subjects; and
- Sponsoring Body/ University.

While doing the right things the researcher should understand that the above four are the parties affected which should not suffer through your decisions while doing research. Let us discuss by way of examples the areas where ethics have to be taken into consideration:

State the topic in an unambiguous way. It should not be the topic of some other study. The research should add to the repertoire of knowledge. Acknowledge the works of others that have been used in the research. Plagiarism should not be resorted to. Ask for financial grants only where required for research. In data collection the anonymity of the subjects should be maintained. The privacy of subjects should also be maintained. In case the subjects are animals or plants as in the case of sciences their treatment should be ethical. Tampering of data to achieve results should not be done.

**Self Check Exercise**

5) Discuss the areas where ethical considerations are important in a research plan.

- Note:** i) Write your answer in the space given below.  
 ii) Check your answer with the answers given at the end of the Unit.

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**16.10 SUMMARY**

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In this Unit we have discussed the various aspects of research plan. We introduced the concept and discussed the need for, purpose and functions of research plan. The Unit provides comprehensive details on the structure of a plan. A step-by-step approach has been followed to explain all the parts of a plan. Adequate examples have been given at all the stages to make all the steps clear. Research can be funded through various agencies, which has also been described in the Unit. There is a discussion of the heads under which funds can be applied. Researcher should take care that he/she follows ethics while conducting research. What are these areas has been stated for the help of the researcher. It has been discussed in this Unit so that the researcher gets conscious of ethics since the start of research. The Units ends with some model plans given as examples.

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**16.11 ANSWERS TO SELF CHECK EXERCISES**

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1) A research plan is a document to your plans and ideas of carrying out your research. It is the document that describes all the decisions that have been taken in the design stage plus the administrative decisions concerned with your research. It presents systematically everything starting with the title of your project to the tentative

structure of your thesis. Research design is also a strategy of how you are going to conduct your research. But it precedes research plan. Research design is a plan of the technical decisions regarding the what, why, and how of your research. In research plan, we take decisions regarding the nature of investigation, data collection methods to be adopted, and number of contacts to be made with the subjects, and the period of reference with the subjects of study. Research plan can be formulated only when research design has been decided. In fact, research design helps to formulate research plan.

- 2) The introduction to the plan of study provides a contextual background to the study. It discusses the basic theoretical and philosophical issues related to your topic. It also discusses the latest trends in the subject and area of discussion.
- 3) Let us assume that the title of the study is “ Use of textbook collection in college libraries”. The objectives of the study could be stated as to know:
  - a. The adequacy of the text book collection;
  - b. Subjects whose collection needs to be strengthened; and
  - c. Improving upon the collection.
- 4) Hypothesis is an assumption, presumption, or in simple words guess towards some situation or condition. It is an assumption of relationships between the dependent and independent variables. It provides the researcher a line of action along which he moves to find out answers to the problem he is working on. Null hypothesis is stated as a negative relationship between dependent and independent variables. The positive relation between the variables is called the alternative hypothesis.
- 5) In a research plan, ethical considerations demand that one should not take a topic of research that has already been studied. If it has to be studied, it should be done from some different perspective or context. Plagiarism should not be resorted to and work of others should be acknowledged. Research grants should be asked for only if genuinely required.

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## **16.12 KEYWORDS**

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<b>Hypothesis</b>	: Assumption regarding the relations between the variables in a study.
<b>Problem</b>	: A description of the problem you shall study in your research work.
<b>Research Design</b>	: The strategy that a researcher adopts to undertake his research. It concerns the operationalisation of hypothesis, data collection, and data analysis.
<b>Research Plan</b>	: The blue print of your research that states everything from the title to the limitations of your study. It also includes the financial estimates of your project and the work plan.
<b>Work Plan</b>	: The plan of your research in terms of the tasks to be done along with the time at which they will be done.

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## 16.13 REFERENCES AND FURTHER READING

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Ackoff, Russell. (1953). *The Design of Social Research*. Chicago: University of Chicago.

Adams, Gerald R. and Schvaneveldt, Jay. D. (1985). *Understanding Research Methods*. New York: Longman.

Hart, Chris (2005). *Doing your Masters Dissertation*. Delhi: Vistaar.

Kothari, C.R. (2004). *Research Methodology: Methods and Techniques*. 2<sup>nd</sup> ed. New Age: Delhi.

Krishan Kumar (1998). *Research Methods in Library Science*. 2<sup>nd</sup> ed. Delhi: Har-Anand

Neuman, W. Lawrence (1997). *Social Research Methods*. 3<sup>rd</sup> ed. Boston: Allyn and Bacon.

Ranjit Kumar (1999). *Research Methodology: A Step-By-Step Guide for Beginners*. Delhi: Sage.