NATIONAL OPEN UNIVERSITY OF NIGERIA

SCHOOL OF ARTS AND SOCIAL SCIENCES

COURSE CODE: JLS 714

COURSE TITLE: COMMUNICATION RESEARCH

COURSE
GUIDE

JLS 714
COMMUNICATION RESEARCH

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Introduction

Welcome to JLS 714: Communication Research

This is a 3 credit unit course whose primary focus is to introduce students of Journalism to the data gathering methods in Journalism and Mass Communication. The essence is to improve your skill for analyzing data and prepare you for the critical evaluation of any piece of journalistic writing. More importantly, this course will help you to apply the learnt methods while carrying out your research projects.

This course treats the fundamental principles required for gathering and collecting data, both for qualitative and quantitative research modes.. Be it at master's degree level or at the Doctoral level. It particularly highlights the types of, and approaches to research, and looks at the sources of data. It then, generally examines the areas of Communication research from which students may readily access interesting research topics or from where they can get good clues for stimulating research topics. The course is developed essentially for Nigerian students hence, the sample presented and examples used are typically Nigerian in orientation and setting. It takes into consideration, the professional and academic needs of the Postgraduate Diploma students of Journalism and Mass Communication.

This course guide is meant to give you basic information about this course. Hence, it specifies the amount of time you are required to spend on each assignment. It equally directs you on how to go about your Tutor-Marked Assignments (TMAs). It advises you on how to make the best out of your course materials; through: reading them, attending tutorial classes and actively participating at these tutorials.

What You will Learn in this Course

This course is meant to expose you to the basic concepts in data gathering and analysis through: the identification of research problems; setting meaningful objectives and selecting the appropriate methods of carrying out the research. The course examines both from the practical and critical perspectives, a range of qualitative and quantitative research methods relevant to professional and academic needs in Mass communication. Hence it effectively takes you through methods such as, content analysis, survey, focus group discussion, and in-depth interviews.

The thorough understanding of this course will help you appreciate the differences between Communication Research and other types of researches. It will equally empower you to face the challenges of

analyzing the data for your research project without many problems. In studying this course, you stand a good chance of evaluating any piece of work statistically. Your adequate exposure to Communication Research will empower you not only to effectively analyse your data but to equally do a good report of your research proceedings.

This course guide is meant to help you accomplish the aims and objectives of this course. Hence you are advised to read it carefully so as to get the best out of your course.

Course Aims

The primary aim of this course is to inculcate in you the appropriate skill for: gathering, and analyzing data as well as, write good reports for any research investigation in Journalism and Mass Communication.

Course Objectives

Certain objectives must be achieved from the study of this course. So at the end of this course, you should be able to:

(i)   Define "research" and discuss its nature
(ii)   Discuss the scope and concerns of media research.
(iii)   Identify the different elements of research e.g. concepts, hypothesis, variables, measurement
(iv)   Identify and discuss the major communication research methods.
(v)   Discuss the different areas of communication research.

Working through this Course

To maximally benefit from this course, you should read the study units provided through your course material. You equally do the self assessment exercises which you will find under every unit of this course.

Try as much as you can to locate the texts recommended for further readings. Please read some of them to complement what you already have in your course materials.

There are also Tutor Marked Assignments at the end of each unit which constitute your Continuous Assessment for the course. At the appropriate time the School will inform you on which of the TMAs to do and when to submit them.

Remember, all the components of this course are very important as they all contribute to your total scores and eventually your success.

Course Materials

The major materials you will need for this course are:

(i)   Course guide.
(ii)   Study units.
(iii)   Assignments file.
(iv)   Relevant textbooks including the ones listed under each unit.

Study Units

There are 22 units in this course. They are listed below:

Module 1   Introduction

Unit 1   The Meaning of Research and the Scientific   Method
Unit 2   Application of the Scientific Principles to Social Research
Unit 3   Characteristics of and the Development of Mass Media
            Research
Unit 4   Classification of Research

Module 2   The Elements of Research

Unit 1   Concepts, Constructs, Hypotheses/Research Questions and
           Instrumentation.
Unit 2   Variables
Unit 3   Measurement, Scales and Indexes

Module 3   Major Communication Research Methods

Unit 1   Experimental Research
Unit 2   Survey Research
Unit 3   Content Analysis
Unit 4   Case study
Unit 5   Observational Research

Module 4   Sampling

Unit 1   Meaning and Types of Sampling
Unit 2   Population and Sample
Unit 3   Sample Size and Sampling Error

Module 5   The Research Procedure

Unit 1   The Research Proposal
Unit 2   Data Analysis in Communication Research
Unit 3   Documentation in Communication Research

Module 6   Areas of Mass Communication Research

Unit 1   Print Media Research
Unit 2   Electronic Media Research
Unit 3   Public Relations Research
Unit 4   Advertising Research
Unit 5   Media Effects Research

Textbooks and References

Certain books have been recommended in the course. You may wish to purchase them for further reading.

Assessment

An assessment file and a marking scheme will be made available to you. In the assessment file, you will find details of the works you must submit to your tutor for marking. There are two aspects of the assessment of this course; the tutor marked and the written examination. The marks you obtain in these two areas will make up your final marks.

Assignment File

The assignment must be submitted to your tutor for formal assessment in accordance with the deadline stated in the presentation schedule and the Assignment file.

The work you submit to your tutor for assessment will count for 30% of your total score.

Tutor-Marked Assignment

You will have to submit a specified number of the TMAs. Every unit in this course has a tutor marked assignment. You will be assessed on four of them but the best three performances from the TMAs will be used for your 30% grading. When you have completed each assignment, send it together with a Tutor Marked Assignment form, to your tutor.

Make sure each assignment reaches your tutor on or before the deadline for submissions. If for any reason, you cannot complete your work on

time, contact your tutor for a discussion on the possibility of an extension. Extensions will not be granted after the due date unless under exceptional circumstances.

Final Examinations and Grading

The final examination will be a test of three hours. All areas of the course will be examined. Find time to read the units all over before your examination. The final examination will attract 70% of the total course grade. The examination will consist of questions, which reflect the kinds of self assessment exercises and tutor marked assignment you have previously encountered. And all aspects of the course will be assessed.

You should use the time between completing the last unit, and taking the examination to revise the entire course.

Course Marking Scheme

The following table lays out how the actual course mark allocation is broken down.

Assessment	Marks
Assignments (Best Three Assignments out of four marked)	= 30%
Final Examination	= 70%
Total	100%

Presentation Schedule

The dates for submission of all assignments will be communicated to you. You will also be told the date of completing the study units and dates for examinations.

Course Overview

	Title of work	Weeks Activity	Number of Assignment
	Course Guide		
Module 1			
Unit 1	The Meaning of Research and the Scientific Method.	Week 1	Assignment 1
Unit 2	Application of the Scientific Principles to Social Research.	Week 2	Assignment 1
Unit 3	Characteristics of and the Development of Mass Media Research	Week 3	Assignment 1
Unit 4	Classification of Research	Week 4	Assignment 1
Module 2			
Unit 1	Concepts, Constructs, Hypothesis/Research Questions and Instrumentation	Week 5	Assignment 1
Unit 2	Variables	Week 6	Assignment 1
Unit 3	Measurement, Scales and Indexes.	Week 7	Assignment 1
Module 3			
Unit 1	Experimental Research	Week 8	Assignment 1
Unit 2	Survey Research	Week 9	Assignment 1
Unit 3	Content Analysis	Week 10	Assignment 1
Unit 4	Case Study	Week 10	Assignment 1
Unit 5	Observational Research	Week 10	Assignment 1
Module 4			
Unit 1	Meaning and Types of Sampling	Week 11	Assignment 1
Unit 2	Population, and Sample size	Week 12	Assignment 1
Unit 3	Sampling Error	Week 12	Assignment 1
Module 5			
Unit 1	The Research Proposal	Week 13	Assignment 1
Unit 2	Data Analysis in Comm. Res	Week 14	Assignment 1
Unit 3	Documentation in Comm. Res	Week 14	Assignment 1
Module 6			
Unit 1	Print and media Research	Week 15	Assignment 1
Unit 2	Electronic Media Research	Week 15	Assignment 1
Unit 3	Public Relations Research	Week 16	Assignment 1
Unit 4	Advertising Research	Week 16	Assignment 1

Unit 5	Media Effects Research	Week 17	Assignment 1
	Total	**17 Weeks**	**22**

How to Get the Most from this Course

In distance learning, the study units replace the university lecture. This is one of the great advantages of distance learning; you can read and work through specially designed study materials at your own pace, and at a time and place that suits you best. Think of it as reading the lecture instead of listening to the lecturer. In the same way a lecturer might give you some reading to do, the study units tell you where to read, and which are your text materials or set books. You are provided exercises to do at appropriate points, just as a lecturer might give you an in-class exercise. Each of the study units follows a common format. The first item is an introduction to the subject matter of the unit, and how a particular unit is integrated with the other units and the course as a whole. Next to this is a set of learning objectives. These objectives let you know what you should be able to do by the time you have completed the unit. These learning objectives are meant to guide your study. The moment a unit is finished, you must go back and check whether you have achieved the objectives. If you make this a habit, then you will significantly improve your chances of passing the course. The main body of the unit guides you through the required reading from other sources. This will usually be either from your set books or from a Reading section. The following is a practical strategy for working through the course. If you run into any trouble, telephone your tutor.

Remember that your tutor's job is to help you. When you need assistance, do not hesitate to call and ask your tutor to provide it.

1.   Read this Course Guide thoroughly, it is your first assignment.

2. Organize a Study Schedule. Design a 'Course Overview' to guide you through the Course. Note the time you are expected to spend on each unit and how the Assignments relate to the units. Whatever method you choose to use, you should   decide on and write in your own dates and schedule of work for each unit.

3.   Once you have created your own study schedule, do everything to stay faithful to it. The major reason why students fail is that they get behind with their course work if you get into difficulties with your schedule, please, let your tutor know before it is too late to help.

4.   Turn to Unit 1, and read the introduction and the objectives for the unit.

5.   Assemble the study materials. You will need your set books and the unit you are studying at any point in time. As you work through the unit, you will know what sources to consult for further information.

6.   Keep in touch with your study centre. Up-to-date course information will be continuously available there.

7.   Well before the relevant due dates (about 4 weeks before due dates), keep in mind that you will learn a lot by doing the assignment carefully. They have been designed to help you meet the objectives of the course and, therefore, will help you pass the examination. Submit all assignments not later than the due date.

8.   Review the objectives for each study unit to confirm that you have achieved them. If you feel unsure about any of the objectives, review the study materials or consult your tutor.

9.   When you are confident that you have achieved a unit's objectives, you can start on the next unit. Proceed unit by unit through the course and try to pace your study so that you keep yourself on schedule.

10. When you have submitted an assignment to your tutor for marking, do not wait for its return before starting on the next unit. Keep to your schedule. When the assignment is returned, pay particular attention to your tutor's comments, both on the tutor-marked assignment form and also the written comments on the ordinary assignments.

11. After completing the last unit, review the course and prepare yourself for the final examination. Check that you have achieved the unit objectives (listed at the beginning of each unit) and the course objectives (listed in the Course Guide).

Facilitators/Tutors and Tutorials

Information relating to the tutorials will be provided at the appropriate time. Your tutor will mark and comment on your assignments, keep a close watch on your progress and on any difficulties you might encounter and provide assistance to you during the course. You must take your tutor-marked assignments to the study centre well before the due date (at least two working days are required). They will be marked by your tutor and returned to you as soon as possible.

Do not hesitate to contact your tutor if you need help. Contact your tutor if:

> you do not understand any part of the study units or the assigned readings
> you have difficulty with the exercises
> you have a question or problem with an assignment or with your tutor's comments on an assignment or with the grading of an assignment.

You should try your best to attend the tutorials. This is the only chance to have face-to-face contact with your tutor and ask questions which are answered instantly. You can raise any problem encountered in the course of your study. To gain the maximum benefit from course tutorials, prepare a question list before attending them. You will learn a lot from participating in discussion actively.

Summary

The course guide gives you an overview of what to expect in the course of this study. The course teaches you the basic principles of **Communication Research** and how these principles can be applied. It also acquaints you with the basic communication researches in journalism and mass communication.
We wish you success in the course and hope that you will find it both interesting and useful.

> **MAIN COURSE**

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UNIT 1   THE MEANING OF RESEARCH AND THE SCIENTIFIC METHOD

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1.0   INTRODUCTION

Research is an aspect of education in which you should demonstrate high competence as a mass media student. It should be remembered, though that there is no one most competent person in research endeavour. What is most important is for you to understand the rules of the game and put them into use. This unit therefore will advance your understanding of research, media research and the scientific method.

2.0   OBJECTIVES

On successful completion of this unit, you should be able to:

    understand the meaning of research;
    understand the nature and scope of media research;
    understand the concept of "science";

explain the difference between scientific method and other methods of knowledge; and
Outline the scientific procedure.

3.0   MAIN CONTENT

3.1   The Meaning of Research

The word research is derived from the French word, *recherché,* which is from the old French word, *recerhier*, which simply means "to investigate thoroughly". In this case, it means the search for knowledge again and again.

Basically, research is fact finding. It is enquiry that utilizes the scientific method to study a phenomenon, situation or society.

Research is knowledge that can be explained or verified through some procedure. For one to engage in any research, the expected outcome of the research must be important otherwise there will be no need for the research. Consequently, all research activities start from problems that require solutions. This may sometime originate from an idea, a puzzle or simply the wish to explore our knowledge about simple issues, phenomena, situations or societies.

Most research endeavours started with problems which were puzzles. A puzzle is not just a lack of understanding but a gap in our understanding.

There are two sides to any scientific enterprise namely theory and research. Both are essential in fact finding. Theory is a way of making sense out of our world, a way of explaining things that seem puzzling. According to Tichenor and McLeod (1970) quoted by Stempel and Westly (1989:30) a theory is a tentative explanation invented to assist in understanding some small or large part of the reality around us. Theories arise from observation, often systematic, sometimes causal and occasionally accidental. However, to be scientific a theory must, at least in principle, be capable of being proved wrong.

Research has been described as a step-by-step process that involves collecting and examining information.

Another definition of research is the systematic process of collecting and analyzing information to increase our understanding of the phenomenon under study. It is the function of the researcher to contribute to the understanding of the phenomenon and to communicate that understanding to others.

The *New Oxford Dictionary* defines research as "careful, systematic, patient study and investigation in some field of knowledge undertaken to discover or establish facts and principles".

The *Webster's Nineth New Collegiate Dictionary* defines research as "investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts or practical application of such new or revised theories or law".

According to Sellhz, Wrightsman and Cook (1976) and quoted by Ajala (1996:1) "to research is to search again, to take another, more careful look, to find out more". Asika (1989) cited by Okafor (2000:171) defines research as "any organized enquiry that is aimed at providing information for solving identified problems".

According to Kerlinger (1973:11), scientific research is systematic, controlled and critical investigation of hypothetical propositions about the presumed relations among natural phenomena.

There are two points to note in Kerlinger's definition:

(i)   Systematic and controlled means that scientific investigation is so ordered that investigators (researchers) can have critical confidence in research outcomes. It also means that research observations are tightly discipline.
(ii)   Scientific investigation is empirical. This means that if a scientist believes something is so, he must somehow put his belief to a test outside himself. In other words, subjective belief must be checked against objective reality.

Osuala (2005:1) defines research as "the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data". He further adds that research is oriented towards the discovery of the relationship that exist among the phenomena of the world in which we live.

Research is devoted to finding conditions under which a certain phenomenon occurs and the conditions under which it does not occur in what might appear to be similar circumstances.

According to Ajala (1996:1), the research attitude presumes that first look and every later look may be prone to error so we must look again and again differently and thoroughly each time. Research allows us to accumulate knowledge and make improvements without discarding old wisdom in favour of new facts.

Research minimizes the role of chance. A scholarly research is the product of a knowledge-gathering process through the use of academically accepted fact-finding methods and tools and the ultimate presentation of the empirical finding in a professional manner to the academic community.

Research can be classified into two broad categories – (a) Quantitative and (b) Qualitative.

(a)   Quantitative research includes:

        Experimental research
        Survey research
        Content analysis

(b)   Qualitative research include:

        Observational research
        Focus Groups Discussion (FGD)
        Indepth interview
        Case studies
        Ethnography

From our discussion so far, we can state the following about research:

    All research activity is planned and well thought out. It is not a spontaneous activity or thing of the moment. It requires some investment of time and brainstorming to plan and design.
    A research activity is purposeful and is aimed at achieving well defined and specific objectives.
    A research activity is ordered, systematic and follows well known and clearly laid down procedure. Adhering to a systematic procedure ensures that the research activity can be rejected or verified.

We do research to improve our knowledge and understanding of the world live in. Most times, research involves finding out something new. Researchers are the people who carry out research.

The importance of research lies in the fact that it is the most important tool for advancing knowledge, for promoting progress and for enabling man to relate more effectively to his environment, to accomplish his purpose and resolve his conflicts.

Research needs not be viewed negatively, rather it should be regarded as an objective tool with which to search for answers to man's numerous problems. Research helps in the decision making process as it provides the decision maker with information to objectively evaluate problems.

Relationship between Theory and Research

Communication theory and research are intimately related and completely interdependent. For you to understand the relationship, let us restate our earlier definition of theory as a tentative explanation invented to assist in understanding some small or large part of the reality around us. First of all define theory as we have done for research.

Another way of looking at theory is a set of interrelated propositions or generalizations that serve to organize selected aspects of the world in a systematic way. Essentially, theory performs the following role in research.

> It serves as a critical guide to research.
> It sets problems for research
> It identifies new subjects for research
> It directs research enquiry.

Research on the other hand performs the following roles in theory.

> Research findings suggest new problems for theory
> It invites new theoretical formulations
> It leads to the final retirement of theories themselves

What then is the link between theory and research?

Theory and research activity are intricately interwoven. Theory and research are part of a constant cycle. A theory inspires research, which in turn can be used to verify or disprove it, and the findings of research are used to confirm, reject or modify the theory or even provide the basis for new theories. Thus, while theory guides research, research in turn, provides a test for theory. Because this relationship is so important, the most important step in social science research (of which communication research is a part) is that of linking the research to a theoretical problem. Unless the research is directly tied to a problem in theory, it is of little value or use. Ultimately the accumulation of greater knowledge is the final outcome of both theory and research.

SELF-ASSESSMENT EXERCISE 1

Why do scholars engage in scientific research?

3.2 Nature and Scope of Media Research

Now that you have an idea of what research is all about, let us take look at the nature and scope of media research.

Media research is the application of scientific method to the study of the functioning of the mass media i.e. radio, TV, newspapers, magazine, etc.). One thing with media research is that it is intrusively interwoven with other disciplines. This is because the media are linked with other phenomena of life. Despite the growing complexity of media research, some areas of attention can still be clearly delineated. This leads us to the next stage of this unit - concerns of media research.

3.3 Concerns of Media Research

According to Barzum & Graff (1970) the concerns of media research include the followings:

Media messages and their origins.
Functions and purposes of media message.
Media channels, languages and codes.
Media content, references and information types.
Media audiences.
Effects of media messages, intended and unintended.
Media noise and feedback
Media technologies
Media regulation
Media ownership and control
Media management etc.

Recent conceptions of media research, however, have now broadened the scope of the field to include, for instance, perceptions of the media as instruments of power that some nations use to exploit, oppress or dominate others. This notion of media is concerned with issues such as the implications of the persistent negative portrayals of certain nations or how because of the media technology, some nations wield unfair advantages in trade, cultural and military affairs. It is also from this notion of media research that has arisen the concept of media imperialism which describes the process by which modern communication media have operated to create, maintain and expand systems of domination and dependence on a world scale. Media researches carried out in the 80s which focused on the cultural implications for developing countries of the deluge of western cultural materials into these countries via the western media expressed in the form of a demand for New World Information and Communication Order (NWICO) provide a very good example.

SELF-ASSESSMENT EXERCISE 2

Visit any library or communication related website and look for specific research studies that fit into three of the areas mentioned above.

3.4   The Meaning of Science

For you to have a good insight into the meaning of "Science", let us examine three of its definitions by the American Heritage Dictionary, Albert Einstein and Thomas Huxley:

> The observation, identification, description, experimental investigation and theoretical explanation of national phenomena.
> The whole of science is nothing more than a requirement of everyday thinking.
> Trained and organise common sense.

While the last two definitions dwell on the meaning of science from "small quantities of imagination", the first does so from "large quantities of imagination". In the context of our discussion, the definition by the American Heritage Dictionary therefore appears to be more all-encompassing. Albert has simplified the American Heritage Dictionary definition thus, "Science is an attempt to make the chaotic diversity of our sense-experience correspond to a logically uniform system of thought by correlating single experiences with the theoretical structure." Hence, science is a method of knowing (Cohen & Nigel, 1934).

Apart from science, there are other methods of knowing:

> **Intuition:** It argues for what is "self-evident" For example, it was 'self-evident to many people that the sun revolves around the earth.
> **Authority:** A reliance on authority often results in seeking truth from sources in religion, morals, and politics. For example, followers of the Jehovah's Witness believe the teachings of their leaders that there is going to be heaven on earth.
> **Tenacity:** It accounts for many of the beliefs that we have always held to be true. Reinforcement from others and frequent repetition support these beliefs, even when we have no verifiable evidence and when the beliefs may be false (Uyo, 2002).

These methods of knowledge were commonly employed before the development of the scientific method. Unfortunately the methods are often used today, although they are more subject to error and bias than the scientific method.

The Characteristics of Science

Science has four characteristics.

It is **empirical,** that is, based on observation.
It is **theoretical,** that is, attempts to summarise complex observations in a logical manner.
It is **cumulative,** that is, theories build upon one another, new theories correcting, extending, and retaining the older ones.
It is **non-ethical,** that is, it does not judge particular social actions as good or bad, it merely explains them (Cohen & Nigel, 1934).

Having understood the meaning and nature of science let us now narrow down our discussion to the scientific method.

3.5   The Scientific Method

The scientific method is a process of deliberate and controlled observation with the distinctive criterion of **objectivity**.

It emphasizes quantification, logical exposition, controlled empirical testing, replicability of findings, and intersubjectivity. It, therefore, formally rejects the influence of authority precedent, degree of current acceptance, and other such influence internal selective factors might have (Cohen & Nigel, 1934).

Consequently, the scientific method is "the most assured technique man has devised for controlling the flux of things and establishing stable beliefs". The method does not seek to impose the desires and hopes of man upon the flux of things in a capricious manner. It aims to discover what the facts truly are, and the use of the method must be guided by the discovered facts.

In the study of the media, like other disciplines, what forms the core of the scientific method is the process of inquiry. Inquiry is the systematic study of experience that leads to understanding and knowledge. People engage in inquiry when they attempt to find out something in an orderly way. Media scholars share a general approach to inquiry that involves three stages, and follows:

The guiding stage of all inquiry is **asking questions**.
The second stage of inquiry is **observation**.
The third stage of inquiry is **constructing answers** (or **explanations**) which we call theories (Cohen& Nigel, 1934).

SELF-ASSESSMENT EXERCISE 3

What are the advantages of the scientific method over other methods of 'knowing"?

3.6   Steps of the Scientific Method/Research Process

It is worthwhile to reflect on the observation by some scholars that "at the moment the terms, scientific method and research are used interchangeably." Like any process, the research process is a series of activities that are moving ahead over time toward a purpose. An analysis of these activities shows that they derive essentially from the steps of the scientific method.

The steps of the scientific method vary from author to author, however, we may synthesize the various formulations of the research process to produce, for our purposes, the following eight steps:

Selection of the problem.
Formulation of the problem.
Review of the literature.
Design of the study
Collection of the data
Analysis of the data
Interpretation and qualification
Writing and publication of the research report.

1.   Selection of the Problem

This is the first concrete step in the research process. Here, there is need to state the research problem in clear, simple, concise and complete way.

2.   Formulation of the Problem

Formulation of the problem entails statements that serve to elaborate upon the information implied in the problem selection. The problem should be formulated simply, clearly and completely.

3.   Review of Literature

Having selected the problem and formulated it, the next step is to bring past works done in the area to bear. In doing so there is need for you to be clear, simple and concise.

4.   Design of the Study

Here, the methods that will be used in eliciting knowledge of the research problem are stated the study design is more or less like the blueprint that will be used for inquiry into the research problem. It has to state the type of research method that will be used; content analysis, survey, experimental etc.

5.   Collection of Data

The research method will then be used to collect the data. At this stage, depending on the nature of the research the information needed to answer the research questions are collected.

6.   Analysis of Data

Data itself cannot answer the research questions unless it is analysed. At this stage the research data is analysed to generate evidence.

7.   Interpretation and Qualification

After the data have been analysed they have to be explained. Here the data is explained in simple terms denid of statistical or qualitative statements that may be too complex for understanding.

8.   Writing and Publication of the Research Report

At this stage what you have found is put together and communicated to the larger community. The research task is not completed until its findings are reported and the report communicated.

The activities involved in the research process are many but we have summarized them in the eight steps outlined above. Everything we do in research falls within the eight steps. Remember, generally, what is true of the research process is equally true of the media research process.

4.0 CONCLUSION

Research and the scientific method are important instruments in generating media knowledge. They have high degree of reliability because they tend to be objective.

5.0   SUMMARY

So far you might have understood from this unit:

The concept of research
The nature of media research
Concerns of media research
The characteristics of science
Steps of the scientific method and the research process

6.0   TUTOR–MARKED ASSIGNMENT

1.   "The scientific enterprise is made up of theory and research". Explain in details.
2.   If you are to conduct a scientific research on "Newspaper preference among Lagos residents", how will you go about it?

7.0   REFERENCES/FURTHER READINGS

Ajala, V. O. (1996). *Scholarly Writing Guide For Researchers.* Ibadan: MayBest Publishers.

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UNIT 2 APPLICATION OF THE PRINCIPLES OF SCIENCE TO SOCIAL PHENOMENA

CONTENTS

1.0 INTRODUCTION

Application of the principles of science to social phenomena is an area you should be familiar with as a communication student. Much of your course work involves using the scientific tool especially in the area of research. It is, therefore, necessary that you become familiar with the link between the principles of science and social phenomena (of which the media are a part).

2.0 OBJECTIVES

On successful completion of this unit, you should be familiar with:

the principles of science;
social phenomena; and
the application of the principles of science to social phenomen.

3.0   MAIN CONTENT

3.1   Social Phenomena and Principles of Science

Now that you have understood the meaning of research and have an idea of what media research and the scientific method are all about, we can now discuss in this unit the application of the principles of Science to social phenomena. However, before the discussion, we should start by explaining what **Social Phenomena** and the principles of science are. That will help you a great deal in understanding the subject matter.

3.1.1 Social Phenomena

The term social phenomena refers to all elements in a given social system which includes identity (individual and collective), culture, symbols, ideas, norms, principles, narratives and collectively held beliefs. They differ from natural phenomena because they are time-spaced specific; do not exist apart from their social context, and are a function of beliefs and actions.

Societal identities include; language, religion, race, culture, gender etc. For instance, the Nigerian people have a peculiar identity different from that of Ghana. Culture as a nucleus of identity has to do with the way of life of a people; dressing, eating, dancing, etc. Also the peculiarity of Nigerian culture may not be similar to that of Ghana.

Symbols has to do with things that represent control e.g. a letter or sign used to represent a quantity, idea, object, operate etc. For example, the English language letters are symbols. Naira (N) is also a symbol.

Idea has to do with the thought, notion, image or concept turned by the mind that manifest in a plan. For example, it was somebody's idea that led to the invention of the TV camera.

A norm denotes an accepted way of behaviour. Within a society, there are ways of behaviour people generally believe are not normal while there are others people believe are. For example, in Nigeria, people believe that armed rubbery is not a normal way of life.

Principles are general rules guiding conduct. Within a given society there are guiding regulations that faction the conduct of individuals. At the individual level, there are rules the individuals might have to regulate his conduct. An individual to regulate his conduct. An individual for example might decide never to take bribe in his life time. Narratives include poetry, story, adages etc. tenable in a given social setup.

For example, in Nigeria, there are poems on love, stories on love etc. A people in a given society are bind together by some collectively held beliefs. For example, Nigerians believe that marriage is central to the individual responsibility.

SELF-ASSESSMENT EXERCISE 1

Name five things you consider as social phenomena.

3.1.2 Principles of Science

The principles of science are the basic or essential qualities of science. Scientists share basic beliefs and attitudes about what they do and how they view their work. These have to do with the nature of the world and what can be learned about it. There are three basic principles of science.

Science seeks to explain the natural world and its explanations are tested using evidence from the natural world. For example, birds and lizards are known to exist in nature and therefore fall within the scope of science. Spirits are great fun to read about but they do not dwell in the natural world. That means they are not appropriate for scientific investigation. Hence, the basis of any scientific knowledge is information gleaned from observations of nature.

Science assumes that we can learn about the natural world by gathering evidence through our senses and extension of our senses. A flower or a rock can be directly observed with no special aids. But using technology, we can expand the realm of human senses to observe such invisible phenomena as electricity and magnetic fields, and objects such as bacteria and faraway galaxies. Dreams, apparitions and hallucinations, on the other hand, may seem real but they do not arise from our senses and are not even extension of our senses. The ultimate test of any conceptual understanding exists only in real materials and observations. Evidence is the basic material of science. Without evidence there is only speculation.

Science presumes that things and events in the universe occur in consistent patterns that are comprehensible through careful, systematic study and that people can discover pattern in all nature.

It is noteworthy that the scientific method discussed in Module 1, Unit 1 is the procedure of the principles of science. To remind you, the scientific method is the process scientists must follow in determining the

workings of the universe.

SELF-ASSESSMENT EXERCISE 2

How is science different from superstition?

3.2   Application of Principles of Science to Social Phenomena

Fundamentally, natural phenomena (which are the elements of interest to natural scientists) and social phenomena (which are of interests to social scientists) differ.

Therefore, the natural scientist and the social scientist differ greatly in the type of phenomena they investigate and how they go about their work. The differences are in the reliance they place on data or on experimental findings; on qualitative and quantitative methods; in their recourse to fundamental principles and in how much they draw on their findings.

The above notwithstanding, the exchange of techniques, information, and concepts go on all the time among scientists generally and there are common understandings among them about what constitutes an investigation that is scientifically valid.

There are certain features of science that give it a distinctive character as a method of inquiry. Although these features are specially characteristic of the work of professional scientists, every one can exercise them in thinking scientifically about any matter of interest in every day life including the mass media. The features are discussed under the following sub-headings.

3.2.1 Science Demands Evidence

From social phenomena, the validity of scientific claims is settled by referring to observations of social phenomena. Hence, scientists concentrate on getting accurate data. Such evidence is obtained by observations and measurements taken in controlled and uncontrolled environments. For instance, a social scientist could decide to observe the media habit of a particular community which interests him/her by better techniques of observation and the findings of any one's investigation or group are usually checked by others.

3.2.2 Science is a Blend of Logic and Imagination of Social Phenomena

In studying social phenomena, scientific arguments must conform to the principles of logical reasoning - that is, to testing the validity of arguments by applying certain criteria of procedure. For example, a scientist may be interested in studying newspaper readership among civil servants in Nigeria. The argument might be that Nigerian civil servants do not read newspapers. To test the validity of the argument, the scientist has to follow the scientific procedure to examine the evidence associated with the phenomenon. He has to isolate the problem, develop one or more hypotheses to explain the phenomenon, design a method to test the hypotheses and analyze the observation and determine to what extent the argument that Nigerian civil servants do not read newspapers is true or false.

Applying the principles of science to the study of social phenomena is as creative as writing poetry, composing music, or designing skyscrapers.

3.2.3   Science Explains and Predicts Social Phenomena

Scientists strive to make sense of observations of social phenomena by constructing explanations for them. The credibility of scientific theories often comes from their ability to explain social phenomena that previously seemed inexplicable. The theories of media effect, for example, have grown in credibility as they have explained the nature of media audience and how they react to media messages.

In addition to explaining social phenomena, scientific theories also predict them. The essence of science is validation by observation. But science does not only validate; it also predicts through theories. This does not apply only to the prediction of events in future. The predictions may be about evidence from the past that has not yet been found or studied. A theory about the nature of the media for example had predicted what we call the internet today.

3.2.4 Science Tries to Identify and Avoid Bias in the Study of Social Phenomena

When faced with a claim that something is true about a .social phenomenon, science responds by asking what evidence supports it. But scientific evidence can be biased in how the evidence is interpreted, in the recording or reporting of the evidence or even in the choice of what evidence to consider in the first place. The bias does not come from science itself. Scientist's nationality, sex, ethnic origin, age, political convictions, and so on may incline them to look for or emphasize one or another kind of evidence or interpretation. For example, for many years the study of the media by male communication researchers focused on the media behaviour of males. Not until female communication

researchers entered the field was the importance of media behaviour of females recognized.

It is noteworthy that bias attributable to the investigator, the sample, the method, or the instrument may not be completely avoidable in every instance, but scientists want to know the possible sources of bias and how bias is likely to influence evidence in the observation of social phenomena. One safeguard against undetected bias in an area of study is to have many different investigators or groups of investigators working on it.

3.2.5 Science is not authoritarian when dealing With Social Phenomena

No scientist, however famous or highly placed, is empowered to decide what is true when social phenomena are being studied. There are no preestablished conclusions that scientists must reach conclusion on the basis of their investigations. It is appropriate in the study of social phenomena, as elsewhere, to turn to knowledgeable sources of information and opinion such as a professor of mass communication, but science does not recognise such information or opinion to be valid until it has been tested.

Using the example of newspaper readership among Nigerian civil servants, a professor could opine that Nigerian civil servants read newspapers. Science, (outside scientific investigation), will not take the opinion or observation as valid.

4.0   CONCLUSION

You need to be familiar with the application of the principles of science to social phenomena to be able to tackle scientifically a social phenomenon you may be interested in. The mass media provide so many of such phenomena which will at the end of the day engage your attention.

5.0   SUMMARY

This unit has led you to understand that:

Science demands evidence from social phenomena
Science is a blend of logic and imagination of social phenomena
Science tries to identify and avoid bias in the study of social phenomena
Science is not authoritarian when dealing with social phenomena

6.0   TUTOR-MARKED ASSIGNMENT

Explain the features of science that makes it the reliable mode of inquiry into social phenomena.

7.0   REFERENCES/FURTHER READINGS

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UNIT 3   CHARACTERISTICS   OF   RESEARCH AND   THE   DEVELOPMENT   OF   MASS MEDIA RESEARCH

CONTENTS

1.0   INTRODUCTION

In continuation of our discussion on research, we will treat two of its fundamental aspects in this unit. The first is the characteristics of research while the second is the development of mass media research.

2.0   OBJECTIVES

The objective of this unit is to:

     identify the characteristics of research;
      explain what they are;
     present an overview of the development of media research; and
     discuss the nature of media research today.

3.0   MAIN CONTENT

3.1   Characteristics of Research

It will be useful to give you an idea of what the characteristics of research are. This will help you further in understanding the nature of

research generally. So, what are the characteristics of research? They are many. However, there are five major ones usually mentioned in communication research circles. Because you are a mass media student we will focus on those five.

3.1.1 Research is Systematic

Research has a step-by-step characteristic and/or feature that makes it peculiar. In other words, there is a definite set of procedures and steps which you will follow when conducting a research.

Hence, there are certain things in the research processes that are always done in order to get the most accurate results. Such steps are represented in the diagram below.

A systematic approach to carrying out research

Planning Stage   Execution Stage

State question & hypothese s identify	Determi ne design structure	Identify populatio n & sample	Design instrumen ts & classify:	Select statistical test for resolving	Carry out plan, collect	Analyse data, draw conclusio
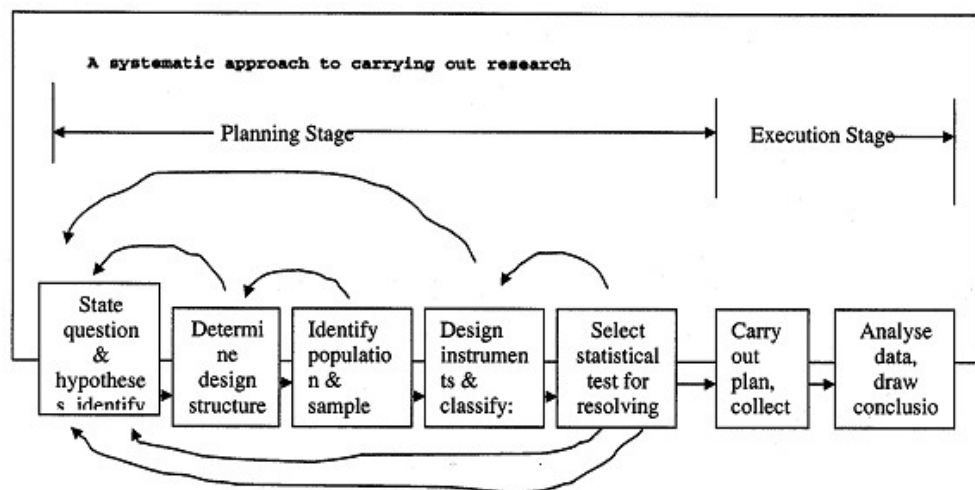
3.1.2 Research is Logical

Logic is about **constructing proofs** which give us reliable confirmation of the truth of set of hypotheses (Read more about hypothesis in Module 2, Unit 1). Generally, it is the rational way of drawing or stabilising conclusions. Research has this rational way of constructing proofs. That is why it relies on a formal language with formally defined logical axioms and inference rules. Hence in research the following logical laws are maintained.

Hypotheses derived are expressed in a formal language
The allowable steps of inference are codified formally so that well formed of proofs are obtained.
The permitted inferences and conclusions are sound.

3.1.3 Research is Empirical

Empiricism entails demonstrable, objective facts which are determined through observation and/or experimentation. A common image of "research" is a person in a laboratory wearing a white overcoat, mixing chemicals or looking through a miscroscope to find a cure for an exotic illness. Research ideas are accepted and rejected based on evidence. Hence, one of the most outstanding feature or characteristics of research is its empirical nature.

3.1.4 Research is Replicable

Replication is a critical step in validating research to build evidence and to promote use of findings in practice.

It is the key to the support of any worthwhile research. It involves the process of repeating a study using the same methods. Replication is important for a number of reasons, including

(1)   Assurance that results is valid and reliable,
(2)   Determination of generalizability or the role of extraneous variables,
(3)   Application of results to real world situations; and
(4)   Inspiration of new research combining previous findings from related studies.

3.1.5 Research is Reductive

Research is reductive in the sense that it tries to summaries complex observations in logically related propositions which attempt to explain a subject matter. Observations are converged in a way that irrelevant variables are excluded while relevant variables are included. Hence, research has the characteristics of controlling the flux of things and establishing facts. So, no research is ideal unless some selection or sifting of the subject matter has taken place. Such selection requires a summary of the problem you want to tackle in terms of hypotheses or tasks which delimit the subject matter, after which an answer is specifically provided through observation.

SELF-ASSESSMENT EXERCISE 1

What makes research different from other forms of knowledge?

3.2   Development of Media Research: An Overview

Now that you have an idea of the characteristics of research, let us turn our attention to the development of media research which is the major area of concern in this unit. Although the media have been studied long time ago, they became especially important in the twentieth century. This was largely caused by the rise of radio, television, satellites and computer networking along with industrialization, big business, and global politics.

Careful study of concrete medium of mass communication reveals that mass media research has evolved in definable steps, and similar patterns have been followed in each medium's requirement for research. The diagram below will explain this development better.
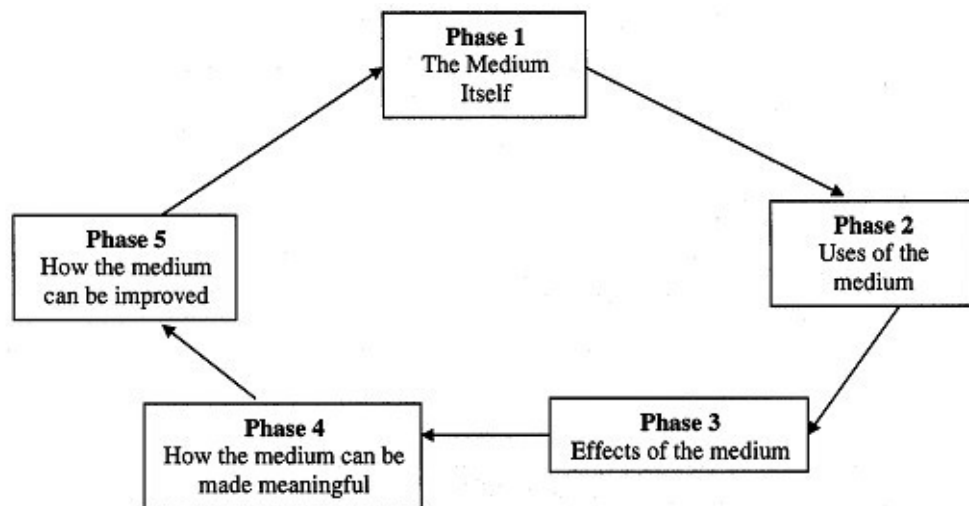
Source: Wimmer, R. D. and Dominick (1987) *Mass Media Research: An Introduction* **p.5**

The above diagram shows five steps taken in the history of mass communication research. At the first level, mass communication researchers developed interests in the medium itself. They wanted to know how it developed, and how it offers alternatives to the communication system already in existence.

At the second level, the researchers developed interest in the audience use of the medium for information and entertainment.

At the third level of research development, researchers were interested in determining what impact the medium has on its audience i.e. how the medium influenced the audience's beliefs, tastes and behaviour, and how it helped to set the agenda for political and cultural debate.

The fourth level of research covered very broad area of policy research. For example, investigation of how to structure the medium to make it more useful or significant in the world of communication formed part of this level.

At the last level, researchers focused on the positive impact of technological developments on the medium. The study of possible impact of cable/satellite TV on the television industry is an example of research studies at the fourth and fifth levels.

Research interest will continue to grow; emphasis will continue to shift to new areas from time to time. For example private media outfits have additional research phase to the existing phases i.e. the financial aspect of the undertaking is of utmost importance to private investors.

3.2.1 Factors that Contributed to the Growth of Mass Media Research

The Second World War (WW II), which brought about a need to further understand the effects of propaganda on the audience. Most researchers then believed in the early theory of mass media called *hypodermic needle theory of mass communication*, which suggested that the mass media only "school" messages at an audience and they received preplanned and universal effects. This theory was later shut down by communication researchers as research evidence did not support it.

In the 1950s and 1960s, advertisers realised the positive effects of research data in persuading potential customers to buy products or services.

The increased interest of scholars and the society at large in the effects of the mass media on the public, especially the effects of the electronic media on children.

Increased competition among the media for advertising revenue. There was a strong competition among media establishments for better share of the audience. As media management grew, it realized the importance of research to support the decision process.

SELF-ASSESSMENT EXERCISE 2

What are the definable steps in the evolution of mass media research?

3.3   European and American Media Research Traditions

The approach to the media, however, took different turns in Europe and America. In America, researchers tended to study media quantitatively to achieve objectivity. Although the researchers were never in complete agreement on this objective ideal, **quantitative methods** were the standard for many years.

When we say quantitative research method, what do we mean? Although this aspect of your studies will be further treated in subsequent units, it is pertinent that we throw some light on it here in order to advance your understanding of our discussions of the subject matter of concern in this unit. The **quantitative method** refers to the research approach whereby evidence is observed and measured using statistical or mathematical tools. This method was adopted from the ideology of science originally meant for studying phenomena in the natural science especially physics.

It originated in the approach to, or ideology of, science known as **positivism**. Positivism originated in 17th century Europe. The development which the French Revolution brought about, together with industrialization and urbanization, led to the need to study society scientifically with the aim of restoring it to its former harmony and stability. By the early 19th century this approach to and ideology of science displayed three key components:

A belief that valid knowledge could only he gained from observable evidence. In this process, the researcher had to be objective.

A belief that researchers should strive towards methodological unity between the social sciences and natural sciences, by applying the methods of the natural sciences like (laboratory and experiments) to the social sciences.

A belief in the progress of human reason and the need to utilize the social sciences to establish a new social order (a better world).

The quantitative method displays all or some of the above characteristics. In other words, the knowledge obtained is the result of objective observation.   The approaches that are used are typically utilized in the natural sciences and research is undertaken in society as it stands with the aim of alleviating social problems.

By the end of the 18th century, traditional society in America, as in Europe, faced major changes caused by industrialization, urbanization and modernization. By the early 19th century, the founding fathers started to promote an application of science which echoed the quantitative ideal of establishing a new and better social structure.

To a large extent, quantitative media research assumes an empirical theory of knowledge. It uses the scientific method. It is based on observation and testing of assumptions (hypotheses) against the evidence of the "real world". As such, it makes provision for three assumptions.

A universal objective communication reality is available to be studied.

People are capable of devising methods of communication phenomena.

Hypotheses explaining these phenomena are therefore capable of proof and disproof.

Among the quantitative communication research problems a researcher can investigate include the following:

Example 1

How balanced is the Nigerian press reportage of the Niger Delta Crisis?

This is a communication problem that can be investigated quantitatively. Balance is a variable that has values which are measurable.

Example 2

Prominence of Development News in Nigerian Newspapers

This is also a communication problem that can be quantitatively investigated. Prominence is a variable that can be measured.

European investigations, on the other hand, were influenced more by historical, cultural and critical interests and were largely shaped by Marxism. This led to the **qualitative research approach** which rejects the idea of an objective and value-free research. In a nutshell, it is the analysis of visual and verbal data that effect everyday experience. In other words qualitative research deals with those imponderable aspects of life. The qualitative method emphasizes how people in everyday natural settings create meaning and interpret the events of their world. It draws on analysis or models used in the humanities.

The method rejects the idea of the permanent character ascribed to knowledge by the quantitative approach. Hence, reality must be studied in its social and historical contexts, and these are constantly changing. The method follows the arguments below:

Social research must include a historical component, so that we can identify historical possibilities which we can test practically.

Questioning the nature of social phenomena also means that researchers must question knowledge itself.

Knowledge can never be complete because it is constructed in the relationship between human activity and the social structure. This relationship is changing all the time.

In social science research, values of the researcher cannot be separated from the research. Values influence facts, and provision must be made for the pre-scientific insights of the researcher; the validity of aesthetic imagination, fantasies and human inspirations.

The qualitative method became popular in mass communication research during the 1970s and 1980s and has gained added visibility in the 1990s. Some problems that researchers can investigate qualitatively include the following:

Example 1

Preventing, managing and resolving conflicts between oil producing companies and host communities in Nigeria through the mass media.

This is a communication problem that can be investigated qualitatively. This is because, the research problem is located in human activity and the social structure.

Example 2

Caregiver's assessment of media messages on polio national immunization in Nigeria.

This can also be treated as a qualitative research problem. The media is a social instrument used by both the operators and the audience.

Over the years, tension has grown between these two traditions, although considerable influence has flowed both ways as scientific procedures have developed interest in Europe and critical perspectives have been taken seriously in some parts of America. In Africa, the **qualitative method** is gradually bracing up to the quantitative method, (Little, 2001).

4.0   CONCLUSION

Research has some certain characteristics that make it unique. Its uniqueness can only be appreciated when those characteristics are

present. Media research had its roots in other disciplines. Most of the early media researches were anchored on other disciplines like psychology, sociology etc.

5.0   SUMMARY

In this unit, we have discussed:

The characteristics of research
The development of media research
The four factors that contributed to the growth of mass media research
The European and American media research traditions

6.0   TUTOR-MARKED ASSIGNMENT

Discuss the two major research approaches used in mass media research.

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UNIT 4   CLASSIFICATION OF RESEARCH

CONTENTS

1.0   INTRODUCTION

There are various types of research. Labels are given to research studies by researchers according to the nature of the study and purpose of the researcher. Researchers are not all agreed on these labels or groupings. What follows in this unit, therefore, are convenient groupings of research studies into categories based on some common traits. There is really no hard and fast rule in arriving at the classifications presented in this unit as one type of research can easily overlap and fit into more than one category at the same time.

2.0   OBJECTIVES

On successful completion of this unit, you should be able to:

    identify the types and methods of research used in communication studies;
    determine the content and context of various research approaches; and
    adapt them for use in your own research.

3.0   MAIN CONTENT

3.1   Research Classification

Communication research can be broadly grouped into four. These are:

Classification by practice
Classification by measurement
Classification by data gathering method
Classification by discipline.

3.2   Classification by Practice

Research classification by practice can be divided into two. These are:

Academic research
Applied research.

Academic Research

This is the dominant research conducted mostly by the academia (i.e. scholars in university faculties and other tertiary institutions). This type of research generally has a theoretical approach. In other words, it is conducted for academic purpose rather than for its intrinsic values for the society as a whole. For instance, the research study you will undertake at the end of your studies here at the National Open University of Nigeria (NOUN) is academic research. The implication of this classification is that this type of research is theoretical with little or no practical value or application. This assumption, however, is not entirely true of all research studies in this category because even if they are not of immediate practical value or application, sooner or later, someone might find something of value in them.

Applied Research

As an antithesis to academic research, applied research is one which is deemed to have practical use or application. Many of the research studies funded by public and private enterprises fall within this category. It is distinguished from academic research since its outcome can be put to practical use when its laws are employed and exemplified in dealing with concrete phenomena.   Most organizations (e.g. multinational corporations, advertising agencies, public relations consultancy, etc) require applied or practical research outcomes which they can apply immediately in their work.

3.3   Classification by Measurement

Research is also classified by measurement. In this regard, researchers talk about **quantitative** and **qualitative** research.

Quantitative Research

This is the type of research designed to yield **numerical** data. It requires that variables (see Module 2, Unit 2) under consideration be **measured or quantified**. It is concerned with how often a variable is present and generally uses figures to communicate this amount. In other words, the quantitative approach involves the collection of numerical data in order to explain, predict and/or control the phenomena of interest.   Data analysis in quantitative research is mainly statistical or deductive process.

Quantitative research techniques or methods include experimentation, survey and content analysis.

Qualitative Research

Qualitative research is designed primarily to yield **non-quantitative or non-numerical data**. It involves the collection of **extensive narrative data** in order to gain insights into the phenomena of interest. Data analysis involves the coding of data and production of a verbal synthesis or inductive process.   In other words, **it does not depend on the measurement of variables** or research elements.

According to Wimmer and Dominick (2000:103), qualitative analysis relies mainly on the analysis of visual data (observations) and verbal data (words) that reflect everyday experience. Osuala (2005:17) adds that qualitative research is concerned with processes rather than consequences, with organic wholeness rather than independent variables (see Module 2 Unit 2) and with meanings rather than behavioural statistics. In qualitative research, interest is directed towards context-bound conclusions that could potentially point the way to new policies and decisions rather than towards "scientific" generalizations.

Qualitative research methods include in-depth interview, focus group discussion (FGD), observational research, case study, historical and ethnographic research.

Advantages and Disadvantages of Qualitative and Quantitative Research

Qualitative and quantitative research approaches have certain advantages and disadvantages.

Let's begin with the advantages of qualitative research.

First, qualitative research allows researchers to view behaviour in a natural setting without the artificiality that sometimes surrounds quantitative research.

Secondly, qualitative research can increase a researcher's depth of understanding of the phenomenon under investigation. This is especially true when the phenomenon has not been previously investigated.

Thirdly, qualitative research is relatively easier to conduct.

Finally, qualitative research methods are flexible and allow the researcher to pursue new areas of interest. For instance, a questionnaire is unlikely to provide data about questions that were not asked but a researcher conducting in-depth interview might discover facets of a subject that were not considered before the study began.

The above notwithstanding, qualitative research has some disadvantages.

First, sample sizes (see Module 5, Unit 1, p.37) are usually too small to allow the researcher to generalize the data beyond the sample selected from the particular study.

Secondly, reliability of the data can also be a problem since single observers are describing unique events.

Thirdly, because a researcher doing qualitative research is most of the time closely involved with the respondents, it is possible for him to lose objectivity when collecting data. A researcher who becomes too close to the study may lose the necessary professional detachment (Wimmer, and Dominick, 2000:48).

Finally, if qualitative research is not properly planned, the outcome may produce nothing of value.

Quantitative research has two major advantages.

First, the use of numeric data (figures) allows greater precision in reporting results.

Secondly, it permits the use of powerful statistical tools thereby making its results more credible.

Its disadvantages include the setting i.e. where the research is performed is somewhat artificial and it is more rigorous to conduct than qualitative research.

In survey research, respondents purposely deceive researchers by deliberately telling lies. In experimentation, the respondents may just give the researcher the type of response he wants and this may affect the outcome of the research.

In summary, quantitative researchers argue that their data are 'hard' 'rigorous' 'credible' and 'scientific' while the qualitative proponents counter that their data are 'sensitive' 'nuanced' 'detailed' and 'contextual'.

Triangulation

Although some researchers have found some utility in the distinction between quantitative and qualitative research, some have queried it. Critics of the distinction between both approaches say that it can lead to all sorts of confusion. Indeed, in some areas of social science research, the qualitative/quantitative distinction has led to protracted arguments with the proponents of each arguing the superiority of their kind of data over the other.

For many social science researchers, this kind of polarized debate has become less productive as it obscures the fact that qualitative and quantitative data are intimately related.   In this regard, it has been observed that **quantitative data are based on qualitative judgments and all qualitative data can be described and manipulated numerically**.

Most researchers have since realized that both quantitative and qualitative techniques are important in understanding any phenomenon. They have therefore devised a technique that bridges the gap between quantitative and qualitative research.   That technique is known as **triangulation**, a term borrowed from marine navigation. Wimmer and Dominick (2000:49) define it within the context of mass media research as "the use of both qualitative and quantitative methods to fully understand the nature of a research problem".

SELF-ASSESSMENT EXERCISE 1

Read on article from any scholarly journal in any area of mass communication and find out whether it is a qualitative or quantitative research.

3.4   Classification by Data Collection Method

This is perhaps the major classification of research in mass communication. This is because no matter how research is classified, it is basically identified by its method of data collection. In this regard we have quantitative and qualitative methods of data collection. Quantitative data gathering methods discussed in this unit are surveys, experiments and content analysis while qualitative data gathering methods are interviews, focus group discussion (FGD) observational research, ethnographic research, historical research and case study.

Survey Research

The survey research method is perhaps the most popular technique of data collection among communication researchers.   Surveys are now commonplace in all areas of life. Decision makers in businesses, consumer and activist groups and the media use survey results as part of their daily routine.

The survey research technique has been aptly defined by Wiseman and Aron (1970:37) as "a method for collecting and analyzing social data via highly structured and often very detailed interview or questionnaire in order to obtain information from large numbers of respondents presumed to be representative of a specific population".

From the above definition, you can see that the survey research method focuses on people, the vital facts of people; their beliefs, opinions, attitudes, motivations and behaviour. Survey is conducted to collect and analyse social, economic, psychological and other types of data; it is based on interviewing people (respondents) and asking must be representative enough of the research population being studied for it to be worthwhile.

(Read more about Survey Research in Module 3, Unit 2)

Experimentation

The word "experimentation" is derived from the Latin word experiri which means to try. However, Severin and Tankard (2001:37) define experimental research as "the classic method of dealing with the

question of causality" i.e. the relationship between something that happened and the reason for it happening or cause and effect. It involves the control or manipulation of a variable (research element) by the experimenter and an observation or measurement of the result in an objective and systematic way.

There are two basis techniques of obtaining data in experimental research – laboratory and field experimentation. Whether laboratory or field experimentation, the purpose is to obtain verifiable and reliable data (Read more about Experimental Research in Module 3, Unit 1).

Content Analysis

Content analysis is a special data gathering technique available to communication researchers. It is used to collect data from already existing or secondary sources. So instead of interviewing people or asking them to respond to questionnaires as in survey research or observing behaviour as in human experiment, the researcher using content analysis examines the communications that have been produced (e.g. newspapers, magazines, books, etc.) at times and places of his or her own choosing.

The purposes concerned with characteristics of content which may form the basis for content analysis include the following:

To describe trends in communication content
To disclose international differences in communication content.
To audit communication content against objectives.
To expose propaganda techniques.
To discover stylistic features.

(Read more about Content Analysis in Module 3, Unit 3)

Interviews

There is some controversy about interview as a research method. Some researchers tend to view it as a subset of the survey research method while others see it as a distinct qualitative research method. Among the latter is Berger (2000). According to him, interviews are one of the most widely used as fundamental qualitative research techniques. Wimmer and Dominick (2000:122) distinguish interview as a qualitative research technique from interview used in survey research by describing it as "intensive or in-depth interview".

According to Berger (2000:111) the simplest way to describe the interview technique is to say that it is a conversation between a

researcher (someone who wishes to gain information about a subject) and an informant (someone who presumably has information of interest on the subject). The goal of interview as in other research techniques, is to obtain data or information.

According to Wimmer and Dominick (2000:122) intensive interviews are unique for the following reasons:

They generally use smaller samples.

They provide detailed background about the reasons respondents give specific answers. Elaborate data concerning respondents' opinions, values, motivations etc. are obtained.

Intensive interviews allow for lengthy observation of respondents nonverbal responses.

They are usually very long. Unlike personal interviews used in survey research that may last only a few minutes, an intensive interview may last several hours and may take more than one session.

Focus Group Discussion (FGD)

This is an interview conducted with 6 – 12 people as a group simultaneously and a moderator who leads the discussion about a specific topic. Its identifying characteristic is that it is a controlled group discussion which can be used to gather preliminary data for a research project; to help develop questionnaire for a survey research, to understand the reason behind a phenomenon, to see how a group of people interpret a certain phenomenon or test preliminary ideas or plans. When properly conducted, it is a natural method for eliciting **group opinion** on specific issue in a social setting. It has an advantage over the individualistic respondent interviewing when genuine responses are expected. FGD serves as an influential forum whereby individuals within the group have their personal views moderated by the responses of other members of the group.

Observational Research

Observation can fairly be referred to as the classic method scientific inquiry. It involves not the ability only to perceive events as they occur but also to nose for fine details that others may take for granted. Observational research is based on things seen. According to Seltiz et al (1976) the basic principle of an observational technique is that it is an attempt to summarise, systematize and simplify the representation of an event rather than provide an event exact representation of it.

There are two types of observational research-participant and non participant observation.

(Read more about Observation Research in Module 3, Unit 5).

Ethnographic Research

Ethnographic research and participant observation are similar in that the researcher in both cases is involved in the phenomenon being studied. However, ethnography in a general sense involves any study of a group of people for the purpose of describing their socio-cultural activities and patterns. As a qualitative research method, the researcher spends long period of time living with and observing other cultures in their natural setting collecting extensive narrative (non-numeric) data. Ethnographic researchers use a variety of data collection techniques including interviewing, diary keeping, analysis of existing documents, photography, videotaping, etc.

Historical Research

Historical research or historiography has been aptly described by Kerlinger (1973:701) as "the critical investigation of events, developments, and experiences of the past, the careful weighing of evidence of the validity of sources of information on the past, and the interpretation of the weighed evidence". The historical investigator, like other investigators, collects data, evaluates the data for validity and interprets the data. The historical method differs from other scholarly activity only in its rather elusive subject matter – the past, which it attempts to place in proper perspective.

This type of research is also limited by its seemingly elusive subject matter which poses difficulties in interpretation. Fred Omu's (1978) famous book, Press and Politics in Nigeria (1880 – 1937) is a classic example of historical research in communication studies.

According to Phifer cited in Berger (2000:133) there are seven types of historical studies. They are as follows:

Biographical studies, focusing on the lives of important persons.
Movement or idea studies, tracing the development of political, social, or economic ideas and movement.
Regional studies, focusing on particular cities, states, nations and regions.
Institutional studies, concentrating on specific organizations.
Case histories, focusing on social settings or a single event.

Selected studies, identifying and paying close attention to a special element in some complex process.

Editorial studies, dealing with the translating or processing of documents.

Case Study

Case study has been defined by Wimmer and Dominick (2000:134) as the qualitative research technique that uses as many data sources as possible to systematically investigate individuals, groups, organizations or events.   Case studies are conducted when a researcher needs to understand or explain a phenomenon. Unlike a survey that examines one or a few characteristics of many subjects or units, a case study is used to examine many characteristics of a single subject (e.g. a communicator, newsroom, newspaper, tv station, etc). The case study usually tries to learn all about the area the investigator is interested in for the specific case over a period of time.

Case study is frequently used in medicine, clinical psychology history, management science among other disciplines. The great psychologist, Sigmund Freud, is said to have written case studies of his patients.

The major drawback of case studies is that they usually cannot be generalized to other similar situations. Most often the results are based on a single example.

3.5   Classification by Discipline

Another classification of research is by discipline. Some research studies are labeled according to subject matter. In this respect, we have medical research, clinical research, marketing research, advertising research, public relations research, operations research, legal research, population health research, psychological research, political research, biomedical research, etc.

3.6   Other Classifications

Other classifications of research not yet identified in this unit include the following:

Longitudinal Research. This involves the collection of data at different points in time. There are three variants of longitudinal research. These are **trend study, cohort analysis** and **panel study**.

A **trend study** samples different groups of people at different times from the same population. Trend studies are common

around presidential elections in the USA. **Cohort analysis** is a study of a specific population as it changes over time while in **panel study**, the same sample of respondents is measured at different points in time.

Administrative Research. According to Severin and Tankard (2001:16) this refers to research in the service of media institutions.

Critical Research. This grew out of the Marxist approach to studying society but later shifted its emphasis from class conflict to the role of domination in society. (Severin and Tankard 2001:16).

Ethno Methodological Research. According to Berger (2000:145) this is a qualitative sociological research that studies the everyday activities of people, seeing these activities as phenomena worth investigating in their own right. The focus is on how people make sense of the world, and on commonsense attitudes, as revealed in conversation and behaviour.

Primary Research. This involves **firsthand** observation and investigation by a researcher such as conducting a survey, carrying out a laboratory experiment or analyzing a literary or historical text.

Secondary Research. This is the examination of studies that other researchers have made of a subject. It is also known as Library research. According to Berger (2001:23) this kind of research in essence is **a form of editing**, in which quotations (and sometimes summaries, paraphrases, and syntheses of the material read) from this scholar and that scholar are collected to produce an essay or article that makes its argument. Examples of secondary research are books, and articles about political issues, historical events or scientific debates.

The major difference between both is that while in primary research, we **do** the actual research, in secondary research, we **use** the research that others have done.

Exploratory Research. In this research, the researcher engages in close examination or scrutiny of something (issues, place or natural phenomenon) for the purpose of discovering unknown elements. It is conducted to establish the need for something. Usually it is conducted to establish whether new facts can be established about something and this, in turn can lead to further research.

4.0   CONCLUSION

In this unit, we have presented a wide variety of research types and methods which are available to the communication researcher. These methods may go by various names or labels but essentially the labels remain what they are but their descriptions refer to similar strategies. We have by no means exhausted all that can be said on the subject but any student who diligently follows the presentation should be able to familiarize himself or herself with the various methods of social science research of which communication research is a component.

5.0   SUMMARY

In this unit you have learnt that:

Research studies are variously classified by researchers. These groupings are labels based on some common traits.
The major classifications are by practice, measurement, data gathering methods and by discipline.
The most important classification is by data collection methods.
Choice of a particular research method for any study will depend on the nature of the study and purpose of the researcher.

6.0   TUTOR-MARKED ASSIGNMENT

Consider the following researchable topics:

i)   TV Station preference among Lagos State residents.
ii)   The portrayal of women in Nigeria's print media advertisements.
iii)   The practice of Public Relations in Nigeria Breweries Plc.
iv)   The development of soft sell journalism in Nigeria.
v)   An expose of corruption in the Nigeria Police.

Which data collection method will be most appropriate for each of the topics? Justify your answers.

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MODULE 2   THE ELEMENTS OF RESEARCH

Unit 1   Concepts, Constructs, Hypotheses/Research Questions and Instrumentation
Unit 2   Variables

Unit 3   Measurement, Scales and Indexes

UNIT 1   CONCEPTS, CONSTRUCTS, HYPOTHESES/RESEARCH QUESTIONS AND INSTRUMENTATION

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1.0   INTRODUCTION

There are certain elements or ingredients common to all social science research work, including communication research. These elements are indispensable to research. Without them in a social science research work, it is considered incomplete. It is like preparing a typical Nigerian meal without basic ingredients like salt, pepper, water, etc.

2.0   OBJECTIVES

The major objective of this unit is to expose you to the various research elements. In other words, to familiarize you with those vital ingredients of research. Your knowledge of these elements will help you both to assess a social science research work and more importantly to enable you determine and explain these elements in your own research.

By the time you are through with this unit you should be able to define and explain the following:

    concepts;
    constructs;
    research Questions;
    hypotheses; and
    research instruments.

3.0   MAIN CONTENT

3.1   Concepts

Concepts have been described as the basic building blocks or **ideas** of theory and research. According to a renowned scholar, Kerlinger, (1973:28), a concept is a **term** that expresses an abstraction (abstract idea) formed by generalizations from particulars.   According to this expert, a concept is formed by summarizing related observations. He gives examples of concepts as "weight", "height", "length" and "achievement".

The social and medical sciences are full of concepts. For example, a social science researcher might observe that a public speaker becomes restless, starts to perspire and continually fidgets with a biro just before delivering a speech or lecture. The researcher might summarize these observed patterns of behaviour and label them **speech anxiety**. Similarly, a medical practitioner may observe a young woman having early morning sickness, changes in anatomy and having no menstrual periods. He can summarize the observed symptoms as *pregnancy*. Also, the transmission of information through radio waves from a radio or television station, to an audience in far and near places through their receivers is a concept known as *broadcasting*.

According to two renowned communication scholars, Wimmer and Dominick (1987:45) concepts are important because they facilitate communication among those who have a shared understanding of them. Researchers use concepts to organize their observations into meaningful summaries and to transmit this information to the academic community. In addition, since concepts are abstracted from observations, they enable researchers to look for general explanations or patterns in observations.

Concepts abound in mass communication. They include *media usage*, *media imperialism*, *cultural imperialism*, *agenda setting*, *selective attention*, *retention perception, media effects, monopolization, status conferral,* etc.

3.2   Constructs

According to Kerlinger (1973:29) a construct is also a concept. However, it has the added meaning of having been deliberately and consciously invented or adopted for a specific scientific purpose.

Accordingly, constructs have been described as **higher concepts**. According to Wimmer and Dommick (1987:45), a **construct** is a combination of concepts created for a particular scientific purpose. Constructs are generally difficult to observe directly; their existence therefore must be inferred from related behaviour patterns. For example, in mass communication research, the term *authoritarianism* represents a construct specifically created to describe a certain type of personality; it comprises nine different concepts, including conventionalism, submission, superstition, and cynicism.   Authoritarianism itself cannot be seen; its presence must be determined by some type of questionnaire or standardized test.   The results of such tests indicate what authoritarianism might be and whether it is present under given conditions, but they do not provide exact definitions for the concept.

Negritude, the study of black philosophy made popular by Lepold Senghor is a construct formed from the concepts of Negro (black) beauty, emancipation. Similarly edutainment is a construct comprising two concepts – education and entertainment.

Please remember, construct are **higher concepts**. Those are the key words in the definition of a construct.

SELF-ASSESSMENT EXERCISE 1

List 30 concepts in journalism and state what they mean.

3.3   Research Questions/Hypotheses

It is generally recognized that a research study attempts to accomplish the following:

    Answer questions or
    Test hypotheses

No researcher can begin a study without a problem. The bedrock of research is to answer as many questions as possible. To begin a research without research questions or hypotheses is like starting a journey without a defined place to begin the journey.

Research utilizes a variety of approaches to help answer questions. While some researchers seek to solve relatively simple problems, some are based on theory and they require formally worded questions. Similarly, research generally starts with some tentative generalizations regarding a relationship between two or more variables. These generalizations may either be **research questions** and/or **hypotheses**.

3.3.1 Research Questions

A research question is stated as a question that explores the relationship between two or more variables/concepts. Researchers abbreviate research questions as RQ.

According to Ajala (1996:20), research questions are generally used in situations where a researcher is unsure about the nature of the problem under investigation. Therefore, research questions have the widest application and can best be employed in dealing with problems of a non-experimental nature. When research questions are posed, the intent is merely to gather preliminary data from which testable hypotheses are often developed.

3.3.2 Hypotheses

After a research topic has been thoroughly researched, you should have some prediction about what you think will happen in your study. This educated guess concerning the outcome of a research is called **hypothesis**. A hypothesis, therefore, can be defined as a set of assumptions, a speculation, which is tentatively accepted as the basis for an investigation. The hypothesis is worded so that it can be tested in your research work. That is why it has been stated that hypotheses are measurable, testable statements about the relationship(s) between variables. Put in another way, a hypothesis states a predicted relationship between two or more variables or concepts. Researchers abbreviate hypotheses as H.

Hypothesis can further be described as statements concerning two or more variables to find out their relationship. Hypotheses could be a fact or body of facts which a researcher wants to find out their relationship. It can also been seen as statement not proved but assumed to be true for the purpose of argument or further studies. According to Kerlinger (1973:18) hypotheses are always in declarative sentence form, and they relate generally or specifically, variables to variables. He further adds that there are two criteria for good hypotheses; one, hypotheses are statements about the relations between variables; two, hypotheses carry clear implications for testing the stated relations. Hypotheses are meant

to be tested statistically and accepted or rejected on the basis of the findings which evolve from the research study.

Every research study that you read should provide a RQ, H or both. The study will be designed to answer the RQ and/or H while the text of the research report will focus on explaining the answers.

3.3.3 Differences between Research Questions and Hypotheses

To explain the difference between research questions and hypotheses, Wimmer and Dominick refer to a study done by Singer and Singer in 1981.   In that study, the researchers sought to answer three basic research questions which are as follows:

Does television content enrich a child's imaginative capacities by offering materials and ideas for make-believe play?
Does television lead to distortions of reality for children?
Can intervention and mediation on the part of an adult while a child views a programme immediately, afterward, evoke changes in make-believe play, or stimulate make-believe play?

Wimmer and Dominick (1987:29-30) then explain that the information collected from this type of study could provide data to create testable hypotheses suggested below:

The amount of time a child spends in make-believe play is directly related to the amount of time spent viewing make-believe play on television.
A child's level of distortion of reality is directly related to the amount and types of television programme the child views.
Parental discussions with children about make-believe play before, during and after watching television programmes involving make-believe play will increase the time spent by the child watching make-believe play.

3.3.4 Advantages of Hypotheses

Generally, hypotheses offer researchers the following advantages:

They provide direction for a study
They eliminate trial and error research i.e. uncoordinated investigation of a topic.
Hypotheses help rule out intervening and confounding variables i.e. they focus research to precise testable statements, other variables relevant or not are excluded.

Hypotheses allow for quantification of variables i.e. makes operationalisation of concepts easier and words incapable of quantification are excluded.

3.3.5 Characteristics of Useful Hypotheses

According to Wimmer and Dominick (1987:248-249), a useful hypothesis should possess four characteristics. These are:

(1)   Compatible with current knowledge in the area
(2)   Should follow logical consistency
(3)   Should be in parsimonious (simple) form
(4)   Should be testable.

That hypothesis be compatible with current knowledge means that if available literature strongly suggests one point of view, researchers who develop hypotheses that oppose this knowledge must provide basis, else, he/she slows down the development of that area.

That it should follow logical consistency means that if a hypothesis suggests that A = B and B = C, then A must be equal to C. For instance, if reading regularly the *The Guardian* and *Tell* implies a knowledge of current events and a knowledge of current events is tantamount to greater participation in political, economic and social activities, then, readers of *The Guardian* and *Tell* magazine should exhibit greater participation in political, economic and social activities.

That hypotheses must be in their parsimonious form is obvious. Research is a complex exercise, so the concept of the simpler the better should run through every research undertaking. Therefore, it is better to state hypotheses in simple form and contribute to making the research process simpler than to write hypotheses in complicated form. Developing untestable hypotheses is unproductive and such adds nothing to knowledge.

3.3.6 Types of Hypotheses

There are three types of hypotheses. These are:

(1)   Descriptive hypotheses
(2)   Comparative hypotheses
(3)   Relational hypotheses

In *descriptive* hypothesis, there is just one variable and it merely describes an action. Here is an example: Before the 2006 census result was released, a researcher had hypothesized that "Lagos State will have

a larger population than Kano State". The variable of interest here is population. **Comparative** hypotheses look at the similarities or differences between variables being tested e.g. Female students in NOUN read newspapers more than male students. **Relational** hypotheses examine the relationship between the variables being tested i.e. it examines whether the variables are directly or inversely related (see Figure 1 below):
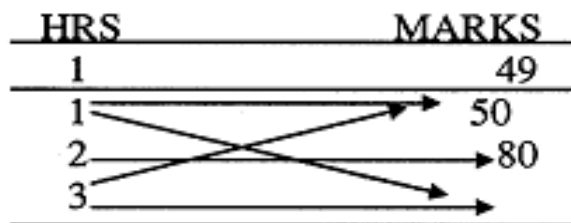
Figure 1: Hours of books read and marks scored
Key: HRS – Hours

Under normal circumstances, he who spends more time reading should score more marks (Direct relationship). But where he who spends less time reading had more marks (inverse relationship). The variables being tested are hours spent reading and marks scored.

Hypotheses are given different names. These are:

1)   Research hypotheses   HI
2)   Alternative hypotheses   HA
3)   Null hypotheses   HO

Note that each is put into different but related uses. For example:

   HI: People with low level of education will have low credibility in the media.
   HA: People with high level of education will have high credibility in the media.
   HO: There is no relationship between education and media credibility.

Note that it is the null hypotheses (HO) that is tested. HO is either accepted or rejected.   In practice, researchers rarely state the null hypotheses, since every research hypothesis does have its logical alternatives.   Therefore, stating the null hypothesis is redundant. However, the HO is always present and it plays important role in the rationale underlying hypotheses testing. In testing hypothesis or what can otherwise be called significance test, the researcher either rejects or accepts the HO. Note that if HO is accepted (supported) H1 is rejected; and if HO is rejected, H1 is accepted.

Ajala (1996:21) advises beginners to employ research questions rather than hypotheses. The questions must be designed in such a way that findings can be measured so that conclusions can be drawn from the study.

The research questions, then, form the basis on which questionnaire and interview questions are designed. That is to say, in order to be able to answer research questions, the investigator must construct instruments that are capable of eliciting the appropriate data from respondents.

3.4   Instrumentation

This is the method by which data are to be obtained. The goal of research is to obtain appropriate data, interprete same and point out implications. The instrument or tool chosen should be adequate in providing the needed data.

Among the available instruments for data collection in communication research are:

Questionnaire
Interview guide and
Coding sheets (for content analysis)

4.0   CONCLUSION

Understanding the various elements of research discussed in this unit is essential for success in any social science research activity. You'll find them in any social science research work that you'll read. Also, you cannot embark on a social science research if you don't know how to apply them.

5.0   SUMMARY

In this unit, you have learnt that:

A concept is a term that expresses an abstraction formed by generalizations from particulars.
A construct is a higher concept deliberately and consciously invented for a specific scientific purpose.
A research question is stated as a question that explores the relationship between two or more variables/concepts while a hypothesis is a measurable, testable statement about the relationship between variables.

Instrumentation is the method through which data are to be obtained.

6.0   TUTOR-MARKED ASSIGNMENT

Distinguish between research questions and hypotheses. If you were to carry out a research study in an area of journalism, which approach would you utilize to achieve your objectives: RQ or H? Give reasons for your answer.

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UNIT 2   VARIABLES

CONTENTS

1.0   INTRODUCTION

One term that you'll come across frequently in social science research of which communication research is a part is **variable**. Chances are that you won't be able to do very well in communication research unless you know how to talk about variables. By that is meant that you must have a thorough knowledge of this essential ingredient or element of research. It may interest you to know that the term, variable has application in computer science, mathematics and the social sciences which includes communication research.

Variables are often contrasted with **constants**, which are known as unchanging.

2.0   OBJECTIVES

By the time you are through with this unit, you should be able to understand the following:

    the definition and meaning of variables;
    types of variables;
    the importance of variables in research; and
    definition of Variables Operationally.

3.0   MAIN CONTENT

3.1   Definition and Meaning of Variables

There are several ways of looking at the concept of variable.

Scientists use experiments to search for cause and effect relationships in nature. In other words, they design an experiment so that changes to one item cause something else to vary in a predictable way. These changing quantities are referred to as **variables**.

A variable, therefore, can be defined as any entity that can take on different values.

That means anything that can **vary** can be considered a variable. For instance, age can be considered a variable because age can take different values for different people or for the same person at different times. Similarly, country can be considered a variable because a person's country can be assigned a value.

A variable can also be described as a concept or construct that can **vary** or has more than one value. In this regard, some variables can be quite concrete such as gender, weight, or shoe size. Others can be considerably more abstract or vague. For example, sense of well being, self-esteem, strength of belief in religion, or IQ. Basically, variables are the thing about people that we can say one person has more of than another. So we find that people vary in their gender and shoe size, as well as their self-esteem and IQ.

According to the Wikipedia (i.e. the online encyclopedia) a variable is a quantity whose value may **vary** over the course of an experiment.

Two renowned communication scholars, Wimmer and Dominick (1987:46) define a variable as a phenomenon or event that can be measured or manipulated and is used in the development of constructs.

Another scholar, Kerlinger (1973:29) states that a variable is a property that takes on different values. Putting it pointedly, he states that a variable is something that varies. He then defines a variable as a symbol to which numerals can be assigned. Some variables are true dichotomies – that is, they are characterized by the absence of a property. Examples are male-female, alive-dead, and employed-unemployed. Other variables are polytomies. A good example is religious preference: Protestant, Catholic, Muslim, African Traditional Religion, etc.

Researchers attempt to test a number of associated variables to develop an underlying meaning or relationship among them. It is important to note that variables aren't always 'quantitative' or numerical. For instance, the variable 'gender' consists of two text values: 'male' and 'female' (M

or F). We can, if it is useful, assign quantitative values instead of (or in place of) the text values, but we don't have to assign numbers in order for something to be a variable.

It is also important to realize that variables are not only things that we measure in the traditional sense. For instance, in much social science research and in programme evaluation, we consider the treatment or programme to be made up of one or more variables (i.e., the 'cause' can be considered a variable). An educational programme can have varying amounts of 'time on task', 'classroom settings', 'student-teacher ratios', and so on. So even the programme can be considered a variable (which can be made up of a number of sub-variables).

Another term to note while talking about variables is **attribute**. An attribute is a specific value of a variable. For instance, the variable sex or gender has two attributes: male and female. On the other hand, the variable agreement can be said to have five attributes viz:

1 = strongly disagree
2 = disagree
3 = neutral
4 = agree
5 = strongly agree

At this juncture, it is worth restating that variables are essential elements or ingredients of research. Variables could be age, gender or socio-economic status. They could equally be attitudes or behaviours such as media consumption, speed, social control, perception, etc. They are called variables because they **vary** (change) in two or more categories. For example, consumption may be high, low or zero. Same applies to speed.

The opposite of variable is **constant**. A constant has one attribute or category i.e. it does not change in value. A good example is death. Death is a constant for all human beings. However, the causes of death are variables e.g. suicide, illness/disease, road accidents, etc.

3.2   Major Classification of Variables

Independent and Dependent Variables

Variables are classified in terms of their relationship with one another. Researchers usually talk about **independent** and **dependent** variables.

According to Kerlinger (1973:35) the most important and useful way to categorise variables is as independent and dependent. This categorization, according to him, is highly useful because of its general applicability, simplicity and special importance in conceptualizing and designing research and in communicating the results of research.

Kerlinger (1973:35) defines an independent variable (IV) as the presumed cause of the dependent variable (DV), the presumed effect. The independent variable is the **antecedent**, while the dependent variable is the **consequent**. When we say: if A, then B, we have the conditional conjunction of an independent variable (A) and a dependent variable (B).

Another tip in distinguishing independent from dependent variable is this; the independent variable is observed and its value presumed to depend on the effects of the dependent variable. In other words, **the dependent variable is what the researcher wishes to explain**.

The independent variable may be manipulated or it may just be measured. In contrast, the dependent variable is what we are studying, with respect to how it is related to or influenced by the independent variable or how it can be explained or predicted by the independent variable. It is sometimes called the response variable or the criterion variable. It is never manipulated as a part of the study. **DVs are the things we measure about people**.

Consider this example. Suppose two investigators are studying the relationship between criminal behaviour in adolescents and parental guidance to determine what kinds of advice to give parents. The two investigators may have the same data. This data includes: (1) the police records of a group of adolescents, giving data about the number of times the child has entered the criminal justice system (such as by being arrested, questioned by the police, etc.), and (2) information from a questionnaire about the kinds of information or advice that each adolescent has received from his or her parents. One investigator might be examining whether parents who give advice focusing on walking away from interpersonal conflicts differ from parents who give advice to the child to "stand up for yourself". The independent variable is the kind of advice the parents give and the dependent variable is whether the child has criminal record or not.

But another investigator might be asking a different question. What types of parental advice and guidance distinguishes adolescents who get

into the criminal system from those that don't? In this case, whether or not the child has a criminal record or not is the IV and the type of parental advice is the dependent variable. From this example, it should be clear that the distinction between the independent and dependent variable is based not on manipulation but on the questions one is asking of the data.

Consider another example: Assume that a researcher is interested in determining how the newscaster's mode of dressing affects an audience's perception of the credibility of a television station. Two different modes of dressing (Native/English) are selected for investigation. Respondents are randomly assigned to view two newscasters-one in African attire and the other in suit. They are then asked to complete a questionnaire that measures credibility. In this study (experiment) the mode of dressing is the independent variable. Its values are systematically varied by the researcher who selected only two modes of dressing-African attire and suit. The dependent variable to be measured is the **perceived credibility of the television station**. Therefore, if the researcher's assumption is correct, the television station's credibility will vary according to the mode of dressing.

Keep in mind that the distinction between types of variable depends on the purposes of the research. An independent variable in one study may be a dependent variable in another. Also, a research task may involve examining the relationship of more than one independent variable to a single dependent variable. For example, a study designed to examine the impact of type size and page layout on learning would encompass two independent variables (type size and layout) and one dependent variable (learning). Although some scholars have defined the IV as "variable that the experimenter manipulates", it should be pointed out that not all studies are experiments. Often we don't manipulate anything in a social science study. Instead, we merely collect data and observe how variables are related to each other.

Please note also that the independent variable is the **presumed cause** (the antecedent) of the dependent variable; which is the **presumed effect** (consequence). That is why it has been stated that "the independent variable is the variable an investigator **predicts from** while the dependent variable is the one he **predicts to**. Independent variables, he claims, are therefore associated with lawful changes in the dependent variable.

Active and Attribute Variables

According to Kerlinger (1973:38), it is important when planning and executing research to distinguish between active and attribute variables.

Manipulated variables in a research are referred to active variables while measured variables are called attribute variables.

Any variable that is manipulated, then, is an active variable. Any variable that cannot be manipulated is an attribute variable. For example, when a teacher uses different methods of teaching, rewarding the children of one group and punishing those of another thereby creating anxiety through worrisome instructions, that teacher is actively manipulating the variables; reinforcement and anxiety.

On the other hand, it is impossible, or at least different, to manipulate some variables that are human characteristics e.g. intelligence, sex, aptitude, etc. These are ready made variables or if you like already manipulated variables.

Discrete and Continuous Variables

A discrete variable includes only a finite set of values; it cannot be divided into subparts. For instance, the number of children in a family is a discrete variable because the unit is a person. It would not make much sense to talk about a family size of 2.24 because it is hard to conceptualize 0.24 of a person. Political affiliation, population, and sex are other discrete variables.

A continuous variable can take on any value (including fractions) and can be meaningfully broken into smaller subsections. Height is a continuous variable. If the measurement tool is sophisticated enough, it is possible to distinguish between one person 72.113 inches tall and another 72.114 inches tall. Time spent watching television is another example. It is perfectly meaningful to say that Person A spent 3.12155 hours viewing TV while Person B watched TV 3.12144 hours.

When dealing with continuous variables, it is sometimes necessary to keep in mind the distinction between the variable and the measure of the variable. If a child's attitude toward television violence is measured by counting his or her positive responses to six questions, there are only seven possible scores: 0,1,2,3,4,5 and 6. It is entirely likely, however, that the underlying variable is continuous even though the measure is discrete. In fact, even if a fractionalized scale were developed, it would still be limited to a finite number of scores. As a generalization, most of the measures in mass communication research tend to be discrete approximations of continuous variables.

3.3   Other Categories of Variables

Simple Variables

These are variables that take only one value e.g. Sex, Age, Social Status, etc.

Complex Variables

These are variables that take more than one values. They have composite values e.g. Consumption. This takes the values of: Rate of Consumption, Time of Consumption, Place of Consumption, etc.

Predictor Criterion and Controlled Variables

Researchers also talk about some other variables which one way or another are present in their research or influence their research. These variables include:

  Predictor or antecedent variables
  Criterion variables
  Controlled variables

While **predictor** variable is used for predictions or is assumed to be casual i.e. analogous to the independent variable the **criterion** variable is predicted or assumed to be affected i.e. analogous to the dependent variable.

When researchers account for or control variables of certain types for the purpose of eliminating unwanted influences, they talk about **control** variables. Control variables are principally used to ensure that the results of studies embarked upon are due to the independent variables, not to some other source(s). Other uses of control variables such as age, sex or socioeconomic status to divide subjects into specific relevant categories.

For example, in studying the relationship between newspaper readership and reading ability, it is apparent that IQ will affect the relationship and must be controlled: thus, subjects may be selected on the basis of IQ scores, or placed in groups with similar scores.

One of the most difficult aspects of any type of research is trying to identify all the variables that may create spurious (false) or misleading results. Some researchers refer to this problem as "noise". Noise can occur even in very simple research projects. For example, a researcher designs a telephone survey that asks respondents to name the local radio station listened to the most during the past week. The researcher uses an open-ended question – that is, no specific response choices are provided; thus the interviewer writes down exactly what each respondent says in answer to the question. When the completed surveys are tabulated, the researcher notices that several people mentioned radio station. But if the

city has a AM and a FM, which station gets the credit? The researcher cannot arbitrarily assign credit to the AM or the FM station; nor can credit be split, because such a practice may distort the actual listening pattern.

The researcher could attempt call-backs of everyone who said, "but this method is not suggested for two reasons: (1) the likelihood of reaching all the people who gave that response is low; and (2) even if the first condition is met, some respondents may not recall which station they mentioned originally. The researcher, therefore, is unable to provide a reliable analysis of the data because all possible intervening variables were not considered. (The researcher should have foreseen this problem, and the interviewers should have been instructed to find out in each case whether meant the AM or the FM station).

Confounds (Nuisance) Variables

Confounds are special types of variables that we would rather not know about! They are nuisance variables that interfere with our attempts to explain a relationship between our variables of interest. A confounding variable is one that provides an alternative explanation for the thing we are trying to explain with our independent variable. For example, in a study in which we want to find an improved way of teaching children the alphabet. We get two groups of children and teach one of them a new "sing the alphabet" method and the other group boringly and repetitively pronounce each letter of the alphabet. Lo and behold we find that the children learn much better using the new singing method! So, here we want to explain the improved learning (DV = number of letters correct) as being caused by the improved singing method (the IV). We should encourage all primary school teachers to get their children to sing the alphabet every morning! But what if the children in the group that got the singing alphabet method were all Primary 2 pupils and the children in the standard boring group were only Nursery 2 pupils? Might not the improved learning be due to the older age of the children in primary 2? Age here is a confounding variable. It competes with our IV of interest in trying to explain the differences we found with the DV. Similarly if the singing group were all females and the pronouncing group were all males (gender is the confounding variable), or the singing group were all top class students and the pronouncing group were all bottom class students (IQ is the confound). Motivation might also be a confound.

SELF-ASSESSMENT EXERCISE 1

Read two or three research studies in a journal preferably a mass communication journal. After reading, state the following for each article:

Topic/Author
The research problem
The variables analysed
The Independent and Dependent Variables.

3.4 Defining Variables Operationally (Operational Definitions)

According to Kerlinger (1973:30-31), operational definition of terms (variables, concepts or constructs) is different from their dictionary definitions. Dictionary definitions, in most cases are merely the use of other words to define a term. For instance the dictionary may define intelligence as "operating intellect" or "the ability to think abstractly." In both cases, the dictionary simply uses other concepts or conceptual expressions in lieu of the expression being defined.

However, in scientific research, researchers have the obligation to state clearly and unambiguously to their readers what the terms (variables, concepts or constructs) they are using in a study mean within the context of the research. This is the idea of operational definition.

According to Kerlinger (1973:31), an operational definition is different from dictionary definition of term in that it "assigns meaning to a concept or a variable by specifying the activities or 'operations' necessary to measure it". Operational definitions give meaning to a variable or concept by spelling out what the investigator must do to measure it. In this regard, intelligence can be operationally defined as "scores on X intelligence test". In this operational definition, the researcher is saying, "Let intelligence equal scores on X intelligence test". In other words, "the meaning of intelligence in this research is expressed by the scores on X intelligence test". In this example, the operational definition tells the researcher specifically what to do to measure intelligence.

Similarly, a researcher can operationally define a child as "young males and females between the ages of 6-12 years".

Also a television commercial (TVC) can be operationally defined as "a 30-60 seconds message on television persuading viewers on why they should buy a product or patronage a service provider". In the same vein, media effects can be operationalized as "what the mass media do, whether intended or unintended".

Operational definitions are indispensable in scientific research because they enable investigators to measure relevant variables. Research depends on observation and this cannot be made without a clear statement of what is to be observed. Operational definitions provide such a statement. Operationally defining a variable or concept forces a researcher to express abstract concepts in concrete terms. It is important, however, to state that there is no single infallible method for operationally defining a variable or concept. No operational definition satisfies everybody.

4.0   CONCLUSION

Understanding empirical research requires a basic knowledge of variables as well as the various categories of variables. You cannot execute or assess a research project very well unless you have a thorough understanding of variables.   Get the textbooks mentioned in the references section below to further broaden your knowledge of the subject.

5.0   SUMMARY

In this unit you have learnt that:

  Variables are phenomena or events that take on one or more different values.
  Independent variables are manipulated by the researcher, whereas dependent variables are what the researcher attempts to explain.
  All variables are related to the observable world by operational definitions.

6.0   TUTOR-MARKED ASSIGNMENT

Discuss the relevance of variables in communication research.

7.0   REFERENCES/FURTHER READINGS

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UNIT 3   MEASUREMENT

CONTENTS

1.0   INTRODUCTION

Our focus in this unit is on measurement, scales and indexes. The key concept actually is **measurement** because scales and indexes are forms of measurement in social science research. It is hoped that you are familiar with the term measurement. In other words, unlike the variables and constructs, measurement is not a strange term to you.

As an adult, you certainly must have been to the tailor's (if you like, fashion designer's) shop where your measurement was taken for a new dress. You also must have been to a shop to buy a pair of shoes. You are aware that you cannot just wear any size of shoes. The size that you can wear must fit your feet. This is another form of measurement. Similarly, if you have acquired (bought) a piece of land somewhere, the plot has to be measured. With these few examples, there is no doubt that you already have a fair knowledge of what measurement is all about.

2.0   OBJECTIVES

The objectives of this unit are not different from those of previous units. At the end of this unit, you should know the following:

the meaning of measurement in communication research;
the elements that are measured in communication research;
the various levels of measurement;
various scales of measurement; and
what is meant by scales and indexes in communication research

3.0 MAIN CONTENT

3.1 Definitions/Meaning of Measurement

Broadly speaking, measurement can be described as the process of determining dimensions, values or degrees. This includes a person's height, weight, temperature, academic performance, wealth, etc. This means that certain measuring devices are required to carry out measurement.

The above notwithstanding, within the context of social science research, Kerlinger (1973:426) defines measurement simply as "the assignment of numerals to objects and events according to rules".

Another definition of measurement is, "the act or process of assigning numbers to phenomena according to a rule".

The Wikipedia (i.e. the online encyclopedia) defines it as the determination of the size or magnitude of something.

Measurement has also been defined as a logical rule for assigning numbers to observations to represent the quality of a trait of characteristic possessed.

There are three important terms to note in the various definitions of measurement. These are **numerals**, **assignment** and **rules**.

According to Wimmer and Dominick, (1987:51) a numeral is a symbol, such as V, X, C, or 5, 10, 100. A numeral has no implicit quantitative meaning. When it is given quantitative meaning, it becomes a number and can be used in mathematical and statistical computations.

Assignment is the designation of numerals or numbers to certain objects or events. A simple measurement system might entail assigning the numeral "1" to the people who get most of their news from television, the numeral "2" to those who get most of their news from a newspaper,

and the numeral "3" to those who get most of their news from some other source.

Rules specify the way that numerals or numbers are to be assigned. Rules are at the heart of any measurement system; if they are faulty, the system will be flawed. In some situations, the rules are obvious and straightforward. To measure reading speed, for instance a stopwatch and a standardized message may be sufficient. In other instances, the rules are not so apparent. Measuring certain psychological traits such as "source credibility" or "attitude toward violence" calls for carefully explicated measurement techniques.

It is also important to note that although measurement is quantitative in nature, it is not limited to physical quantities. It can extend to quantifying almost anything imaginable from degrees of uncertainty to consumer confidence to the rate of increase in the fall in the price of a good or service.

3.2   What is Measured in Communication Research

In social science research (communication research inclusive) scholars are very interested in identifying and defining **concepts**, **variables** and **constructs** (These have been well treated in Unit 2). After this has been done, researchers have the responsibility of measuring these research elements in real life. For instance the concept, "Newspaper readership" could severally be measured in the following ways:

Yes or No response (To ascertain whether respondents read newspapers).
Number of times a week or month a respondent reads newspaper.
The number of minutes or hours the respondents spends reading newspapers.
What the respondents read in newspapers.

These are all different measures of a particular concept, "newspaper readership". Some researchers may prefer a single measure while others prefer multiple measures. It all depends on the researcher's needs, predisposition and the theoretical framework guiding the problem being investigated.

A concept that is frequently measured in communication research is **attitude** which can be defined as "an enduring, learned predisposition to behave in a consistent way towards a person or given class of objects". Attitudes are usually measured in terms of **direction**, **intensity** and **stability**.

Direction of attitude refers to "whether a person approves or disapproves of something", or "whether a person's attitude towards an object is favourable or unfavourable". *Intensity* of attitude refers to the "strength of feelings existing in the attitude", i.e. weak or strong while *stability* of attitude refers to the "degree of commitment to the subject of the attitude". It is believed that people with stable attitudes show strong commitment to the subject of the attitude and therefore such attitude are difficult to change.

According to Wimmer and Dominick (2000:50), in mass communication research, investigators usually measure indicators of the properties of individuals or objects rather than the individuals or objects themselves. Thus, a construct such as "authoritarianism" or "motivation for reading the newspaper" cannot be directly observed or measured; it must be inferred from presumed indicators. Therefore, if a person endorses statements such as "orders from a superior should always be followed without questions" and "Law and order are the most important things in society". It can be inferred that he or she is more authoritarian than someone who disagreed with such statements.

3.3   Levels of Measurement

There are four types of measurements. Each of these four provides us with different kinds of information. Each of them has its own merits and limitations.

i)   Nominal Measurement

This is the lowest level of measurement. It is a categorization of elements to be measured. At this level, **categories** are generated that will help determine whether the objects of investigation are the same or not. In this case, objects are assigned numerals and other arbitrary symbols in other to classify them. In other words, the criterion for the nominal, measure is that the categorization must be **mutually exclusive**.

According to the Wikipedia, in nominal measurement, names are assigned to objects as **labels**. This assignment is performed by evaluating, by some procedure, the **similarity** of the to-be-measured instance to each of a set of named exemplars or category definitions. The name of the most similar named exemplar or definition in the set is the value assigned by nominal measurement to a given instance. So if two instances have the same name associated with them, they belong to the same category, and that is the only significance those measurements have. The names may be numerals, but in that case, the numerical value of these numerals is irrelevant. There are no "less than" or "greater than" relations among the classifying names.

Nominal measurement was first identified by psychologist Stanley Smith Stevens in the context of a child learning to categorize colours (red, blue, green, etc.) by comparing the similarity of a perceived colour to each of a set of named colours previously learned by extensive definition. Thus, the classic example of nominal measurement is colour.

Other examples of nominal measures are:

> Age, gender, race, religion, marital status, telephone access code, make or model of a car, position on a team, etc. Hence it takes on only one characteristic at a time. This means that someone cannot be two things that are mutually exclusive at the same time, e.g. someone cannot be:

> **Young** and at the same time **old Male** and at the same time **female Blackman** and at the same time **whiteman Christian** and at the same time **Muslim Dead** and **alive** at the same time.

Good nominal measures isolate similarities and differences. They are designed to minimize the number of ambiguous cases. For instance the "Yes or No" categories of responses are nominal measures. Nominal measurement is used in our day-to-day life. When we talk of men and women, we are measuring gender. Nominal measure is always used in survey researches in the media. For instance, **"mass media use"** as a concept can be nominally measured thus:

> Do you view AIT?   Yes or No
> Do you read The Guardian?   Yes or No

These "Yes" or "No" categories are nominal measurements that seek to differentiate between respondents who use the above mentioned Nigerian mass media from those who do not.

In social science research, variables measured at a nominal level include **gender**, **race**, **religious affiliation**, **birth place**, **party affiliation**, etc.

ii)   Ordinal (Rank) Measurement

In this classification, the numbers assigned to objects represent the **rank order** (e.g. 1st, 2nd, 3rd, etc.) of the entities measured. The numbers are called **ordinals**. The variables measured here are called ordinal or rank variables.   Unlike nominal measurement data belong to ordinal level when they can be ordered according to some criterion. Examples of such

data are educational level (School certificate, Diploma, 1st Degree, Master's Degree, Ph.D degree holder); rank in the army (Recruit, Corporal, Sergeant, Sergeant Major, Major, Colonel, Lt. Colonel, Brigadier-General, Major General, General) and the FIFA monthly ranking of national football teams.

Based on ordinal measurement, objects can be compared and say who has higher education or a higher position in the army but it may not be possible to determine numerically the difference between them. In other words, the only possible operation with data on the ordinal level is comparison.

Another thing to note about this classification is that apart from establishing whether units are the same or different, there is still the need to make statements regarding whether they possess "more" or "less" of a particular attribute. It is called **ordinal** because it allows researchers to rank people or issues along a continuum from the greatest amount to the smallest amount of the characteristic being measured.

The following example by Severin and Tankard (2001:223) illustrates the amount of coverage given by American news magazines to various issues during the 1960s and the rankings of the issues by the American public as "most important problem facing America" during that period.

Issue	Number of Articles	Coverage Rank	Importance Rank
Vietnam War	861	1	1
Race Relations (and Urban Riots)	687	2	2
Campus Unrest	267	2	4
Inflation	234	4	5
Crime	203	5	3
Drugs	173	6	9
Environment and pollution	109	7	6
Poverty	74	8	7
Sex (Declining Morality)	62	9	8

iii)   Interval Measurement

Apart from categorizing (nominal) concepts and ranking them (ordinal) we can equally measure the distance between the rankings. That is where the interval measurement comes in. When a scale has all the properties of an ordinal scale i.e. equivalence and rank order and the

intervals between adjacent points on the scale are of equal value, the scale is said to be at the interval level.

Another explanation of the interval measurement according to the Wikipedia is that when the numbers assigned to objects have all the features of ordinal measurement, and in addition equal differences between measurement, it is said to represent equivalent intervals i.e. differences between arbitrary pairs of measurements can be meaningfully compared. Operations such as addition and subtraction are therefore meaningful.

Examples of interval measures are the year date in calendars, temperature in Celsius or Fahrenheit scale. About the only interval measures commonly used in social science research are constructed measures such as the standardized intelligence tests (1Q).

In communication research for instance, if we want to measure the differences between heavy newspaper readers and low ones, it may be necessary to assign minerals of 2 for low newspaper readers and 4 for high readers. So the relationship is that the high readers read two times more than the low newspaper readers.

iv)   Ratio Level

These are measurements that possess the following properties:

   Equivalence
   Rank Order
   Equal value of adjacent point

However in addition to the above it has the following attribute:

   True Zero Point

According to Wimmer and Dominick (1987:56), with the **introduction of this fixed zero point**, ratio judgements can be made. **Time** and **distance** are ratio measures. This being correct, one can say that a car traveling at 100 kilometers per hour is going twice as fast as a car traveling at 50kph. While ratio scales are not common in mass media research, some variables such as time spent watching television or number of words per story are ratio measurement.

3.4   Scales and Indexes

Meaning

According to Wimmer and Dominick (1987:57), Scales and Indexes represent composite measures of variables i.e. measurements that are based on more than one item. They can also be described as composite, multiple measures about a particular aspect of a theoretical concept. Scales and Indexes are generally used with complex variables that do not easily lend themselves to single-item or single-indicator measurement.

Scales in particular are used to measure theoretical concerns which are generally measures of independent variables. Scales typically have formulated rules for developing the multiple indicators and assembling them into one composite value.

An index is a composite measure of multiple dimensions of a particular theoretical concept. This is generally regarded as a measure of dependent variables. Indexes do not have detailed construction rules when compared to scales.

Both Scales and Indexes are constructed to provide ordinal (ranking) measures of a given variable. Both are ordinal measures because they rank people or other units of analysis in terms of specific variables such as religiosity, prejudice, intelligence. In essence, a respondent's score on a scale or index of religiosity gives an indication of his or her religiosity vis-à-vis other people.

Both scales and indexes are good strategies for determining complex/sensitive variables, turning aggregate information into understandable statistics.

In communication research, concepts such as newspaper circulation, advert rates, television viewership, radio program listenership can all be measured without scales and indexes. However, items or variables such as: attitudes, perception, consumption, opinions, feelings, etc. may not be effectively measured without the use of scales and indexes. The construction technique for both scales and indexes are similar.

3.5   Types of Scales

The Likert Scale

This measurement scale also known as *summated rating approach* was developed by Rensis Likert. It is the most commonly used scale in mass communication and psychological research. It is associated with a question format frequently used in contemporary survey questionnaires. In this type of scale, the respondent is presented with a statement and he is asked to indicate his level of agreement or disagreement on a scale.

The Likert scale lends itself to a straightforward method of scale construction. It has five response category scores of **1 to 5** which may be assigned according to the level of the respondent's feelings towards the item in question. Each subject's responses are added to produce a single score on the topic.

Example of Likert Scale

Nigerian home videos are better than foreign films.

Response Options   *Scores Assigned*

1.   Strongly Agree   5
2.   Agree   4
3.   Neutral   3
4.   Disagree   2
5.   Strongly Disagree   1

Strengths and Weaknesses of the Likert Scale

In addition to the fact that the Likert Scale lends itself to a straightforward measurement of attitude, another strength of the scale is that it is discriminating and reliable because of the large range of responses typically offered on the scale.

However, its major weaknesses is that because it is an ordinal type, it only enables researchers to rank attitudes but does not measure the differences between attitudes.

Guttman Scaling

The Guttman Scale also known as *Guttman Scaling* or *Scalogram analysis* is a psychological scale developed by Psychologist, Louis Guttman in 1944. Its primary purpose is to ensure that the instrument measures only a single trait (a property called undimensionality, a single dimension underlies responses to the scale). Guttman's insight was that

for unidimensional scales, those who agree with a more extreme test item will also disagree with all less extreme items that preceded it.

According to Wimmer and Dominick (2000:55), the Guttman Scaling is based on the idea that items can be arranged along a continuum in such a way that a person who agrees with an item or finds an item acceptable will also agree with or find acceptable all others items expressing a less extreme position. For example:

Indecent programmes on TV is harmful to society.
Children should not be allowed to watch indecent TV programmes.
TV station managers should not allow indecent programmes on their stations.
The government should ban indecent programmes from TV.

Presumably, a person who agrees with the last statement will also agree with the rest statements. This is why researchers say that the scale is deterministic.

The number of items a person agrees with is the person's total score on a Guttman scale.

Strengths and Weaknesses of Guttman Scaling

The major strength of this scale is that a person's entire set of responses to all items can be predicted from their cumulative score because the scale is deterministic. The scale is mostly used when researchers want to design short questionnaires with good discriminating ability. The Guttman Scale works best for constructs that are hierarchical and highly structured such as social distance, organisational hierarchies and evolutionary stages.

However, its major weakness is that it requires a great deal of time and energy to develop. Also, it is not very popular with communication researchers.

Thurstone Scales

The **Thurstone Scale** was the first formal technique for measuring an attitude, it was developed by psychologist, Louis Leon Thurstone, in 1928 as a means of measuring attitudes towards religion. It is made up of statements about a particular issue and each statement has a numerical value indicating how favourable or unfavourable it is judged to be. People check each of the statement to which they agree and a mean score is computed indicating the attitude.

These scales are also called *equal-appearing interval scales* because of the technique used to develop them. Like other scales, they are used to measure attitudes toward a given concept or construct.

According to Wimmer and Dominic (2000:55), to develop a Thurstone Scale, a researcher first collects a large number of statements (Thurstone recommends at least 100) that relate to the concept or construct to be measured. Next, judges rate these statements along an 11-category scale in which each category expresses a different degree of favourableness towards the concept. The items are then ranked according to the mean or median ratings assigned by the judges and are used to construct a questionnaire of 20-30 items that are chosen more or less evenly from across the range of ratings. The statements are worded so that a person can agree or disagree with them. The scale is then administered to a sample of respondents whose scores are determined by computing the mean or median value of the items agreed with. A person who disagrees with all the items has a score of zero.

For example, the following statements form a scale to measure attitudes toward TV advertising. They give an idea of the range covered by such a scale.

Statement	Score
1. All TV advertising should be prohibited by law	2
2. Watching TV advertising is a complete waste of time	2
3. Most TV advertising are bad	2
4. TV advertising are monotonous	2
5. TV advertising do not interfere with enjoying TV	3
6. I have no feeling one way or the other about TV advertising	3
7. I like TV advertising	4
8. Most TV advertising are fairly interesting	5
9. I like to buy products advertised on TV	6
10. Most TV advertising help people to select the best products	7
11. TV advertising are fun to watch	3

A respondent who agrees with the 7th, 8th, 9th and 10th statements is likely to disagree with 1st, 2nd, 3rd and 4th statements.

Strengths and Weaknesses of the Thurstone Scales

The major strength of the Thurstone scale is that it is an interval measurement scale, therefore, it can be used to measure differences between attitudes.

Its major weaknesses, however, is that the scale position of each item is determined by a group of judges whose ratings may be influenced by their own attitudes.

Another weaknesses of the scale is that it is time consuming and labour-intensive.

The Thurstone scale has also been criticized for the fact that it does not obtain information as to the degree or intensity of agreement with the various statements.

Semantic Differential Scales

Another commonly used scaling procedure is the semantic differential technique which was originated by Osgood, Suci and Tannenbaum in 1957. This technique is used to measure the meaning an item has for an individual. Originally, three general factors – activity, potency and evaluation were measured by the semantic differential. However, communication researchers were quick to adopt the evaluative dimensions of the semantic differential scale for use as a measure of attitude.

To use this technique, a name or a concept is placed at the top of a series of seven point scale anchored by biopolar attitudes. The diagram below shows an example of how this technique is used to measure public attitudes towards the Nigerian journalist.

The Nigerian Journalist

Honest		Dishonest
Courageous		Cowardly
Incorrupt		Corrupt
Unbiased		Biased
Fair		Unfair
Trustworthy		Untrustworthy
Responsible		Irresponsible

```
      3     2     1     0    -1    -2    -3
```
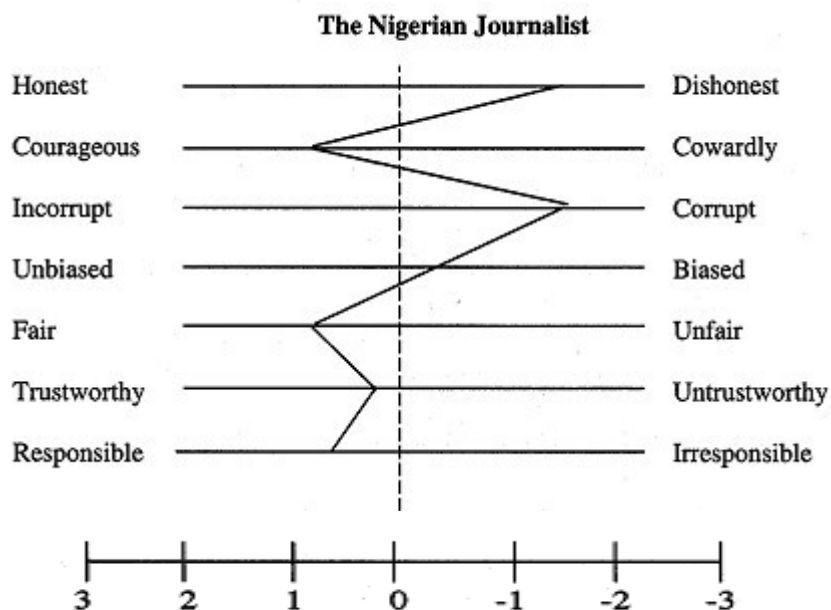
From the above, the Nigerian journalist is favourably rated on four counts and unfavourably on three counts. It is recommended, however, that a unique set of anchoring adjectives be developed for each particular measurement situation.

Strengths and Weaknesses of the Semantic Differential (SD) Scale

The major strength of the SD is that it can be applied to a variety of research problems. It has also been shown to be relatively reliable and valid for many research purposes. It is also flexible and relatively easy to adapt to varying research demands, quick and economical to administer and to score.

Its major drawback, however, is that it involves working with negative qualities. Furthermore it has difficulties in selecting relevant concepts and appropriate relevant analysis (Kerlinger, 1973: 573-578).

SELF-ASSESSMENT EXERCISE 1

Try to develop measurement scales to examine the following concepts:

    Newspaper reading
    Aggressive tendencies
    Television viewing
    Reliable elections (in Nigeria)

3.6   Indexes

The term index refers to an indirect measure of the variable in question. A simple example might be using the rapidity with which a class being offered fills up with students at the beginning of the semester as an index of its popularity. Another good example is the Consumer Price Index (CPI) issued by the Federal Bureau of Statistics (formerly Federal Office of Statistics). The CPI measures price changes and is therefore an index of inflation.

Unobtrusive measures are often indexes. All index measurement are imperfect but they can still be very useful. An important thing to remember is that indexes are used when direct measurement is difficult or impractical. In communication research, a researcher might use the number of households with TVs tuned to a particular programme at a particular time as an index of the programme's popularity with viewers. Similarly, a researcher might use the number of times a particular issue makes the headline in a particular newspaper as an index of its position on the public agenda.

3.7   Reliability and Validity

To be useful, a measurement scale must posses two related qualities – reliability and validity.

Reliability

Concerns for reliability come from the necessity for dependability in measurement. This is important because if a researcher does not know the reliability and validity of his data, little faith can be put in the results obtained and the conclusions drawn from the results.

Synonyms for reliability include *dependability, consistency, predictability* and *accuracy*. Using any measurement scale without pre-testing it is evidence of poor research. At least one pilot study (prior testing) should be conducted to ensure reliability and validity of the measurement scale.

Kerlinger (1973:443), defines reliability as the accuracy or precision of a measuring instrument. Wimmer and Dominick (2000:57), corroborates Kerlinger's definition when they state that a measure is reliable if it consistently gives the same answer. Reliability in measurement is the same as reliability in any other context. For example, a reliable person is one who is dependable, stable and consistent over time. An unreliable person is unstable and unpredictable and may act one way today and another way tomorrow. Similarly, if measurements are consistent from one session to another, they are reliable and can be believed to some degree (Wimmer and Dominick 2000:57). The importance of reliability in research lies in the fact that unreliable measures cannot be used to detect relationship between variables and are subject to errors.

Validity

In addition to being reliable, a measurement must have validity. According to Kerlinger (1973:457), validity is defined by the question: Are we measuring what we think we are measuring? The emphasis here is on what is being measured. For example, a researcher has constructed a test to measure understanding of scientific procedure and has included in the test only factual items about scientific procedure. This test is not valid because while it may reliably measure the students' knowledge of scientific procedure, it does not measure their understanding of such procedure. A valid measuring device measures what it is supposed to measure.
Kerlinger (1973:457), points out that there is no one validity. A test or scale is valid for the scientific or practical purpose of its user.

According to Wimmer and Dominick (2000:60) there are four types of validity in mass media research. These are face validity, predictive validity, and concurrent validity and construct validity.

Face Validity is achieved by examining the measurement device to see whether on the face value of it, it measures what it appears to measure. For example, a test designed to determine the final year students' knowledge of the tools of data analysis in communication research could dwell on data gathering methods. This measure would lack face validity because it does not measure what it should measure. However, a test that asks students things about descriptive statistics, summary statistics, measures of central tendency, inferential statistics, hypothesis testing etc has more face validity as a measure of data analysis knowledge.

Checking a measurement instrument against some future outcome assesses **predictive validity.** For example, scores on a test to predict whether a person will vote in an upcoming election can be checked against actual voting behavior.

Concurrent validity is closely related to predictive validity. In this method, however, the measuring instrument is checked against some present criterion. For example, it is possible to validate a test of proofreading ability by administering the test to a group of professional proofreaders and a group of non-professional proofreaders. If the test discriminates well between the two groups, it can be said to have concurrent validity.

The fourth and generally most confusing type of validity is **construct validity**. Construct validity is concept that is useful in research in areas where knowledge is so limited that usual kinds of interim measures are of little value. It involves relating a measuring instrument to some overall theoretic framework to ensure that the measurement is logically related to other concepts in the framework.

For example, a researcher might expect the frequency with which a person views a particular TV newscast to be influenced by his or her attitude toward the programme. If the measure of attitudes correlates highly with the frequency of viewing, there is some evidence for the validity of the attitude measure. By the same token construct validity is evident if the measurement instrument under consideration does not relate to other variables when there is no theoretic reason to expect such a relationship (Wimmer and Dominick, 2000:60-61).

4.0　　CONCLUSION

Understanding communication research requires a thorough understanding of how concepts and variables are measured. It includes the levels as well as techniques used. It is suggested that you consult Kerlinger's *Foundation of Behavioural Research* as well as Wimmer and Dominick's *Mass Media Research, An Introduction* for further reading.

5.0   SUMMARY

In this unit you have learnt that:

Measurement is the assignment of numerals to objects, events or properties according to certain rules.
The four levels of measurement are nominal, ordinal, interval and ratio. To be useful, a measurement must be both reliable and valid.
Researchers frequently use scales to measure variables. Thurstone, Guttman, Likert and Semantic differential scales are used in mass media research.

6.0   TUTOR-MARKED ASSIGNMENT

What do you understand by measurement in communication research?
What do researchers measure in communication research?
Identify and examine three techniques of measurement used in mass media research.
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7.0   REFERENCES/FURTHER READINGS

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MODULE 3   MAJOR COMMUNICATION RESEARCH METHODS

Unit1   Experimental Research

UNIT 1   EXPERIMENTAL RESEARCH

CONTENTS

1.0   INTRODUCTION

Now that you know the meaning as well as the elements of
communication research, the next thing naturally is for you to know the
major research methods available to communication researchers. By
that, we mean the major techniques employed by communication
researchers to acquire empirical data or information. According to
Sobowale (1983:31), the tasks of the communicator are clear: gather
authentic data, process them carefully and present the information in a
way that the reader, listener or viewer will understand and value. In
mass communication research, several methods are frequently employed

to acquire empirical data in a systematic fashion. The major ones, however, are experimental research, survey research, content analysis, observational research and case study.

2.0   OBJECTIVES

At the end of this unit, you should be able to explain:

the meaning and structure of the experimental research method;
the various experimental designs;
the two major types of experimental research;
advantages and disadvantages of experimental research; and
a classic example of experimental research in mass communication.

MAIN CONTENT

3.1   Definition of Experimental Research

Whenever the word, "experiment" is mentioned, what immediately comes to mind is the work of physical or natural scientists and psychologists among social scientists? We tend to think of experiments in terms of test tubes, thermometers and chemicals in a laboratory. We also tend to equate experimentation with the natural sciences. No doubt the reason for this stems from the fact that the initial steps in setting up experimentation as the ultimate in research were taken in the physical or natural sciences. Also, experiments are used much more often in the physical sciences and psychology than in mass media research. Wimmer and Dominick (2000:210) report that a 1994 research conducted by Cooper, Potter and Dupagne found that from 1965 – 1989, only 15% of published studies in mass communication used the experimental research method.

The word "experimentation" is derived from the Latin word *experiri* which means "to try". Because it denotes trying, and we all try out one thing or the other in our daily lives, we are in a way involved in everyday unscientific experimentation.

Let us see how we experiment in everyday life. Suppose, for example, you have malaria and you couldn't get to the hospital. You might try one remedy (maybe *agboo*) and if it doesn't work, you try another and if that isn't effective, you try something else until you're found something that will help you. What is important here is that you try one thing at a time and this is the broad idea of experimentation.
The above notwithstanding, it is not very easy to define experiment because there are different kinds of experiments and conducting them in the social sciences is even more difficult because people are complicated

and hard to figure out. Nevertheless, we will in this unit, consider two definitions of experiment offered by renowned communication scholars. As a Berger, Severin and Tankard.

According to Berger (2000:201), an experiment is a procedure or kind of test that:

> demonstrates that something is true
> examines the validity of an hypothesis or theory or
> attempts to discover new information.

In the first case, the researcher tries to show that what is held to be true about something is actually true. For instance, it is possible to transmit sound (speech, music, etc) from one point to another via radio receivers. This might involve replicating an experiment to see whether the findings in the first experiment are true.

In the second instance, the researcher tests a hypothesis or theory to determine whether it is valid. For instance, the researcher might postulate that there is a relationship between heavy television viewing and violent behaviour in young people.

In the third case, the researcher will want to discover something we did not already know. For instance, the researcher might try to find out whether one sided messages are more effective with people of lower education than those with higher education.

Another description or definition of experimental research is that offered by Severin and Tankard (2001:37). According to these communication scholars, experimental research is **the classic method of dealing with the question of causality** (i.e. the relationship between something that happened and the reason for it happening i.e. cause and effect). It involves the control or manipulation of a variable (condition) by the experimenter and an observation or measurement of the result in an objective and systematic way. A scientific experiment will answer questions of whether and to what degree a variable (the experimental or independent variable) affects another variable (the dependent variable).

Experimentation is the most scientifically sophisticated method of acquiring scientific data and it can be very complicated and rigorous. Therefore, it is impossible to deal with all the different kinds of experiments and aspects of experiments in this unit. What this unit can offer is a generalized overview of the nature of experimentation that will give you insights into what is involved in the process of experimentation.

SELF-ASSESSMENT EXERCISE 1

Explain what you understand by experimentation in the scientific sense.

3.2   Purpose of Experimentation

As explained by Osuala (2005:219), experimentation serves the following purposes:

To derive verified functional relationship among phenomena (events/ occurrences) under controlled conditions.

To identify the conditions underlying the occurrence of a given phenomenon.

To enable the researcher improve the conditions under which he observes and thus, to arrive at more precise results.

3.3   Experimental Research Designs

Scientific experiments are not conducted haphazardly. They are carefully designed to achieve expected or designs results. Consequently, there are several experimental designs available to the researcher to choose from. According to Osuala (p.221) experimental designs vary in complexity and adequacy depending on some factors. These include the nature of the problem under investigation, the nature of the data and the facilities for carrying out the study. The following are the most widely used experimental designs in mass communication research.

(i)   Pre-test/Post-test Control Group

This is a fundamental and widely used procedure in all research areas. In this design, subjects are randomly selected and each group is given a pre-test. However, only the first group receives the experimental treatment.

(ii)   Post-test Only Control Group

When researchers are hesitant to use a pretest because of the possibility of subject sensitization to the posttest, the design is altered to a post-test-only control group. Neither group has a pretest but a group is exposed to the treatment or experimental variable, followed by a post-test. The two groups are compared to determine whether a statistical significance is present.

(iii)   Solomon Four-Group Design

This design combines the first two designs and is useful if pretesting is considered to be a negative factor. Each alternative for pretesting and posttesting is accounted for in the design which makes it attractive to researchers.

3.4   The Structure of an Experiment

The following are the steps taken when conducting experiment in mass communication. Berger (2000:21) describes it as "the structure of a typical experiment":

> Your experiment will involve two groups of people: the *experimental* group (also known as the *treatment* group, *intervention* group or *stimulus* group) and the *control* group. Something will be done to the experimental group, but it will not be done to the *control* group.
> Individuals must be randomly assigned to either the *experimental* group or to the *control* group.
> A pretest is done. You measure the groups in terms of a dependent variable (Dependent and Independent variables have been well treated in Module 2, Unit 2).
> You perform the experiment and introduce one independent variable to the experimental group. Nothing is done with the control group.
> You conduct a post-test to see if there's a significant difference between the *experimental* group and the *control* group relative to the variable introduced.

Let's consider an example. A researcher takes 100 undergraduate male students and divides them randomly into two groups of 50 students. He then test the students on something specific such as the effects of exposure to pornography. He shows the experimental group a certain amount of pornographic videos but don't have the control group see anything. After showing the experimental group the pornographic videos he test the two groups again to see whether the exposure of the experimental group to the pornographic video has led to any changes in the group's sexual feeling or behaviour. This example describes the classical pretest and posttest design earlier explained.

3.5   Types of Experimental Research

The experimental research method is the oldest approach in mass media research but because of its relative infrequency, we will examine the two basic techniques here – the laboratory and field experiments.

3.5.1 Laboratory Experimentation

According to Sobowale (1983:7), a laboratory experiment is usually carried out in a special place (building, room, studio etc.) used for scientific research purposes otherwise referred to as a *laboratory*, where conditions which are likely to affect the experiment can be varied or controlled as desired. The control of these conditions or variables is necessary in order to be able to measure or calculate as accurately as possible how one variable affects the other and the extent of influence it exerts on it. This way, it is possible to establish causal relationship among variables. In other words, one is able to say with a considerable degree of certainty that variable A causes variable B.

Wimmer and Dominick (1987:89) point out that the laboratory method is the oldest approach in mass media research and continues to provide a wealth of information for researchers and critics of the media. They further point out that laboratory research has been a popular approach since the early 1900s for two reasons:

It follows a fairly simple format: the relationship between two types of variables is measured under closely observed and controlled conditions.
It is often valuable in determining causation since variable manipulation is controlled by the researcher.

The laboratory approach has five basic uses in mass media research:

To investigate hypotheses and research questions under controlled conditions.
To develop theories that can be tested in the field.
To refine existing theories and research findings.
To investigate problems in small steps.
To ease replication since conditions of the study are clearly specified.

3.5.2 Advantages and Disadvantages of Laboratory Research

Advantages

It allows indepth isolation of desired research problems and gives room for understanding the interactions that occur between variables.
It enables the researcher to test hypotheses and to establish the veracity of theories.
It has a high replicability i.e. the study of one researcher can easily be verified and replicated by another researcher.

Disadvantages

It is performed in controlled conditions that are artificial.
It is generally considered to lack external validity.
It usually necessitates subject awareness of the testing situation.

Tejumaiye (2003:120) points out that researcher using the laboratory method have control over three areas of the study. These are the **environment**, the **variables** and the **subjects**. He also explains that laboratory in communication research does not necessarily mean a room where you have thermometers, chemicals and test tubes. It is any place which is artificially created (e.g. studio, workshop, classroom , etc.) and in which the researcher has control over the intervening variables namely the environment and the subject(s) for the purpose of the research.

3.5.3 Communication Issues Investigated Through Laboratory Research

Laboratory research has been extensively used to study mass media effects. It has been used to investigate the antisocial (negative) impact of the media especially the possible effects of television violence on human behaviour. The method has been used to test the imitation or modeling hypothesis, which suggests that people learn aggressive behaviour from television and then go out to reproduce or practice them.

The method has also been used to investigate the positive (prosocial) impact of educational and children programming on children's behaviour (See Module 6, Unit 5). However, much of laboratory research in mass communication was conducted in the 1940s and 1950s by Carl Hovland and his associates in the areas of attitude change and persuasion.

3.5.4 Field Experimentation

Unlike laboratory experiment, field experimentation is carried out in the natural environment of the experimental subject i.e. instead of taking the experimental subject to the laboratory where the experiment is to take place, the experiment is performed on the subject's turf. In other words,

instead of studying the subjects in an artificially created place, the subject are studied in the subjects' natural place of abode, work place etc.

Like laboratory experiments, field experiments have both the *experimental group* (the group that receives the experimental treatment) and the *control group* (the group that receives no experimental treatment). However, the field experimenter does not have as much control over the environment in which he conducts his study as the laboratory experimenter has.

3.5.5 Advantages and Disadvantages of Field Experimentation

Advantages

The results of field experiments are usually more reliable became they often will represent reality better than the artificial laboratory situation.
Field experiments have external validity because study conditions closely resemble natural settings.
Field experiments are useful for studying complex social process and situations.

Disadvantages

Researchers cannot control all the intervening variables in a field experiment and this may affect the precision of the experiment and the confidence researchers may have in the outcome of the research.
There could be bias among respondents as they may want to please the researcher by giving him the type of response he wants.

3.5.6 Communication Issues Investigated Through Field Experimentation

Like laboratory research, field experimentation has been widely used to investigate mass media effects on human behaviour. According to Wimmer and Dominick (2000:225–229) the issues so far investigated through field experimentation include the following:
What people would do without television or newspapers?
The positive and negative impact of television on a community.
The effectiveness of an advertising campaign.
The impact of a PR campaign.
The impact of the mass media on politics.

(See Module 6, Unit 5).

SELF-ASSESSMENT EXERCISE 2

Provide three research questions that are best answered by field experimentation

3.6   A Classic Example of Experiment in Communication Research

Perhaps, one of the outstanding experiments in communication research was conducted by Hovland and associates in the 1950s. Their research dealt with the effects of communicator credibility on acceptance of the content of a message. Identical messages were presented to two groups, one from a source with high credibility and the other from a source with low-credibility. Opinions were measured before and after the messages were presented and also one month later. Four different topics were used (each in affirmative and negative versions) and presented to some subjects by trusted sources and to other subjects by sources held in much lower esteem.

Each subject received one article on each of the four topics, with the source given at the end of each article. Before reading the articles, the subjects indicated their trust in each of a long list of sources, including those used in the experiment. The four high-credibility sources used in the experiment were judged so by 81 percent to 95 percent of the subjects; with the low-credibility sources, the scores were only one percent to 21 percent.

The initial attitude held toward the sources clearly affected how the subjects evaluated the presentations. Those from low-credibility sources were judged "less fair" and their conclusions "less justified" than those by high-credibility sources, even though the articles were identical. The researchers concluded that judgments of content characteristics, such as how well the facts in a given communication justify the conclusion, are significantly affected by variations in the source.

The researchers found greater opinion change in the direction advocated by the message when the source was of high credibility than when it was of low credibility. However, when opinion data were obtained four weeks later, the differential effectiveness of the sources had disappeared. There was less acceptance of the viewpoints of high-credibility sources and greater acceptance of the positions advocated by low-credibility sources. At that time, measures were also obtained of the subject's memory of the sources for each communication. After ruling out other explanations, the researchers concluded that there exists a "sleeper effect" for subjects who showed increased belief in messages attributed

to sources of low credibility, in the investigators' words, "There is decreased tendency over time to reject the material presented by an untrustworthy source" (Hovland, et al, 1953:256).

4.0 CONCLUSION

Contrary to what some people think, experimentation is not limited to the natural or physical sciences and psychology. It is also applied in communication research. In fact, it is the oldest approach in mass media research and continues to provide researchers a wealth of information.

However, it is important for you to be aware of the limitation of experimentation as a research tool in mass communication. Communication issues are complex and are usually interrelated. Therefore, isolating a subject from its environment (as it is done in experimentation) may not help in painting the total picture. It is, however, hoped that what you have read in this unit will spur you into trying out some simple communication experiments of your own.

5.0 SUMMARY

Apart from the definitions of experiment in the unit you have also learnt that:

Experiments help to establish cause and effect.
The major purpose of experiments is to derive verifiable functional relationship among phenomena under controlled conditions.
The researcher may use a special building designed for scientific or technical purposes otherwise called a laboratory or in the natural environment of the experimental subject.
Experiments are not conducted haphazardly. They are carefully designed and structured. Among other things, experiments involve two groups of people – the experimental and control groups. The experiment is performed on the experimental group while nothing is done to the controlled group.
The major advantages of the experimental method are the controls it allows the researcher and the inherent logical order it offers. However, some experiments are artificial or oversimplified in their setting and the findings therefore must be translated to the "real" world.

6.0 TUTOR-MARKED ASSIGNMENT

Check the internet, any mass communication textbook or journal for an experiment in any area of communication and state the following:

Author, title of research and year of publication.
The nature of the experiment.
The design utilized.
The dependable and independent variables.
The major findings of the research.

7.0   REFERENCES/FURTHER READINGS

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UNIT 2   THE SURVEY RESEARCH METHOD

CONTENTS

1.0   Introduction
2.0   Objectives
3.0   Main Content
    3.1   Definitions of the Survey Research Method

1.0 INTRODUCTION

The survey research method is perhaps the most popular research method among communication researchers. Sobowale (1983:25) corroborates this assertion when he states that it is the most commonly used research technique by behavioural (social) scientists. As reported by Cooper, Potter and Dupagne (1994), 50% of all published studies in mass communication between 1965 – 1989 relied on surveys. Also, most of the research projects supervised by this writer at both the undergraduate and postgraduate levels in Nigerian Universities utilized the survey research method to gather data.

Wimmer and Dominick (2000:161) further state that surveys are now commonplace in all areas of life. Decision makers in businesses, consumer and activist groups and the media use survey results as part of their daily routine. The increased use of surveys has created changes in the way they are conducted and reported.

2.0 OBJECTIVES

After successfully studying this unit you should:

be able to define and explain the purpose of the survey research method;
be able to explain descriptive and analytical surveys;

be able to explain the various methods of gathering survey data as well as the advantages and disadvantages of the survey research method;
know the guidelines for constructing survey questionnaires; and
be able to explain response rate in survey research.

3.0   MAIN CONTENT

3.1   Definitions of Survey Research Method

Although there is no one universally accepted definition of survey research; there are nevertheless noticeable similarities in the various definitions offered by scholars.   In other words, there is more convergence than divergence of views in the definitions of survey.

According to Berger (2000:187), surveying is a research method researchers use to get information about certain groups of people who are **representative** of some larger group of people of interest to them.

Severin and Tankard (2001:35) state that survey research is the study of a portion or sample of a specific population (e.g. magazine subscribers, newspaper readers, television viewers, people of a community or state, etc.).

Sobowale (1983:25) describes it as the research approach which involves drawing up a set of questions on various subjects or on various aspects of a subject to which selected members of a population are required to react.   The questions are known as *questionnaires* or research instrument while members of the population who are later asked to answers these questions are called a *sample*.

According to Wiseman and Aron (1970:37), survey research is a method for collecting and analyzing social data via highly structured and often very detailed interviews or questionnaires in order to obtain information from large numbers of respondents presumed to be **representative** of a specific population.

The last definition is considered a very precise and excellent definition of survey research and it calls our attention to four key points about survey research:

It is done to collect and analyze social, economic, psychological, technical, cultural and other types of data.
It is based on interviewing people (respondents) and asking them for information.
It is done with representative sample of a population being studied.

It is assumed that information obtained from the sample is valid for the general population.

Please note also the key words in the various definitions – **representative sample** and **population**.   The sample must be representative enough of the research population for the survey to be worthwhile.

3.2   The Purpose of Survey Research

The survey researcher is interested in the accurate assessment of the characteristics of whole populations of people. He rarely studies an entire population but rather sample drawn from the population. From the sample, the researcher infers the characteristics of the defined population or universe. According to Osuala (2005:254), the study of samples from which inferences about population can be drawn is needed because of the difficulties of attempting to study entire populations.

Survey research studies both large and small populations by selecting and studying samples chosen from the populations to discover the relative incidence, distribution and interrelations among sociological and psychological variables.

Berger (2000:147) further adds that surveys are used to determine the following:

    What do people know?
    What do people think?
    What do people own?
    What do people do?
    What have people done?
    What are people planning to do?
    What are people's attitudes?

    What are people's tastes?
    What are people's beliefs?
    What are people's values?

You can see from the above that survey research focuses on people, the vital facts of people; their beliefs, opinions, attitudes, motivations and behaviour.

Surveys are particularly versatile and practical especially for the administrator, in that they identify present conditions and point to

present needs.   Surveys also can provide the administrator with information on which to base sound decisions.

Surveys do more than merely uncover data. They interpret, synthesise and integrate data and point to implications and relationship. According to Babbie (1983:83), the survey research method is probably the best method available to the social scientist interested in collecting data for describing a population too large to observe directly and in discovering the current situation in a given area.

3.3   Descriptive and Analytical Surveys

There are two basic kinds of surveys: descriptive and analytic.

According to Berger (2000:188), the descriptive survey as the name suggests, describes the population being studied. These surveys seek to obtain information about demographic factors such as age, gender, marital status, occupation, ethnicity, income, religion, etc. and to relate this information to opinions, beliefs, values and behaviours of some group of people or research population. Broadcasters for instance use survey research to find out how popular their programmes are. Similarly, manufacturers use surveys to determine who uses their products. The focus of descriptive surveys is on present-day behaviour of people.

On the other hand, the analytical survey seeks to find out why people behave the way they do. Researchers often use data from descriptive surveys to develop hypotheses and use analytical surveys to test their hypotheses about what causes certain kinds of behaviour. Analytical surveys attempt to determine whether there are causal relationship between certain kinds of behaviour and various social and demographic characteristics of people.

SELF-ASSESSMENT EXERCISE 1

What are the qualities of the survey research method that makes it an efficient method of social science research?

3.4   Advantages and Disadvantages of Surveys

Advantages

There are a number of advantages in conducting surveys, which explains why they are so widely used. They include the following:

Surveys are inexpensive considering the amount of information the researcher is able to obtain.

Surveys can obtain current information.

Surveys enable the researcher to obtain a great deal of information at one time from a variety of people with relative ease.

Surveys provide quantitative or numeric data.

Surveys are very common, and some of the information the researcher seek may clearly have been discovered in some other surveys e.g. data archives, voters registration, census materials, hospital records, etc.

Surveys are used to investigate problems in realistic or natural settings.

Disadvantages

Independent variables cannot be manipulated the way they are done in laboratory experiments. Without control over independent variables, the researcher cannot be certain whether the relationship between independent variables and dependent variables are causal or non-causal. In other words, a survey may establish that A and B are related, but it is impossible to determine solely from the survey results that A causes B.

Obtaining representative samples is frequently quite difficult.

People (especially Nigerians) often refuse to participate in surveys. This is especially true with telephone surveys, where answering machines and respondents unwillingness to participate are lowering the incidence or response rates.

Writing good survey questions can be difficult to do. Inappropriate wording or placement of questions within a questionnaire can bias results.

Relatively small percentages of people answer and return questionnaires.

3.5   Methods of Gathering Survey Data

According to Berger (2000:189) survey researchers collect data through two conventional methods. These are:

Interviews (individual or group interview; in person or telephone interviews)

Self-administered questionnaires – supervised administration (one-to-one or group administrations) or unsupervised administration,

where the questionnaire is mailed (or e-mailed) to people or freely distributed via magazines, newspapers, the internet, and so on.

These two conventional or main approaches can, however, be divided into six ways.   These are (i) mail survey (ii) telephone survey (iii) personal interview survey (iv) group administration survey (v) mall interviews (vi) disk-by-mail and (vii) internet survey.

Researchers can use any one of these approaches or combination of choice. It is important to emphasize that a researcher must understand the advantages and disadvantages of each one.

Mail Survey

This involves mailing (posting) self-administered questionnaires to a sample of respondents. Stamped or reply (addressed) envelopes are enclosed to encourage respondents to mail or send their completed questionnaires back to the researcher.

Telephone Survey

Telephone survey as the name implies is a method of survey conducted through the telephone (mobile or landline). This method employs trained members to ask questions verbally and to record same through the telephone.

Personal Interview Survey

When the interviewer visits the interviewee at home, place of work and so on, it is referred to as personal interview survey. It is normally conducted in two ways: (i) Structured and (ii) Unstructured interview. In the first format, questions are asked in a predetermined order with relatively little freedom given to interviewers while the second allows interviewers freedom in determining what further questions to ask to elicit the required information.

Group Administration Survey

This kind of survey takes place where a group of respondents are gathered and given individual copies of a questionnaire for self administration or the respondents may be asked to participate in a group interview. For instance, at the end of a workshop, conference or seminar, the audience might be asked to participate in a group interview at which a questionnaire is given to participants.

Mall Interview

This is a recent trend in survey research which originated in the USA. It is essentially a form of the personal interview technique. The major difference is that it is conducted in shopping malls by specialists known as Field Service. In the USA where this technique is widely used, field services pay licence fees to mall owners to allow them to conduct research on their premises.

Disk-By-Mail Surveys (DBM)

This technique which is also a recent trend is very similar to the typical self-administered mail survey. The difference is that respondents are sent computer disks that contain a self administered questionnaire and they are to complete it by using a computer.

Internet Surveys

This refers to survey research conducted on the internet. Respondents are randomly selected on the internet and administered questionnaires through the same medium. This technique emerged in the 1990s with the popularity of the internet.

3.6   Constructing Survey Questionnaires

As already explained, the questionnaire is the main research instrument of the survey research method. It is a set of questions on a subject or aspects of a subject to which selected members of a population (population sample) are required to answer. According to Berger (2000:196) writing good survey questions is an art. After the researcher has decided what information he wants, he has to write his survey questions. Good survey questions have the following characteristics:

> They are clear and not ambiguous
> They are short
> They use simple, easily understood language
> They ask for only one piece of information per question
> They avoid showing bias
> They are not "leading" or "loaded" questions
> They do not embarrass respondents
> They ask questions that respondents can answer
> The questions are logically grouped with questions related to one another being near to another
> The order of the questions is worked out logically.

However, questionnaire design depends on the choice of data collection technique. For instance, questions written for a mail survey must be

easy to read and understand because respondents are unable to obtain explanations.

3.7   Types of Survey Questions

There are two basic types of survey questions: *Open-ended* and *Close-ended*.

An **open-ended question** requires the respondent to generate his own answers.

e.g.

> "What type of TV programme do you prefer to watch?"
> ………………………………………………………..
>
> "Why do you read **The Guardian**?"
> ………………………………………………………

Strengths of Open-Ended Questions

> They give respondents freedom in answering questions and an opportunity to provide in-depth responses.
> They offer greater flexibility which may or may not be desirable.
> They allow the respondent more leeway in stating his position which may be the equivalent of saying that they allow for greater validity.
> They allow for answers which researchers did not foresee in designing the questionnaire-answers that may suggest possible relationship with other answers or variables.
> They are particularly useful in a pilot (test) version of a study. Researchers may not know what type of responses to expect from respondents, so open-ended questions are used to allow subjects to answer in any way they wish.

Weaknesses of Open-Ended Questions

> They require more time to collect and analyse the responses.
> They increase the risk of misinterpretation as respondents may supply ambiguous responses.

Close Ended questions require respondents to select an answer from a list provided by the researcher.

e.g.

Do you take soft drinks?
Yes   [   ]
No   [   ]

Did advertising play any part in your choice of soft drinks?
Yes   [   ]
No   [   ]

Strengths of Close Ended Questions

They provide greater uniformity of responses and the answers are easily quantified.

They keep the questionnaire to a reasonable length and thus encourage responses and validity in terms of the representativeness of the returns.

They minimize the risk of misinterpretation by respondents as they provide alternative answers.

They permit easier tabulation and interpretation by the investigator.

Weaknesses of Close Ended Questions

Researchers often fail to include some important responses.

Alternative answers may well provide the respondent who does not have an answer with an alternative that he can check whether it applies in his case or not.

3.8   Training of Interviewers

For surveys with large sample size, it may not be possible for the researcher to personally administer all the questionnaires. In this case, he will require the services of interviewers or research assistants as they are sometimes called.

The researcher should try to find experienced interviewers. Where this is not possible, he must recruit interviewers with good academic background.

According to Osuala (2005:256) the training given to interviewers should include the following:

How to locate or select the sample members.
How to obtain interviews with them.
How to ask questions or administer the questionnaire.

How to record answers as instructed. This is particularly important where respondents are either illiterates or semi-illiterates.

How to achieve a high response rate (see section 3:1007 this unit)

3.9   Questionnaire Design

An important point to note in survey questionnaire is the design. This can positively or negatively affect response rate (the percentage of respondents who actually completed and returned the questionnaires). To this end, great care must be put in the way and manner questionnaires and designed.

Wimmner and Dominick (2000:169–175) suggest five requirements of a good questionnaire. These are:

Introduction

The introduction to a survey questionnaire should contain the research's name or organization sponsoring the research; title of the research; purpose of research and a statement guaranteeing the anonymity of would be respondents etc. Some supervisors insist that the introductory section be signed by the researcher.

Instructions

All instructions necessary for the completion of the questionnaire must be clearly and unambiguously stated in the questionnaire.

Question Order

The questions in the questionnaire should be in logical order. They should proceed from the general to the specific. Demographic questions should come at the end of the questionnaire.

Layout

The physical appearance of the questionnaire must be neat and attractive. It must also be free from grammatical and typographical errors.

Questionnaire Length

The questionnaire should not be too lengthy but you must ask enough questions to cover the topic under investigation. In other words the questions should answer your research questions or hypothesis.

Another important point about survey questionnaire is **validation**. This is defined as the property of a test of actually measuring what it purports to measure. According to Ajala (1996:36), after compiling the items of the questionnaire, the researcher must ensure that it is validated by people who are experienced in the area of study. After the instrument is approved, it is recommended that it be tested on a few people who are like the selected samples. The comments they provide would help in the final draft of the instrument which again should be approved by a supervisor or professional who should know what is appropriate.

3.10   Achieving High Response Rate in Survey Research

The term "response rate" refers to the percentage of respondents who were given the questionnaires and who actually completed and returned them. In other words, it is the number of people interviewed divided by the number sampled. For instance:

Assume you sampled 1000 respondents in a survey and 700 questionnaires were returned, the response rate is calculated as follows:

$$\frac{700}{1000} \quad x \quad \frac{100}{1} \quad = \quad 70\%$$

A high response rate is required for a survey to be worthwhile. Bernard (1994:264) puts a high response rate in survey research at 70%. According to Ajala (1996:37) factors such as the length of the questionnaire, the attractiveness and clarity of the questionnaire format, the ease of filling out the questionnaire all motivate the respondents to cooperate and return their responses.   She further adds that if the sampling procedure and the administration of the questionnaire have been properly effected, high response rates to questionnaires ranging from 70 – 80% are possible.

3.11   General Problems in Survey Research

Although the survey research technique is widely used in mass communication research, it is not a perfect research method.   Several problems are frequently encountered when using this research method. These are quite different from the disadvantages earlier presented.   The problems are as follows:

Some respondents are often unable to recall information about themselves or their activities due to memory failure or confusion about questions asked.

Due to a respondent's feeling of inadequacy or lack of knowledge about a particular issue, he or she may provide what is known as "prestige" answers rather than admit he or she does not know.

This is called **prestige bias**. This is particularly present in surveys that probe habits of respondents e.g. newspaper readership habits, television viewership habits, etc.

Some respondents may purposely deceive researchers by deliberately telling lies i.e. by giving incorrect answers to questions.

Surveys are often complicated by the inability of respondents to explain their true feelings, perceptions and beliefs – not because they do not have any, but because they cannot put them into words.

The average Nigerian outside the academic community lacks the research attitude and because of this does not want to be bothered with filling any questionnaire.

Very difficult to apply to illiterates.

4.0   CONCLUSION

Despite its imperfections and criticisms, the survey research method remains very popular and widely used among communication researchers.   We can attribute this to its flexibility and relatively inexpensive nature that enable researchers to obtain a great deal of information with ease.   However, great care must be taken by researchers in designing and executing surveys especially the areas of sample selection, questionnaire design and error rates.

5.0   SUMMARY

In this unit, you have learnt that:

The survey research is an important and useful method of data collection in mass communication research. It is also one of the most widely used methods of media research primarily due to its flexibility.

Researchers must decide whether to do a descriptive or analytical survey.

Questionnaire design is a major step in any survey research. The goal in questionnaire design is to avoid bias in answers.

To achieve a reasonable response rate, researchers should consider including an incentive and personalizing the questionnaire.

The researcher must select the most appropriate data gathering approach from among five basic types: mail, telephone, personal interview, group administration and computer-assisted techniques. Because each administration has its advantages and disadvantages the researcher must carefully weigh or consider which approach to choose.

6.0   TUTOR-MARKED ASSIGNMENT

a)   Why is the survey research method very popular among mass communication researchers?
b)   Identify and discuss four methods of data gathering in survey research.

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UNIT 3   CONTENT ANALYSIS

CONTENTS

1.0   INTRODUCTION

In continuation of our study of research methods, we will in this unit take a look at content analysis, one of the dominant methods in communication research.

2.0   OBJECTIVES

At the end of this unit, you should be able to explain:

    the meaning of content analysis;
    the origin of content analysis;
    the procedure of content analysis; and
    the advantages and disadvantages of content analysis..

3.0   MAIN CONTENT

3.1   Definitions of Content Analysis

Content analysis is one of the major research methods and one of the frequently used techniques in mass media research. It is, therefore, very important that you have a good understanding of it.

There are many definitions of content analysis. We will look at three of them and zero-in on the one we will consider central to our discussion.

According to Berelson (1952:18), Content analysis is a research technique for the *objective, systematic* and *quantitative* description of the manifest content of communication.

Wright (1986:125) defines content analysis as a research technique for the systematic classification and description of communication content according to certain usually predetermined categories.

Budd et al (1967:30) define content analysis as a systematic technique for analysing message content and message behaviour of selected communicators.

Krippendorf (1980:51) defines Content analysis as a technique for making replicable and valid inferences from data to their context.

You'll notice that the last three definitions are more or less derived from the first. The first definition by Berelson which is recognised in research circles as the pioneer definition of content analysis provides the framework for subsequent definitions.

Essentially, content analysis is a systematic method of analysing message content. Instead of interviewing people or asking them to respond to questionnaires, as in survey research, or observing behaviour, as in human experiment, the investigator using content analysis examines the communications or messages that have been produced at times and places of his or her own choosing.

For example, you can decide to study the content of a Nigerian newspaper, magazine or radio/TV without necessarily studying the journalists who package the content. In doing so, you may be interested in the disposition of the Nigerian newspaper, magazine or radio/1V in its coverage, for instance of the Niger Delta crisis.

For you to understand better the meaning of content analysis, let us review the key terms or concepts in the first definition.

> **Objectivity.** This stipulates that each step in the research process must be carried out on the basis of explicitly formulated rules and procedures.
> **Systematic** means that the inclusion and exclusion of content or categories is done according to consistently applied rules.
> **Quantitative** means that the process involves counting - frequency analysis.

According to Krippendorf (1980:51), six questions must be addressed in every content analysis.

> Which data are analysed?

How are they defined?
What is the population from which they are drawn?
What is the context relative to which the data are analysed?
What are the boundaries of the analysis?
What is the target of the inferences?

Three problems can occur when documents are being assembled or when some documents from the population are missing, the content analysis must be abandoned. Second, inappropriate records (e.g., ones that do not match the definition of the document required for analysis) should be discarded, but a record should be kept of the reasons. Finally, some documents might match the requirements for analysis but may be uncodable because they contain missing passages or ambiguous contents such documents should also be discarded.

3.2   The Origin of Content Analysis

The use of content analysis started in the late 1600s when the church conducted observations of communication content to avoid the dissemination of non-religious materials through the newspapers. The first well documented case is believed to have taken place in the eighteenth century with the counting of religious symbols in Songs of Zion to determine whether the songs were carriers of dangerous ideas (Krippendorff, 1980). Since these early observations, content analysis has gone through a series of transformations that have produced what many social scientists now consider to be a well developed social scientific method.

It is noteworthy that the content analysis research method is said to be mass communication's contribution to the research enterprise in the social sciences. The claim is that mass communication scholars devised it and communication researchers have used it most. Unlike experimentation, observation and survey which have human behaviour as the focal point of study, content analysis focuses on the manifest content of communication. The manifest content could be written messages or oral messages. For example, broadcast messages on tapes, cassettes, CDs, DVDs and so on can be analysed. In print, messages in newspapers, magazines, books etc. can be analysed.

SELF ASSESSMENT EXERCISE 1

How is content analysis different from other research methods?
3.3   The Procedures of Content Analysis

Just like other research methods, there are steps you are expected to take while conducting content analysis. After identifying and defining a

problem**,** to be investigated, you must formulate hypotheses and/or research questions to be answered. This should be followed by a definition of the population you will work with - publications, newscasts, etc. If the population is large, a sample is drawn as in survey research. Categories must then be defined for classifying message content and the content of the sample is coded according to objective rules. The coded content may be scaled or differentiated in some way to arrive at scores as in the following example:

Front page lead story	5
Back page lead story	4
Any other front page story	3
Any other back page story	2
Any inside page story	1

These scores can then be analysed usually using data reduction techniques of statistical analysis, and the findings interpreted.

A summary of the steps in content analysis include the following:

Identification and definition of the problem.
Formulating hypotheses and/or research questions.
Determination of population.
Sampling of population.
Definition of content categories.
Coding of content samples.
Analysis of coded scores.
Interpretation of findings.

3.4   Key Procedural Concepts of Content Analysis

It is pertinent that you get to know and understand at this juncture the key methodological concepts used in content analysis studies. They are the methodology mainstays of any content analysis. They are:

Units of analysis
Content categories
Sampling
Coding

Units of Analysis is the entity that is counted in a content analysis. It could be words, sentence, paragraphs, a piece of write-up or broadcast material. For example, if you are studying a newspaper, you could decide to use headlines, new stories,

feature articles, editorials, and opinion materials etc as your units of analysis.

Content Categories are group of words with similar meaning or connotations. Categories must be mutually exclusive and exhaustive. Mutually exclusive categories exist when no unit falls between two data points, and each unit is represented by only one data point. The requirement of exhaustive categories is met when the data language represents all recording units without exception. For example, if you are carrying out a study on the reportage of development issues in Nigerian newspapers, you could decide to categories development communication into:

> Economy
> Politics / Government
> Health / Social Welfare
> Law / Security
> Crime / Violence
> Science / Technology
> Sports
> Arts / Leisure
> Marital Affairs
> Religion

In constructing the content categories, apart from ensuring mutual exclusivity which means a content category should not belong to another. You should ensure that:

> The categories are pertinent to the objectives of the study
> They are functional
> They are manageable

Sampling is taking a part or subset of a population or the elements you are interested in studying. Because you cannot study all the elements, you select some. For example, it is not possible to study the content of all Nigerian newspapers. As such, you have to select some for content analysis. In doing this, however, you have to adopt a technique as is done in other research methods. Among the techniques you can use are: random sampling, probability sampling, systematic sampling and purposive sampling (Sampling has been fully discussed in Module 4).

Sampling can be used at different levels of content analysis research. The sampling technique used depends on the nature of your study. You

have to decide the period your study must cover. Then, you sample the specific records you will look into from the population (list) of all records. If all the records are few you may not need to sample. For instance, if you as a journalist are interested in the press reportage of crime in a particular locality for, say, a twenty-year period, sampling will be necessary. You have to first of all sample newspapers if there are so many newspapers in the area. Then, you have to sample certain months of the year and then, perhaps sample certain days of the month.

It will be the newspapers for the sampled days that you will eventually content analyse. The purpose of sampling in this instance is to reduce the quantity of newspapers and stories that you may want to look at to a manageable extent. After all the above steps have been taken, you will then proceed to list the occurrence of the contents to be measured under appropriate content categories in a prepared coding sheet. In sampling a population, you should ensure that it is:

representative
relevant
manageable

Coding in content analysis refers to recording evidence observed on the field. This kind of coding is different from the one that is done to prepare data for statistical analysis. Usually, a form referred to by some as coding sheet is designed for the recording of evidence. The form is designed in such a manner that all the evidence you may need with regards to the purpose of your study are recorded. For you to understand the making of the coding sheet, let us review a specimen coding sheet designed by Sobowale (1983:21). Using crime rate as an example, Sobowale prepared the following content categories from police records and designed a coding sheet shown in figure 1 in the next page:

Date
Types of crimes
Places of occurrence
Sex of suspects
Sex of victims
Nature of crime (violent or nonviolent)
Cost
Arrests
Prosecutions
Convictions

Figure 1

A specimen coding sheet showing the content categories for a hypothetical content analysis exercise on a crime rate over a period of time.

Date (Month)	Place	Types of crime	Nature of crime	Cost	Arrest	Prosecution	Conviction	Sex of offenders	Sex of victims

One of these can be used for a story or one can put as many stories as it can take on it.

There is no absolute rules about how coding is done; a great deal depends on the nature of the material being coded. The Sobowale coding procedure we are reviewing provides for a coding guide. The guide provides instructions which must be strictly followed by coders.   A sample of the coding guide is provided below:

The Code Guide

Date: 1   January
2   February
3   March
4   April
5   May
6   June
7   July
8   August
9   September
10   October
11   November
12   December.

If years are to be used instead of months, the last two figures of the years may be used.

e.g.   70,   71,   72,   73,   74,   75,   etc.

Place: 1.   Ikoyi
2.   Lagos Island
3.   Ebute Metta
4.   Yaba
5.   Shomolu
6.   Bariga
7.   Surulere
8.   Epe and so on until all the Local Government Areas are listed.

Types of Crime

1.   Armed robbery
2.   Burglary
3.   Picking pocket
4.   Child abuse
5.   Affray
6.   Traffic offence
7.   Fraud; and so on until all possible crimes have been listed.

Nature of Crime

1.   Violent
2.   Nonviolent

Cost

1.   Minor injury
2.   Serious injury
3.   Fatality

Arrest

1.   All offenders arrested
2.   Some offenders arrested
3.   No offender arrested.

Prosecution

1.   Offenders prosecuted
2.   Offenders still under investigation
3.   Offenders not prosecuted.

Conviction

1. Jailed
2. Fined
3. Cautioned and discharged
4. Discharged and acquitted.

Sex of Offenders

1. Male
2. Female

Sex of Victims

1. Male
2. Female

From the coding guide, the coders are expected to watch out for the codes. The members in front of the various values of the different variables such as place, nature of crime etc. are called codes. When coding, coders are expected to record the codes, that is the numbers (1,2,3,4, etc) in the appropriate column of the variables on the coding sheet table.

After content analyzing all the records chosen, the various codes are then tallied. For example, all the 15, 25, 35 and so on for a particular variable are added up. Percentages of each shore can then be computed based on the total number of attributes for that particular variable.

To attain some level of reliability, there is need for the coders to be trained. The major challenge in training coders is to develop the common frame of reference that is vital to the success of your study. It probably is desirable to have people with somewhat similar academic backgrounds (Stempel & Westley, 1989:134). It is possible that you will have a coder who simply cannot develop the same frame of reference as the rest of the group. When that happens, of course, the coder should be dropped from the coding group. This happens usually because of major differences in background between one coder and the rest of the group. Training should continue throughout a study. The work of coders needs to be checked as your study progresses. In order to promote the common frame of reference, opportunities should be provided for coders to discuss problems (Stempel & Westley, 1989).

To guide against error and to enhance reliability, there are some steps that should be taken when coding data. The steps to follow are: (i) two researchers independently review the material and come up with a set of features that form a checklist, (ii) the researchers compare notes and reconcile any differences that show up on their initial checklists, (iii) the

researchers use a consolidated checklist to independently apply coding, (iv) the researchers check the reliability of the coding (a 95% agreement is suggested). If the level of reliability is not acceptable, then the researchers repeat the previous steps. Once the reliability has been established, the coding is applied on a large-scale basis. (v) This stage which is the final stage entails a periodic quality control check. The data is coded on a coding sheet. In other words, just like you use the questionnaire as a data collection instrument in survey, the coding sheet is similarly used in content analysis.

Reliability and validity are two methodological issues that are related to coding:

>   **Reliability** has to do with repeatability or consistency of measure. As much as possible your coding must have some degree of reliability otherwise accurate measures will be hard to obtain.

>   **Validity** is accuracy of measures or truthfulness of measure. It is when a measure truly measures what its sets out to measure. It is noteworthy that there is no full agreement on how to deal with issues of reliability and validity.

3.5   Analyzing Content Analysis Data

The same statistical principles that apply to other areas of mass communication research apply to content analysis. However, there are at least three apparent differences between how content data and how survey and experimental data are handled:

>   Statistical tests are used much less often in content analysis.
>   Nonparametric statistics are used a greater proportion of the time in content analysis studies.
>   Multivariate analyses are used far less often in content studies.

3.6   Strengths and Weaknesses of Content Analysis

Content analysis like the other methods of research has advantages and disadvantages. Although its use depends on the research problem and purpose, it all the same exhibits some weaknesses and strengths.

Strengths

It is inexpensive
It is relatively easy to get materials
It is unobtrusive
It yields data that can be quantified
It can be used to examine current events, past events, or both.
Documents to study stand still.

Weaknesses

In content analysis research, it is hard to be certain that the sample studied is truly representative
It is often hard to obtain good working definition of the topic being studied.
It is not always easy to find measurable units.
It is not possible to prove that the inferences made on the basis of content analysis are correct.

4.0   CONCLUSION

Content analysis is one of the research methods. However, while its procedure is in way different from that of other methods, it has the same basic features with them.

5.0   SUMMARY

This unit has exposed you to the:

Meaning of content analysis
Origin of content analysis
Procedure for conducting content analysis studies
Advantages and disadvantages of content analysis

6.0   TUTOR-MARKED ASSIGNMENT

Explain the procedure for conducting content analysis.

7.0   REFERENCES/FURTHER READINGS

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UNIT 4   CASE STUDY

CONTENTS

1.0   INTRODUCTION

The case study method is another research technique used in mass media research which is of relevance to you as a communication student. In this unit, therefore, we will take a look at this method which has proved to be an outstanding qualitative descriptive tool in mass media research. The unit will expose you to the meaning of case study as a research method, its origins and characteristics as well as the procedure for conducting case study research. It will also expose you to the strengths and weaknesses of case study and some examples of this research method.

2.0   OBJECTIVES

On completion of this unit, you should be able to understand:

    the meaning of case study;
    the origin of case study;
    the characteristics of case study research;
    the procedure for conducting case study research;
    some examples of case study; and
    strengths and Weaknesses of case study.

3.0   MAIN CONTENT

3.1   Introduction

The unit will expose you to the meaning of case study as a research method, its origins and characteristics as well as the procedure for conducting case study research. It will also expose you to the strengths and weaknesses of case study and some examples of this research method.

3.2   The Meaning of Case Study

According to Yin (1994) cited in Wimmer and Dominick (2000:124), case study is an empirical inquiry that uses multiple sources of evidence to investigate a contemporary phenomenon within its real-life context, in which the boundaries between the phenomenon and its context are not clearly evident. In other words, a case study uses as many data sources as possible to systematically investigate individuals, groups, organisations, or events. Case studies are conducted when a researcher needs to understand or explain a phenomenon.

It should be noted that case studies do not need to have a number of cases, or to randomly 'select' cases. This method employs the multi-perspective analysis as it considers not just the voice and perspective of the actors but also of relevant groups of actors and interaction between them. It gives a voice to the powerless and voiceless.

In a way, this definition highlights how a case study differs from the other research methods we discussed in earlier units. For example, an experiment separates a phenomenon from its real-life context. The laboratory environment controls the context. The survey technique tries to define the phenomenon under study narrowly enough to limit the number of variables to be examined. Case study research includes both single cases and multiple cases (Wimmer & Dominick, 2000:124-128).

Case study is the preferred strategy when **how** and **why** questions are asked. Likewise, it is the preferred method when the researcher has little control over events, and when the event is contextualised within a real life situation. That explains why case study is often used interchangeably with ethnography, field and participant observation. The underlying philosophical assumptions of case study are similar to these types of qualitative research because they all take place in a natural setting (such as classroom, neighbourhood, or private home) and strives for a more holistic interpretation of the event or situation under study. Unlike more statistically-based studies which search for

quantitative data, the goal of a case study is to offer new variables and information for further research.

3.3   Origin of Case Study

Case studies are not a new form of research; naturalistic inquiry was the primary research tool until the development of the scientific method. The fields of sociology and anthropology are credited with the primary shaping of the concept as it is known today. The early use of case study was closely associated with the University Of Chicago Department Of Sociology.

Robert Park was an ex-newspaper reporter and editor who became very influential in developing sociological case studies at the University of Chicago in the 1920s. As a newspaper professional, Park coined "scientific" or "depth" reporting: the description of local events in a way that pointed to major social trends (such as cultural norms and values). The earliest use of case study, however, is traceable to France.

SELF-ASSESSMENT EXERCISE 1

How case study does differ from other research methods?

3.4   Marketing Institutions

Wimmer and Dominick (2000:124-125) state that there are four basic characteristics of case study research. They are: (1) Particularistic (2) Descriptive (3) Heuristic and (4) Inductive.

1)   **Particularistic:** This means that the case study focuses on a particular situation, event, program, or phenomenon. For example, you can decide to pick on the mass media behaviour of a people in a particular community.

2)   **Descriptive:** This has to do with the description of the phenomenon under study. Basically, case study dwell on explanation and description. In other words, the final product of a case study is a detailed description of the topic under study. For example, at the end of your study on mass media behaviour of Lagos inhabitants, you describe as your finding the nature of their behaviour.

3)   **Heuristic:** A case study enhances a deeper understanding of the phenomenon under study – new interpretations, new perspectives, new meaning and fresh insights etc.

4)   **Inductive:** Most case studies depend on inductive reasoning. That is, case studies focus on a particular phenomena before generalisation. Principles and generalizations emerge from an examination of a particular.

3.5   Purpose of Case Study

According to Osuala (2005:186-187) the purposes of case study are as follows:

1.   It is valuable as preliminaries to major investigations. Because they are so intensive and generate rich subjective data they may bring to light variables, phenomena, processes and relationships that deserve more intensive investigation. In this way a case study may be a source of hypotheses for future research. As a pilot study, methods, approaches or policies are tried out to see what the difficulties are that need to be dealt with before the main study is undertaken.

2.   A case study fits many purposes, but most case studies are based on the premise that a case can be located that is typical of many other cases. Once such a case is studied it can provide insights into the class of events from which the case has been drawn. Of course, there is no way of knowing how typical the selected case really is, and it is therefore rather hazardous to draw any general conclusion.

3.   A case study may provide anecdotal evidence that illustrates more general findings.

4.   A case study may refute a universal generalization. A single case can represent a significant contribution to theory building and assist in refocusing the direction of future investigations in the area.

5.   A case study is preferred when the relevant behaviours cannot be manipulated.

6.   A case study may be valuable in its own right as a unique case. Gruber's (1974) study of Drawin and the processes by which he arrived at the theory of evolution is an example of this.

3.6   Types of Case Studies

Osuala (2005:187-188), also states that there are quite a few types of case studies. These are as follows:

1.   **Historical Case Study:** These studies trace the development of an organisation/system over time.

2.   **Observational Case Study:** These studies often focus on a classroom, group, teacher and pupil, often using a variety of observation and interview methods as their major tools.

3.   **Oral History:** These are normally first person narratives that the researcher collects using extensive interviewing of a single individual e.g. retired staff recounting how they were taught in the early part of this century.

4.   **Situational Analysis:** Particular events are studied in this form of case study, for example, an act of student vandalism could be studied by interviewing the concerned, the parents, the teacher, the chairman, witnesses, etc.

5.   **Clinical Case Study:** This approach aims to understand in depth a particular individual, such as a child having problem with reading, a newly transferred student in his first term at school or a teacher with disciplinary difficulties.

6.   **Multi-Case Studies:** A collection of case studies, that is the multi-case study, is based on the sampling logic of multiple subjects in one experiment.

3.7   Planning a Case Study

In case studies, there are four main components to the research design.

1.   **Initial case study questions:** These are who, what, where, when and how and must be clarified and stated succinctly before moving on. Without at least one initial question to which you wish to find the answer, no start can be made.

2.   **Study Prepositions:** There is a need to specify some succinct proposition that will enable the questions to be answered.

3.   **Unit of Analysis:** This component is concerned with defining what the 'case' really is. Without this the investigator will have no bounded system and will be tempted to collect everything that randomly may have a bearing on the issue.

4.   **Linking Data:** This is the means of linking data to proposition using it as a criteria for interpreting findings.

3.8   Conducting a Case Study

Case study research procedure bears some semblance of the traditional methods of survey and experiment but differ greatly in many respects. There are five distinct stages in carrying out a case study. These are (i) design, (ii) pilot, (iii) data collection, (iv) data analysis and (v) report writing.

i)   **Design:** The first concern in case study design is what to ask. The case study is most appropriate for questions that begin with **"how"** and **"why"**. A research question that is clear and precise focuses the remainder of the efforts on a case study. A second design concern is what to analyze. What constitutes a case? In many instances a case is an individual, several individuals, or an event or events.

ii)   **Pilot study:** A pilot study is used to refine both research design and field procedures. Variables that were not foreseen during the design phase can crop up during the pilot study. The pilot study also allows the researchers to try different data gathering approaches and to observe different activities from several trial perspectives.

        It is noteworthy that before the pilot study is conducted, the case study researcher must construct a study protocol. This document describes the procedures to be used in the study and also includes the data-gathering instrument or instruments. The results of the pilot study are used to revise and polish the study protocol.

iii)   **Data collection:** There are six sources of data in case studies: (a) Documents (b) Archival records (c) Interviews (d) Direct observation (e) Participant observation (f) Physical artifacts (Yin, 1994).

a)   **Documents** could be letters, memoranda, agenda, administrative documents, newspaper articles, or any document that is germane to the investigation.
b)   **Archival Records** can be service records, organisational records, lists of names, survey data and other records.
c)   **Interviews** are also important source of case study information. These could take the form of open ended, focused, and structured survey.
d)   **Direct observation** occurs when a field visit is conducted during the case study.

e)   **Participant observation** makes the researchers into active participant in the events being studied.

f)   **Physical artifacts** can be tools, instruments, or some other physical evidence that may be collected during the study as part of a field visit.

Note that not all sources are relevant for all case studies. Inspite of this fact you should be able to deal with all of them. Multiple uses of data sources are recommended for two reasons. The first reason is that it permits triangulation of the phenomenon under study. The second is that it improves the reliability and validity of the study.

iv)   **Data Analysis:** There are no specific formulas for analyzing case study data. This is one of the aspects that differentiate case study from more quantitative research techniques like survey. However Yin (1994) suggests three broad analytic strategies: pattern matching strategy, an explanation building, and time series.

In the pattern matching empirically based pattern is compared with one or more predicted patterns. For example, assume a Nigerian businessman wants to set up a newspaper for rural audience. Based on the gate keeping concept, a researcher might predict the structural makeup of the newspaper management. If analysis of the case study data indicates similar makeup as predicted by the researcher then the case study interpretation is reliable, otherwise, the initial study propositions have to be questioned.

In the analytic strategy of explanation building, the researcher tries to construct an explanation about the case by making statements about the course or causes of the phenomenon under study.

In time series analysis, the investigation tries to compare a series of data points to some theoretic trend that was predicted before the research, or to some alternative trend. If, for example, several Nigerians cities have experienced newspaper strikes, a case study investigator might generate predictions about the changes in information seeking behaviours of residents in these cities and conduct a case study to see whether these predictions are supported.

v)   **Report Writing:** The case study report can take several forms. The report can follow the traditional research study format – problem, methods, findings, and discussion or it can use a non traditional technique. No matter what form is chosen, the researcher must consider the intended audience of the report.

3.9   Skills Needed by a Case Study Investigator

1.   The person needs to be able to formulate relevant and precise questions that enable data to be extracted from the subject.
2.   The investigator needs to be a good listener, observing and sensing, as well as using his ears.
3.   Adaptiveness and flexibility is a vital trait, as far as case studies ever proceed exactly as planned.
4.   The investigator must have a grasp of the issues he is studying. Without this, important points and issues can be missed.
5.   Lack of bias is essential to prevent an investigator interpreting evidence to support a preconceived position. Openness to contradictory evidence is a must.

There are two seemingly incompatible qualities that the case study exponent must employ. They must know how to observe, allowing the subject to talk freely and at the same time be alert for something definitive that may relate to a hazy hypothesis which they are seeking to check. The following suggestions, according to Burns (2000), reduce the chance of having the individual tell you what you want to hear, or come to perceive the situation from your own perspective, because of the way you state the questions.

1.   Minimise direct questions and use non-directive probes for example 'what happened next'? What do you think?
2.   Use words, terms and structures used by the respondent.
3.   Join in the conversation as a relatively disinterested participant while other members of the group talk, influence, argue, and decide.

3.10   Examples of Case Studies

Because of their relevance to the media which is our area of focus, let us take a look at two examples cited by Wimmer and Dominick (2000:127-128).

Example I

Kaplan and Houlberg's (1990) case study cited in Wimmer and Dominick (2000:127-128) involved television advertising for condoms on San Francisco's KRON-TV. The researchers conducted personal interviews with the executives involved in the decision to air the commercials, examined transcripts of the accepted advertisement, inspected station policy documents, and scrutinized local and national newspaper accounts of event.

Example II

Abelman, Atkin, and Rand (1997) cited in Wimmer and Dominick (2000:128) performed a case study that examined how the uses and gratifications of television are affected when local stations change network affiliations. Viewers who watched TV out of habit showed little interest in network affiliation. On the other hand, goal-oriented viewers, those who watched with a purpose, were more sensitive to network changes.

Example III

Walsh-Childers (1994) conducted a case study of the effect on state health policy of an Alabama newspaper's series on infant mortality. She analyzed the relevant news reports and conducted interview with editors, reporters, and health care officials as part of her analysis.

3.11 Strengths and Weaknesses of Case Studies

The case study method like the other methods has its strengths and weaknesses.

Strengths

Case studies provide tremendous details.
The case study technique can suggest why something has occurred.
The case study method affords the researcher the ability to deal with a wide spectrum of evidence.

Weaknesses

There is general lack of scientific rigour in case studies.
Case study is not amenable to generalization.
Case studies are time-consuming and may occasionally produce massive quantities of data that are hard to summarize.

4.0 CONCLUSION

Case study is particularly helpful when a researcher desires to explain or describe some phenomena. Although it was one of the naturalistic modes of inquiry until the development of the scientific method, it is not a new form of research. Researchers collected data by using a combination of the other methods – survey, interview, examination of records etc.

5.0 SUMMARY

In this unit, you have been exposed to:

The meaning of case study.
The origin of case study.
The characteristics of case study.
The procedure for conducting case study research.
Examples of case study.
The advantages and disadvantages of case study.

6.0   TUTOR-MARKED ASSIGNMENT

a)   What do you understand by case study as a qualitative research method?
b)   Explain the stages involved in carrying out a case study.

7.0   REFERENCES/FURTHER READINGS

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UNIT 5   OBSERVATIONAL   RESEARCH,   IN-DEPTH INTERVIEW   AND   FOCUS   GROUP DISCUSSION

CONTENTS

1.0   INTRODUCTION

So far, we have discussed mainly quantitative methods in communication research. As already explained in Module 1, Unit 4, quantitative research is designed to yield numerical data and it requires that variables under consideration be measured or quantified. On the other hand, qualitative research is designed to yield non-numerical data. According to Malinowski (1961) quoted by Berger (2000:160) there is a series of phenomena of great importance known as the *imponderabilia of actual life* such as the routine of a man's working day, the details of his care of the body, his social life, etc. that can be better studied with qualitative research methods. In modern trends, qualitative research methods are being used to provide answers to questions that quantitative research methods cannot answer. In this unit, we will discuss three

dominant qualitative research methods used in communication research. These are observational research, in-depth interview and focus group discussion (FGD).

2.0   OBJECTIVES

On successful completion of this unit, you should be able to explain:

the meaning of observational research, in-depth interview and focus group discussion (FGD) as qualitative research methods;
their characteristics and procedures; and
their strengths and weaknesses.

3.0   MAIN CONTENT

3.1   The Meaning of Observational Research

Much can be learned about human communication behaviour by observing it. In other words, observation is one of the methodological tools that is applied in communication research to elicit evidence. Therefore, an understanding of the method has become imperative for communication students like you.

Observational research is that which is based on things seen. It concerns for instance, the planned watching, recording and analysis of observed behaviour as it occurs in a natural setting (Wimmer & Dominick, 2000:114). Indeed, the observational method's key feature in human communication is a **standardized**, **planned** and **systematic** approach to objectively observe and record behaviours. This of course like other research methods discussed earlier is to generate all-important data upon which to base any conclusions. For example, a researcher may decide to investigate the news processing behaviour of journalists by observing them (journalists) right in the newsroom where they operate.

Observation as a research method has a long history in psychology, anthropology and sociology. Its early use was in these three disciplines in the social sciences. It was rarely used in mass media research before 1980. Recently, however, field observations have become common in communication research.

It is important, however, to state that scientific observation or observation as a research technique is different from everyday observation. The latter is random and fugitive i.e. quickly moving on to other matters. The former (scientific observation) is focused-on what the observer wants to find out – and it is objective and systematic (Berger 2000:162).

3.2   Types of Observational Research

Observation as a research technique can be discussed under two subheadings namely:

(i)   Participant observation and
(ii)   Non participant observation.

According to Sobowale (1983:11) each type involves the ability not only to perceive events as they occur but also to nose for the details that others may take for granted.

3.2.1   Participant Observation

According to Sobowale (1983:11), participant observation is an intensive and more involved way of gathering information through observation.   However, Berger (2000:161) defines it as a qualitative research technique that provides the opportunity to study people in real-life situations. It is a form of "field research" in which observations are carried out in real settings and where there is a lack of the kind of control and structure present in experiments. In participant observation, researchers become involved in some group or organizations or entity that they are studying.

The active participant observer is a member of the group he is trying to observer.   He normally seeks the membership of the group and when accepted, he accepts the norms of the group and obeys its rules and regulations.   Sobowale (1983:11), however, warns that the participant observer must be careful not to give himself away. Once other members of the group get to know that he has an ulterior motive for joining the group, they will become hostile towards him.   They may attack him physically or keep away from him and prevent him from knowing the going-on in the group. This is why it is said that participant observation can be risky.

Participant observation is typically carried out by a researcher in one of the three following roles:

(a)   *Participant as observer*, where the researcher participates actively with the group being observed and is a functioning part of the group. As such, the researcher is an "insider" enjoying a close understanding of the context and the process while performing the added role of an observer and recorder. This is also referred to as *active participant observation*.

(b)   *Observer as participant*, in which the observer is a neutral outsider who has been given the privilege of participating for the purpose of making observations and recording them. This is also referred to as *overt participant observation*.

(c)   *Observer as "pretender"*. This is also known as *Covert observation*. Here, the individuals being studied do not know they are part of a research project. This is to ensure that the subjects behave in a natural manner. In this case, the researcher "pretends" to be an ordinary group member.

Participant observation is particularly useful to investigative journalists, sociologists and anthropologists interested in obtaining first hand information about groups, communities and individuals. Practitioners of the genre of journalism known as *new journalism* have extensively used the technique to obtain information for their stories.

3.2.2   Strengths and Weaknesses of Participant Observation

Strengths

It enables the participant to gain an insider's knowledge of the situation.
It helps the researcher to understand what is going on in a setting that he is studying.
It helps the researcher to determine which questions to ask informant.
Relatively speaking, it is an unobtrusive way of getting information about groups and their behaviour.
It forsters an in-depth and rich understanding of a phenomenon, situation and/or setting and the behaviour of the participants in that setting.
It is an essential way of gaining an understanding of naturalistic setting and its member ways of behaviour.
It provides the foundation for theory and hypotheses development.

Weaknesses

The researcher stands the risk of internalizing the values of the group to the extent that he may forget why he is there. This is also referred to as *observer effect*.
Because of the need for the observer to conceal his identity, he cannot freely record his observations.
Its result is affected by the subjective nature of the observation and the recording process. According to the selective perception theory, people see what they want to see and choose what they want from what they have seen.

Sometimes the researcher goes beyond recording what people do and assumes he can read people's minds and imagine why people are doing something. Berger (2000:167) calls this "the problem of mind reading".
Difficulty in achieving external validity (See Module 2, Unit 2).

3.2.3   Non Participant Observation

According to Sobowale (1983:15) in non-participant observation, the researcher detaches himself from the event he is watching. He makes his observation from a distance.   He is not involved or engaged in the activity as his participant counterpart. In non-participant observation, the researcher observes a situation from a detached position which does not intrude or take over any of the roles of the people interacting in that situation. For instance, a researcher who wishes to study the behaviour of a traffic policeman at a road block does not have to join the police force to do that. He may stand at a convenient distance from the check point and watch the interactions of the policeman with motorists and other road users. He is far less inhibited to jot down his observations.

3.2.4 Strengths   and   Weaknesses   of   Non-Participant Observation

Strengths

There is no risk of "observer effect" i.e. the researcher internalizing the values of the group he is observing.
May result in detailed recording of information.
Can provide the basis for theory and hypotheses development.
Less risky than participant observation.

Weaknesses

Since the observer is detached from the situation, he relies on his perception which may be inaccurate.
If the research subjects know that they are being observed, the results obtained will be artificial as they will not reflect their actual behavioural pattern.
Problem of bias. The observer is bound to be subjective in the aspects of the event he chooses to watch and the details he records.
It is more prone to errors than participant observation.

SELF-ASSESSMENT EXERCISE 1

List three communication activities each that are best studied with participant and non-participant observation.

3.3   Procedure of Observational Research

Field observation is useful for collecting data and for generating hypotheses and theories. Like all qualitative techniques, it is concerned more with description and explanation than with measurement and quantification. There are at least six stages in observational research procedure. These are:

(1)   Choosing the research site,
(2)   Gaining access,
(3)   Sampling,
(4)   Collecting data,
(5)   Analyzing data, and
(6)   Exiting (Wimmer & Dominick, 2000:114-118).

Choosing the Research Site

The nature of the research or study usually suggests a behaviour or phenomenon of interest. Once it is identified the next step is to select a setting where the behaviour or phenomenon occurs with sufficient frequency to make observation worthwhile. The site must be stable and permanent though to permit observations over a period of time. For example, if you are interested in studying journalists information processing behaviour the best site is a newspaper, radio or television newsroom.

Gaining Access

Once you have selected the site, the next step is to establish contact. In other words you have to gain access to the site. The easiest setting to enter is the one that is open to the public and gives people little reason to keep behaviour secret. For example, a place in which people are watching TV in public, e.g. airport, a bar, a hall viewing room.

Sampling

On gaining access to the site, you have to determine a subset of the site's subjects you are interested in. If the topic is family viewing of television, how many families should be included or sampled for the study? After answering this question you have to now sample behaviour episodes or segments. It is noteworthy that you cannot be everywhere and see everything, so what you have observed becomes *de facto* sample of what you have not observed. For instance, if you view a meeting in

the newsroom, this meeting represents other unobserved meetings. Most field observations use purposive sampling, where observers draw on their knowledge of subjects under study and sample only from the relevant behaviours and events.

Collecting Data

At this stage, the data for study are collected. Data collection tools in observation research include: (1) note book and pencil (2) video recorder and (3) audio recorder. Even though, the advantages offered by audio and video recording are tempting, there are five draw backs on their use:

(1)   Recording devices take time away from research process because they need regular calibration and adjustment to work properly.
(2)   The frame of the recording is different from the frame of the observer.
(3)   Recording have to be cataloged, indexed, and transcribed, adding extra work to the project.
(4)   Recordings take behaviour out of context.
(5)   Recording tends to fragment behaviour and distract attention from the overall process.

In addition to firsthand observation (i.e. being on the scene), three other data collection techniques are available to field researchers: diary keeping, unobtrusive measure, and document analysis. With the first technique, an investigator routinely supplements his or her field notes by keeping a research diary. The second helps overcome problem of reactivity by searching out nationally occurring phenomena relevant to the research task. The people who provide data through unobtrusive measurement are unaware that they are providing information for a research project. The third has to do with looking at the content of documents such as newspaper stories, transcript of TV shows, and so on.

Analyzing Data

The overall goal of data analysis in field observation is to arrive at general understanding of the phenomenon under study. Here, data analysis consists of primarily filing the information and analyzing its content. Constructing the filing system is an important step in observation. The purpose of the filing system is to arrange raw field data in an orderly format that is amenable to systematic retrieval later. For example, if you are studying decision making in the newsroom, your filing categories might include the following headings – "Relationship", "Interaction", and "Disputes".

Exiting

As a researcher you must have a plan for leaving the setting or the group under study. In some instances, the group may have become dependent on you in some way, and the departure may have a negative effect on the group as a whole. You have an ethical obligation therefore to do everything possible to prevent psychological, emotional, or physical injury to those being studied. Consequently, leaving the scene must be handled with diplomacy and tact.

3.4   Interpretation of Observational Research

There are three approaches you can adopt in interpreting data obtained from observational research. The three approaches are:

(1)   Descriptive
(2)   Inferential and
(3)   Evaluation.

Descriptive observational variables require no inference making on the part of the researcher. You see something and write it down.
Inferential observational variables require the researcher to make inferences about what is observed and underlying emotion. For example, you may observe a journalist in the newsroom frowning. From this observation you may assume (correctly) that he or she is not happy.
Evaluative observational variables require the researcher to make an inference and a judgment from the behaviour. For example, you may question whether the frowning journalist and job satisfaction have a positive relationship. "Positive" is an evaluative judgement. It is noteworthy however that, when writing field note, the researcher should include descriptive as well as inferential data. It is important to describe the setting and the mood in a detailed manner. All such things that may change behaviour need to be noted.

SELF-ASSESSMENT EXERCISE 1

Visit three homes with satellite or cable TV and observe their viewing habits what inference can you make from your observation?

3.5   Meaning of In-depth Interview

For you to understand what in-depth interview means, let us first of all take a look at the meaning of "interview". As explained in Unit 1, Module 4, interview basically is a conversation between a researcher

(someone who wishes to gain information about a subject) and an informant (someone who presumably has information of interest on the subject (Berger, 2000:111).

The term is related to the French term eutrevue, which means "to see one another or meet". This points to an important element in interviewing – usually there is a face-to-face relationship, but not always. Some interviews are conducted by telephone or other electronic means.

Following from our definition of interview, let us now try to understand what in-depth interview means. In-depth interview also referred to as intensive interview is an open-ended, discovery oriented research method that is well suited for describing a phenomenon from the perspective of someone who presumably has information of interest on the phenomenon (Berger, 2000:111). Wimmer and Dominick (2000:122) describe it as a hybrid of the one-on-one interview approach in which a respondent is invited to a field service location or a research office for an interview. Sometimes also the interview is conducted at the respondent's place of work or at his home. The goal of this kind of interview is to deeply explore the respondent's point of view, feelings and perspectives. In essence, in-depth interviews involve not only asking questions, but the systematic recording and documenting of responses coupled with intense probing for deeper meaning and understanding of the responses. Thus, in-depth interviewing often requires repeated interview sessions with the target audience under study. Unlike focus group interviews, in-depth interviews occur with one individual at a time to provide a more involving experience.

3.5.1   Characteristics of In-depth Interview

According to Lisa Guion (2006) there are some key characteristics that differentiate an in-depth qualitative research interview from a regular interview. These include:

Open-ended Questions: Questions should be worded so that respondents cannot simply answer Yes or No, but must explained on the topic.

Semi-Structured Format: Although you should have some pre-planned questions to ask during the interview, you must allow questions to flow naturally, based on information provide by the respondent. You should not insist on asking specific questions in a specific order. The flow of the conversation should dictate the quests asked and those omitted, as well as the order of the questions.

Seek Understanding and Interpretation: You should try to interpret what you are hearing, as well as seek clarity and a deeper understanding from the respondent throughout the interview.

Conversational: You should be conversational, but your role is princanily that of a listened. There should be smooth transitions from one topic to another.

Recording Responses: The responses are recorded, typically with audiotape and written notes, that is, field notes.

Record Observations: You observe and record non-verbal behaviours on the field notes as they occur.

Record Reflections: You record your views and feelings immediately after the interview as well (Guion, 2006:1)

Hence, in-depth interview has the following peculiarities:

They generally use smaller samples.
They provide detailed background on respondent's answers.
They allow for lengthy observation of respondents' nonverbal responses.
They are usually very long.
They provide different questions for all respondents based on respondents' answers.
They can be influenced by interview climate. (Wimmer and Dominick, 2000:122)

3.5.2 Procedure of In-depth Interview

There are seven stages in conducting in-depth interviews. They include: thematizing, designing, interviewing, transcribing, analyzing, verifying and reporting.

Thematizing: At this stage you, you determine what you want to find out and clarify the purpose of the interview.
Designing: After you have determines what you want to find out, you must design a way to find it out. A key part of this is making a list of questions and probing follow-ups (interview guide) that will guide you through the interview.
Interviewing: At this stage you carry out the actual interview. It is usually done in two parts. The first part involves introducing yourself and the subject. The second part involves the interview proper.

Transcribing: Transcribing involves creating a written text of the interviews.

Analyzing: Here, the meaning in the information gathering in relation to the purpose of the study is made by identifying themes, commonalities, and patterns.

Verifying: This involves checking the credibility and validity of the information gathered.

Reporting: The final step of the procedure is to report your findings in form of a formal written report and disseminate it (Guion, 2006:2-5).

3.5.3 Strengths and Weaknesses of In-depth Interview

Strengths

It provides wealth of details.

It provides accurate responses to sensitive issues.

It can accommodate questions that borders on taboos.

It is easier to get respondents who are willing to talk when compared to other interview methods.

Weaknesses

In-depth interviewing is generally done with a non random sample, hence, generalizability is sometimes a problem.

It is specially sensitive to interviewer bias.   Interviewer can communicate their attitudes through non-verbal cues, or tone of voice.

It presents problems in data analysis (Wimmer & Dominick, 2000:122-123).

SELF-ASSESSMENT EXERCISE 2

Suggest **three** topics that are best studied by the technique of in-depth interviews.

3.6   Meaning of Focus Group Discussion (FGD)

Focus Group Discussions are in-depth discussions with small groups of six to twelve people who are carefully selected on a set of criteria, with discussion usually lasting one to two hours.   Focus groups are a qualitative method of social science research widely understanding used in audience attitudes and behaviours (Kelly, 2001:1).

Focus group discussions usually start at a very broad level and gradually become more focused on the topic as the interview progresses. Also called group interviewing, focus groups are also a very good tool in mirroring decision-making processes, especially those relating to decisions which tend to be made in consultation with a group.

This qualitative method has a long history. Although, they are most commonly associated with market research and product testing, the method developed out of research commissioned in the 1930s by the United States War Department to investigate the loyalty and moral of American Soldiers leading up to World War II (Kelly, 2001:1).

3.6.1 Characteristics of Focus Group Discussion

Focus group discussion can be of benefit to other research methods and endeavour. They are used to gather preliminary information for research projects to help:

> develop items for survey research
> understand the reasons behind a particular phenomenon
> see a group of people interpret a certain phenomenon
> test preliminary ideas or plans (Wimmer & Dominick, 2000:119).

3.6.2 Procedure of Focus Group Discussion

Wimmer and Dominick (2000:120-122) outlines seven basic steps in focus group research.

> **Define Problem**: At this first stage, you have to define the problem you want your research to tackle. For example, you could decide to look at product outlet for Lagos TV advertisers. In this situation, you could decide to conduct a focus group interview with advertisers in Lagos.

> **Select a Sample**: Here, you must bring together a subset of your target interviewees. Based on our initial example, sample of your interviewees can be drawn from among Lagos advertisers.
> **Determine the number of groups necessary**: To help eliminate part of the problem of selecting a representative group, you should conduct two or more focus groups on the same topic.

> **Prepare the study mechanics**: This step involves arranging for the recruitment of respondents, reserving facilities at which the groups will be conducted, and deciding what type of recording (audio, video or both). Also at this stage, the moderator must be selected and briefed about the purpose of the group. In addition, the researcher

needs to determine the amount of money each respondent will received for participating.

Prepare the focus group materials: The materials to be used for the focus group are prepared at this stage – The questionnaire is developed to recruit the desired respondents; recorders and other materials are prepared; questionnaires are produced.

Conduct the Session: Here, the actual study is carried out. The session may be conducted in a variety of settings, from professional conference rooms to hotel rooms rented for the occasion. In most a professional conference room is used.

Analyse the data and prepare report: This can done in two ways: (a) a brief synopsis of what was said with an interpretation of the subject's responses. (b) the comments can be scanned and coded into categories for detailed analysed interpretation. Like what obtain in other research methods after the report has been written if has to be disseminated.

3.6.3 Strengths and Weaknesses of FGD

Like the other methods, focus group discussion has its strengths and weaknesses.

Strengths

Focus group allows researchers to collect preliminaries information about a topic.
It can be conducted quickly.
Focus groups are cost effective. In terms of money, focus groups are cheap to conduct.
It is flexible in question design and follow-up.
Focus group responses are often more complete and less inhibited than these from individual interviews.

Weaknesses

A self-appointed group leader may emerge and dominate discussion.
A focus group is an inappropriate technique for gathering quantitative data. In others, focus groups do not answer the question "how many?" or "how much?".
Focus groups samples are not representative.
Recording equipment and other materials on location may inhibit respondents.

SELF-ASSESSMENT EXERCISE 3

Enumerate five situations where FGD can be appropriate as a research tool.

4.0   CONCLUSION

Qualitative research techniques discussed in this unit are invaluable research tools for the communication researcher.   They are used to answer questions that quantitative research techniques cannot effectively answer. However, your ability to use them depends if you can recognize the research situations they are suitable for and to follow their procedure.

5.0   SUMMARY

In this unit you have learnt:

   What observational research, in-depth interview and focus group discussion (FGD) mean?
   Their characteristics and procedure.
   Their strengths and weaknesses

6.0   TUTOR-MARKED ASSIGNMENT

Discuss the key features and application of observational research, in-depth interview and focus group discussion.

7.0   REFERENCE/ FURTHER READINGS

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MODULE 4   SAMPLING

Unit   1   Meaning and types of Sampling
Unit   2   Population and Sample
Unit   3   Sampling Size and Sampling Error

UNIT 1   MEANING AND TYPES OF SAMPLING

CONTENTS

1.0   INTRODUCTION

Each research study imposes a special demand on the researcher. S/He has to decide for him /her how best he/she should approach the problem as s/he has outlined in the research design.

Will it be interview, using **a question schedule? A questionnaire?** Will it be by personally administering the questionnaire or **mailing** it?
How many people will be significantly adequate for the study? Will the objective of the study be achieved through a **field survey** or a **focused group** study? Is the relevant approach going to be through **content analysis**?

Whatever our choice may be, sampling as a method involves a set of rules (or procedure) that governs **selecting a relatively small number of cases to represent a larger number of cases.** When we do this we have simply chosen a **sample.**

 Generalizability of results depends on how observations are selected for inclusion in a study. We often generalize sometimes on the bases of a few cases about certain populations. In such situations we often conclude that say the Yoruba are wily and untrustworthy, the Hausa are politically suave, adept and manipulative; the Igbo are mercenary and politically naïve; Nigeria is a festering nest of 419ners and other criminals, the Ibibio are obsequious; Muslims are aggressive and intolerant, etc. We arrive at such opinions after we have encountered, not a whole population, but a few cases from the population which may sometimes represent aberrations rather than the norm. Sometimes our conclusion can be wrong as all human perspectives can be fallible. The procedure for selection to give all respondents equal opportunity of being chosen is referred to as randomization hence we have random sampling.

Nwana (1981) explains that because some phenomena exhibit a wide degree of variability in a population while others exhibit limited degree of variability, therefore where a phenomenon is known to be quite variable, a higher than lower percentage sample is desirable and where the variability is lower, a smaller sample is required.

When we select some of the elements of a population with the intention of finding out something about the population from which they are taken, we refer to that group of element as a sample. And we hope, of course, that what we find out about the sample is true of the population as a whole.

Gay (1981) states that a study sample depends on the type of research involved and therefore recommend a minimum of 10% of the population for a descriptive study and 20% where the population is small. For a correlation study at least 30 subjects are considered adequate to establish a relationship. He also recommends that a minimum of 30 subjects per group is adequate for casual/comparative and departmental studies.

Tuckman (19781) says that a researcher can never be certain of the representativeness of a sample, unless the entire population is tested. Tuckman refers to the fact that a confidence level, is usually set at a 95% level which is referred to as the 0.5 level. This simply means that there is a 95% chance that the sample is distributed in the same way as the population, and that there is only 5% chance of making errors. The probability level on confidence level could also be set at 99% which is known as the 0.1 level, having just one percent chance of making an error.

Although various formulae have been propounded for the determination of sample sizes, the best approach appears to be to select a large sample, since the larger the sample the smaller the risk of sampling error.

The research division of the National Education Association (USA) has proposed the following formula for determining a sample size:

$S = X^2 NP \, (-P) + d^5(N-1) + X^2 P \, (1-P)$ where

S= required sample

X^2=the table value of chi-square for 1 degree of freedom at the desired confidence
        Level (3.811)
N= the population size

P=the population proportion (assumed to be .50 since this could provide the maximum size)

d=the degree of accuracy expressed as a proportion (.05)

2.0   OBJECTIVES

On the successful completion of this unit, you should be able to:

define the term **Sampling;**
identify at least three reasons for sampling;
discuss the sapling techniques;
design a sampling frame; and
determine the right sample for any research population.

3.0   MAIN CONTENT

3.1   The Meaning of Sampling

A sample is a group of items taken from the population for examination. This means that a sample should represent the population. A sample is simply a small part or quantity, which has been selected to represent the whole population or universe. As it is obvious even to the rookie researcher, it is most often difficult to study an entire population especially when that population is very large. For example, it is difficult to study the total population, of a typical Nigerian university, village, clan, town or city. While it may be difficult or even easy for one to do this in some kinds of studies or populations, science has offered us a means of studying large populations without recourse to studying them individually. A scientifically selected sample is normally regarded as a good representation of the population.   According to Sobowale (1983:38), once the first element of a sample is picked through a table of random numbers (TRN) all other elements of that sample become known. A sample can either be "probability or non-probability based.

Probability Sampling is one in which every element, unit or portion has a known probability of being members in the sample. Examples are:

i   Random   Sampling
ii   Systematic Sampling
iii   Stratified   Sampling
iv   Clustered   Sampling

3.2   Reasons for Sampling

In all we have said so far we have alluded to some reasons why we sample. Whether a population is finite (that is determinable) or infinite (indeterminable or countless), the process of drawing a sample from it can be difficult, expensive and time consuming. If it can be so for the sampling process how much more for studying the whole population. So we decide on sampling for various reasons namely,

(1)   There are similarities among the elements that make up a population we wish to study. For this reason a study of a few of the elements within the population can give us sufficient knowledge of what obtains in the entire population that enables us to generalize after observing an adequate sample , for the rest of the population.

(2)   In most studies, it is practically impossible to carry out a complete and comprehensive study of the population because of the nature and pattern of distribution or dispersion of the elements of the population. In this circumstance, the only practical way to estimate the population characteristics is to draw a sample.
        For an individual it is near impossible for him/her to study the whole population of say Akwa Ibom State. Within the time frame and resources available to him/her this might seem a mission impossible.

(3)   Arising from the above, because sampling enables us to deal with a part of the population, in an era of unavailable or limited resource; it is cheaper and reasonable to study a sample rather than an entire population.

(4)   With a sample we are more thorough and more able to provide thorough supervision than if we had to study the entire population.

(5)   It also enables us to obtain quicker result in our study than if we had had to cover the whole population.
(6)   Interestingly sampling provides greater accuracy because personnel of higher quality can be recruited and given intensive training for the study than when working with the whole population.

Overall, sampling makes possible the conduct of otherwise impossible studies by selecting representative units from the population, so that the result obtained can be used to draw inference on the entire population.

3.3 Sampling Techniques

A sampling technique simply means the method of sampling. The sample for a study could be obtained either by a **systematic** or a **purposive** sampling technique. In the systematic sampling technique, the researcher systematically selects his/her sample, using a table of random numbers (TRN). This table can be found on the appendix of any social Research or statistical text book. Of course, to achieve this, a good sampling frame must be used with which to work out the sample interval. It is the sample interval that is used alongside with the TRN. The purposive technique is adopted when you require a particular characteristic from a sample e.g. Particular sex, age, socio-economic group, ethnic profession etc.

SELF-ASSESSMENT EXERCISE 1

Of what value is the knowledge of Sampling Techniques to the Social Scientist?

3.4 Sampling Frame

A sampling frame is the "list of elements from which a probability sample is selected". (Babbie, 1973:89). It is the real list of the units to be sampled from which the sample or some stage of the sample is selected. There is need for the appropriate selection of samples so as to get the appropriate information required for describing the population from which the sample has to be drawn. A sampling frame could be the list of schools in a Local Education Authority, List of students in a class, list of houses on a street, list of phone numbers on telephone directory etc. from which a researcher wants to draw the sample for research. A sample selected without an adequate sampling frame is not likely to be a true representative sample of the population of interest.

4.0 CONCLUSION

Sampling is a very important aspect of scientific investigation since it may not always be possible to study the entire population at every point in time. Its other components -sampling technique and sampling frame are equally as important since one affects the effectiveness of the other.

5.0 SUMMARY

In this unit we have looked at the concept of sampling in social scientific research. Important and relevant terms have been defined and discussed. More importantly, the reasons for sampling a research population have been elaborately discussed.

6.0   TUTOR-MARKED ASSIGNMENT

Is it really necessary to sample the population for any scientific research? Give practical reasons for your answer.

7.0   REFERENCES/FURTHER READINGS

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UNIT 2   POPULATION AND SAMPLE

CONTENTS

1.0   INTRODUCTION

The population or universe refers to the total number of human beings, objects or issues that form a particular group. When the population is large, it becomes necessary to take a sample from it. But if the sample is small it may be appropriate to study the whole population. There may be no use taking the sample of television viewers from the class population of 50. Thus when the entire population may comprise a captive audience the researchers succeed in reaching and describing the entire group.

2.0   OBJECTIVES

By the end of this unit, you should be able to:

define some key terms such as: population, Sample, Probability and non-probability techniques;
differentiate between Probability and Non-Probability Samples;
Identify at least 3 each, of probability and non-probability samples; and
list the other types of sampling techniques.

3.0   MAIN CONTENT

3.1   Definition of Population

A population is therefore `the aggregate of all of the cases that conform to some designated set of specifications. If we specified `all newspapers published in Nigeria then we would have included all materials known

by the name population. Ordinarily the cost of conducting a survey within a large population using a sample is prohibitive. The only sensible and practical thing to do is to select a sample. A sample that is not representative of the research outcome cannot be generalized for the population: those who depend on large numbers base their presumption on the 'law of large numbers` which posits that the large number of respondents eliminates the problem of convenience sampling.

Wimmer and Dominick (2000:81) report a 1936 survey by a publication, **Literary Digest** that a presidential candidate Alf Landon would beat Franklin D. Roosevelt (FDR). The sample included more than a million voters, composed largely of affluent Republicans.

Consequently, the publication inaccurately represented the population of eligible voters in the election. President Franklin D. Roosevelt (FDR) was re-elected, and it was not surprising the **Literary Digest** went out of business shortly thereafter. One of the conclusions that could be drawn from this experience is that its failed prediction made its readership lose confidence in it and subsequently its subscription may have fallen thus leading to its collapse. This may well not be so as other factors which were not apparent at the time may have contributed to it. But the lesson to learn from the **Literary Digest** experience is that a sample must be selected in line with known research parameters reflecting the characteristics of the population. As evidence that pollsters have learnt something from the 1936 episode the 1996 American Presidential election threw up the following forecast; for Bill Clinton and Bob Dole.

Poll organization	Clinton	Dole	Margin of error
* Actual vote	49%	41%	-
CBS/New York Times	53	43	+4 , -6
USA Today/CNN/ Gallup	52	41	+3 , 0
The Harries Poll	51	39	+2 ,-2
ABC News /Washington post	51	39	+2 , -2
NBC News / Wall street Journal	49	37	0 , -4

* This was the actual result obtained at the polls.

3.2   Types of Sampling

The researcher has many sampling methods to choose from. The researcher's choice of sampling method largely depends on the nature of the study and the purpose of the research. As we have already noted, in many descriptive studies, researchers seek to make some categorical or general statement about a defined population (people, objects like newspapers, magazines, television or radio). Since he or she cannot study all in the population in order to provide an accurate and dependable statement on the general issues of the investigation they have to resort to the use of a selected sample. This sample has to be selected in such a manner that the research outcome would throw up such results as may have been obtained if the whole population were to be studied. Samples are largely divided into two broad groups, namely, probability and non-probability.

Probability sampling methods include the following:

    Random sampling
    Systematic sampling
    Stratified sampling
    Cluster or Area sampling

The non-probability sampling methods are:
Convenience/Accidental/Available sampling
Quota sampling
Purposive sampling (or Judgment sampling)

Multi-stage sampling, panel and double sampling also are research procedures which make use of probability and non-probability sampling technique. These two groups are also referred to as probability and purposive, random and non-random or strategic and non-strategic samples.

3.2.1 Probability Sampling

Earlier we had listed the following probability sampling techniques as comprising:

    Random sampling
    Systematic sampling
    Stratified sampling
    Cluster sampling.

Random sampling sometimes referred to as simple random sampling may not seem simple on the surface but it is the most fundamental method of probability sampling. It uses the principle of randomization, which guarantees that every subject or object in the population has an equal opportunity of being selected. This randomization can be achieved through writing the names or numbers of the subjects and shuffling them and each time the card shows (as in a game of WHOT), the choice is made. It can also be achieved through the use of a table of random numbers.

Thus probability sampling insures against misleading result and guarantees that enough cases are included in the sample to give a high confidence level which points to the representativeness of the sample.

Simple Random Sample

A simple random sample is selected through a process that guarantees each element in the population the chance to be selected. It also makes the selection of every possible combination of the desired number of cases possible. The purpose of random sampling is to reduce sampling errors or margin of errors. (Read Babbie 1973:92) The procedure of selecting a random sample is not to be confused with that of selecting from a list or file of cases by taking every nth case that is, selecting from a given interval known as a **sampling interval**. Here the researcher may randomly choose both the starting point and the sampling interval. The table of random numbers is available to the student who can generate his sample once he or she has chosen their starting point and the sampling interval.

In his article on sampling Isidor Chein (1976 p.525) argues that when a population is large compared to the sampling size (say, more than ten times as large), the variabilities of sampling distribution are influenced more by absolute number of cases in the samples than by the proportion of the population that is included. That is, the magnitude of the errors that are likely depends more on the absolute size of the sample than on the proportion of the population included. This principle touches on the idea of representativeness. A representative sample means it is typical of a population and it also refers to the fact that it exemplifies the characteristics of the population. A representative sample means that the sample has approximately the characteristics of the population relevant to the study. If sex and age are variables which are relevant to the study then a selection of a representative sample must take into account a possible balance between men and women as well as a proportional representation of the various age categories as outlined in the research instrument.

It is important to note that when we draw a sample, we can never be sure that it is representative of the population. We can only hope that the elements it contains will approximate those present in the population. We also rely on the assumption that the prevailing characteristics in the population are the same most frequently distributed in the population and those most likely to be found in the random sample. Thus a sample drawn at random is most likely to be unbiased. Kerlinger (1973 p. 119) posits that, 'we have here a democracy in which all members are equal before the bar of selection.' Thus the concepts `randomness` and `randomization` need a little explanation here. The ordinary dictionary meaning may express the concept of randomness as reflecting the notion of haphazard, without any aim of direction. Yet it is clear that scientific research is quite systematic about randomness. The point about randomness is that human beings do not know enough and so natural events may appear to have certain randomness about their occurrence. Randomization is the assignment of object of a population to subsets of the population in such a manner that, for any given assignment to a subject, every member of the population has an equal probability of being chosen for that assignment. The principle of randomization may be stated as follows: since, in random procedures, every member of the population has an equal opportunity of being selected, members with certain distinguishing characteristics male or female, high or low intelligence, etc will, if selected, probably be counter-balanced in the long run by the selection of other members of the population with the `opposite` quantity or quality of the characteristics.

Systematic Sampling

This procedure is similar in some ways to the simple random sampling. For example, in order to obtain a sample of 20 from say, a population of 100(a sampling rate of 1/5th) the researcher needs to randomly select a starting point and a sampling interval. Systematic samples are frequently used in media research. This procedure is more economical in terms of time and resources when compared to the simple random sampling. It is widely used in selecting subjects from a list such as telephone directories, yellow pages and other important publications. The accuracy of this procedure depends to a large extent on the adequacy of the sampling frame, or the complete list of members in the population. Telephone directories or postal address directories are inadequate because not all telephone lines and addresses are listed. The researcher should however ensure that he or she can have a comprehensive list that includes all in the population and where such a list is unavailable, it would not be advisable to use the systematic sampling technique. Again, let us suppose you want to select 10 subjects from a population of 100, you must follow the following steps if you have a serial list of the population:

Step 1. Number the subjects serially up to 100
Step 2. Divide 100 by 10 ie   N/n=100/10=10
Step 3. Randomly select your starting point say 10 on the list
Step 4   Then select every 10th subject after the first

Your selected subject will include 10, 20, 30, 40 etc till you have your sample of 10. The systematic sampling procedure does not give all possible combinations of cases the same opportunity of being selected. It is only combinations of elements of ten cases apart on the list that have any chance of being selected for the sample. The result may be quite deceptive if all the cases are arranged in some cyclical order. This procedure has some advantages and disadvantages. Its advantages are that   1. Selection of sample is easy. 2. Selection can be more accurate than in a simple random sample. 3. The procedure is generally inexpensive. Some of its disadvantages are: 1. A complete list of population must be obtained. 2. Periodicity, that is the arrangement or, order of the items in the population list, may bias the selection process. In a telephone directory, the alphabetical listing does not allow each person or household an equal chance of being selected. This problem can partly be overcome by drawing the names randomly in a box after cutting them out from the list.

Stratified Sampling

This is the approach employed to get adequate representation of a subsample as a guarantee that a specific subsample of the population is adequately represented. In a survey of human behaviour or attitude towards a specific mass medium, any variable may be included from age, gender, religion, income level, educational qualification or even individuals who use the mass medium. This procedure ensures that the sample is drawn from a homogeneous subject of the population. This homogeneity helps researchers to reduce sampling error. In general, stratification contributes to the efficiency of sampling if it succeeds in establishing classes that are internally comparatively homogeneous with respect to the characteristics being investigated. Babbie (1997) observes that `a stratified sample is likely to be more representative on a number of variables than simple random sampling'.

Stratified sampling can be applied in two ways; proportionate stratified sampling and disproportionate stratified sampling. Proportionate stratified sampling includes strata with size based on their proportion in the population. If 10% of the population is made up of adults between 60-75, then 10% of the total sample should be subjects in this age category. After this categorization the simple random sampling

procedure is used to determine those who make the selected sample. Disproportionate stratified sampling, on the other hand, is used to over-sample or over-represent a particular stratum because of the critical importance attached to that stratum.

Cluster Sampling

Another important sampling procedure is to select the sample in groups or categories. This procedure is employed when the researcher recognizes that the population he or she is studying is distributed in clusters or pockets of settlement and he or she wants to use the clusters as a basis for proportional selection of subjects from each cluster to represent its share of the entire population. This procedure is used mainly in geographically distributed population. Cluster sampling creates two types of errors namely error in defining the initial clusters and errors in selecting from the clusters. Like stratified sampling, cluster sampling makes use of random sampling to select the subject from each cluster. Asika(1991 p. 45)identifies the four steps involved in cluster sampling as follows:

Step 1. Identify population to be sampled
Step 2. Identify the salient characteristics that you think would enhance representativeness
Step 3. Locate the areas where subjects with the characteristics cluster and know their respective size
Step 4. Use random selection procedure to select your sample subject from each cluster and make sure that the number of units selected from each cluster share of the total population.

Thus large scale surveys make use of the methods of cluster sampling. Cluster may be based on geographic variables such as state, local government, ward, or ethnicity. It is seen as the successive random sampling of units, or sets and subsets.

SELF-ASSESSMENT EXERCISE 1

List all the probability sampling techniques that you have learnt and briefly discuss any three (3) of them.

3.2.2 Non-Probability Sampling

In non- probability sampling, there is no way of estimating the probability that each element has of being included in the sample, and no assurance that every element has some chance of being included. Thus if there is no assurance that every element has equal chance of being selected, this uncertainty implies that there can be no assurance as

to the precise nature of the population that is being sampled. The major advantages of non-probability sampling are that it is convenient and economical which are advantages that may outweigh the risk involved in not using probability sampling. The principal types of non-probability sampling are; accidental, quota and purposive.

Accidental/Available/Convenience Sample

Under this procedure, the researcher simply uses a collection of readily accessible subjects i.e., one simply takes the cases that are handy and continues until the sample reaches a designated size. A television station may wish to know how the people (viewers) feel about a given issue and goes ahead to interview conveniently available shoppers, students, and other passers-by. When one uses available sample, one can only hope that one is not being too grossly misled. Another instance may be a broadcast station trying to know the views of the people on the issue of the disqualification of a prominent presidential candidate by the Independent National Electoral Commission (INEC). This could take the form of a street forum conducted by the broadcast station. The risk in this type of accidental sampling is that one may be located in a suburb populated by persons sympathetic to the candidate or vice versa. As a result of its inherent weakness, available samples have been the subject of heated debate in many research fields. Critics argue that whatever the result it may generate, it lacks external validity.

However, available samples can be useful in presetting questionnaires or other preliminary (pilot) study. Available samples have also been found to be useful in eliminating potential problems in research procedures, testing and methodology before the final research study is conducted. (Wimmer and Dominick, 2000 p.83).One of its other problem is that the procedure lacks precision. It can rightly be regarded as a testing tool for a more sophisticated probability sampling procedure.

Quota Sampling

This procedure is sometimes misleadingly referred to as `representative` sampling. It guarantees the inclusion in the sample of diverse elements of the population and also ensures that the diverse elements are taken note of in the proportions in which they occur in the population. In this procedure, knowledge of the strata of the population such as sex, ethnic group, age group, income or socioeconomic group, etc is used to select the sample that is the representative, `typical` of the actual population. Its name is derived from the practice of assigning quotas of the diverse elements or proportions of kinds of subjects to interviewers and is commonly used in opinion surveys of preferences and attitudes. Let us suppose that the researcher wants to satisfy audience perception of

Nigerian home video. Since the home video is a phenomenon that may not be universally received across all segments of the population, it may be necessary to simply get opinions across strata and in the proportions in which they are found in the general population. Such a survey would lose much in its acceptability if it were just a general survey without taking into account the observed characteristics of the population. For instance, it is generally assumed that young persons, especially women, appear to be regular viewers of the Nigerian home video. If the elements of age and sex are not taken into account in this kind of study, then the confidence level of the research account will be greatly affected. If women represent 50%   of the population and young persons, of say, 16-25 constitute 40% of home video viewers, then these percentages must be taken into account in the sample.

Although quota sampling is a non-probability procedure, its application produces a resemblance of representativeness.   Quota sampling is to non-probability sampling what stratified sampling is to probability sampling because both procedures make available select sample subjects to conform to some control measures dictated by some inherent characteristics of the population being investigated.

Purposive (Judgmental) Sampling

Sometimes the researcher may decide to choose his or her sample based on what he considers typical cases which are most likely to provide him or her with the data he wants. This decision is considered judgmental.

The researcher here selects his or her sample on the basis of specific characteristics or qualities and excludes those that are outside these objectives and clearly defined criteria. Purposive sampling is often used in advertising studies and as a procedure for forecasting in national election. This sample is chosen with the full knowledge that it is not representative of the general population. The basic assumption under which purposive sampling is conducted is that with good judgment and an appropriate strategy the researcher can select cases to be included in the sample and thus arrive at samples that meet one's needs. However, without an objective basis for arriving at one's judgment, this procedure is not dependable. Purposive suggests that it is deliberate and the researcher believes that the sample is typical and representative of a particular group. If the researcher's judgment is faulty then the basis of his or her research falls flat.

3.2.3 Other Sampling Techniques

Multistage Sampling

In several nationwide surveys, researchers use a form of cluster sampling in which individual households or persons are selected. This procedure is used by the researcher to address problems which other sampling procedures cannot address. S/he therefore resorts to sampling in stages.   For example, the researcher may wish to study Nigerian media coverage of the 2003 electoral campaigns or s/he may choose to focus on the print media. The researcher further limits these to the newspaper press. Realizing that Nigerian newspaper content varies according to regions, the researcher may choose to zone the publications into Lagos/West, Northern and Eastern zones. This is stratification at work. After this, the researcher randomly selects these newspapers from each zone. This constitutes another stage which is the employment of random sampling. And from each of the three newspapers in each zone he selects a total of 90 editions over a period of three months using any of the sampling methods which could finally yield what, in content analysis, is referred to as the constructed month. This sampling in many stages is multistage sampling. It requires the researcher to choose his samples in stages until he/she gets the required sample.

Double Sampling

This is a modified version of multistage sampling procedure, which aims at a high level of precision through sampling intensity. This procedure is sometimes employed by researchers who have time and money at their disposal.

4.0   CONCLUSION

The population of a research study is too important to be neglected. It is the basic thing that shapes the result or research outcome. Equally, the sample which is only a portion of the entire sample has to be handled with extreme care otherwise, it will not achieve the representativeness of a good research sample.   When this happens, the research study will loose its validity.

5.0   SUMMARY

In this unit we have discussed the population and sample of a research study.   In the process we tried to go through the different types of sampling techniques. Essentially we saw the two major categories of

sampling probability and non-probability samples. Each of which has its own uses.

6.0   TUTOR-MARKED ASSIGNMENT

Distinguish between Probability Sampling and Non-Probability Sampling using valid examples.

7.0   REFERENCES/ FURTHER READINGS

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UNIT 3   SAMPLE SIZE AND SAMPLING ERROR

CONTENTS

1.0 INTRODUCTION

As we have already noted in the introduction to Unit 1 of this module, various formulae have been put forward for the determination of the sample size. Sometimes researchers apply the `law of large numbers` to overcome the problem of sampling error or lack of representativeness. You may need to go over the formula provided by the National Education Association (NEA) for determining a sample size:

$$S = X^2NP\ (-P) + d^5(N-1) + X^2P\ (1-P)$$

In the case of the application of the law of large numbers, researchers interview thousands rather than hundreds of subjects as a means of guaranteeing representativeness. The large number approach is as has been clearly noted by scholars and other researchers, a convenience sample.

2.0 OBJECTIVES

By the end of this unit you should be able to:

    identify a truly representative sample;
    determine how large a given research sample should be;
    define sampling error; and
    identify the causes of sampling error.

3.0 MAIN CONTENT

3.1 Determining the Sample Size

Determining the sample size adequate for a given population is one of the most critical and sometimes controversial things to do in sampling. The question is often asked. How large must a sample be to give the research result the desired confidence level?. While scholars have suggested various sample sizes and formulae for determining them, it is not possible to have a sample sizes that is adequate for all research situations. A rough and ready rule for beginner-researchers is: Use as large a sample as possible. Clearly small samples cannot be reliable for serious research purposes. But again, samples that are too large can be dangerous. Wimmer and Dominick (2000 pp92-93) have outlined factors which may determine the selection of a sample size.

Type of project
Purpose of project
Complexity of project
Amount of error that may be tolerated
Time constraint
Financial resources available or how much a funding agency is prepared to spend.
Previous research in the area

3.2 Sample Size

A research that is designed to gather preliminary data (as in a pilot study) does not need a large sample . A study, on the other hand, that is required to provide huge amounts of information must necessarily be large to accommodate a wide variety of viewpoints from the selected sample. Again, Wimmer and Dominick (2000 p. 93) have outlined certain basic principles which must guide the researcher in determining an acceptable sample size. They however warn that the bases of their propositions are neither mathematical nor statistical theory:

A primary consideration in determining a sample size is the research method.   Focus group discussions use samples of 6-12 people, but the results are not intended to be generalized to the population from which the respondents are selected except commonly used for presetting measuring instruments and pilot studies.

Researchers often use samples of 50,75 or 100 subjects per group(such as adult 18-42 years old). The basic figure is used to `back in` to a total sample size.

Cost and time consideration always control sample size. Although researchers may wish to use a sample of 1000 for a survey, the economics of such a sample are usually prohibitive. If a smaller sample is forced on a researcher by some one else or circumstance beyond him or her, the result must be interpreted accordingly with caution.

Multivariate studies always require larger samples than do univariate studies because they involve analyzing multiple response data. One guideline recommended for multivariate studies is as follows: 50 = very poor; 100 = poor; 200 = fair; 300 = good; 500 = very good; 1000 = excellent. (Comrey and Lee, 1992). Other researchers suggest using a sample of 100 plus 1 subject for each dependent variable in the analysis (Gorsuch, 1983).

For panel studies, central location testing, focus groups, and other prerecruit projects, researchers should always select a larger sample than is actually required. The larger sample compensates for those subjects who drop out of research studies for one reason or another, and allowances must be made for this in planning the sample selection. Researchers can expect 10% - 25% dropout within the sample in panel studies.

Information about sample size is available in published research. Consulting the works of other researchers provide a starting point. If a survey is planned and   similar research indicates that a representative sample of 400 has been used regularly with reliable results, then a sample larger than 400 may be unnecessary.

Generally speaking, the larger the sample the better it is for the researcher and the readers or other future researchers. A large unrepresentative sample (Law of Large Numbers) is as meaningless as a small unrepresentative sample, so researchers should not consider number alone. Quality is always more important in sample selection than mere size.

Several sample size calculators are available on the Internet.

3.3   Sampling Error

A sample, as we already know, is a proportion of a group or population which is chosen and tested in order to obtain information about the group or population. Since researchers deal with samples, there must be some way they compare the result of what was found in the sample to what exists in the larger population. Such a comparison offers the researcher the opportunity to determine the accuracy of the data and involves the computation of error. There is no doubt that, in the field of research, errors are common place from sampling error, measurement error to random error (this latter error is often referred to as unknown or uncontrollable error). What we know as sampling error is also referred to as standard error. This is one of the most frequent and useful strategies used to compare means of samples.   For instance, if we have two randomly selected groups of 300-level undergraduate students made up of equal number of males and females. Then we expose Group A to the home video *Yesterday* which dwells *on* the traditional African practice of female genital mutilation (FGM) and its implication for modern society. Group B does not watch the video. After this, we give both groups an attitude test. The mean score of Group A which saw the video is 110 and the mean score of Group B, which did not watch it is 100. Now the difficulty that arises is: Is the difference of 10 units a `real` difference, a statistically significant difference? Or is it a difference that could have arisen anyway –more than 5 times in 100, or some other amount-when no difference actually exists?   It should be clear by now that sampling error occurs when measurement taken from a sample does not correspond to what exist in the population. Different ratings of a programme by a select group (sample) in a population usually would create sampling error. Naturally respondents' differences exist. In computing the rate of sampling error, researchers are able to assess the risk involved in accepting research findings as `real`. Sampling error can be computed with probability sampling but not with a non-probability sample because every member of the sample of the latter does not have equal opportunity of being selected.

The central limit theorem is used as a basis for computing sampling error in research. And this theorem states that the sum of a large number of independent and identically distributed random variables (or sampling distributions) has an approximate normal distribution. As Wimmer and Dominick (2000 p.95) have also noted: computing standard error is a process of determining with a certain amount of confidence, the difference between a sample and the target population. Error can occur by chance or through some fault of the researcher or flaw in the procedure. The sampling error provides an indication of the degree of accuracy of the research. Standard error is directly related to the sample size and the error improves as the sample size is increased.

SELF-ASSESSMENT EXERCISE 1

1.   Some researchers say available samples are inaccurate representations of the population; while others claim if a concept or phenomenon exists in the population, it should exist in an available sample as well as in a random sample. What is your position on the matter?
2.   Define the following terms: sample, population, randomness, probability, non-probability and sampling error.

4.0   CONCLUSION

Determining the sample size and sampling error are integral parts of Sampling in empirical studies. If not well handled, these elements could introduce extraneous factors that can adversely affect the outcome of research results. You must therefore give them utmost attention.

5.0   SUMMARY

In this module, we have taken a broad look at the concept of sampling. We have observed that sampling can be broadly divided into two categories namely probability and non-probability. Within these broad spectra we have also identified the following types of probability sampling: random, systematic, and stratified and cluster sampling while the non-probability types are convenience, quota and purposive sampling. In discussing the different types of sampling, we have examined the advantages and disadvantages of each and pointed to areas where each may profitably be used.

We have   also discussed sampling size and how it might be determined. We have also examined the problem associated with the sample sizes and related these to the phenomenon of sampling (or standard) error. We have not exhausted all that could be said or known of sampling. We expect that the student will visit websites such as www.surveysystem.com/sscalc.htm for more information on sample size and other subunits of this module. We have also provided a reading list which would be found useful if the student can consult the sources.

6.0   TUTOR-MARKED ASSIGNMENT

1.   Under what research conditions would you use the following sampling techniques: simple random sampling, cluster sampling, available sampling, multistage sampling, quota sampling, systematic, and stratified sampling?

2.   What are the qualities of a good sample?
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MODULE 5   THE RESEARCH PROCEDURE

Unit 1   The Research Proposal

Unit 2   Data Analysis in Communication Research
Unit 3   Documentation in Communication Research

UNIT 1   THE RESEARCH PROPOSAL

CONTENTS

1.0   Introduction
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1.0   INTRODUCTION

Before discussing the research project proposal proper, let me first tell you that the research project is a requirement in all Nigerian Universities and other tertiary institutions that graduating (final year) students must undertake before they graduate.   In other words, it is undertaken in partial fulfillment of the requirements for the award of degrees and diplomas.   The rationale for the research project is for scholars to contribute their own quota to knowledge before they graduate from Universities and similar institutions. The research project therefore is a definite undertaking with an end. It is a contribution to the generality of research and it fits into the continuous wheel of science.

The typical research project normally has five chapters which go by different titles as we shall see in this unit.

2.0   OBJECTIVES

By the time you are through with this unit, you should be able to explain:

the meaning of the Research Proposal; and
the essential parts of the Research Proposal.

3.0   MAIN CONTENT

3.1   Meaning of the Research Proposal

As already stated, the research project is something that is required of graduating (final year) students in Nigerian Universities and other tertiary institutions. It is a contribution to knowledge or learning. You cannot have your degree without undertaking it.   Because of its importance, it is essential for us to know how to execute a research project.

Carrying out a research project is not done haphazardly but follows some definite procedure, or steps.   The scientific evaluation of any problem must follow a sequence of steps to increase the chances of producing relevant data. Researchers who do not follow a prescribed set of steps do not subscribe to the scientific method of inquiry and therefore increase the amount of errors in their work.

As part of the prescribed research procedure, a student-researcher is expected to present a research proposal to his or her supervisor for consideration. Some research proposals may be quite elaborate while others are not.   Whether elaborate or not, the research proposal is a document that clearly identifies the research problem and the way the researcher intends to solve the identified problem. It also identifies the purpose of the research and its significance. Furtherance, it digests the literature and articulates a design or method of study.   According to Osuala (2005:32), a proposal for research is analogous to the plans and specifications which precede the construction of an architectural building. The whole must be envisaged, each detail must be clearly conceived… certain basic decisions must be made, details and problems must be resolved, and each part should be conceptualized clearly and stated unambiguously.

Some research proposals may contain few pages (three – five) that encapsulates all that we have mentioned so far. However, a typical or full fledge research proposal contains three basic chapters. Before discussing these chapters, let's start from the beginning – topic selection.

3.2   Parts of the Research Proposal

3.2.1   Selection of a Researchable Topic

This is a very knotty aspect of the research proposal. Most first time researchers are likely to find it difficult to proceed from the selection of a researchable topic to the spelling out of a specific problem for investigation. Some student-researchers are just unable to come up with researchable topics! By that is meant realistic topics; topics that are relevant to students' course of study, topics that are not too vague (broad) or narrow, topics that are not too complicated. In short, topics that can be researched.

In addition to the above, Ajala (1996:5) advises beginners to avoid the following pitfalls when selecting a research topic:

> Controversial subjects
> Highly technical subjects
> Distasteful subjects i.e. topics that appear dull or unattractive
> Subjects that are too hard to investigate

For instance, the following topics are considered non-researchable because they are too broad or vague:

> Broadcasting in West Africa.
> Public Relations Practice in a Multinational Company.
> Journalism as a thankless profession.

There are several sources available for the beginner in searching for a researchable topic. These include academic journals, periodicals, news weeklies and dallies, the internet and even previous research projects.

According to Ajala (1996:5) among important factors determining choice of researchable topics are relevance, personal inclination and value judgment of the investigator. Before deciding on a topic, the researcher should ask himself these questions:

> Is this topic relevant to my course of study?
> Is there any significant problem worth investigating or studying here?
> Does the topic capture the method or variables of the research?

If he can answer these questions in the affirmative, then he is probably close to having a researchable topic.

The following are considered researchable topics because they are specific, relevant and easy to investigate.

Radio Listenership Pattern among Lagos State University Students.
Attitudes of Lagos Residents Toward Billboard Advertisements.
The Impact of HIV/AIDS Media Campaigns on Nigerian Youths.

3.2.2   Chapter One: Introduction

The first chapter goes by different titles as follows:

Introduction
Introduction and statement of problem
Background and statement of problem

It is sufficient to adopt **introduction** as the title of chapter one because it captures the essence of the chapter which is to introduce the subject to readers. This chapter is further divided as follows:

Chapter One: Introduction

Background to the study
Statement of the research problem
Research Questions/Hypotheses
Purpose of study
Significance of study
Delimitation (Scope) of study
Limitations of study
Operational definition of terms

The Background

The background is an overview of the research problem. It actually presents the setting of the study. It whets the appetite of the reader before the main research problem is presented. Most times the background is a brief historical digest of the current problem.

Statement of the Research Problem

This is a precise formulation of the problem to be investigated. It is actually a definition of what the investigator proposes to do.   The statement should, therefore, bring into being a distinct image of the problem to be investigated. It should clearly indicate to the reader what the researcher has in mind.   The statement of the research problem which logically follows from the background could range from one or more paragraphs to one to several pages. It ends in three forms – a

definite statement, a question or hypothesis. Beginners may be more comfortable with the question format.

Let's consider the following examples:

Example 1:

Topic: Radio Listenership Pattern Among Lagos State University Students.

Statement of Research Problem

From the establishment of the Nigerian Broadcasting Service (NBS) in 1951, which later metamorphosed into the Nigerian Broadcasting Corporation (NBC) in 1956, to the setting up of the regional radio stations in the1960s, radio broadcasting has grown tremendously in Nigeria. Currently, there is no state in Nigeria that does not have at least a radio station. It is important to note that until 1992, all the radio stations in Nigeria were government owned and operated. The deregulation of the broadcasting industry in 1992 through Decree (Now Act) No.38 has further increased the number of radio stations in the country with the establishment of private radio stations.

In Lagos State, there are over a dozen radio stations. These include:
Metro FM (97.6), Radio Lagos, Eko FM, Ray Power (100.5), Rhythm (93.7), Cool FM (96.9), Link FM (102.3), etc.

The fact that radio is popular among people today does not mean that people listen to it in the same pattern. As it is with other media of mass communication, people attend to radio for different purposes and in different ways. Therefore, there is always the tendency that different people will prefer one radio station to others, or a radio programme to others. Invariably, there are various factors that influence how, when and why individuals listen to radio broadcast or attend to the mass media generally.

The question therefore arises: how do university students as typified by those at the Lagos State University (LASU) Anthony Village Campus listen to radio? In other words, what is the radio listenership pattern of the students of LASU, Anthony Village Campus? This, in a nutshell is the problem, which this study seeks to investigate.

Example 2:

Attitudes of Lagos Residents Towards Billboard Advertisements

Statement of the Problem

People exhibit diverse attitudes to advertising messages. To some people, they are objective pieces of information. Such people pay attention to them, are pleased and satisfied with them and, predictably, are to a large extent influenced by them. To others, advertisements serve no useful function. They are false, dishonest sales gimmicks. It would not be surprising therefore, if such people pay little or no attention to them.

Apart from people's attitudes towards advertisements generally, they also build up attitudes towards advertisements in certain media. It has been observed that most people trust television than any other medium. By implication, such people may trust television advertisements than advertisements in any other media. Given this, it is assumed that people must have built up certain attitudes to billboard advertisements. The question then is this: what are the attitudes of Lagos residents toward billboard advertisements? This in a nutshell is the problem which this study seeks to investigate.

Research Questions / Hypotheses

Research questions or hypotheses are extensions of the research problem. It is generally recognized that a research study attempts to:

> Answer questions or
> Test hypotheses

(This has been thoroughly treated in Module 2, Unit 1).

It is normal for some researchers to combine both research questions and hypotheses in a study. But this is not recommended for beginners. They should stick to either research questions or hypotheses.

Purpose/Significance of Study

Every researcher must have clearly defined purpose for carrying out a research. The fact has been stressed that scientific research is not done haphazardly. A researcher must have clear cut purpose for carrying out a research. It is in this section that the researcher states what he is trying to achieve by conducting the research. The purpose must be reasonable to justify the study. A research without clearly stated purpose is not worth carrying out. The real purpose of the researcher is crucial because

it helps focus ideas and establishes whether or not the study will answer the questions posed by the researcher.

After the purpose of the study has been clearly stated, the researcher must explain the significance or utility of the study. This section is known as significance of study. Here, the researcher states the value of the study as well as those likely to benefit from the findings of the study. The researcher must state the significance of the study to communication scholarship (research), communication practice (if applicable), policy or decision makers and to society at large.

Delimitation (Scope) and Limitation of Study

Most beginners tend to select too big a problem with too many variables. It is therefore important to set limits on how much a researcher tries to cover in a single study. Delimitation is imposed by the researcher in order to capture accurately the focus of the research.

Limitation on the other hand has to do with restrictions imposed by the environment of the study area. In other words, the problems encountered by the researcher during the course of data collection, such problems could range from lack of sufficient time and finance, to respondents refusal to supply reliable data. This section (limitation) could be delayed until after data has been collected. However, there is nothing wrong with the researcher envisaging the likely problems to be encountered in the study.

When writing the delimitation or scope of the study, the researcher should ask himself the following questions:

a)   Have I narrowed the scope of the study to a manageable proportion?
b)   Did I focus on selected aspects of the problem?

Operational Definition of Terms

The researcher has an obligation to make clear to readers (the academic community) in precise language the major concepts and constructs of the study. Some terms may mean different things to different people. They therefore need to be defined or explained so that there is consistency of interpretation.

From the above, we can see that chapter 1 of the research proposal is basically an articulation of the research problem. The researcher identifies has problem, states the purpose as well as the significance of the study. He also states the variables of the study and operationalizes

his concepts.   The research problem is usually expressed in either research questions or hypotheses. At the heart of this are variable. The researcher should be able to identify the variables of his study in chapter one. Chapter one may also include the time frame of the study i.e. how long it will take to complete the study.

3.2.3 Chapter Two: Literature Review/Theoretical Framework

As in chapter one, chapter two goes by different titles such as:

> Literature Review
> Review of Relevant Literature
> Literature Review and Theoretical Framework
> Review of Pertinent Literature

The third option, **Literature Review and Theoretical Framework** is considered most appropriate as it captures the essence of the chapter.

The major concern of chapter two is a comprehensive review of related studies that have a bearing on the current study.   In doing this, we attempt to answer the following questions.

> In what ways has the problem we are studying been discussed or treated by other scholars?
> What are the components of such studies?

According to Ajala (1996:13) researchers who conduct studies under the guidelines of scientific research never begin a research project without first consulting available literature either directly or indirectly related to the subject matter.   The review provides information about what has been done in that area, how it was done and what results were generated.

Experienced researchers consider the literature review one of the most important aspects of the research proposal because it allows them to learn from previous research data.

Wimmer and Dominick (1987:29) suggest that the following questions should help to sharpen the investigator's focus as he attempts to review literature:

> What type of research has been done in the area?
> What research methods were used in the previous studies?
> What has been found in previous studies?
> What suggestions did the researchers make for further studies?

What has not been investigated.

Some researchers present this chapter in three parts as follows:

Conceptualization
Empirical findings
Theoretical framework

A researcher should be able to locate his study within one of the communication theories that he or she must have been exposed to. In other words he or she should be able to find a relevant communication theory that can be utilized to explain the current problem. This is what is referred to as the theoretical framework. It underpins the current study. It is the theory on which the current study is based.

The literature review should be comprehensive enough to cover all that has been done in the area being studied.

3.2.4 Chapter Three: Method of Study

Chapter three also has different titles. These are:

Methodology
Method of study
Method
Design of study
Procedure of study

Although a researcher can adopt any of the above titles, the second option, **Method of Study** is apt and appropriate. In this chapter, we state the design of our study. It answers the question: What research method are we employing in the study? In other words this chapter presents in details the steps to be taken by the researcher to arrive at reliable results i.e. the plan of attack or procedure for data collection.

The chapter is of extreme importance as an improper research design could lead to misleading results. The following are some of the designs or methods of study available from which a communication researcher can choose an appropriate one for his study:

Survey
Content Analysis
Experimentation
In-depth Interview
Focus Group Discussion (FGD)

Case Study
Observation
Historical etc

(These have been well discussed in Module 3).

The researcher has to justify the design or method of study. Parts of this chapter include research population, sample size, sampling plan, data collection instrument, sampling procedure and method of data analysis.

Research population is defined as the designated part of a universe from which a sample is drawn or selected. Examples include NOUN students, Lagos residents, GSM Subscribers etc. Since it is not possible to study the entire research population, a sample is selected systematically. The sample size thus selected should be manageable and should be representative of the population. Members in a sample are known as "respondents" in a survey research and "subjects" in experimental research.

Sampling procedure is the technique of selecting a sample of individuals from the total population to be studied. Sampling techniques include random, systematic, stratified, purposive and cluster sampling. Whichever method is chosen must be clearly explained under the heading: "Sampling Procedure". Instrumentation refers to the method by which data are to be obtained. The "Instrument" chosen should be adequate in providing the needed data. As previously explained, available tools for data collection include:

Questionnaire
Structured interview including telephone interview
Coding sheets (for content analysis)

Administration of Research Instrument. The researcher must describe clearly how he administered the research instrument. For instance, did he administer the instrument personally, did he engage the services of research assistants or did he have to explain the questions to respondents? Such explanation gives confidence to the reader that the research was thoroughly conducted.

Finally the researcher should explain his chosen method of data analysis. In other words, his plan for analyzing data. Some researchers often use the simple count (frequency) and percentages using tabulation and cross tabulation to present data. For more sophisticated studies (M.Sc, Ph.D) statistical tests (e.g. ANOVA, Chi-square, T-tests, Correlation, etc.) of significance are used to test hypotheses.

The procedure discussed so far (Chapter Three) may not apply to some kinds of research especially historical and legal research.

In historical research, the researcher gathers information through two principal sources – primary and secondary.   According to Osuala (2005:106) primary sources are data provided by actual witnesses to the incident in question while secondary sources of data come from a "middlemen" who act between the original witness and the present consumer. Put in another way, primary research involves firsthand observation and study (data) by a researcher while existing information or data is called secondary data. Examples of primary sources of data include observation witnesses, interviews, etc. Secondary information can come from books, documents, the internet, etc.

Data obtained from the above sources are first subjected to scrutiny in order to ascertain their veracity. After ascertaining the data to be genuine, it is then synthesized and interpreted.   According to Osuala (2005:161) all factual knowledge which has been ascertained may be classified in terms of three areas of time:

> The Past
> The Present
> The Future

3.2.5   Bibliography/References

The current trend is for each chapter of the research project to have a reference page and then at the end of the work a bibliography is presented.   The reference page is a list of all works (books, journals, newspapers, magazines, etc.) cited in the body of the research in the following order: Surname of author and initials, date of publication (in parenthesis), Book title (in italics or normal, underlined) publication information (city of publication and name of publisher).

The bibliography is a combination of all the references listed in alphabetical order. It starts with books, journal articles, magazines, newspapers,   online   publications   unpublished   works   (Theses, dissertations) etc.

(More on this in Module 3).

4.0   CONCLUSION

The research proposal is a very important phase in research project writing.   It therefore must be handled with the seriousness that it deserves. A well written research proposal is a few steps away from the complete execution of a research project.

5.0   SUMMARY

In this unit, you have learnt that:

The research proposal is a document that clearly identifies the research problem and the way the researcher intends to solve the identified problem.
A typical or full fledge research proposal contains three basic chapters. These are Chapters One, Two and Three.
It also includes a bibliography.

6.0   TUTOR-MARKED ASSIGNMENT

Formulate a researchable topic in journalism and write a proposal following all the guidelines stated in this unit.   The research proposal should be between 10-15 pages double line spacing.

7.0   REFERENCES/FURTHER READINGS

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UNIT 2   DATA   ANALYSIS   IN   COMMUNICATION RESEARCH

CONTENTS

1.0   INTRODUCTION

You have learned about research population, sample size; independent and dependent variables and something about the challenges of measurement in previous units. In this unit, you will learn about what to do with data once you have collected them.

Data on their own convey little or no information for decision making. Researchers and statisticians have over the years, developed a means for making them meaningful. As a communication student, you should be able to make meaning out of a data set. The goal here therefore is to get you started; to give you some of the tools you may need and how to apply them.

2.0   OBJECTIVES

At the end of this unit you should be able to explain:

the meaning of data;
the types of data;.
the different levels of measurement;
types of data analysis;
the major descriptive and inferential statistical tools and how to apply them; and
the reasons for post analysis evaluation

3.0   MAIN CONTENT

3.1   Meaning of Data

When the word "data" is mentioned, what readily comes to mind are figures, mathematical equations, calculations etc. While these examples are indeed data, the scope of data is not limited to them.

Data has been defined from various perspectives.

Generally and in science, data is a gathered body of facts.

Another definition of data is documented information or evidence of any kind. According to the website (www.wordnet.princeton.edu), data is a collection of facts or figures from which conclusions may be drawn. A good example of this is statistical data.

Data can also be defined as a representation of facts, concepts or instructions in a formalized manner suitable for communication, interpretation or processing by humans or automated means.

Data can also be described as statement accepted at face value (i.e. a given) e.g. $1 + 1 = 2$.

In computing or computer science, data is information that has been translated into a form that is more convenient to process.

Relative to today's computers and transmission media, data is information converted into binary digital form i.e. 0, 1.

In telecommunications, data sometimes means digital-encoded information to distinguish it from analogue-encoded information such as

conventional telephone, voice calls, or over-the-air (OTA) television broadcasting.

Data is the plural form of datum. Some authorities cognizant of the word's Latin origin and as the plural form of 'datum' use plural verb forms with data. Others take the view that since "datum" is rarely used, it is more natural to treat "data" as a singular form.
From the various definitions offered so far, we can say that:

> Data are unprocessed raw information for studying a phenomenon. This means that figures, words (e.g. news stories, photographs, colours, shapes etc.), all constitute what is referred to as data.
> Data are collection of facts or figures from which conclusions may be drawn.
> Data provide information which eventually leads to knowledge about the phenomenon upon which the data was gathered.

Data –> information –> knowledge

3.2   Types of Data

Data can be fundamentally divided into two – categorical (qualitative) and measurement (quantitative) data.

```
                    ┌─────────────┐
                    │    Data     │
                    └─────────────┘
                    /             \
      ┌──────────────────┐   ┌──────────────────┐
      │   Categorical    │   │   Measurement    │
      │   (Qualitative)  │   │  (Quantitative)  │
      └──────────────────┘   └──────────────────┘
```
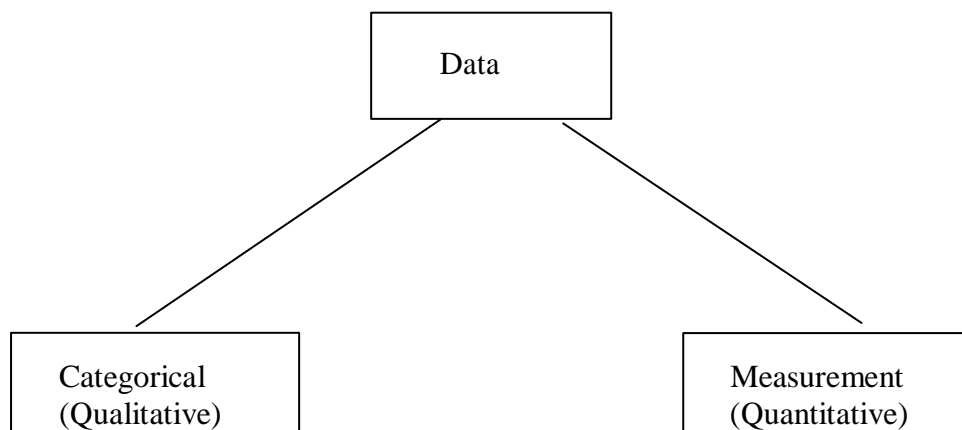
Data is "quantitative" if it is in numerical form and qualitative if it is not.

In categorical data, the objects being studied are grouped into categorises based on some qualitative trait. The resulting data are merely labels or categories. Good examples of quantitative data are:

Sex (Male/Female),
Race (Black/White),
Religion (Christianity/Islamic/African Traditional Religion (ATR)),
HIV Status (Positive/Negative),
Students' Performance (Excellent/Very Good/Good/Fair) etc.

Note also that photographs, videos, words or text are also considered qualitative data categorical data are further classified as nominal, ordinal and/or binary.

```
              ┌─────────────┐
              │ Categorical │
              │    Data     │
              └─────────────┘
```

(Qualitative traits e.g. hair, eye colour)

```
  ┌──────────────┐            ┌──────────────┐
  │ Nominal Data │            │ Ordinal Data │
  └──────────────┘            └──────────────┘
```

(unordered categorizes e.g. hair, eye colour)   (Ordered categories e.g. 1st class, 2nd class, 3rd class, opinion: for, against, neutral)

```
  ┌──────────────┐            ┌──────────────┐
  │    Binary    │            │    Binary    │
  └──────────────┘            └──────────────┘
```
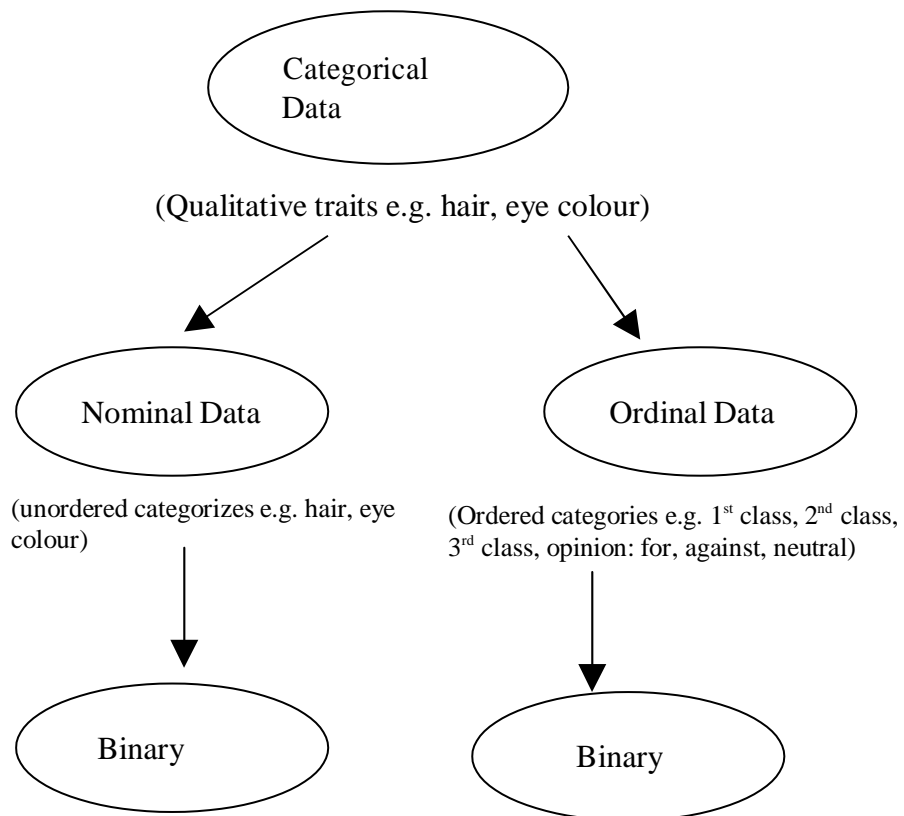
(Only two categories e.g. male/female, positive/negative/present/absent, on/off)

The diagram above illustrates the further classification of categorical or qualitative data. It shows that categorical data are classified as nominal, ordinal and/or binary.

Nominal data are types of categorical data in which objects fall into unordered categorizes. Examples include hair colour (brown, red, black, etc.), ethnic group (Igbo, Yoruba, Hausa) as well as smoking status (smoker, non smoker).

On the other hand, ordinal data is the type of categorical data in which order is important. Examples include recruit, corporal, sergeant; 1st class, 2nd class upper, 2nd class lower, 3rd class, pass, fail; degree of illness – mild, moderate, severe; Opinion – for, against, neutral

Binary data are categorical data in which there are only two categories.

Examples   Sex: Male / Female
             HIV status: Positive / Negative
             Attendance: Male / Female

Measurement Data

As already explained, measurement data also known as quantitative data is that which can be expressed in numerical form. In this type of data, the objects being studied are "measured" or calculated based on some quantitative trait. The resulting data are set of numbers.

Examples of measurement data include:

       Age
       Height
       Income per annum
       JAMB score
       Account Balance, etc.

Measurement or quantitative data are further classified into two-discrete or continuous.

```
            ┌─────────────────────┐
            │  Measurement Data   │
            └─────────────────────┘
              /                 \
  ┌──────────┐               ┌──────────────┐
  │ Discrete │               │  Continuous  │
  └──────────┘               └──────────────┘
```
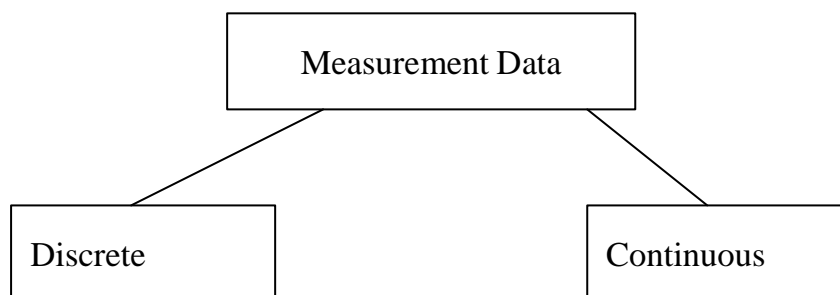
Discrete data are numeric data that have a finite number of possible values. A classic example of discrete data is a finite subset of the counting numbers, (1, 2, 3, 4, 5, 6, 7, etc). When data represent counts, they are discrete. A good example might be how many students are present in school today.

Discrete data – gas between possible values

↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	
0	1	2	3	4	5	6	7	8	9	10
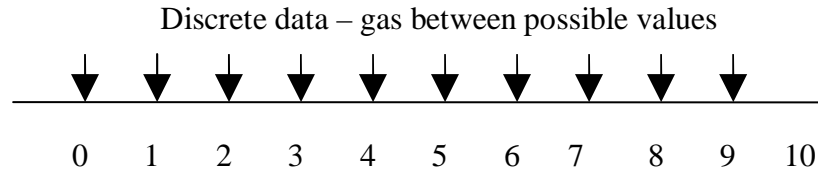
On the other hand, continuous data have infinite possibilities e.g:-

~~0,1,2,3,4,5,6,7,8,9~~ 1   1, 1, 1,2, 1,3, 1,4, 1,5, 1,6, 1,7, 1,8, 1,9   2

In continuous data, the real numbers are continuous with no gasp or interruptions. Physically measurable quantities of length, volume, time, etc. are generally considered continuous. Theoretically, any value within an interval is possible with a fine enough measuring device. Example of discrete measurement data:

> JAMB score
> Number of students in class
> Number of crimes reported to police
> Number of newspapers sold in a day etc.

Examples of continuous measurement data:

> Height
> Temperature
> Time spent reading newspapers.

3.3   Sources of Data

There are two main sources of data. These are primary and secondary sources.

> **Primary:** This is information obtained **directly** from the source by the user. Here the researcher knows the conditions under which the data (otherwise called raw data) were collected, so he knows the limitations. It is firsthand information e.g. Interviewing eyewitness accounts, experiencing an event etc. It is easier to analyse than secondary data.

> **Secondary:** This is data extracted from already published sources/documents e.g. newspapers, reports, journals, etc.

3.4   Measurement of Data

As explained in Module 2 Unit 2, there are four levels of measurement in research. These are nominal, ordinal, interval and ratio. In addition, the elements that are measured in communication research are variables, concepts and occasionally constructs.

SELF-ASSESSMENT EXERCISE 1

Differentiate between:

(i)   Categorical and Measurement data
(ii)   Primary and Secondary data
(iii)   Discrete and Continuous variables
(iv)   Quantitative and Qualitative variables

3.5   Meaning of Data Analysis

Data analysis involves the process of treating data with statistical tools so that a mass of data can be summarized, simplified and interpretable (Williams, 1968). As we have pointed out in the introduction, data on their own do not make any meaning. They have to be scientifically processed for the decision arrived at to be meaningful. The process involved in analyzing data scientifically in order to have meaningful and conclusive decisions to called data analysis. Data analysis begins with the coding of the data preparatory to data entry using data entry software. The coding of the data is to make them amenable for analysis. We will talk about this while treating levels of measurement. Please read up data measurement in Module 2, Unit 3.

After the coding, the data is then entered into the computer for analysis.

3.6   Types of Data Analysis

Two broad types of data analyses are possible. These are the descriptive data analysis and inferential data analysis. When we treat or analyse data in such a way as to describe and summarise them, this is referred to as descriptive data analysis. The tools which are used in descriptive data analysis are descriptive statistics. Descriptive statistics include tabulation, graphical representation of data (e.g. bar chart, historgram, pie chart, etc) and measures of central tendency. Analyses done on this basis are used for answering research questions. However, when we want to do more than describe events another type of statistical data analysis is used. These are the parametric or inferential statistics. Inferential statistics involves making generalizations about the whole population based on information or data obtained from a sample.

Inferential statistics include estimation theory, hypothesis testing, parametric tests etc. Analyses done on this basis are used for testing hypotheses and making inferential decisions, based on some sample data. Thus, on the basis of analyzed sample data, generalization can be made about the over all population from which the sample was originally drawn (Olaitan, et al, 2000).

3.7   Major Descriptive Statistical Tools and how to Apply them

Research data are usually in a large set. Therefore, they should be organised first before analysis. Data can be organised through tabulation e.g. Number of newspapers sold in four selected Local Government area.

Table 1

Local Government Area	No. of Newspapers
Aleleri	43
Estsako West	67
Ikot Ekpene	60
Ofu	53
Total	**223**

Sometimes data are complex and need to be tabulated nevertheless. Consider this example:

Table 2:   Opinions of religious believers on the Application of the Sharia Legal System

Religious Group of Respondents	Frequency of Response to Items		
	Agree	Undecided	Disagree
Traditional Religion	60	6	1
Muslim	44	14	12
Catholic	11	32	27
Protestant	15	36	20
Total	**130**	**88**	**60**

We can represent data using bar or line graph. The bars can be drawn horizontally or vertically. Let us consider this hypothetical example:

A census of journalists working in Nigeria between 1991 – 1993 revealed that in 1991, there were 20,000 male and 10,000 female journalists; in 1992 the figure was 35,000 male and 25,000 female

journalists. By 1993, the number had risen to 65,000 male and 20,000 female journalists.

The above data is represented in the bar chart below:

No. of male and female journalists in working Nigeria between 1991-1993
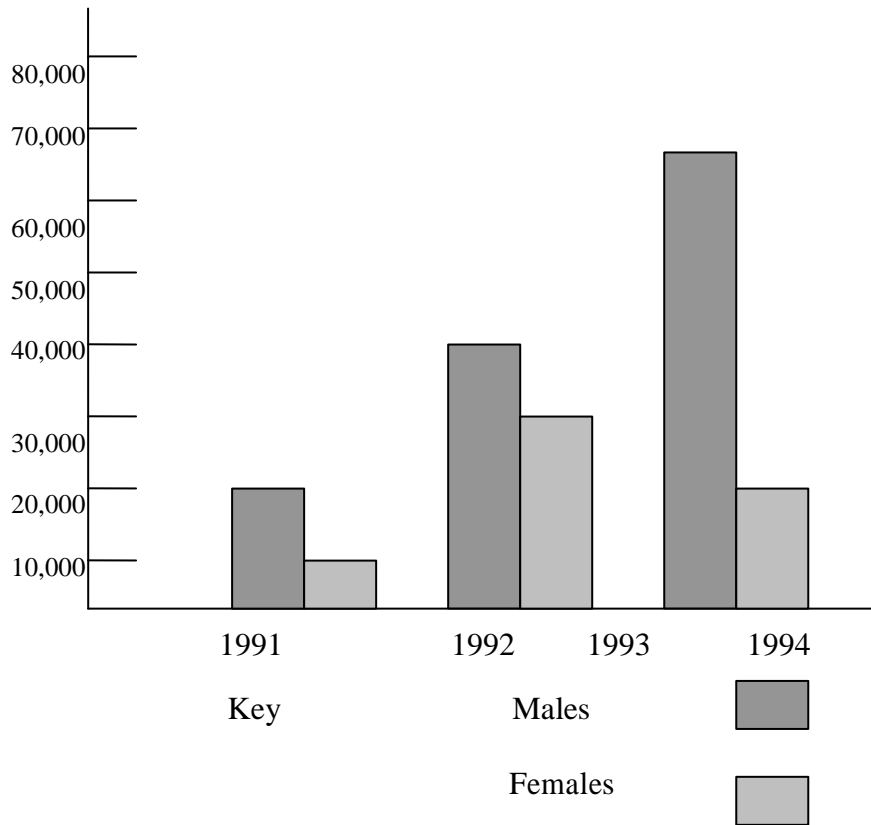
A third way to represent data is through percentage comparisons. Consider this example:

Table 3:   No. of Journalists by Country

Country	No.	% of total
Turkey	6.290	15.18
France	11.476	27.70
Lesotho	2.046	4.94

Venezuela	7.394	17.85
North Korea	14.226	34.33
Total	**41,432**	**100**

Data can be organised through cross breaks in which the researcher presents data in terms of frequencies and percentage and involving many respondents to many items with several possible responses. Consider this example

Table 4:   Attitude of Nigeria journalists to Universal Basic Education

Groups	Neutral	Strong support	Support	Unsupported	Strongly unsupported
Broadcast journalists	4 (%)	30 (?%)	2 (%)	90 ( )	150 ( )
Newspaper journalists	24 ( )	11"	18 ( )	130 ( )	206 ( )
Magazine journalists	6 ( )	8 "	14 ( )	77 ( )	194 ( )
Total	34 ( )	50 ( )	54 ( )	297 ( )	550 ( )

Pie chart (pie graph, sector chart or circle graph) is another way of representing data. It used to display sections or proportions of the same category of event. Consider this example.

Figure: Chart showing how a sample of journalists spend a Typical Workday

Lectures	65%
Library	7%
Eating	9%
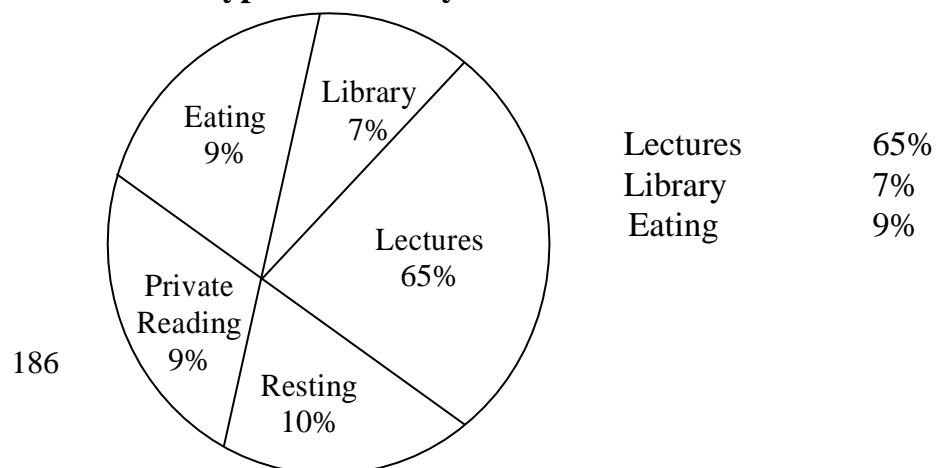
Private Reading 9%
Resting   10%

Once data are organised for statistical analysis, the researcher can proceed with the analysis using the appropriate tools. Descriptive data can be analysed using two broad classes of statistical tools – measures of central tendency and measures of dispersion. The measures of central tendency analysis inform us about how close scores are to a central value. The three common measures of central tendency are the mean, median and the mode. The mean is more commonly used for comparatively and quantitatively describing events and for use in more complex calculations. We shall try an example later. The median is the middle score of scores arranged in order – 50% of the scores are above and 50% of the scores are always the median. When the number of scores is odd, the median is readily identifiable. When the numbers of scores are even, the median is the sum of the two middle scores divided by 2. The mode is the score(s) that occurs most. We shall attempt these. What are the limitations of each of these tools?

The measures of dispersion or variability give us an indication of how the scores are spread out or scattered in a distribution of scores. The measures of dispersion include the range, mean deviation of scores, standard deviation. Standard deviation is most commonly used, we shall try example later, using the formula.

$$ S = \sqrt{\frac{S X^2}{N} - \overline{x^2}} \quad \text{where} \quad \dot{C} = \frac{\text{å } C}{N} $$

Let us assume that a researcher wants to find out from 167 journalists the attitude of journalists to journalism training. Their responses on items indicating such attitude as collated from questionnaire administered to them are as follows:

Table 5

	X	F	FX
Strongly interested	5	20	100
Interested	4	11	44
Undecided	3	9	36

Uninterested	2	77	154
Strongly uninterested	1	50	50
		F = 167,	**Fx = 384**

The mean is $\dfrac{Fx}{F} = \dfrac{384}{167} = 2.29$

If the researcher had established cut-off of 3.50, this means that any attitude rating of 3.50 and above is considered positive and vice-versa (any attitude rating of less than 3.50 is considered negative) towards journalism education. With the present result, what can the researcher conclude? These data can be displayed in the research report as follows:

Table 6: Female Journalists Attitude toward Journalism Education

Factor	Rating					S	X	SD	Remarks
Positive attitude	5 20	4 11	3 9	1 77	1 50	167	2.29	26.28	Reject factor

Correlation (r) is another descriptive statistics. It is used to establish the nature and scope of relationship, if any, between two variables. A researcher has completed a study in which he wanted to find out whether the length of a media student's reading time has any relationship with success in an achievement test of newspaper production.

Length of Reading Time (X)	Score of Newspaper Production
1	7
3	4
5	13
7	16
9	10
11	22
13	19

Let us use one method of calculating correlation Pearson r:

X	X²	Y	Y²	XY
1	1	7	49	7
3	9	4	16	12
5	25	13	169	65
7	49	16	256	112
9	81	10	100	90
11	121	22	484	242
13	169	19	361	247

$X = 49 \qquad X^2 = 455 \qquad Y = 91 \qquad Y^2 = 1435 \qquad XY = 775$

$\overline{Y} = 7 \qquad \overline{Y} = 13 \qquad\qquad\qquad n = 7$

$$SX = \sqrt{\frac{455 - (7)^2}{7}} = \sqrt{65 - 49} = \sqrt{16} = 4$$

$$SY = \sqrt{\frac{1435 - (13)^2}{}} = \sqrt{205 - 169} = \sqrt{36} = 6$$

$$S_{XY} = \frac{XY}{n} - \overline{XY} = \frac{775}{7} - 7(13) = 19.71$$

$$r = \frac{SXY}{S_X . S_Y} = \frac{19.17}{4 \times 6} = \frac{19.71}{24} = 0.82$$

Pearson "r" represents the extent to which the same persons or events occupy the same (very close, related or perfectly close) or far apart (very unrelated) relative position on two competitive variables. A perfect positive correlation is 1.00 (both variables are perfectly related),and a perfect, negative correlation is – 1.00; both cases represent extremes for all linear relationships. A positive relationship such as .52, .61, .82etc. means that individuals obtaining high score on one variable tends to obtain high score on a second variable and vice-versa. A negative relationship (-0.14, -0.38 – 0.38) means that individuals scoring low on one variable tend to score high on a second variable. Conversely, individuals who score high on a second variable tend to score low on a second variable. Note two points about correlation:

   correlation can only be used for making predictions not for establishing causation.
   you cannot use r for testing hypothesis until you transform the r value obtained to Zr, using a table of transformation of r to Zr.

3.8   Inferential Statistical Tools and how to apply them

Some of the more commonly needed inferential (parametric) statistical tools for research in communication are the chi-square (fairly weak), t-test of independent/non-independent means, analysis of variance, Tukey test, multiple analysis of variance, analysis of covariance, multiple analysis of covariance, and so on. What are the fundamental bases of using these statistics?

> The hypothesis to be tested should be stated – null or non-directional, alternative – non-directional or directional.
>
> Statistical test to use (see the presentation or statistical tools and their uses) must be appropriate to the type of data to be analysed and the kind of comparison being made.
>
> Level of significance must be stated: the researcher usually decides this. Usually, the level is 5% or 1%.
>
> Sampling distribution is usually stated as a basis for determining the degrees of freedom. For t, the df is $n_1 + n_2 - 2$; for ANOVA, the df is (between – groups is $k - 1$ and within group is $N - K$).
>
> Critical region is determined from the critical value table against which the calculated value is compared for making a decision.

Let us attempt two examples of inferential statistics data analyses chi-square and t-test of independence.

Example 1

Assume that a television station claimed that 70% of the TV sets in certain city were turned on for its special programme on a Monday evening. A competitor went to challenge the claim. He thus took a random sample of 200 families who were watching TV during that evening and found that 130 sets out of the families were turned on for the special programme. Can the competitor conclude that the claim was not valid if he set the level of significance at 0.05?

Solution: Test the hypothesis:

> Ho: The population proportion of TV sets turned on for the programme is 70%.
>
> If the hypothesis is true, the expected number of families whose TV sets turned on for the special programme would b 200 x 70% = 140, and the expected number of families who were watching TV but who were not watching the special programme would be 200 x (100% - 70%) = 60. The computation of X^2 is represented in table 7 below:

Table 7

Groups	Families		O – E	(O – E)²	$\dfrac{(O - E)^2}{E}$
	Observed or Actual O	Expected E			
For the programme	10	140	-130	(130²)	0.714
Not for the programme	70	60	10	100	1.667
Total	200	200	0		X² = 2.381

g = 2, number of groups consisting of expected frequencies
m = 1, number of constant value (the total or 200 families) required in estimating the expected frequencies
df = 2 – 1 = 1

3.   Make a decision. At a 0.05 level, the difference is significant if x^2 with 1 degree of freedom is above 3.841, or falls in the rejection region. The computed value of x^2 = 2.381 is less than the critical value 3.841 or falls in the acceptance region. We thus, accept the hypothesis that there are 70% of TV sets turned on for the special programme.

Contingency Tables – Tests of Independence

A contingency table is a cross-classified table showing the observed frequencies of a sample. When there are, r, rows and k columns in the table, it is called an, r X k contingency table. For example, a 2 x 2 contingency table has two rows and two columns. There are four cells in a 2 x 2 table. The frequencies in the cells are called frequencies in each row of each column and is called the marginal frequency.
In testing a hypothesis involving a contingency table, corresponding expected or theoretical cell frequencies are just computed according to the hypothesis based on the rules of probability. The sum of all expected frequencies must be equal to the sum of all observed frequencies.

Contingency tables are frequently used in tests of independence. This type of test will tell us whether or not the two bases of classification used respectively in rows and columns of contingency table are independent (or not related). Examples 2 are used to illustrate the test.

Example 2

Assume that we are interested in the relationship between adults who watch TV and their educational levels in Lagos. A sample of 100 adults is taken. The results are shown in table below.

Table 8

Educational Level	Adults watching TV	Adults not watching TV	Total
Elementary	7	3	10
Secondary school	14	16	30
University	39	21	60
Total	**60**	**40**	**100**

Find the answer if the level of significance is at 0.05
Solution: Testing the hypothesis:

Ho: There is no relationship between watching TV and educational levels of the adults in Lagos, that is, watching TV and educational levels are independent.

Find the value of x^2 compute the expected cell frequencies. The expected frequencies are computed on the basis of the hypothesis. If the hypothesis is true that educational levels have nothing to do with watching TV, the same ratio of educational levels should be applied to both types of adults, those watching and those not watching TV. Thus, 10 out of every 100 adults in Lagos should have had elementary education and 0 out of every 100 adults should have had university education. The computation of the expected frequencies is as shown in table below.

Table 9: Computation of the Expected Cell Frequencies

Educational Level	Expected Numbers of Adults		Total
	Watching TV	Not Watching TV	
Elementary	60 x (10/100) = 6	40 x (10/100) = 4	10
Secondary School	60 x (30/100) = 18	40 x (30/100) = 4	30
University	60 x (60/100) = 6	40 x (60/100) = 4	60
Total	**60**	**40**	**100**

Next, arrange the corresponding observed and theoretical frequencies in an orderly form, then compute the x^2 value.

Table10: Computation of the value of x^2

Types of Adults	Number of adults		O – E	(O – E)^2	$\dfrac{(O-E)^2}{E}$
	Observed O	Expected E			
Elementary T	7	6	1	1	0.1667
Elementary N.T	3	4	-1	1	0.2500
Sec. School T.	14	18	-4	16	0.8889
Sec. Sch. N.T.	16	12	4	16	1.3333
University T.	39	36	3	9	0.2500
University N.T.	21	24	-3	9	0.3750
Total	100	100	0		X^2=3.2639

T = Watching TV
NT = Not watching TV

3.   Make a decision. At a 0.05 level, the difference is significant if x^2 with 2 degrees of freedom is above 5.991. The computed value of x^2 = 3.2639 is smaller than the critical value or falls in the acceptance region. Thus, we accept the hypothesis. The conclusion is that there is no relationship between watching TV and educational level of the adults in Lagos.

Note that the basis of classification used in the columns is watching TV and that used in the row is educational level. The test shows that the two bases are independent (or not related). In other words, it is not necessary that a person who watches TV has higher or lower education.

3.9   Summary of Statistical Tools and Conditions for using them (Parametric and Non-parametric Tests)

Statistical Type	No. of Groups	No. of Variable	Type of data	Purpose of Statistic
t-test of independent means and critical ratio	2	1	Interval or ratio data	Test of significance between means obtained from testing composed groups of subjects.
t-test for selected non-independent means	2	1	Interval of ratio data	Same as above except that the two mean comparison is done with the gain scores
Analysis of	≥ 2	1	Interval or ratio	Comparison of three

Statistical Type	No. of Groups	No. of Variable	Type of data	Purpose of Statistic
variance			data	or more (group) independent means for significance of their differences, on one variable
Multiple analysis of variance (factorial design)	≥ 2	≥ 2	Interval or ratio data	Comparison of three or more (group) independent means for significance of their differences, on two or more variables.
Analysis of covariance	≥ 2	≥ 2	Interval or ratio data	Comparison of three or more (group) independent means for significance of their differences, on two or more variables based on pre-test and post-test mean data.
Statistical Type	**No. of Groups**	**No. of Variable**	**Type of data**	**Purpose of Statistic**
Scheffe test	≥ 2	1	Interval or ratio data	Determination of direction of difference for F value that is significant, through pairwise comparison, this direction is determined.
Tukey test	≥ 2	1	Interval or ratio data	Same as above
Non-parametric test				
Chi-square	≥ 2	≥ 1	Nominal	Comparison of the significance of the difference between two frequency distribution
Mann-whithey U test	2	1	Nominal	Comparison of the significance of two uncorrelated means
Sign test	2	1	Nominal	Comparison of the significance of two uncorrelated means that do not indicate the direction or magnitude of significance
Wilcoxon test	2	1	Nominal	Comparison of the

				significance of two uncorrelated means but do not indicate the direction or magnitude of significance.

3.10   Post Analysis Evaluation

In any study or research there must be post data analysis evaluation. Some researchers carry out the evaluation consciously while others do so unconsciously. Post data analysis evaluations are aimed at finding answers to some questions arising during the analysis of the study data. Among such questions are:

Was there a possible wrong entry? For example, in a situation where the age of an informant was written as 198 could it have been 98 or 1?
In few cases of no results, what factors are responsible for this?

In most cases, the magnitude of these errors cannot be assessed before the post analysis stage, post analysis evaluation provide an opportunity to assess the magnitude of the errors (Andrew et al, 1974).

4.0   CONCLUSION

Data is a set of unrelated information. As such, it is of no use until it is analysed. Upon analysis, once there is some significance between them and they show some relevance, then meaning can be made out of them. Thus, till data are analysed, they are not useful.

5.0   SUMMARY

This unit has exposed you to:

The meaning of data and data analysis
The types of data.
The types of data analysis.
The major descriptive statistical tools and how to apply them.
The inferential tools and how to apply them
The reasons for post data analysis evaluation

6.0   TUTOR-MARKED ASSIGNMENT

1.   Find the mean, mode and median for the following sets of data:

        Group 1:   5, 5, 5, 6, 7, 5, 4, 8, 4, 5, 8, 8, 7, 6, 3, 3, 2, 5, 4, 7
        Group 2:   19, 21, 22, 27, 16, 15, 18, 24, 26, 24, 22, 27, 16, 15,
                     18, 21, 20

2.   Explain two types of statistics used in communication research
        and how to apply them.

7.0   REFERENCES/FURTHER READINGS

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        Publications.

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UNIT 3   DOCUMENTATION

CONTENTS

1.0   INTRODUCTION

One attribute of a well written, scholarly researched work is reference. A well researched work must show ample evidence that the researcher has indeed consulted widely in the course of putting the research work together. This means he must have read all available literature (books, journal articles, online articles etc.) especially those of renowned scholars or authorities. Any research work that lacks these will look like a mere essay or some fictional work. In fact, the more the references contained in a research work, the better it is. All works consulted or made reference to by a researcher must be properly documented. This is indeed an important aspect of research project writing.

2.0   OBJECTIVES

On successful completion of this unit, you should be able to:

        define and explain what documentation means in a research project;
        compile a Reference list/Bibliography;
        explain the American Psychological Association (APA) Style of doing references;
        understand the APA Style of references; and

write the preliminary pages of a research project.

3.0   MAIN CONTENT

3.1   Meaning of Documentation

According to Ajala (1996:11) documentation is the act of presenting in **proper form**, the details about source notes and bibliography in a research report… It is the accepted way to **give credit** to the people (authors) whose work you have drawn on.

I hope the above definition is self explanatory. A researcher in the course of writing a research project consults or makes references to the works of other scholars. These may be books, journals, websites, magazines, etc. He has to acknowledge or give credit to the authors in an appropriate way either within the body of the research or at the end of it. That is what is referred to as documentation in a research project.

Notice documentation in paragraph one above. This writer has made reference to a book written by another scholar (Ajala) published in 1996. The page is 11, other details i.e. book title and publishers are supplied in the bibliography. This is proper referencing or documentation within the text (body) of this unit.

Ajala further explains that in the academic community, there is an intellectual offence that is heavily penalized. That is the offence of **plagiarism** which can be explained as presenting someone else's work whether published or unpublished as your own. To avoid this, it is required of researchers that they tell their readers or the academic community where they got their materials from. As already explained, the work or ideas could be from books, journals, websites, etc. Anything (statement, ideas, charts, etc.) taken from someone else's work must be credited to the source. To protect people (writers especially) from stealing the work of others, most nations have put in place legislation (copyright laws) to deal with offenders.

Documentation comes in three major forms in a research project – (i) reference citation within the text (body), (ii) list of references at the end of each chapter and (iii) a bibliography at the end of the research project. The bibliography is a comprehensive list of all works referred to in the research project. It is usually presented alphabetically in this order: **books, journals, magazines, newspapers, websites, seminar papers, unpublished works,** etc.

3.2   The APA Style

According to Ajala (1996:12), there are three popular ways today of handling reference citations in a research project. (These are the APA, Havard and Chicago styles). Of these three, Ajala states that the APA style is the simplest. It is also the most popular among scholars and researchers. Accordingly, in this unit, our discussion on documentation will be limited to the APA style.

The American Psychological Association (APA) style of documentation is described by Ajala as the "author – date - system". Within the text, it gives the surname of the author, year of publication and page number(s) as in the example below:

Example 1

According to Berelson (1948:172), some kinds of communication on some kinds of issues brought to the attention of some kinds of people under some kinds of conditions, have some kinds of effects.

A slightly different approach of referencing within the text (body) of a research work is by stating the surname of the author, year of publication and page number(s) at the end of the statement as in Example 2 below:

Example 2

The most incontrovertible view about the effect of the mass media is that some kinds of communication on some kinds of issues, brought to the attention of some kinds of people under some kinds of conditions, have some kinds of effects (Berelson, 1948:172).

You can see from the above example that the surname of the author of the work referred to in the text is Berelson, the year of publication is 1948 while the page number 172. The title of the work as well as the publisher's location/publisher are left for the References page and or/Bibliography.

Another feature of this style is that all references cited in a research project are listed alphabetically in the references page and or/bibliography.

The APA style requires the construction of an accurate and complete reference list and bibliography. This is so because one purpose of documentation is to enable readers retrieve and use the sources cited. For this reason, reference data must be complete. Each entry in the APA style (Reference list/Bibliography) contains the following

elements: author's last name and initials, year of publication (in parenthesis), title of publication (in italics or underline), publisher's location (city) and publisher.

Example 3

Ajala, V.O. (1996) Scholarly Writing Guide For Indent. Ibadan: May Best Publishers.

The above information is necessary for the unique identification and library search for the work cited. The best way to ensure that the information contained in he entry is accurate and complete is to check each reference carefully against the original publication. For this reason, it is advised that researchers should give special attention to spelling of proper names as well as words in foreign languages.

According to the APA (2002), researchers are responsible for all information in their Reference List / Bibliography. Accordingly, accurately prepared references help establish the researcher's credibility as a careful researcher. Any inaccurate or incomplete reference therefore will stand as a slur on the researcher's work and an evidence of his carelessness.

3.3   Aspects of the APA Style

We now examine some crucial aspects of the APA style.

3.3.1   Quotation of Sources

The APA Manual provides that material directly quoted from another author's work or from one's own previously published work or verbatim instructions be reproduced word for word. If the quotation is fewer than 40 words or three lines, the researcher should enclose the quotation with double quotation marks within the text or body of the research.

However, if the quotation is more than 40 words or three lines, the researcher should display the quotation in a free standing block of typewritten lines and omit the quotation marks. The researcher should start such a block quotation on a new line and indent (begin farther in from the margin than the rest of a paragraph) the block about 1.3cm or five spaces from the left margin.

The following examples taken from the APA manual illustrate the application of the APA style to direct quotation of a source:

Quotation 1

She stated, "The 'placebo effect' … disappeared when behaviors were situated in this matter" (Miele, 1993:276), but she did not clarify which behaviors were studied.

Quotation 2

Miele (1993) found that "the 'placebo effect', which had been verified in previous studies, disappeared when (only the first group's) behaviours were studied in this matter" (p.276).

Quotation 3

Miele (1993:276) found the following:

The "placebo effect", which had been verified in previous studies, disappeared when behaviours were studied in this manner. Furthermore, the behaviours were never exhibited again, even when real drugs were administered. Earlier studies (e.g., Abdullah, 1984; Fox, 1979) were clearly premature in attributing and results to a placebo effect.

Please note that direct quotations must be accurate. The quotation must follow the wording, spelling, and interior punctuation of the original source, even if the source is incorrect.

If any incorrect spelling, punctuation, or grammar in the source might confuse readers, insert the word SIC italicized and bracketed, immediately after the error in the quotation.   Always check the manuscript copy against the source to ensure that there are no discrepancies – ibid and op.cit.

3.3.2   Bibliography/References List Entries

This section deals with the citation of books in either the References list or Bibliography.

Elements of a Citation Book

Beck, C.A.I., & Sales, B.D. (2001). *Family mediation: facts, myths, and future prospects*. Washington, D.C: American Psychological Association.

Book authors: Beck, C. A., & Sales, B. D.
Date of Publication: (2001).
Book Title: *Family mediation: Facts, myths, and future prospects*.

Publication information: Washington, D.C: American Psychological Association.

According to the APA style, if a book has more than six authors, abbreviate the remaining authors as et al. in the first and subsequent text citations.

Edited Book

Gibbs, J. T., & Huang, L. N. (Eds.) (1991). Children of colour: *Psychological interventions with minority youth*. San Francisco: Jossey-Bass.

Note. For a book with just one author and an editor as well, list the editor in parentheses after the title.

Book, No Author or Editor

Merriam-Webster's collegiate dictionary (10th ed.) (1993). Spring-field, MA: Merriam-Webster.

Place the title in the author position.
Alphabetize books with no author or editor by the first significant word in the title (Merriam in this case).
In text, use a few words of the title, or the whole title if it is short, in place of an author name in the citation: (Merriam-Webster's Collegiate Dictionary, 1993).

Encyclopedia or Dictionary

Sadie, S. (Ed.). (1980). The New Grove Dictionary of Music and Musicians (6th ed., Vol.s 1-20). London: Macmillan.

For major reference works with a large editorial board, you may list the name of the lead editor, followed by et al.

Article or Chapter in an Edited Book, Two Editors

Ejork, R.A. (1989) "Retrieval Inhibition as an Adaptive Mechanism in Human Memory". In H.L. Roediger III & F.I.M. Craik (Eds.) *Varieties of memory & consciousness*. Hillsdale, NJ: Eribaum.

3.3.3   Journal References

Elements of a Reference to a Journal

Herman, L.M., Kuczaj, S.A., III, & Holder, M.D. (1993) "Response to anomalous gestural sequences by a language-trained dolphin: Evidence for processing of semantic relations and syntactic information". *Journal of Experimental Psychology*: General, 122, 184-194.

Article authors: Herman, L.M., Kuczaj, S.A, III, & Holder, M.D.
Date of publication: (1993).
Article title: Responses to anomalous gestural sequences by a language-trained: Evidence for processing of semantic relations and syntactic information.

Journal title and publication information: Journal of Experimental: Psychology: General, 122, 184 – 194.

Journal Article, One Author

Mellers, B.A. (2000). Choice and the relative pleasure of consequences. *Psychological Bulletin*, 126, 910 – 924.

Journal Article, More Than Six Authors

Wolchik, S.A. West, S.G., Sandler, I.N., Tein, I., Coatsworth, D., Lengua, L., et al (2000). An experimental evaluation of theory-based mother and mother-child programs for children of divorce, *Journal of Consulting and Clinical Psychology*, 68, 843 – 856.

After the sixth author's name and initial, use et al. to indicate the remaining authors of the article.
In text, use the following parenthetical citation each time (including the first) the work is cited: (Wolchik et al., 2000).

SELF-ASSESSMENT EXERCISE 1

Get two undergraduate research projects in any communication related discipline and critically assess the method of documentation. Do they conform with the APA format? List the observed errors.

3.3.4 Journal Article in Press

Zuckerman, M., & Kieffer, S.C. (in press). Race differences in face-ism: Does facial prominence imply dominance? *Journal of Personality and Social Psychology*.

A paper that has been submitted to a journal and accepted for publication is considered in press.

Do not give a year, a volume, or page numbers until the article is published. In text, use the following parenthetical citation: (Zuckerman & Kieffer, in press).

Magazine Article

Kandel, E. R., & Squire, L.R. (2000, November 10). Neuroscience: Breaking down scientific barriers to the study of brain and mind. Science, 290, 1113-1120.

Give the date shown on the publication – month for monthlies or month and day for weelies.
Give the volume number. (if any)

Daily Newspaper Article, No Author

New drug appears to sharply cut risk of death from heart failure. (1993, July 15). *Daily Independent*, p.A12.

Daily Newspaper Article, Discontinuous Pages

Schwatz, J. (1993, September 30). Obesity affects economic, social status. *Daily Independent*, pp.A1, A4.

If an article appears on discontinuous pages, give all page numbers, and separate the numbers with a comma (e.g., pp.B1, B3, B5 – B7).

Citation of a work discussed in a Secondary Source

Give the secondary source in the reference list; in text, name the original work, and give a citation for the secondary source. For example, if Seidenberg and McClelland's work is cited in Colt-heart et al. and you did not read the work cited, list the Coltheart et al. reference in the References. In the text, use the following citation:

Text citation:

Seidenberg and McClelland's study (as cited in Coltheart, Curtis, Atkins, & Haller, 1993).

Reference List Entry:

Coltheart, M., Curtis, B., Atkins, P., & Haller, M. (1993). Models of reading aloud: Dual-route and parallel-distributed-processing approaches. Psychological Review, 100, 589-608.

3.3.5 Citation of Proceedings of Meetings and Symoposia

Published proceedings, published contribution to a symposium, article or chapter in an edited book

Deci, E.L., & Ryan, R.M. (1991). A motivational approach to self: Integration in Personality. In R. Dienstbler (Ed.), Nebraska Symposium on Motivation: Vol.38. Perspectives on motivation. Lincoln: University of Nebraska Press.

Proceedings Published Regularly

Williams, C. J. (2002) Pornography, callousness and the trivialization of rape proceedings of the National Academy of Social Sciences, USA, 89, 1372-1375.

Unpublished Paper Presented at a Meeting (Seminar Paper)

Lanktress, C., & Briere, J. (1991, January). *Early data on the Trauma Symptom Checklist for Children* (TSC-C). Paper presented at the meeting of the American Professional Society on the Abuse of Children, San Diego, CA.

3.3.6 References of Unpublished Works

Unpublished doctoral dissertation
Wililey, D. E. (1989). *Interpersonal analyses of bulimia: Normal-weight and obese*. Unpublished doctoral dissertation, University of Missouri, Columbia.

3.3.7 Referencing Internet Sources

Internet article
Fredrickson, B.L. (2000, March 7). "Cultivating Positive Emotions to Optimize Health and Well-being: Prevention & Treatment", 3,

Article 0001a. Retrieved November 20, 2000, from http://journals .apa.org/prevention/volume3/pre00300011a.html

Use n. d. (no date) when a publication date is not available

Stand-alone document, no author identified, no date

GVU's 8th WWW user survey. (n.d.). Retrieved August 8, 2000, from http://www.cc.gatech.edu./gvu/user_surveys/survey-1997-10/

If the author of a document is not identified, begin the reference with the title of the document.

Paper Presented at a Virtual Conference

Tan, G., & Lewandowsky, S. (1996). A comparison of operator trust in humans versus machines. Paper presented at the CybErg 96 virtual conference. Retrieved May 16, 2000, from http://www.curtin.edu.au/conference/cyberg/centre/outline.cgi/fra me?dir=tan

3.4   The Appendix

The appendix consists of materials attached to a research project at the end.   It is usually an explanatory matter that is not essential to the completeness of the research project. It is usually the last item in a research project after the bibliography.

According to Ajala (p.52) appendixes form an important set of reference materials or supplementary parts which come after the text of the research project. An appendix contains materials related to the research project but not included in it because they are too lengthy or bulky or because they lack direct relevance which may be distracting in the body of the paper.

The following are documents that could be classified as appendixes:

Sample questionnaires/interview guide/coding sheets/cover letters.
Maps, photographs, newspaper pages.
Statutes etc.

3.5   The Preliminary Pages

These are normally the starting pages in a research project. They are:

Title page
Certification/Authentication page
Abstract
Acknowledgements
Dedication
Table of Contents
List of Tables

Title Page

The first page of a research project is the title page. The form of the title page is usually prescribed by the institution awarding. The degree/diploma. It includes the title of the research project, the degree for which the project is presented, the full names of the candidate, matriculation number and date of degree.

Example:

Public Image of Nigerian Journalists
By Wazobia,
John Musa Matric No.
09/01/07/2007

Being a research project submitted to the Faculty of Social Sciences, National Open University in partial fulfillment of the requirements for the award of the Bachelor of Science (B.Sc) degree in Journalism. June 2007

Certification/Authentication Page

Each institution/faculty/department usually has a model or form printed for this purpose.

Abstract

This is a brief summary of the content of the research project. The abstract provides readers the gist of the project in one or two pages.

Acknowledgements

This page recognizes the persons to whom the writer is indebted for guidance and assistance and those to whom he is grateful for any special or non-routine assistance.

Dedication

This is a special person(s) to whom the project is devoted.

Table of Contents

This page(s) provides the reader with the order of presentation of the contents of the research project.

List of Tables

After the table of contents, the next page is the list of tables, it consists of the exact caption of tables (if any) in the text and the beginning page for each.

4.0   CONCLUSION

Hope you enjoyed this unit.   Documentation is a crucial aspect of communication research. You therefore must learn how to do it right. You are encouraged to read well research books and journal articles to further broaden your knowledge of the subject.

5.0   SUMMARY

In this unit you have learnt the following:

Documentation entails acknowledging or give credit to sources (authors) whose work you have drawn on in your research.
There are several ways of handling documentation but the most popular today is the American Psychological Association (APA) format.
Major aspects of the APA format involves handling quotations within the text (body of the research) and compilation of references list/bibliography.

6.0   TUTOR-MARKED ASSIGNMENT

a)   Why is documentation necessary in communication research?
b)   Discuss the main features of the APA format of documentation.

7.0   REFERENCES/FURTHER READINGS

Ajala, O. V. (1996). *Scholarly Writing Guide For Researchers.* Ibadan: MayBest Publishers.

Publication Manual of the American Psychological Association. (5th ed) (2002). Washington, D.C: American Psychological Association.

Tejumaiye, A. J. (2003). *Mass Communication Research (An Introduction).* Ibadan: Sceptre Prints Ltd.

MODULE 6   AREAS OF MASS COMMUNICATION RESEARCH

Unit 1   Print Media Research
Unit 2   Electronic Media Research
Unit 3   Public Relations Research
Unit 4   Advertising Research
Unit 5   Media Effects Research

UNIT 1   PRINT MEDIA RESEARCH

CONTENTS

1.0   Introduction
2.0   Objectives
3.0   Main Content
        3.1   Types of Print Media Research
        3.2   Readership Research
        3.3   Types of Readership Research
        3.4   Circulation Research
        3.5   Newspaper Management Research
        3.6   Typography and Make-up Research
        3.7   Readability Research
        3.8   Research on Print Media on the Internet
4.0   Conclusion
5.0   Summary
6.0   Tutor-Marked Assignment
7.0   References/Further Readings

1.0   INTRODUCTION

Ever since the mass media became features of modern society, researchers have been interested in them. The print media (newspapers, magazines and books) were the first to come on the scene. Later came the electronic media which had more impact.

More people in modern society began to be exposed to the mass media; more were reading newspapers and magazines while others spent more time either listening to radio or watching television. Lately people are getting hooked to the internet. Accordingly, McQuail (1976:3), notes that exposure to the mass media has become somewhat a requirement of membership of modern society.

As the mass media became pervasive, researchers began to be interested not just in their effects, but in other aspects of the media as well. Social scientists began applying their research techniques to the study of the

mass media. This led to a distinct new area of social science research known as mass media research.

According to Wimmer and Dominick (1987:285) research dealing with magazines and newspapers was one of the first areas of mass communication research to be developed in the 1920s. The initial interest in such research came from Universities in the United States of America (USA). Later, it spread to other areas of mass media research. These are print and electronic media research, research in public relations and advertising, research in media effects and other emerging areas such as traditional media, new media, global media system, etc.

2.0　OBJECTIVES

On successfully completion of this unit, you should be able to explain:

> the major types of Print Media research;
> the methodology used; and
> the outcome.

3.0　MAIN CONTENT

3.1　Types of Print Media Research

According to Wimmer and Dominick (2000:287) there are six basic types of print media research. These are readership research, circulation research, newspaper management research, typography / makeup research, readability research and research on print media on the internet.

3.2　Readership Research

As already stated in the introduction, print media research was the first, and most of the studies centered around newspaper and magazine readership. Most readership studies were done in the USA in the years preceding and following the Second World War (WWII). A research company in the USA, The George Gallop organization was a pioneer in this area. It used the personal interview method in which respondents were shown a copy of a newspaper and then asked to identify the articles they had read. According to Swanson (1955) the most complete newspaper readership research was undertaken by the American Newspaper Publishers Association between 1939 – 1980.

Readership research became important to management of print media organizations between the 1960s and 1980s as circulation rates in some American, cities began to level off or decline. Concerned with

sustaining the interests of their readers, editors and publishers began more than ever to depend on research for the detailed audience information they needed to shape the content of their publications.

3.3   Types of Readership Research

Research into newspaper and magazine readership is further divided into six types. They are as follows:

Reader profiles
Item – selection studies
Reader – Nonreader studies
Uses and Gratification studies
Editor-reader comparison studies
Magazine Readership Research

Reader Profiles

A reader profile provides a demographic summary (age, income, geographic location, social class, occupation, education, etc.) of the readers of a particular publication. For example, a profile of the audience of a particular magazine will disclose the age bracket, income, educational attainment and leisure preferences of readers. Such information is particularly important to shape the content of a publication so as to meet the needs of both current and potential readers. It is also helpful when launching a new publication. Dan Agbese carried out a study in this area entitled "Who reads business publications in Kaduna?" during his undergraduate days at the University of Lagos.

Researchers, however, have found out that there are significant differences in the nature and extent of newspaper readership among individuals who may have the same demographic characteristics. They therefore turned to what is known as **psychographics and lifestyle segmentation** studies to construct better reader profiles. This approach goes beyond the traditional demographic portrait to describe readers in terms of what they think or how they live. **Psychographics studies** in particular usually ask readers to indicate their level of agreement or disagreement with a large number of attitudinal statements. Patterns of responses are analysed to see how they correlate or cluster together. Respondents who show high levels of agreement with questions that cluster together are described with labels that summarize the substance of the questions. For example, respondents who agree with statements such as "I like to think I'm a swinger" or "Give the youths what they went" might be labeled "Progressives" while those who agree with, statements such as "Women's libration has gone too far and "The good old days are better" might be labeled "Traditionalists" or "Old School".

In **Lifestyle Segmentation** research, respondents are asked a battery of questions concerning their activities, hobbies, interests and attitudes. As in psychographic studies, the results are analysed to see what items cluster together. Groups of individuals who share the same attitudes and activities are extracted and labeled.

Both psychographic and lifestyle segmentation studies are designed to provide newspaper and magazine publisher with additional insights about editorial aims, target audience and circulation goals. They also provide advertisers a multidimensional portrait of a publication's readers.

Item-Selection Studies

A second type of newspaper readership study, the item-selection study, is used to determine who reads specific parts of the newspaper.   The readership of a particular item is usually measured by means of what is known as aided recall, whereby the interviewer shows a copy of the paper to the respondent to find out which stories the respondent re-members.

Because of the expense involved in conducting personal interviews, some researchers now use phone interviews to collect readership data. Calls are made on the same day the issue of the paper is published. The interviewer asks the respondent to bring a copy of the paper to the phone, and together they go over each page, with the respondent identifying the items he or she has read.

Another technique used in the item-selection study is the mail survey. It involves mailing respondents a self-administered readership survey which comes in two variants – the "whole copy" and the "clipping" methods. In the whole copy method, respondents are sent an entire copy of the previous day's paper along with a set of instructions and a questionnaire. The instructions direct the respondents to go through the newspaper and mark each item they have read. In the clipping method, respondents are sent clippings of certain items rather than the entire paper. According to Hvistendaul (cited in Wimmer and Dominick p. 289) both methods produced roughly equivalent results although readership scores on some items tended to be slightly higher when clippings were used.

Among researchers who have carried out studies in this area include Stamm, Jackson and Jacoubowitch (1980), Larkin and Hecht (1979) and the American Newspaper Research Council (1984).   However, a remarkable study was conducted by Schwartz, Moore and Krekel in 1979.   That study categorized readers into four – young optimists,

traditional conservatives, progressive conservations and grim independents on the basis of which sections of the paper they tended to read. Young optimists, for example, were heavy readers of astrology columns, housing ads, and the classified section: in contrast, grim independents were heavy consumers of sports and business news. In another readership study, Lynn and Bennett (1980) divided their sample according to residence in urban, rural, or farming areas. Their survey found that there was little difference in the type of news content read by farm and rural dwellers, but that urban residents were more likely to read letters to the editor, society items, and local news.

Reader – Nonreader Studies

The third type of newspaper readership research is called the reader-nonreader study. This type of study can be conducted via personal, telephone, mail interviews or lately via the internet with minor modifications. It is difficult, however, to establish an operational definition for the term "nonreader". In some studies, a nonreader is determined by a "no" answer to the question "Do you generally read a newspaper?" Others have used the more specific question. "Have you read a newspaper yesterday or today?" (The rationale being that respondents are more likely to admit they haven't read a paper today or yesterday than that they never read one). A third form of this question uses multiple response categories. Respondents are asked, "How often do you read a daily paper?" and are given five choices of response: "very often", "often", "sometimes", "seldom", and "never". Nonreaders are defined as those who check the "never" response or, in some studies, "seldom" or "never".

Once the nonreaders have been identified, researchers typically attempt to describe them by means of traditional demographic variables. For example, Penrose and others (1974) found nonreading to be related to low education, low income, and residence in rural areas.

Several nonreader studies have attempted to identify the reasons for not reading the newspaper. The data for these subjects have generally been collected by asking nonreaders to tell the interviewer in their own words why they don't read. Responses are analyzed, and the most frequent reasons reported. Poindexter (1978) found that the three reasons named most often by nonreaders were lack of time, preference for another news medium (especially TV), and cost. Bogart (1981) identified four reasons: depressing news, cost, lack of interest, and inability to spend sufficient time at home.

Uses and Gratification Studies

The fourth type of newspaper readership reader is called the uses and gratification research. This approach is used to study all media content. In the newspaper area, it is used to determine the motives that lead to newspaper reading and the personal and psychological rewards that result from it. The methodology of the uses and gratifications study is straightforward: respondents are given a list of possible uses and gratifications and are asked whether any of these are the motives behind their reading.   For example, a reader might be presented with the following items:

> I read the newspaper because it is entertaining.
> I read the newspaper because I want to kill time.
> I read the newspaper to keep up to date with what's going on around me.
> I read the newspaper to relax and to relieve tension.
> I read the newspaper to find job vacancies.

Several studies have taken this approach to explain readership. For example, McCombs (1979) found three primary psychological motivations for reading newspapers: the need to keep up to date, the need for information, and the need for fun. Reading for information seemed to be the strongest factor. Similarly, Weaver, Wilhoit, and Reide (1979) found that the three motivations most common in explaining general media use are the need to keep tabs on what is going on around one, the need to be entertained, and the need to kill time.

Editor – Reader Comparisons

The fifth type of newspaper readership research is editor-reader comparison. In this approach a group of editors is questioned about a certain topic, and their answers are compared to those of their readers to see whether there is any correspondence between the two groups.

In one of such studies carried out by Bogart (1981), a group of editors was asked to rate 23 attributes of a quality newspaper. While editors ranked "high ratio of staff written stories to wire service stories" first; "high amount of nonadvertising content second and "high ratio of news interpretations to spot news" third, readers on the other hand rated "presence of an action line column" first, "high ratio of sports and feature news to total news" second, and "presence of a news summary" and "high number of letters to the editor per issue" as a tie for third. In short, there was little congruence between the two groups in their perceptions of the attributes of a high-quality newspaper.

Magazine Readership Research

Magazine readership surveys are fundamentally similar to those conducted for newspapers but tend to differ in certain ways.   For instance, in terms of methodology, most magazine research is done by personal interview.   Respondents are shown a copy of the magazine under study and asked to rate each story or a four-point scale ("read all", "read most", "read some" or "didn't read").

Some magazines maintain reader panels of 25-30 people who are selected to participate for a predetermined period.   All stories that appear in each issue of the magazine are sent to these panel members, who rate each story on a number of scales, including interest, ease of readership, usefulness, etc.

3.4   Circulation Research

There are two forms of circulation research.   The first attempts to measure circulation in terms of the overall characteristics of a particular market. It seeks to determine the proportion of households in a given market that are reached by a particular newspaper or the circulation pattern of a magazine among certain demographic groups in specific geographic areas.

Researchers who have carried out studies in this area include Tellinghast (1981), Nunn (1979), Alperstein (1980) and Stone (1978). Tellinghart's study analysed changes in newspaper circulation in four regions of the USA and found that the greatest decrease occurred in the East and South. He also found that the degree of urbanization in a region was positively related to circulation.

The other type of circulation research uses the individual reader as the unit of analysis to measure the effects of certain aspects of delivery and pricing systems on reader behaviour. Researchers who have conducted research in this area include McCombs, Mullins and Weaver (1974), Stone and Trotter (1981) and Blankenburg (1981), McCombs, Mullins and Weaver found out that a major reason why readers stop patronizing a newspaper has to do with content than with circulation problems.

3.5   Newspaper Management Research

According to Wimmer and Dominick (2000:306-307) a growing research area in the 1990s has been newspaper management practices. This growth was due to three factors. First, newspaper companies expanded their holdings, which created a more complicated management structure. Second, media competition became more

intense. Newspapers with efficient management techniques had a greater advantage in the new competitive environment. Third, the newspaper industry became more labour intensive.   Skilled and experienced personnel form the backbone of a successful newspaper. More and more managers turned to research to determine how to keep employees satisfied and productive.

The techniques used to study newspaper management are the same as those used to study any business activity; surveys, case studies, descriptive content analysis, and mathematical models. The main topics that have attracted the most research attention in the last five years are goal setting by management, employee job satisfaction, and effects of competition and ownership on newspaper content and quality.

3.6   Typography and Makeup Research

This research is unique to the print media. It measures the effects of news design elements, specifically typeface and page makeup, on readership and reader preferences. By means of this approach, researchers have tested the effects of dozens of different typography and makeup elements, including: amount of white space, presence of paragraph headlines, size and style of type, variations in column width, and use of vertical or horizontal page makeup.

The experimental method is used most often in typography and makeup studies. Subjects are typically assigned to one or more treatment groups, exposed to an experimental stimulus (typically in the form of a mock newspaper or magazine page), and asked to rate what they have seen according to a series of dependent variable measures.

3.7   Readability Research

According to Liare (1963:1) readability refers to "ease of understanding or comprehension due to style of writing". Readability research therefore focuses on those factors that make writing easy or difficult to understand. It also measure how easy or difficult it is to understand a piece of writing.

According to Severin and Tankard (1992:109) the study of readability is important for two reasons. First, it provides the way to measure the readability of written materials. Researchers want to find a formula for measuring readability. Such a formula might involve making some simple counts in a book or news story and then doing some simple computations to get some kind of score. Such a formula however, should be reliable and valid. Second, the search for a formula could provide some information about the most important aspects of style

influencing ease of understanding. This could lead to some helpful advice for writers.

Several formulas have been developed to determine objectively the readability of text. One of the best known is the Flesch (1948) reading ease formula, which requires the researcher to select systematically 100 words from the text, determine the total number of syllables in those (wl), determine the average number of words per sentence (sl), and perform the following calculation:

Reading ease = 206.835 – 0.84wl – 1.015sl

The score is compared to a chart that provides a description of style (such as "very easy") or a school grade level for the potential audience.

3.8   Research on Print Media on the Internet

Since the 1990s, several newspapers and magazine have gone on-line i.e. being published on the internet. The major difference between traditional and on-line publications is that instead of pressing ink on paper and distributing same by vans or trucks, on-line publication involves production and distribution of the print media digitally via computers.

According to Wimmer and Dominick (2000:311) about 900 United States newspapers were publishing both traditional print and on-line versions by 1999. The number of magazines is more. Since the digital revolution is a fairly recent phenomenon, most of the research in this area is still at the infancy.

Some studies in this area are concerned with describing what types of newspapers have web sites, how their on-line versions relate to the print version and how they are trying to make profit. Other studies describe the audience for on-line magazines and newspapers and examine whether on-line newspapers and magazines reading cuts into the time spent with their print equivalents. Another technique of measuring on-line traffic (i.e. the number of internet users that visit newspaper and magazine web sites) is to count access such as "hits" on a web sites page.

4.0   CONCLUSION

Print media research is indeed an important area of mass media research. It offers researchers the opportunity of thoroughly studying relevant areas of the print media. The results of such studies are significant data to both newspaper and magazine publishers as well as advertisers. Print

media research is still growing and the following are the emerging areas in print media research:

Application of new technologies
Ownership and control
Economics of newspaper and magazine production.

5.0   SUMMARY

In this unit you have learnt that:

Research in the print media encompasses readership studies, circulation studies, management studies, typography and makeup studies, and readability studies.
Readership research is the most extensive area; it serves to determine who reads a publication, what items are read, and what gratification the readers get from their choices.
Circulation studies examine the penetration levels of newspaper and magazines in various markets as well as various aspects of the delivery systems.
Management studies look at goal setting and at job satisfaction.
Typography and makeup are studied to determine the impact of different newspaper and magazine design elements on readership and item preferences.
Readability studies investigate the textual elements that affect comprehension of a message.
A more recent research area examines newspapers and magazines on the internet and their readers.

6.0   TUTOR-MARKED ASSIGNMENT

Discuss the types of research conducted by print media researchers.

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UNIT 2   ELECTRONIC MEDIA RESEARCH

CONTENTS

1.0   INTRODUCTION

Radio, television and the cinema constitute what are traditionally referred to as the *electronic or broadcast media*. However, the term is now applied more or less to radio and television. The internet is either print or broadcast media. It stands on its own as *new media technology*. There are some factors common to the electronic media. First, some form of electrical energy is required to access them. Secondly, their messages are transient or ephemeral and thirdly, they transcend the barriers of illiteracy.

Just as advertisers initiated print media research, so they did electronic media research. The reason for this is straightforward: the acceptance of advertising as a way of financing radio and television in the USA became an impetus for research in the electronic media. Advertisers wanted to know how many people were exposed to their messages and how effective the messages were. It was only research that could provide such data.

2.0   OBJECTIVES

On successful completion of this unit, you should discuss the following:

the significance of electronic media research;
the models of research in the electronic media;
the categories of electronic media research;
the providers of electronic media audience research; and
the recent technological advances in radio audience research

3.0   MAIN CONTENT

3.1   The Significances of Research in the Electronic Media

Research in the broadcast media started way back in the 1920s in the USA. According to Wimmer and Dominick (2000:300) in the early years of broadcasting, broadcasters were experimenters and hobbyists who were interested mainly in making sure that their signals were being sent and received. They had no reason to be concerned with audience size which is one of the main concerns of electronic media research.

All that changed in the 1930s as radio became a popular mass medium. The acceptance of advertising on radio became the first step in the use of research in the electronic media. To justify advertising rates to advertisers and advertising agencies, broadcasters were compelled to provide empirical evidence of the size and characteristics of their audience. In addition to information about audience size, advertisers also became interested in why people behave the way they do. This led to the development of psychographics research (This has been well discussed in Unit One of this module).

It was not only advertisers that benefited from electronic media research. Broadcasters and broadcast stations also benefited as can be seen from the following statement by Phil Locascio, director of a radio station in the USA:

Research is the only way to find out about a target audience and what they want from a station. Research helps us to determine when we must adjust our business to meet new demands…

Wimmer and Dominick (2000:320) also point out that electronic media research is a multimillion dollar business in advanced countries. Its procedures are now well established and over the years guided by the following philosophy: Find out what people want and give it to them. In this case, "people" are viewers and listeners while the people who find things out are researchers.

3.2   Three Models of Electronic Media Audience Research

The audience is one of the central elements of electronic media research. For over five decades, media audiences generally have been a concern of researchers, entrepreneurs and social critics alike. Audiences are the *raison d'etre* for electronic media organisations. In fact, it is hard to imagine any form of electronic media research that is not, on some level, about audiences.

There are three main models of electronic media audience research. Each asks a defining question about the audience and its relationship to the electronic media. In this regard, electronic media audience studies are grouped into three models labeled *audience-as-mass, audience-as-outcome* and *audience-as-agent* (Webster, 1998).

In the first model (i.e. *audience-as-mass*) the audience is seen as a large collection of people scattered across time and space who act autonomously and have little or no immediate knowledge of one another. They are defined as an entity by their common exposure to the electronic media.

The central question to this model is *"what media do people consume?"* In other words, what radio stations do people listen to or what TV stations do they watch? Other concerns, such as how individuals make sense of the material they encounter, are of secondary importance. Under this model, it is usually sufficient to know what media offerings have captured people's attention, how and why the audience moves from one encounter to the next, what they are likely to consume tomorrow, and on the long run, how the electronic media must adapt if they are to maintain an audience.

In the second model (i.e. *audience-as-outcome*) people are seen as being acted upon by the electronic media.   Typically, it reflects a concern about the power of the media to produce detrimental (antisocial) effects on individuals, and by implication on society as a whole. The defining concern of this model is expressed in the question: "*what do media do to people*?" Though social commentators have long worried about the ability of the electronic media to lead people astray, research of media effects began with propaganda analysis by the United States' Institute for Propaganda Analysis in the late 1920s and early 1930s.

Rather than seeing people as being acted upon by the electronic media, the third model (i.e. *audience-as-agent*) sees people as free agents choosing what media they will consume bringing their selective skills to play.

Under the above model, the audience acts upon the media, not vice versa. This way of thinking about the audience takes as its central concern the question, *"What do people do with the media"*? The audience-as-agent model has attracted many adherents in communication research circles. This is because of the belief that today's audience members have abundant message options. They therefore select from and pay attention to messages that are of interest to them. This is also known as *uses and gratification* approach in communication studies.

SELF-ASSESSMENT EXERCISE 1

Why is electronic media research important in the electronic media?

3.3   The Main Categories of Electronic Media Research

Electronic media research studies today fall into four main categories: **ratings, non-ratings, effects and miscellaneous research**.

3.3.1 Ratings Research

Ratings research is essentially broadcast audience measurement research.

Let's see how some authorities have defined ratings research.

According to Berger (2000:280), in media research, ratings refer to the percentage of households or of people in an area who have tuned their television or radio sets to a specific **station**, **programme** or **network**. Ratings differ from **shares** which refer to the number of people or households tuned to a station, programme or network correlated with sets in use.

Zettl (2000:547) defines ratings as the percentage of television households with their sets tuned to a specific station in relation to the total number of television households.

Wimmer and Dominick (2000:328) define it as the percentage of people or households in a population with a television or radio tuned to a specific station, channel or network. Thus the rating is expressed as the station or network's audience divided by the total number of television households, or people in the target population:

$$\frac{\text{People or Households}}{\text{Population (Sample)}} \quad = \quad \text{ratings}$$

See this example:

Station	Households viewing
Channels TV	1,100
NTA Channel 10	1,000
AIT	895

From the above, Channels TV's rating using 5000 as the hypothetical sample size is computed as follows:

$$\frac{1,100}{5,000} = 0.22 \text{ or } 22\%$$

The above indicates that approximately 22% of the sample of 5,000 households tuned to Channels TV at the time of the survey.

You can see from the above definitions and illustration that ratings research is concerned with measuring or documenting the audience size of the broadcast media particularly television. It includes the measurement of national television audiences, local television audiences as well as radio audiences. Ratings yield estimates of audience size and composition. Such measurement is used to gauge programme/station popularity and use the results to set advertising rates. Programmes that attract larger audience ratings or attract highly coveted demographic groups generally can charge higher advertising fees. It is the equivalent of circulation research in the print media.

3.3.2 Nonratings Research

Nonratings research provides information about what the audience likes and dislikes (e.g. programme preferences), analysis of different types of programming, demographic and lifestyle information of the audience and much more.

These data are intended to furnish management of broadcast stations with information they can use to eliminate guesswork from decision making. Nonratings research is important to broadcasters and one characteristic of all successful broadcast operations is that management uses research in all types of decision making.

Some of the nonratings research conducted in the electronic media include the following:

Programme Testing. This is the type of research conducted in the development and production of programmes and commercials. It is

now common practice to test these productions in each of the following stages: initial idea or plan, rough cut and postproduction. Since major programmes and commercials are very expensive to produce. Producers and directors are interested in gathering preliminary reactions to a planned programme. It would be ludicrous to spend so much money on a programme that would have little audience appeal.

Music Research. This type of research is conducted to provide the radio station's listeners with music they like to hear and avoid the songs that listeners' do not like or are tired of hearing. Another term for this is *burned out*.

Two of the most widely used music testing procedures are *auditorium music testing* and *call-out research*. Auditorium tests are designed to evaluate *recurrents* (songs that were recently popular) and *oldies/old school* (songs that have been around for years). Call-out research is used to test music on the air (*currents*). New music releases cannot be tested adequately in the auditorium or with call-out procedures. New music is often evaluated on the air during programmes where listeners call in and voice their opinion about new releases.

Auditorium tests and call-out research serve the same purpose: to provide a programme director or music director with information about the songs that are liked, disliked, burned, or unfamiliar. This information eliminates the gut feeling approach that many radio personnel once used in selecting music for their station.

Performance Measurement Research

This type of research is conducted by International Radio Stations like the World Service of the BBC as part of the accountability process. It measures the following:

Global Radio Audience. Here, it measures the number of adults across the world listening in an average week through direct and indirect broadcasting.

Awareness, Reach, Objectivity and Relevance. Here, adult population who are aware of the station's existence, adults who listen to the station weekly, those who say that the station provides unbiased objective news and information plus the percentage of listeners who say that the station provides news that is relevant to them are measured.

3.3.3 Electronic Media Effects Research

So far, we have discussed electronic media audience measurement research. Research in this area does not really address the critical issues arising from the exposure of individuals to the electronic media particularly television.   Ratings research is more or less audience-as-mass model which has as its central concern, the radio or TV stations people are tuned to or the type of programming they attend to.

Over the years, critics have raised concerns over what they consider as the detrimental or negative effects of children's exposure to television. The concern is that antisocial behaviour noticed among the youths can be directly linked to some types of programmes that youths are exposed to on television. The two issues or areas where most concern has been raised are the **effects of television violence** and **portrayal of sex or nudity** on young people.

In fact, one area of the social effects of mass communication that has been subjected to extensive amount of research is televised violence. According to Severin and Tankard (2001:283), throughout much of the history of television, a major concern has been the possible effects of television violence.   They report that content analysis shows that a massive diet of violent content is served up on television. One set of data indicated that by age 12, the average child in the United States of America will have watched over 101,000 violent episodes on television including 13,400 deaths. That number more than doubles by the time he or she reaches age 18.

A number of hypotheses have been formulated to explain the possible effects of television violence on human behaviour.

The first is *catharsis hypothesis* which suggests that viewing television causes a reduction of aggressive drive through a vicarious expression of aggression. In other words, the hypothesis states that when viewing a violent scene, the viewer releases his or her own aggressive feelings and therefore is less inclined to act out pent up anti-social behaviour.

The second are the *stimulation hypotheses* which predicts that watching television violence leads to an increase is actual aggressive behaviour. One of these is the *imitation* or *modeling* hypothesis, which suggests that people learn aggressive behaviour from television and then go out and practice or reproduce them.   A kind of *monkey see, monkey do* analysis.

A slightly different hypothesis which suggests that television lowers people's inhibition is the *disinhibition hypothesis*, which suggests that

television lowers people inhibition about behaving aggressively towards other people. According to Severin and Tankard (2001:283), if this hypothesis is correct, then television violence might be teaching a general norm that violence is an acceptable way to relate to other people.

Several research studies have been conducted in this area. Two prominent Surgeon General Reports in the USA in the last two decades link violence on television and aggressive behaviour in children and teenagers. In addition, the American Institute of Mental Health issued a 94 page report in 1982 entitled: "Television and Behaviour: Ten Years of Scientific Progress and implications for the Eighties" in which they found overwhelming scientific evidence that excessive violence on television leads to aggressive behaviour in children.

In another five-year study of 732 children by James Mann in 1982, several kinds of aggression, conflict with parents, fighting and delinquency were all positively correlated with the total amount of violent television viewing.

However, while some scholars and critics acknowledge the rise in violence among the youths, some scholars find it difficult to make a conclusive link to the media. They point out that there are several intervening variables between the child, television and violence. The major thrust of the argument here is that given the selective processes and other factors that mediate the mass communication message (selective exposure, retention and perception) it becomes difficult to say precisely what the effects of televised violence are on children.

The electronic media particularly television, DVDs, VCDs etc. have also been blamed for the amazing libralization of sexual behaviour noticed in the past four decades. According to critics, the electronic media have aided and abetted sexual immorality among unmarried youths by ample portrayal of nudity, celebration of premarital and deviant sex, adultery, homosexuality, lesbianism and the use of foul language. However, unlike television violence, little causal relationship has been found to link sexually explicit materials with antisocial behaviour (Wood, 1983:260).

Research in these areas (violence and sex in the electronic media) is still on-going and will continue for a long time. The Nigerian Broadcasting Commission (NBC) has responded to these issues by prescribing what can and cannot be aired on public television in Nigeria.

3.3.4 Miscellaneous Research

Other electronic media research categorized as miscellaneous include the following:

Performer Q. This type of research is designed for broadcasters to have an indication of the popularity of various performers and entertainers.

Market Studies. These studies investigate the opinions and perceptions of the entire market usually within a specific age range such as 25 to 54 years olds.

Programme Element Importance. This type of research identifies the specific elements on radio or TV that are most important to a specific audience. Station managers use this information to ensure that they are providing what the audience wants.

Station Image. This is the type of research conducted for a station's management to know how the public perceives the station and its services. This type of research is important because public misperception of management's purpose can decrease an audience's size and consequently, advertising revenue.

Personality (talent) research. This type of research is conducted to test the on-air personalities. Announcers (DJs), presenters and other personalities are often tested for their overall appeal and fit with other station personalities.

Format Studies. A format study for a radio station involves a sample of respondents who listen to or prefer a certain type of music. The respondents are asked a series of questions to determine which stations provide the best service in a variety of areas such as music, news, traffic reports and community activities (Wimmer and Dominick, 2000:342).

Format Search Studies. The purpose of this type of research is to find an available radio format in a given market.

TV Programming Research. This is a broad category that includes testing local news programmes, promotional materials used by the station, entertainment programming and everything else that might appear on the station.

Sales Research. In an effort to increase sales, some broadcast stations according to Wimmer and Dominick (2000:343) conduct

research for local clients. For example a station may conduct a banking image "study of all banks in the area to determine how residents perceive each bank and the service it provides. The results from such a study are then used in an advertising proposal for the banks in the area.

Diversification Analyses. According to Wimmer and Dominick (2000:343), this kind of research is undertaken to determine where investments should be make. For instance, should other stations be purchased? What other type of activity should be organisation invest in? Such research is used for forecasting and represent a major portion of the research undertaken by larger stations and broadcast organisations.

3.4   Providers of Electronics Media Audience Research

These are three providers of electronic media research. These are professional research companies, universities and in-house research departments in radio and TV stations. However, because of the complex nature of broadcast audience measurement research, the bulk of ratings research is provided by professional research companies.

In the USA, the bulk of syndicated information for radio and television station is provided by two companies: A.C Nielson and The Arbitron Company. While A.C. Nielson provides research for local, network (national) and cable TV, the Arbitron Company provides research for local market radio. Nielson is one of the world's largest market research companies and its TV ratings are very popular in the USA.

In the UK, the measurement of television audiences is dominated by the Broadcasters' Audience Research Board (BARB). This company is owned by two shareholders – the British Broadcasting Corporation (BBC) and the Independent Television Authority (ITVA). BARB levies charges on those using the research it manages. Radio research in the UK is provided by the Radio Joint Audience Research (RAJAR).

In Nigeria, Media Monitoring Services Nigeria Limited and Research & Marketing Services are among the professional research companies that provide broadcast audience measurement research for clients.

SELF-ASSESSMENT EXERCISE 2

Differentiate between ratings and non-ratings research in electronic media.

3.5   Methodology of Electronic Media Research

Ratings research uses the survey research method but with special data gathering techniques. It is also important to state that broadcast ratings research also provide a classic example of the need to sample the population. Because of the difficulty of conducting a census of all radio and television households in a country, professional research organizations naturally resort to sampling to provide data that can be generalized to the population.

The following are the special techniques used to gather data in ratings research:

Audimeter. This is perhaps the best known method of gathering ratings data from a sample. It is an electronic ratings-gathering instrument which was introduced by A.C. Nielson in 1936 to record radio use on a moving roll of paper. The audimeter has since been improved. Today's audimeter is a sophisticated device that automatically records the time each set in a household in tuned on or off, the broadcasting station, the amount of time each set stays on a channel and the channel switchings.

Diaries. This form of data collection requires subjects or respondents to record in diaries the channels they watch or the station they listen to, the time periods, and the number of people viewing or listening to each programme or day part i.e. segment of the broadcasting day such as *prime time*.

Telephone. This method involves selecting a sample of households at random and calling their numbers (usually obtained from a telephone directory) during viewing or listening period of interest. Individuals are simply asked what they are watching or listening to at the moment.

Electronic (People) Meters. This method was started in the mid 1980s by A.C Nielson in an attempt to improve the accuracy of ratings information and to obtain single source data, demographic data and even household member purchasing behaviour at the same time.

The people meters as they are more popularly referred to monitor television viewing, VCR or DVD use. These devices log and store information about viewing in the sample households, which is then fed back to a central computer via modem and telephone lines.

Focus Group Discussion (FGD): The focus group discussion (discussed in Module 1, Unit 4 and Module 3, Unit 5) is used to

develop questionnaires for further research and to provide preliminary information on a variety of topics such as format and programming changes personalities, station image and lifestyle characteristics of the audience. Data in the last category are particularly useful when the focus group consists of a specific demographic segment.

Other Methods: Researchers who study the effects of the electronic media on individuals and society have used a variety of techniques discussed in Module 3. These include content analysis, experimentation, surveys and observation.

3.6 Recent Technological Advances in Radio Audience Research

For nearly 40 years, radio audience measurement research has been problematic. This is because the dominant research technique used in this type of research (the personal diary) has been fraught with problems most of it tied to faults in human nature such as falling to keep accurate records. Consequently, American broadcast audience research providers have introduced new techniques that promise to improve the accuracy of the radio audience measurement process. Most of these improvements are driven by technological development. These are Arbitron **Portable People Meter** (PPM), MobilTrak's **Radio Monitoring System** and Naviguage's **Global Positioning System**.

Arbitron's **Portable People Meter** (2001) was introduced in 2001. It is a small wearable device that a selected group of survey participants carry throughout the day. The PPM, which is about the size of a paper, is designed to detect specially encoded (though inaudible to listeners) messages emitted by radio stations who have signed on for the service. When the PPM comes into contact with the audio output of a radio station sending the message it records the encoded information. Contained within the message is data that identifies the station and a time stamp indicating when the PPM came into contact with the message. At the end of each day participants in the survey place their PPM in a cradle that not only recharges the unit's battery but also submits results over telephone lines or Internet hookup to Arbitron's database.

MobilTrak's **Radio Monitoring System** is a research technology that attempts to eaversdrop on cars to find out what motorists are listening to. The rationale for this technique is the argument that unlike television, radio is listened to more in locations than at home, namely, at work or, more troubling for researchers, in the car. The science behind MobilTrak's Radio Monitoring System, is based on the concept that

radio, like most electronic devices, emit electronic signals when in use. Radios are further unique in that the signal produced is unique for each station. Thus, MobilTrak's "sniffer" method installed in specific locations has the ability to identify radio stations on thousands of cars per month and also provide geographic analysis.

Naviguage's **Global Positioning System** is a recording device installed in selected cars which has the capability to identify any use of the car stereo system (e.g. radio, CD, tape, etc.) and also track the use by geographic location. The system can also transmit acquired information in real time via wireless internet access.

SELF-ASSESSMENT EXERCISE 3

Contact three broadcast stations in your area and find out how they measure their audiences.

4.0   CONCLUSION

Research in the electronic media is quite complex but nevertheless important to broadcasters and advertisers. The importance of research is fueled by an ever-increasing desire by management of broadcast stations to learn more about broadcast audiences and their uses of the media.

5.0   SUMMARY

In this unit, you have learnt that:

    Advertisers initiated electronic media research as they became involved in financing the electronic media through advertising.
    The three models of electronic audience research are audience-as-mass, audience-as-outcome and audience-as-agent.
    Ratings, non-ratings and effects research are the three broad categories of broadcast research.
    Although there are three providers of electronic media research viz professional research companies, universities and in-house research departments of radio and TV stations, the bulk of electronic media research is provided by professional research companies.
    Electronic media research uses the survey research method but with special data gathering techniques.
    Recent technological advances in radio audience research promise to improve the accuracy of the radio audience measurement process.

6.0   TUTOR-MARKED ASSIGNMENT

Discuss in details the main categories of electronic media research.

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UNIT 3   PUBLIC RELATIONS RESEARCH

CONTENTS

1.0   INTRODUCTION

Public Relations and Advertising (PRAD) are special areas in mass communication. They are what Baran (2002) refers to as "supporting industries" of the mass media. These areas therefore present special research approaches that are different from core print and electronic media research.

Research is essential in building the body of knowledge for Public Relations. This body of knowledge is what we know about the profession or discipline. Apart from the applied or practical areas, the body of knowledge in Public Relations includes theories and concepts that can be used to explain how the profession works. A given body of knowledge should improve the practice of Public Relations by providing new insights into the professions. Every profession needs a developed body of knowledge to fuel its development and growth.

2.0   OBJECTIVES

On successful completion of this unit, you should be able to:

explain the various types of Public Relations research;
the techniques or methods used in Public Relations research; and
the utility of Public Relations research.

3.0   MAIN CONTENT

According to Okafor (2002:185) Public Relations research means probing the opinions, attitudes and reactions of persons affected by the activities and policies of an organization, then evaluating their consequences. According to him, this task also requires a determination of the facts regarding the organization, usually by asking: "what is our problem?" Research is used to learn what the public likes and dislikes about the policies and practices of an organization and what people want to know about its operations.

3.1   Principles of Public Relations Research

Because of the controversy surrounding the measurement of Public Relations effectiveness, the US based Institute for Public Relations Research and Education has outlined the following guiding principles for Public Relations research:

Establishing clear public relations objectives and desired outcomes tied directly to business goals.

Differentiating between measuring Public Relations "outputs", usually short term objectives (e.g. amount of press coverage received or exposure to a particular message) and Public Relations "outcomes" usually long term objectives (e.g. changing awareness, attitudes and behaviour).

Understanding that no one technique can be expected to effectively evaluate Public Relations effectiveness.

Being weary of attempts to compare Public Relations effectiveness with advertising effectiveness.

Public Relations evaluation cannot be accomplished in isolation. It must be linked with the overall business goals, strategies and tactics.

3.2   Types of Public Relations Research

The bulk of research in Public Relations and Advertising is referred to as *applied research* (See Module 1, Unit 4). This type of research attempts to solve specific organizational problems such as, "How should a certain product be packaged?", "which media vehicle is more effective

in reaching target publics?" etc. Nevertheless some Public Relations research is theoretical. According to Seitel (2001) this is more abstract and conceptual than applied research. It helps build theories in critical Public Relations areas such as how public opinion is formed, how people are persuaded, why people communicate etc. knowledge of theoretical research is important as a framework for persuasion and as a base for understanding why people do what they do.

The following are the major categories or areas of Public Relations research:

3.2.1 Environmental Scanning or Trend Analysis

This type or category of Public Relations research involves finding out the major political, economic, social, technological, legal cultural issues including public opinion and social events that are most likely to affect the operations, existence, success, survival, profitability and growth of an organization. This type of research is important because the Public Relations executive has to continually inform and advise management on the trends and issues using data generated through this type of research.

3.2.2 Strategic Research

This type of research is used primarily in Public Relations programme development to determine programme objectives, develop message strategies or establish benchmarks or standards. It often examines the tools and techniques of Public Relations. For instance an organization that wants to know how employees rate its candour in internal publications would first conduct strategic research to find out where it stands.

3.2.3 Attitude Research

This type of research measures and interprets a full range of views, sentiments, feelings, opinions and beliefs that segments of the public may hold towards an organization or its products.

3.2.4 Image Research

This category of research also referred to as *reputation research* systematically studies people's perceptions toward an organization, individual, product or service.   Image research determines the institutional profile or corporate image in the public's mind by

ascertaining the perception of the public towards an organization; how well they understand it, and what they like and dislike about it.

Furthermore, it seeks to find out how well a company or an organization is known, its reputation and what the public thinks about its employees, products, services and practices.

3.2.5 Cyber Image Analysis

This is the measurement of internet content via chat rooms or discussion groups in cyberspace regarding an organization or product. It is also the measurement of a client's image every where on the internet.

3.2.6 Public Relations Audits

In 1977, Otto Lerbinger identified three distinct categories of audits in public relations.   These are *Public Relations audits*, *communication audits* and *social audits*.

The **Public Relations Audit** assesses the health of the relationships between an organization and its key publics. This type of audit provides insight into who key publics are and the images they hold of the organization. Public Relations audits are often used to determine key publics' levels of awareness of the organization and its products, services, programmes, logos and slogans, or key personnel.

The audit may also ask participants to describe and rate their personal experiences or interactions with the organizations.   Public relations audits may reveal misperceptions about what the organization is or does, and disparities between management's perception of the organization and the way the organization is actually perceived by its publics. Recommendations stemming from a public relations audit would focus on tactics to strengthen relationships with key publics.

Communication Audits

Lerbinger's (1977) definition of the communication audit limited it to research to determine whether messages have actually gotten through to intended receivers. Today, such audits focus on evaluating an organisation's communication vehicles, such as newsletters, annual reports, brochures, press materials, web sites, and video programs, in the eyes of their intended users or audience.

A communication audit can identify information needs that are not being met, distrust of organizational news sources, preferences for particular communication channels, and whether a message is received,

understood, and acted upon. Results of a communication audit may be used to improve the content, design, and distribution of publications, or to revamp or discontinue communication vehicles that are not achieving desired results.

Social Audits

A social audit evaluates an organisation's corporate social responsibility (CSR) activities, such as voluntary environmental programmes, community relations/education programmes, corporate philanthropy, sponsorship, etc.   The audit measures public awareness of these programmes and perceptions of the organization's performance as a corporate citizen. Social audits were initially used to assess large-scale social action programmes. Recently, however, the term *social audit* has been less frequently used, having been replaced by more recent techniques associated with the practice of *issues management* such as environmental scanning.

3.2.7 Organizational Communication Audits

Communication audit is a term used in the organizational communication field to describe access and employees' satisfaction with communication in their organizations. Because employee relations are often a key public relations concern, the organizational communication audit may be implemented by public expert's managers.   It asks employees to rate how much information they receive on particular topics, such as job duties pay, and their own performance, versus how much they would like to receive. Respondents also rate the amount of communication they receive from and initiate with superiors, subordinates, and co-workers, versus desired levels.

The organizational communication audit can reveal a great deal about the communication climate within an organization.   It can identify problems with communication system design, employee information needs that are not being met, and bottlenecks in the communication flow.

3.2.8 Comprehensive Audits

According to Kinnick (2005) the terms *communication audit* and *public relations audit* are used to describe a comprehensive audit that evaluates the organisation's entire communication program and assesses the image of the organization based on the perceptions of all key stakeholder

groups.   Such an audit examines every facet of the organisation's internal and external communication activities, along with the impact of these tactics on key publics.   This type of audit is used to identify strengths and weaknesses in the existing public relations position of the organization, to inform the development of long-term communication strategy, and to provide guidelines for future public relations programming.

3.2.9 Media Research

This is the research in which the Public relations executive gathers relevant information about media ownership, structure, circulation figures, advertisement rates, media personnel, movements, philosophical leaning of the publication or station, size of publication, media awards, media laws, deaths, arrests, etc. It is through this type of research that the Public Relations professional keeps himself current on the ever-changing media landscape: to know the newspapers and magazines that are still in circulation; to know the catchments areas of the private radio and TV stations; to know the different language belts of each station, etc.

3.2.10   Monitoring Research

Media monitoring is a form of research in which the practitioner or the consultant keeps a constant eye on media houses and their journalists to find out any information that is likely to damage his organization's or client's reputation if it is published.   Different strategies are used to ensure that such damaging information are not published. Media monitoring research is very important because it saves the organisation from embarrassing or damaging publications.   It is pro-active and preventive in nature.   Many big organizations engage the services of media consultants or some personnel of media houses to do the surveillance and report back to them.

3.2.11   Evaluation Research

Evaluation research refers to the process of judging the effectiveness of programme planning, implementation, and impact. Rossi and Freeman (1982) have outlined some basic questions that occur at each of these stages.

   Planning. What is the extent of the target problem? How do the costs of the programme relate to the potential benefits?

   Implementation. Is the programme reaching the target publics?

   Impact. Is the programme effective in achieving its intended objectives? Is the programme, having some effects that were not intended?

3.3   Methods of Public Relations Research

There are several methods used in conducting Public Relations research. These techniques can be categorized as informal research methods, primary/secondary data collection methods and obtrusive/unobtrusive methods. No matter the categorization, they are basic social science research techniques that I assume you are familiar with.   For convenience sake, we categorize the various Public Relations research methods as follows:

   Primary
   Secondary
   Informal

Primary research methods include **surveys**, **interviews** and **panel studies**.

Secondary research method include **desk research**, **content analysis** and **tracking studies**.

Informal Research Methods. According to Wimmer and Dominick (2000:s304) these include personal contacts, expert opinion community forums, call-in telephone lines, mail analysis and examination of media content etc.

3.3.1 Surveys

According to Sietel (2001:110) the survey research is one of the most frequently used research methods in Public Relations. Survey can be applied to broad societal issues, such as determining public opinion about an organization, or to the most minute organizational problem, such as whether shareholders like the annual report. Public Relations Surveys come in three types.

   Descriptive Surveys offer a snapshot of a current situation or condition.   They are the research equivalent of a balance sheet, capturing reality at a specific point in time. A typical public opinion poll is a prime example.
   Explanatory Surveys are concerned with cause and effect. Their purpose is to help explain why a current situation or condition exists and to offer explanations for opinions and attitudes. Frequently, such explanatory or analytical surveys are designed to answer the question "Why?" Why are our philanthropic efforts not being appreciated in the community? Why don't employees believe management's messages? Why is our credibility being questioned?

Panel Studies. This is a type of survey whereby the same sample of respondents is measured at different points in time. With this technique a sample of respondents is selected and interviewed and then reinterviewed and studied at later times. This technique enables the researcher to study changes in behaviours and attitudes (See Module 1, Unit 4).

3.3.2 Interviews

The interview has been defined by Berger (2000:111) as a conversation between a *researcher* (someone who wishes to gain information about a subject) and an *informant* (someone presumably has information on the subject). Interviews can provide a more personal, firsthand feel for public opinion.   Interviews can be conducted in a number of ways. These include face to face, telephone, mail (by post) and through the internet.

The different interview panels include the following:

Focus Group Discussion (FGD). This approach, simply referred to as Focus groups, is used with increasing frequency in Public Relations. Also known as **group interviewing** this technique involves a moderator leading a group usually between 6 – 12 through a discussion of opinions on a particular subject such as opinions on a particular subject organization or product. Participants represent the socioeconomic level desired by the researcher – from students, housewives, office workers to millionaires. Participants are normally paid for their efforts.   Sessions are frequently recorded and then analysed, often in preparation for more specific research questionnaires (See Module 3, Unit 5).

In-depth (Intensive) Interview.   As already discussed in Module 3, Unit 5, in-depth or intensive interview is a hybrid of the one-on-one interview in which a respondent is invited to a field service location or a research office for an interview. The goal of this kind of interview is to **deeply explore** the respondent's point of view, feelings and perspective. In-depth involves not only asking questions, but the systematic recording and documenting of responses coupled with intensive probing for deeper meaning and understanding of the responses. It requires repeated interview sessions with the target audience under study.

Telephone interviews. This is interview conducted via telephones. This approach suffers from a high refusal rate because many people do not want to be bothered especially when the interviewer is unknown to the respondent:

Mail interviews. This is the least expensive approach, but it often suffers from a how response rate. Frequently people who return mail questionnaires are those with strong biases either in favor of or (more commonly) in opposition to the subject at hand. As noted, one way to generate a higher response from mail interviews is through the use of self-addressed, stamped envelopes.

Drop-off interviews. This approach combines face-to-face and mail interview techniques. An interviewer personally drops off a questionnaire at a household, usually after conducting a face-to-face interview. Because the interviewer has already established some rapport with the interviewee, the rate of return or response rate with this technique is considerably higher than it is for straight mail interviews.

Delphi panels. The Delphi technique is a more qualitative research tool that uses opinion leaders – local influential persons as well as national experts – often to help tailor the design of a general public research survey. Designed by the Rand Corporation in the 1950s, the Delphi technique is a consensus-building approach that relies on repeated waves of questionnaires sent to the same select panel of experts. Delphi findings generate a wide range of responses and help set the agenda for more meaningful future research. Stated another way, Delphi panels offer a "research reality check".

Internet interview. The latest technique of interviewing constituent publics is via the internet. This is a particularly effective technique in gathering rapid support for a political position.

3.3.3 Desk Research

This consists of the study of existing or published data or documented materials. These include files, reports and other such materials that exist within and outside the organization. It also includes reference books like encyclopedia, "who is who", publication, technical and professional books related to Public Relations and other such published materials. In addition, periodicals like newspapers, magazines, professional journals, academic journals come very handy in desk research or secondary data collection.

3.3.4 Content Analysis

According to Stacks (2005:189) content analysis is used quite extensively in Public Relations evaluation to better understand messages and how key publics react to those messages. Berelson (1952:18) defines content analysis as a research technique for the objective, systematic and quantitative description of the manifest content of communication. This technique is used to study all mass media contents

– print, electronic and the internet. Content analysis is utilized when the researcher intends to examine data contained in mass media content that are crucial to his study (See Module 3, Unit 3).

3.3.5 Tracking Studies

This is a special readership measurement technique in which respondents designate public relations material they have read.

4.0   CONCLUSION

You can see from this unit that the topic of Public Relations research is indeed vast.   It is so because research is required for the effective planning of Public Relations activities.   That is the only way to ensure effective Public Relations in both profit and non profit organization.

5.0   SUMMARY

In this unit, you have learnt that:

> The bulk of Public Relations and Advertising research is applied i.e. research conducted to solve specific organizational problems.
> There are various types of Public Relations research. Most are referred to as "audits" i.e. research intended to determine whether Public Relations messages have actually gotten through to intended receivers.
> These are Public Relations, communication and social audits. Other types of Public Relations research are trend analysis, attitude (opinion) image, media and evaluation research.
> Methods of conducting Public Relations research can be categorized into three viz primary, secondary and informal.

6.0   TUTOR-MARKED ASSIGNMENT

1.   What do you understand by Public Relations research?
2.   Discuss the various types of research conducted in the field of Public Relations.

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UNIT 4   ADVERTISING RESEARCH

CONTENTS

1.0   Introduction
2.0   Objectives
3.0   Main Content
      3.1   The need for Advertising research
      3.2   Types of Advertising Research
            3.2.1 Advertising Strategy Research

1.0   INTRODUCTION

Advertising is a special area in mass communication. It is an area that is directly tied to marketing. Specifically, it is used in the communication of marketing messages to a target audience. That is why it is a major component of what is now known as marketing communication.

Advertising is an expensive enterprise that cannot be done haphazardly. It has to be carefully planned through research. Wimmer and Dominick (1987.313) point out that initially, research was not widely used in advertising: Decisions were made on a more or less intuitive or guess work basis. However, with increased competition, mass markets, and mounting costs, more and more advertisers and advertising agencies have come to rely on research as a basic management tool.

2.0   OBJECTIVES

On successful completion of this unit, you should be able to:

      define and explain advertising research;
      explain the various types of advertising research; and
      discuss the steps involved in the advertising research process.

3.0   MAIN CONTENT

For you to properly understand the concept of advertising research, it is appropriate that you first comprehend that of marketing research. This is because advertising research is a subset of marketing research. So what is marketing research? According to Bergh and Katz (1999:218) marketing research refers to the systematic acquisition, development and analysis of new information used for marketing, advertising or marketing communication. Marketing research stretches across a wide domain of marketing problems – from product development to distribution. Arens (2002:206) describes marketing research as the systematic procedure for gathering, recording and analyzing new information to help managers make marketing decisions.

Marketing research does the following:

It helps identify consumer needs and market segments.

It provides the information necessary for developing new products and devising marketing strategies.

It enables managers to assess the effectiveness of marketing programmes and promotional activities.

On the other hand, advertising research has been defined by Berg and Katz (1999:218) as the research activity that is performed in support of the planning, development placement and monitoring of advertisements while Arens (2002:208) defines it as "the systematic gathering and analysis of information to help develop or evaluate advertising strategies, individual advertisements and whole campaigns".

You can observe from that above that although both concepts are related, marketing research has a wider scope than adverting research. Similarly while marketing research provides the information necessary to make marketing decisions, advertising research uncovers the information needed for making advertising decisions.

3.1   The Need for Advertising Research

Advertising is big business and it's expensive too! According to the Association of Advertising Agencies of Nigeria (AAAN) the total expenditure on advertising in Nigeria in 2005 was N34 billion! That's big money to risk. Therefore, advertisers need good information about who their customers are, what they want and like and where they spend their media time.   That's why advertisers need research.   Research provides the information that drives marketing and advertising decision making. Without research advertisers will be forced to use intuition or guess work.   In today's fast changing, highly competitive, global economy, that invites failure.

3.2   Types of Advertising Research

As in Public Relations research, the bulk of Advertising research is applied research. That means it is intended to solve specific advertising problems rather than to proffer theories. Having said that, there is still some theoretical research done in advertising.

Advertising research serves various purposes, most of which can be grouped into three-**Advertising Strategy Research**, **Creative Concept Research** and **Evaluate Advertising Research**.

3.2.1 Advertising Strategy Research

This is used to help define the product concept or to assist in the selection of target markets, advertising messages or media vehicles.

Advertising strategy research is further divided into the following:

Product Concept Research. This type of research focuses on how consumers perceive advertisers' brands. It has been stated that perception is the key element in Advertising and Public Relations. Advertisers want to know what qualities lead to initial purchases and eventually to brand loyalty. Advertisers use this type of research to establish *product concept* for their brands i.e. the bundle of values that encompasses both utilitarian and symbolic benefits to the consumer. Furthermore, product concept research provides the kind of information that can lead to an effective positioning strategy for a brand. According to Arens (p.209) product concept is one of the most important strategic benefits of advertising research as advertisers can shape and magnify a brand's position and image over time.

Target Audience Selection Research. In advertising, no market includes everybody. There is always a target audience. Therefore this type of research identifies who the target audience is, describes its characteristics and examines the audience's consumption and media habits. In other words, this type of research provides information that helps develop a rich profile of the brand's target markets and audiences. Through this type of research, the marketer gets to know which customers are the primary users of the product category and will study them carefully to understand their demographics, geographics, psychographics and purchase behaviour.

Media Selection Research. This type of research is used to develop media strategies, select specific media vehicles and evaluate their results. The objective is to determine reach and effectiveness of media vehicles – radio, TV, magazines, newspapers, etc. in every major geographic market in the country.

Message Element Selection Research. This type of research focuses on the message element of the advertisement. Copywriters often find the right type of advertising appeal by studying consumers' likes and dislikes in relation to brands and products. Message element selection research provides that kind of information.

Media Audience Research. This type of research focuses on mass media (broadcast and print) measurement. The aim is to find media audiences that match the characteristic of the advertiser's target audience by investigating the ability of the media under consideration to reach the target audience. According to Bergh and Katz (1999:240) in order to compare media audience to target audiences, the advertiser must have demographic information of its target and media audiences. Audience measurement is an important activity for the media because it justifies their advertising rates to advertisers and advertising agencies.

3.2.2 Creative Concept Research

This type of research focuses on the creative aspect (graphic elements) of advertising. It tries to find out what should be included in the advertisement for it to appeal to the target audience.

3.2.3 Evaluative Advertising Research

The purpose of evaluative advertising research is to assess the effectiveness of specific messages or methods of message delivery used in advertising. This is also known as *copy testing*. Wimmer and Dominick (p:343) defines copy testing as the research that helps develop effective advertisements and determines which of several advertisements is the most effective. According to Arens (p.206) the effectiveness of advertising is of major concern to the advertiser because of the huge cost of advertising. Advertisers want to know whether their advertising is working. Testing can prevent costly errors especially in judging which advertising strategy or medium is most effective.

Evaluative Advertising research can be divided into two – *pretesting* and *posttesting*.

Pretesting

Before an advertising campaign starts, this type of research is used to determine what to stress and what to avoid. Once the content of the advertisement has been established, test must also be performed to ascertain the most effective way to structure these ideas. In other words pretesting of advertisements is research used to diagnose possible communication problems before an advertising campaign begins.

Posttesting

Posttesting research is the evaluation of an advertising campaign that occurs after the advertising campaign has been delivered to the target audience. This is usually conducted to find out whether the advertising campaign has met its stated objectives or not.

Methods of Testing Advertisements
There are several techniques of pretesting and posttesting advertisements.

For pretesting, the following techniques are commonly used:

> **Direct Questioning.** This involves asking specific questions about advertisements (e.g. What does the advertising say to you?) Through direct questioning, researchers can elicit a full range of responses from respondents and thereby infer how well advertising messages convey key copy points.
> **Focus Group.** This has been well discussed in Module 3, Unit 5)
> **Order-of-merit test**. In this technique, respondents see two or more ads and arrange them in rank order.

Other pretesting techniques include *paired companions, portfolio tests, mock magazines, perceptual meaning studies, direct mail tests,* etc.

For posttesting the following techniques are used:

Aided Recall (recognition-readership).   To jog their memories, respondents are shown certain ads and then asked whether their previous exposure was through reading, viewing, or listening.

Unaided Recall. In this technique, respondents are asked, without prompting, whether they saw or heard certain advertising messages.

Attitude Test.   This involves direct questions, semantic differential tests, or unstructured questions. They measure changes in respondents' attitudes after an advertising campaign.

Inquiry Test. In this technique, additional product information, product samples, or premiums are given to readers or viewers of an ad; ads generating the most responses are presumed to be the most effective.

Sales Tests. Measures of past sales compare advertising efforts with sales. Controlled experiments test different media in different markets. Consumer purchase tests measure retail sales from a given campaign. Store inventory audits measure retailers' stocks before and after a campaign.

3.3   Steps in the Advertising Research Process
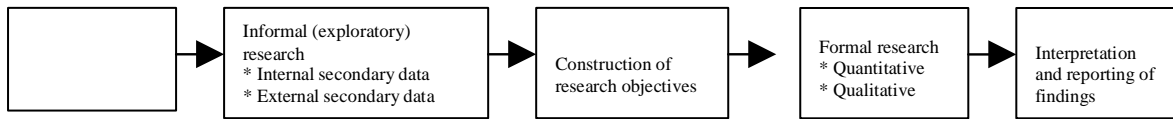
Source: Arens, W.F. (2002) *Contemporary Advertising*, Boston: McGraw Hill Irwin p.209

As you can see from the diagram above, the advertising research process has five steps outlined below:

Situation analysis and research problem definition.
The first step is to analyse the situation and define the problem. It is like asking: should research be done?
The second step is to use informal (or exploratory) research to learn more about the market, the competition, the business environment and to better define the research problem.

There are two types of research data: primary and secondary.

Primary data are acquired through original research as known as primary research.   Another way of describing primary data is information directly collected from the marketplace about a specific problem. Acquiring primary data is typically expensive and time consuming. On the other hand, existing information or data is called **secondary data**. If the secondary data exist within the advertiser's organization, they are known as **internal data**. Shipping and billing information, customer account records, sales volume statistics, and past studies of advertising effectiveness are examples of internal data. Information gathered and stored by sources outside of an organization is called **external data**. When an advertising researcher systematically searches secondary data, he or she is performing **secondary research**.

The third step is for the company to establish specific research objectives. A concise written statement of the research problem and objectives should be formulated at the beginning of the research project.

The fourth step is conducting formal research. When an organization wants to collect data primarily from the marketplace about a specific problem or issue, it uses formal research. There are two types of formal research: **qualitative** and **quantitative**.

Qualitative research techniques includes interviews that elicit in-depth open-ended responses rather than yes or no answers.   This is also

referred to as **motivation research**. Another technique is **projective technique** used to understand people's underlying or subconscious feelings, attitudes, opinions, needs and motives (e.g. by asking indirect an question such as "what kind of people do you thing shop here?", the researcher tries to involve consumers in a situation where they can express feelings about the problem or product.

Other techniques include in-depth interview, focus group etc.

In advertising research, **quantitative research methods** are used to gain reliable, hard statistics about specific market conditions or situations. There are three basic techniques used to collect quantitative data. These are observation, experiment and survey. (These have been well discussed in Module 1, Unit 4 and Module 3, Units 1, 2 and 3).

> The fifth step in the advertising research process involves interpreting and reporting the data. The final report must be comprehensible to the advertiser and relevant to his needs. Tables, graphs and other statistical tools are helpful, but they must be explained in words the advertiser can understand. The report should among other things, state the problem and research objective, summarize the findings and draw conclusions. It should also make recommendations for management action.

4.0   CONCLUSION

Advertising research is very important in marketing communication. That is because of the maxim which states: *"he who fails to plan plans to fail"*. No advertiser will want to fail in today's highly competitive marketing environment.

5.0   SUMMARY

In this unit, you have learnt that:

> Advertising is expensive and cannot be done haphazardly. It has to be carefully planned through research.
> Advertising research, a subset of marketing research can be categorized into two – strategic and evaluative.
> Strategic advertising helps advertisers develop the product concept, select the market and develop the primary advertising message element.
> Evaluative advertising research is used to access the effectiveness of advertising. It is divided into two – *pretesting* and *posttesting*.
> Pretesting is used to diagnose possible communication problems before an advertising campaign begins. On the other hand,

posttesting is the evaluation of advertising after the target audience has been exposed to the advertising campaign.

The advertising research process involves several steps: analyzing the situation and defining the problem, conducting informal research by analyzing internal data and collecting external secondary data, setting research objectives, conducting formal research using qualitative and quantitative methods and interpreting and reporting the findings.

6.0   TUTOR-MARKED ASSIGNMENT

Discuss the role of research in the development of an advertising strategy for a new soft drink.

7.0   REFERENCES/FURTHER READINGS

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UNIT 5   MASS MEDIA EFFECTS RESEARCH

CONTENTS

6.0   Tutor-Marked Assignment
7.0   References/Further Readings

1.0   INTRODUCTION

One area of mass communication that has attracted the attention of not just scholars but parents and politicians is the influence or effects of the mass media on individuals and society.   According to Okunna (1994:160) because of their special power to affect the way people think, feel and behave, the mass media have been credited with incredible persuasive ability to change attitude and behaviour. This has made the media a source of worry to society especially government. In the early attempts to understand the effects of the mass media, some scholars come up with direct powerful effects for the mass media otherwise referred to as the *hypodermic needle theory* because it was believed then that the mass media acted like the content of the hypodermic syringe, which when emptied into an audience would have instant effect like the drug from a real syringe. Research evidence did not support this simplistic view of mass media effects. Later, scholars came up with other theories in an attempt to have a better understanding of the effects of the mass media. Such theories include the *limited, effects model*, the *cultivation theory*, *individual differences theory* etc.

According to Wood (1983:240) the fact is, we do not know as much as we think we know about the various effects of mass media exposure. Despite all the charges, claims and accusations, no one really knows anything about the effects of the mass media on individuals and society except as uncovered by valid research.

2.0   OBJECTIVES

On completion of this unit, you should be able to explain the research history, methods and theoretical developments of the following areas of mass media effects.

the prosocial (positive) and antisocial (negative) effects of specific media content;
uses and gratification;
agenda setting;
perception of social reality; and
the social impact of the internet.

3.0   MAIN CONTENT

3.1   The Prosocial (Positive) and Antisocial (Negative) Effects of Specific Media Content

As already noted in Unit 2 of this module, critics of the electronic media particularly television, have raised concern over what they consider as the detrimental effects of children's exposure to television. The concern is that antisocial behaviour noticed in young people can be directly linked to some types of programming they are exposed to on television. The two areas where most concern has been raised are the effects of television violence and explicit portrayal of sex/nudity on young people.

Most scholars agree that the antisocial (negative) effects of viewing television and motion pictures (movies) is one of the most researched areas in all mass media studies. Research in this area outnumbers studies in other areas by four to one!

Critics charge that young people are being exposed to a massive diet of violent content as well as explicit portrayal of nudity (pornography) in the electronic media particularly television, VCDs and DVDs.

Concern over the social impact of the mass media started way back in the 1920s when several critics charged that motion pictures (movies) had a negative influence on children. In 1928, the US based Motion Picture Research Council with support from the Payne Fund, sponsored a series of studies on movies influence on children. After examination of film content, information gain, attitude change and influence on behaviour, it was concluded that movies were potent sources of information, attitudes and behaviour for children. However, it was found that many of the things that children learned from movies had antisocial overtones.

In the 1950s and 1960s, concern over the negative impact of the mass media shifted to television. Experiments on university campuses conducted by Bandura and Barkowiz indicated that aggressive behaviour could be learned by children by viewing violent media content.

In one of the laboratory experiments conducted by Albert Bandura and his associates in the early 1960s, groups of children watched either a filmed or live model performing aggressive acts against a large, inflated Bobo doll (which was weighted so that it rights itself when knocked over). One group of children witnessed the model being rewarded for this aggressive action; another group saw the model receive neither reward nor punishment, and a third group observed the model being punished for the aggressive behaviour.

When left in a room full of toys including a similar Bobo doll, children in group one and two tended to exhibit a great deal of imitative, aggressive behaviour towards the doll. Members of the third group, who had seen the model punished, were much less likely to show any violence towards the doll (Bandura, 1961).

In another experiment conducted by Walters and Llewellyn-Thomas (1963), they found that subjects who saw a violent film segment (a knife fight scene) were more likely to increase the levels of electric shock they would give another person than subjects who saw a nonviolent film segment (adolescents involved in crafts).

Another benchmark study was initiated and supervised by the office of the surgeon general of the United States. This study entitled Television and Social Behaviour, reviewed all that was known about the effects of television violence. Furthermore, it encompassed dozens of new studies.

The major conclusion draw from this and similar studies is that the viewing of television violence by children appears to increase the likelihood of subsequent aggressiveness. In his summary of this study the then surgeon general of the United States under whose auspices the landmark study was conducted stated:

> These studies - and scores of similar ones – make it clear to me that the relationship between televised violence and antisocial behaviour is sufficiently proven to warrant immediate remedial action (Stienfeld, 1979:341).

However, not all communication scholars have accepted the findings of these studies. Indeed, they have criticized the experimental method utilized in the studies for being somewhat artificial in that they took place in laboratory settings where people are more willing to behave aggressively because they did not have to worry about reprisals which they would have to in real life.

The 1970s and 1980s saw more extensive research on the social effects of the mass media. In addition to television violence, the antisocial impact of explicit portrayal of nudity (pornography) came under scrutiny. In 1970, the report of the Commission on Obscenity and Pornography set up by the US government was published. The commission which was charged with the specific task of determining whether explicit treatment of sex in the media resulted in antisocial behaviour found among others that there was no empirical evidence to prove that obscene materials caused antisocial attitudes or deviant

behaviour. The report, however, acknowledged that such material could be arousing.

In the 1990s and beyond, the increasing popularity of video games, VCDs and DVDs (some featuring graphic and explicit violence) opened up another avenue of inquiry for researchers.   Results of some of the studies in this area so far suggest that playing video games can lead to increased aggression levels in young children.

Along with violence and pornography, the contrasting prosocial (positive) effect of television has been investigated as well. The major stimulus for this research was the success of the TV series Sesame Street. A substantial research effort went into the preparation and evaluation of these children's movies. It was found that the series were helpful in preparing young children for school but not very successful in narrowing the information gap between advantaged and disadvantaged children.

However, in a recent study, some researchers found that allowing children to watch TV/Video games, DVDs, VCDs, etc. which some researchers had earlier claimed helped to boost infant's ability to learn new words and improve their speaking abilities actually have negative effects on them by hindering their language development.

The researchers then warned parents, guardians and caretakers at kindergartens to discourage children from spending long hours watching TV, VCDs and DVDs. They further asked parents and guardians not to allow children especially infants to watch cartoons, video games, DVDs and VCDs, etc. as they cannot enhance children's educational performance neither can they boost their ability to speak the English language fluently. Instead, they stated that staying glued to television or watching it for hours hinders their cognitive and language development.

> For every hour a day spent watching baby DVD, cartoon, video game, etc. infants between the age of eight and 16 months old understood an average of six to eight fewer words than infants who did not watch any one of them. The baby's DVD or video had no positive or negative effects on the vocabulary of toddlers ages 17 to 24 months (Zimmerman, cited in Adeniyi, 2007:2).

Methods

Experiments and **survey** have been the most popular research strategies used to study the impact of media on antisocial and prosocial behaviour. The more elaborate techniques of **field experiments** and **panel studies** have been used infrequently. **Laboratory experiments** have shown a

stronger positive relationship between viewing media violence and aggression than other techniques.

Theoretical Developments

Three major theories have emerged in this area. They are the catharsis, stimulation (modeling) and disinhibition theories. The catharsis approach suggests that viewing fantasy expression of hostility reduces aggression because a person who watches filmed or televised violence is purged of his or her aggressive urge. This theory has some obvious attraction for industry executives because it implies that presenting violent television programmes is a kind of prosocial action. The stimulation or modeling theory argues the opposite: Viewing violence prompts more aggressive behaviour on the part of the viewer. A slightly different hypothesis is the disinhibition hypothesis which suggests that television lowers people's inhibitions about behaving aggressively toward other people.

Research findings have indicated little support for the catharsis position. A few studies did find a lessening of aggressive behaviour after viewing violent content. However, overwhelming majority of studies found evidence of stimulation or modeling effect. On the disinhibition theory, scholars suggest that if it is correct, then TV violence might be teaching a general norm that violence is an acceptable way to relate to other people.

3.2   Uses and Gratifications

The uses and gratifications approach examines how people use the media and the gratifications they seek or receive from their media behaviors. Uses and gratification researchers assume that audience members are aware of and can articulate their reasons for consuming various media content.

The uses and gratification perspective has its roots in the 1940s in the USA when researchers became interested in why people engaged in various forms of media behaviour such as radio listening, TV viewing or newspaper reading. The major research in this area was conducted by Berelson in 1949. The researcher took advantage of a New York newspaper strike to ask people why they read newspapers. The

responses he received fell into five major categories: reading for information, reading for social prestige, reading for escape, reading as a tool for daily living, and reading for a social context. These early studies had little theoretical coherence. In fact, many were inspired by the practical needs of newspaper publishers and radio broadcasters to know the motivations of their audience in order to serve them more efficiently.

The next step in the development of this research area began during the late 1950s and continued into the 1960s. In this phase, the emphasis was on identifying and operationalizing the many social and psychological variables that were presumed to be the antecedents of different patterns of consumption and gratification.

Since the 1990s, the uses and gratifications approach has been used to explore the impact of new technologies on the audience. For example, Lin (1993), examined adolescence-viewing gratifications with the new media. She found that VCRs and remote control devices enhanced audience control of the viewing environment, which led to greater entertainment gratifications.

Perse and Ferguson (1993) also examined the impact of new television technologies on viewer satisfaction. They found that the use of VCRs, remote controls, and cable TV had an impact on the passing-time and companionship gratifications from TV watching.

Methods

Uses and gratification researchers have relied heavily on the **survey** method to collect their data. As a first step, they conducted **focus groups** to find out reasons for media consumption. The **experimental** method has not been used widely in uses and gratifications research. When it has been chosen, investigators typically manipulated the subjects' motivations and measured differences in their media consumption.

Theoretical Development

A summary of the various studies conducted in this area suggested that certain basic needs interact with personal characteristics and the social environment of the individual to produce perceived problems and perceived solutions.

SELF-ASSESSMENT EXERCISE 1

List 20 gratifications which you as part of the mass media audience may take from media products.

3.3   Agenda Setting By the Media

Simply put, the agenda setting theory states that the public agenda-or the kinds of things people discuss, think and worry about is powerfully shaped and directed by what the news media choose to publicize. This means that if the news media decide to give the most time and space to covering politics, this issue will become the most important on the audience's agenda.

The notion of agenda setting by the media can be traced back to Walter Lippmann (1922), who suggested that the media were responsible for the *pictures in our heads* Forty, years later, Cohen (1963) further articulated the idea when he argued that the media may not always be successful in telling people what to think, but hey are usually successful in telling them what to think about. Lang and Lang (1966) reinforced this notion when they stated that the mass media force attention to certain issues and that they constantly present objects, suggesting what individuals in the mass should think about, know about and have feelings about.

The first empirical test of agenda setting came in 1972 when McCombs and Shaw (1972) reported the results of a study done during the 1968 US Presidential election. They found strong support for the agenda-setting hypothesis. There were strong relationships between the emphasis placed on different campaign issues by the media and the judgments of voters regarding the importance of various campaign topics. This study inspired a host of others, many of them concerned with agenda setting as it occurred during political campaigns.

More recent research in this area signal a shift from the political campaign approach to other areas like history, advertising, foreign and medical news. In recent years however, the most popular subjects in agenda setting research are:

How the media agenda is set (*agenda building*)
How the media choose to portray the issues they cover (*framing analysis*).

Methods

Several research methods have been used in agenda setting research. **Content analysis** has been used to define the media agenda. **Surveys** have also been used to collect data on the audience agenda. In addition the **longitudinal** approach has also been used since determining the

media agenda and surveying the audience are not done simultaneously. More recent, some studies have used the **experimental** approach.

Theoretical Developments

The agenda setting theory is still at a formative level and as such research is still on-going. However, most of the research conducted in this area supports the new that the media's agenda cause the public agenda. The causal hypothesis, which states that the public agenda establishes the media agenda has not received much support.

3.4   Perception of Social Reality

The basic assumption of the cultivation of perceptions of perceptions of social reality theory (cultivation theory for short) is that repeated exposures to consistent media portrayals and themes influence our perceptions of those items in the direction of the media portrayals. In effect, learning from the media environment is generalized, sometimes incorrect, to the social environment. Some early studies indicated that media portrayals of certain topics could have an impact on audience perception, particularly if the media were the main information sources. Siegel (1958) found that children's role expectations about a taxi driver could be influenced by hearing a radio program about the character. DeFleur and DeFleur (1967) found that television had a homogenizing effect on children's perception of occupations commonly shown on television.

The more recent research on viewer perceptions of social reality stems from the Cultural Indicators project of George Gerbner and his associates. Since 1968, they have collected data on the content of television and have analysed the impact of heavy exposure on the audience. Some of the many variables that have been content analysed are the demographic portraits of perpetrators and victims of television violence, the prevalence of violence acts, the types of violence portrayed, and the contexts of violence. Using data collected by the American National Opinion Research Center (NORC), Gerbner found that heavy television viewers scored higher on a "mean world" index than did light viewers.

However, not all researchers have accepted the cultivation hypothesis. For instance, Hughes (1980) and Hirsch (1980) reanalyzed the NORC data and were unable to replicate Gerbner's findings.

Methods

There are two discrete steps in performing a cultivation analysis. First, descriptions of the media world are obtained from periodic **content**

analysis of large blocks of media content. The result of this content analysis is the identification of the message of the television world. The second step involves **surveying** audiences about their television exposure, dividing the sample into heavy and light viewers. Four hours of viewing a day is usually the dividing line), and comparing their answers to the questions that differentiate the television world from the real world.

Theoretical Development

Research indicates that there is evidence for a link between viewing and beliefs regardless of the kind of social reality in questions. After a review of 48 studies, Hawkins and Pingree (1981) concluded that the link between viewing and beliefs was real but added that it depended on the type of belief under study.

3.5   Social Impact of the Internet

The internet is still an emerging medium and as such research in this area is still in its infancy. Much of the research done during the mid 1990s described the technology involved in the internet and some of the possible functions that it might serve. Because research on the impact of the internet is still an emerging area, this section will depart from the organizational structure used in analyzing previous areas of media effects. Having stated that, it is important to state that the methods used in previous areas already discussed in this unit also apply to our discussion of the internet. Specifically, **survey**, **content analysis** and the **experimental** method have been utilized in investigating the impact of the internet. Our discussion of the internet will therefore be divided into three sections viz: audience characteristics, functions and uses as well as social effects.

Audience Characteristics

By far the greatest amount of research in this area has been on identifying the audience of the internet and their patterns of usage. According to Wimmer and Dominick (2000:400) getting accurate information on the internet audience has been a difficult task. What is so far available are estimates or projections of audience size? However, when it comes to demographics of net users, there seems to be some agreement that more women are using the net than ever before. For instance a 1997 survey of 1,000 respondents published in an American magazine *Business Week* found that females accounted for 43% of all net users up from 25% in 1995.

Functions and Uses

Studies examining how people are using the internet have now begun to emerge. Although a definitive list of uses and gratification has yet to be drawn up, some preliminary results show some general trends. The main function seems to be (1) information (2) communication (3) entertainment and (4) affiliation.

The primary use of the internet seems to be information gathering Wimmer and Dominick (2000:401) report the result of one survey which found that about 85% of respondents use the net for research and educational purposes.

The communication function is best exemplified by the use of e-mail. Hammond (cited in Wimmer and Dominick, 2000:402) reported that about 90% of his respondents used e-mail. In another study cited by Wimmer and Dominick, 90% of the respondents rated e-mail as indispensable.

Surfing the web generally illustrate the entertainment function of the internet. More than 60% of the *Business Week* sample reported that they frequently use the net for entertainment.

The last function, affiliation may be the most interesting. A study found that 45% of the respondents reported that after going to the net they felt more "connected" to people like themselves. Research has also revealed that frequency of internet uses seems to be related to age. Younger people seems to use the net more for entertainment and socializing while older people use it more for information.

Social Effects

The social effects research of the internet is still ongoing. Nevertheless, some trends have started to emerge. In a study conducted by Stevens (1998) he raised questions about the impact of pornographic web sites, particularly on young people. Some other researchers suggest a link between viewing pornography on the internet and sexual abuse of women.

Another potential harmful effect has been labeled "Internet addiction". According to Young (1998) this condition is typified by a psychological dependence on the Internet that causes persons to turn into what he termed "onlineaholics" who ignore family, work, and friends as they devote most of their time to surfing the net. Young estimated that perhaps 5 million people may be addicted.

4.0   CONCLUSION

Research in mass media effects is still ongoing. According to McQuail (1997:70) the issue of mass media effect remains a disputed one – both in general about the significance of the mass media and in particular about the likely effect of given instances of mass communication. Communication researchers have not yet come up with a unified theory that will explain the effects of mass communication on society. What exists presently is a number of theories, each attempting to explain particular aspects of mass communication. Thus, while some communication scholars argue that the mass media do have direct (powerful) effects, other contends that they have indirect (limited) effects. Some even argue that the media have null-effects (i.e. no effect whatsoever). It is expected that someday, there will emerge a unified theory that will clarify these issues. However, media effects studies according to Okigbo (1996:287) constitute one of the "eternal dimensions of communication scholarship" and as such communication researchers will continue to concern themselves with issues of how communication impacts on society.

And as new communication technologies continue to emerge, researchers will focus attention on their effects on individuals and society. Thus, the field of mass media effects will continue to remain vibrant in communication research circles.

5.0 SUMMARY

In this unit, you have learnt that mass media effects research is conducted in the following areas:

The prosocial (positive) and antisocial (negative) effect of specific media content. The negative effects which have been heavily researched are televised violence and explicit sexual portrayal (pornography).
The various ways people use the media and the gratifications they seek from using the media.
Agenda setting
Cultivation of perceptions of social reality.
Social effects of the internet.

6.0 TUTOR-MARKED ASSIGNMENT

List all the areas of mass media effects that have been studied by communication researchers. Choose any **three** that you consider most important and discuss their research history, methods and theoretical developments.

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