RESEARCH IN PROCUREMENT

CERTIFIED PROCUREMENT AND SUPPLY PROFESSIONAL OF KENYA

CPSP-K

2018

PART 3

TABLE OF CONTENTS

OVERVIEW OF RESEARCH IN PROCUREMENT

The scope and objectives of research

Research is an honest, exhaustive, intelligent searching for facts and their meanings or implications with reference to a given problem. The product or findings of a given piece of research should be an authentic, verifiable contribution to knowledge in the field studied.

Needfor research

The study of research methods provides knowledge and skills needed to solve problems and meet the challenges of a fast-paced decision-making environment. Business research courses are recognition that students preparing to manage businesses, not-for-profit and public organizations in all functional areas – need training in a disciplined process for conducting an inquiry related to a management dilemma. These factors stimulate an interest in a scientific approach to decision making:

- The Manager's increased need for more and better information
- The availability of improved techniques and tools to meet this need, and
- The resulting information overload if disciplined is not employed in the process

During the last two decades, we have witnessed dramatic changes in the business environment. Emerging from a historically economic role, the business organization has evolved in response to the social and political mandates of natural public policy, explosive technology growth, and continuing innovations in global communications. These changes have created new knowledge needs for the Manager and new publics to consider when evaluating any decision. Other knowledgeable demands have arisen from problems with mergers, trade policies, protected markets, technology transfers, and macroeconomic savings – investment issues.

The trend toward complexity has increased the risk associated with business decisions, making it more important to have a sound information base.

To do well in such an environment, you will need to understand how to identify quality information and to recognize the solid, reliable research on which your high-risk decisions as a Manager can be based. You also will need to know how to conduct such research. Developing these skills requires understanding of scientific method as it applies to the managerial decision making environment. This study material addresses your needs as an information processor.

The prime objectives of research are

(1) To discover new facts

(2) To verify and test important facts

(3) To analyse an event or process or phenomenon to identify the cause and effect relationship

(4) To develop new scientific tools, concepts and theories to solve and understand scientific and nonscientific problems

(5) To find solutions to scientific, nonscientific and social problems and

(6) To overcome or solve the problems occurring in our everyday life.

Purpose of research

a) Discover new Knowledge

The main purpose of research is to discover new knowledge. This involves the discovery of new facts, their correct interpretation and practical application. Although there are other sources of knowledge, research remains the most efficient and reliable source of knowledge. It is the most accurate system of securing useful knowledge. Quite often, a scientist will take an interest in a topic without having any other clear ideas about what to expect in the way of relationship among variables. Initially, the relevant variables are not even clear. The initial research, in fact may have the identification of important variables on its primary purpose.

b) **Exploration**

Much of social research is conducted to explore a topic, to provide a beginning familiarity with that topic. This purpose is typically when a researcher is examining a new interest or when the subject of study is itself relatively new and unstudied.

Exploratory studies are also appropriate in the case of more persistent phenomena. Exploratory studies are more typically done for three purposes:

1. To satisfy the researcher's does curiosity and desire for better understand
2. To test the feasibility of undertaking a more careful study; and
3. To develop the methods to be employed in a more careful study.

c) Description

A major purpose of many studies is to describe situations and events. Descriptive studies try to discover answers to the questions; *who, what, when, where and sometimes how*. The researcher

observes and then describes what was observed. A census is an excellent example of descriptive e social research. The goal of the census is to describe accurately and precisely a wide variety of characteristics of a population, as well as the population of smaller areas such as towns and rural councils. Other examples of descriptive studies are the computation of age-sex profiles of population done by demographers and the computation of crime rates for different towns. A poll conducted during a political election campaign has the purpose of describing the voting intentions of the electorate.

d) Explanation

Reporting the voting intentions of an electorate is a descriptive activity, but reporting why some people plan to vote for candidate A and others for candidate B is an explanatory activity, as reporting why some towns have higher crime rates than others.

A researcher has an explanatory purpose is if he/she wishes to know why a student's demonstration ended in a violent confrontation with police, as opposed to simply describing what happened.

e) Prediction

Prediction is the ability to estimate phenomena A given B. If we can provide a plausible explanation of an event after it has occurred, it is desirable to be able to predict when and in what situations the event will occur. For example, the aviation industry may be interested in explaining the radiation risks for flight crews and passengers from the sun and stars. The variables might include attitude, proximity or air routes to the poles, time of year and aircraft shielding. Perhaps the relations among the four variables explain the radiation risk variable. This type of study often calls for a high order of inference making. Why, for example would a flight at a specified attitude at one time of the year not produce so great a radiation risk to the airliner's occupants as the same flight in another season? The answer to such a question would be valuable in planning air routes.

f) Involuntary research

The researcher undertakes it as a result of external pressure to do so. There are two major categories:

- Junior faculty members whose professional security or advancement may depend, in part, on scientific publications; and

- College students who must undertake research to satisfy the requirements of a course in research methods.

Characteristics of Research:

The main distinguishing characteristics of scientific research include:

i) Purposiveness

Any good scientific research must have a definite aim or purpose, i.e., it must be focused; otherwise it will fail to be systematic and directed. A statement of the purpose of study guides in the achievement of the research objectives, a practical research design and valid reliable results. Without such a focus it will be difficult for the research to achieve its objectives or test hypothesis.

ii) Rigor

A good theoretical base and a sound methodology would add rigor to a purposive study, Conclusions drawn from an investigation that lacks a good theoretical foundation would be unscientific. Therefore, rigorous research involves a good theory base and a carefully thought out methodology, factors which enable the researcher to collect the right kind of information for an appropriate data analysis, arriving at valid conclusions.

iii) Testability

Scientific research blends itself to testing logically developed hypothesis to see whether or not the data supports the proposed hypothesis.

This means that the hypothesis must be developed after a careful study of the problem. Hypothesis is tested by applying certain statistical tests to the data collected for that purpose. If the hypothesis developed is not quite testable, it weakens a scientific investigation. This happens when the variables developed are too abstract and difficult to measure or observe i.e. personality, obedience, understanding, job interest, commitment, etc.

iv) Replicability

Replicability in scientific research cohorts that the results of the research or the tests of the hypothesis should be supported again and again when the research is repeated in other similar circumstances, the Replicability gives confidence in our research design and hence makes it scientific.

v) Precision and confidence

Precision refers to how close the findings based on a sample are to the reality. Precision reflects the degree of exactitude of the results based on the sample to the phenomena studies on they exist in the universe or the actual population. The closer your results are to the expected or predicted phenomena the higher the precision.

Confidence refers to the probability that our estimates are correct. It is not merely enough to be precise but that it is important to be 95% sure or confident that our estimates are correct and that there is only a 5% chance of our being wrong. This is also known as the confidence level that given perfection we would like to be 100% correct, imaging that if you have too much error for someone who has to take a rocket to the moon, then your research leaves a lot to be desired.

The narrower the gap within which we can estimate the range of our predictions, and the greater the confidence we have in our research results, the more useful and scientific the findings become. Precision and confidence can therefore be obtained by only appropriate scientific sampling designs.

vi) Objectivity

The conclusions drawn through the interpretation of the results of our data analysis should be objective and based on facts resulting from the actual data and not from our own subjective or emotional values. The more objective the interpretation of the data, the more scientific the research investigation

vii) Generalisability

This refers to the (scope) of applicability of the research findings. The wider the range of applicability of the solutions generated by research the more useful the research is.

Generalisability will depend on how elaborate the sampling design was. The kind of instruments used in data collection and objectivity shown in the interpretation of data.

viii) Parsimony

This refers to the simplicity of explaining the phenomena or problems that occur and in the applications of solutions to the problems. Being simple in explaining the outcomes of the research is always preferred to complex research frameworks that consider an imaginable number of factors. Being scientific does not mean that we have to be complicated, we come up with too many variables that cannot be analyzed and thus end up making the whole research invalid.

Classification of Research

In the fields of general education, health education, physical education, recreation, etc. there exists different kinds of problems, consequently, different types of research are used to solve these problems. Research in general can be classified or categorized in many ways. The following are the basic modes of classification:

- The field of study in which the research is conducted. i.e. discipline; for example educational research, sociological research, marketing research etc.
- The place where the research is conducted. Hence we talk in forms of field research, laboratory research, community research etc.
- Application of the research – the way/mode in which the findings of the research will be used e.g., Action research, service research etc.
- Purpose of the research i.e. basic research, action research, applied research and evaluation research.
- By methods of analysis, i.e., descriptive research and empirical research
- Character of data collected i.e. qualitative research and quantitative research.
- Procedure/Design used – experimental research, survey research etc.

Types of research

1. Basic research

It is also referred to as pure or fundamental research. It is a type of research which is characterized by a desire to know or to expound the frontiers of knowledge. It is research based on the creation of new knowledge. It is mainly theoretical and for advancement of knowledge. Basic researchers are interested in deriving scientific knowledge which will be a broad base for further research. The main purpose for conducting this research is to generate more information and understanding the phenomena that operate in a situation. The aim is not usually to apply findings, to solve an immediate problem but rather to understand more about a certain phenomenon and expound that knowledge.

Another focus of basic research is to generate new knowledge in order to refine or expand existing theories. However, there is no consideration of the practical applications of the findings

to actual problems or situations. Such research does however often lead to further research of the practical nature and may in fact provide the very basis of this further research.

2. Applied Research

The type of research which is conducted for purpose of improving present practice, normally applied research is conducted for the purposes of applying or testing theory and evaluating its usefulness in solving problems. Applied research provides data to support theory or suggest the development of new theories. It is the research done with the intention of applying the results of its findings to solve specific problems, currently being experienced in an Organization.

3. Action Research

This is a small scale intervention in the functioning of the real world and a close examination of the effects of such interventions. Action research is normally situational and it is concerned with diagnosing a problem in a specific context and attempting to solve it in that context.
Normally action research is conducted with the primary intention of solving a specific, immediate and concrete problem in a local setting. Action research is not concerned with whether the results of the study are generalized to other settings, since its major goal is to seek a solution to a given problem. Action research is limited in its contribution to theory, but it is useful because it provides answers to problems that cannot wait for theoretical solutions.

4. Descriptive Research

A descriptive study is undertaken in order to ascertain and be able to describe the characteristics of variables in a situation. Quite often descriptive studies are undertaken in organizations in order to learn about and describe characteristics of employees. E.g. Education level, job status, length of service etc.
The most prevalent method of gathering information in a descriptive study is the questionnaire. Others include: interviews, job analysis, documentary analysis etc. Descriptive statistics such as the mean, standard, deviation, frequencies, percentages are used in the analysis of descriptive research.

5. Correlational Research

Correlation research is descriptive in that it cannot presume a cause-and-effect relationship. It can only establish that there is an association between two or more traits or performance. This

involves collecting data to determine whether a relationship exists between two or more quantifiable variables. The main purpose of correlation research is to describe the nature of the relationship between the two variables. Correlational research helps in identifying the magnitude if the relationship.

Many techniques have been devised to provide us with numerical representations of such relationships and these are known as measures of association. The most commonly used measures of association are two:

- Pearson's product moment of coefficients.
- Spearman's rank order correlation.

Correlational techniques are generally intended to answer 3 questions:

1. Is there a relationship between the two variables?
2. If the answer is Yes, what is the direction of the relationship (nature of relationship) (- or +)
3. What is the magnitude of the relationship?

6. Casual Research

A casual study is one which is done to establish a definitive 'cause' 'effect' relationship among variables. In this type of research, the researcher is keen to delineating one or more factors that are certainly causing the problem. The intention of the researcher conducting a casual study is to be able to state that variable X cause's variable Y to change. A casual study is more effective in a situation where the researcher has already identified the cause of the problem. However, this type of a design is limiting in that quite often, especially in an Organization, there are a multiple cases of a problem which are linked to many factors i.e. Does a pay rise cause higher productivity?

7. Historical Research

This is the systematic and objective location and synthesis of evidence in order to establish facts and draw conclusions about past events. The act of historical research involves the identification and limitation of a problem of an area of study which is based on past events. The researcher aims to:

- Locate as many pertinent sources of information as possible concerning the specific problem.

- Then analyze the information to ascertain its authenticity and accuracy, and then be able to use it to generalize on future occurrences.

Historical research is important because:

i) It enables solutions to contemporary problems to be solved in the past.

ii) Historical research throws light on present and future trends.

iii) Historical research allows for the revelation of data in relation to select hypothesis, theories and generalizations that are presently held about the past.

Ability of history to employ the past, to predict the future and to use the present to explain the past gives historical research a dual and unique quality which makes is exceptionally useful for all types of scholarly study and research.

8. Experimental Research

In experimental research, the investigator deliberately controls and manipulates the conditions which determine the events to which he is interested. It involves making a change in the value of one variable (the independent variable) and observing the effect of that change on another variable (the dependent variable). In experimental design, the independent variable is a stimulus i.e., it is stimulated while the dependent variable is responsive.

If all extraneous factors can be successfully controlled then the researcher can presume that changes in the dependent variable are due to the independent variable.

9. Longitudinal Studies

These are designed to permit observations over an extended period. For example, analyses of newspaper editorials overtime. Three special type of longitudinal studies should be noted here:

i. **Trend Studies:** are those that study changes within some general population over time. i.e. a series of opinion polls during the course of an election campaign, showing trends in the relative strengths and standing of different candidates.

ii. **Cohort Studies:** examine more specific subpopulations (cohorts) as they change overtime. Typically a cohort is an age group, such as those people born during the 1920s, people who got married in 1964, and so forth. An example of cohort study would be a series of national surveys, conducted perhaps every ten years, to the study the economic attitudes of the cohort born during the early 1960s.

A sample of persons 20-25 years of age might be surveyed in 1970, another sample of those 30-35 years of age in 1980, and another sample of those 30-35 years of age in 1970, and another sample of those 40-45 years of age in 1990. Although the specific set of people studied in each of these surveys would be different, each sample would represent the survivors of the cohort born between 1960 and 1964

iii. **Panel Studies:** are similar to trend and cohort studies except that the same set of people is studied each time. One example would be a voting study in which the same sample of voters are interviewed every month during an election campaign and asked for whom they intended to vote for. Such a study would not only make it possible to analyse overall trends in voter preferences for different candidates, but would have the added advantage of showing the precise patterns of persistence and change in intentions.

Research approaches

1. **Quantitative research**

Quantitative research is generally associated with the positivist/post positivist paradigm. It usually involves collecting and converting data into numerical form so that statistical calculations can be made and conclusions drawn.

The process

Researchers will have one or more **hypotheses.** These are the questions that they want to address which include predictions about possible relationships between the things they want to investigate **(variables)**. In order to find answers to these questions, the researchers will also have various instruments and materials (e.g. paper or computer tests, observation check lists etc.) and a clearly defined plan of action.

Data is collected by various means following a strict procedure and prepared for **statistical analysis**. The analysis enables the researchers to determine to what extent there is a relationship between two or more variables. This could be a simple association (e.g. people who exercise on a daily basis have lower blood pressure) or a causal relationship (e.g. daily exercise actually leads to lower blood pressure). The results of statistical analyses are presented in journals and peer review.

Principles

Objectivity is very important in quantitative research. Consequently, researchers take great care to avoid their own presence, behaviour or attitude affecting the results (e.g. by changing the situation being studied or causing participants to behave differently). They also critically examine their methods and conclusions for any possible bias.

The main emphasis of quantitative research is on deductive reasoning which tends to move from the general to the specific. This is sometimes referred to as a top down approach. The validity of conclusions is shown to be dependent on one or more premises (prior statements, findings or conditions) being valid.

Researchers rarely have access to all the members of a particular group (e.g. all people with dementia, careers or healthcare professionals). However, they are usually interested in being able to make inferences from their study about these larger groups. For this reason, it is important that the people involved in the study are a representative **sample** of the wider population/group. However, the extent to which generalizations are possible depends to a certain extent on the number of people involved in the study, how they were selected and whether they are representative of the wider group.

2. Qualitative research

Qualitative research is the approach usually associated with the social constructivist paradigm which emphasises the socially constructed nature of reality. It is about recording, analysing and attempting to uncover the deeper meaning and significance of human behaviour and experience, including contradictory beliefs, behaviours and emotions. Researchers are interested in gaining a rich and complex understanding of people's experience and not in obtaining information which can be generalized to other larger groups.

The process

The approach adopted by qualitative researchers tends to be inductive which means that they develop a theory or look for a pattern of meaning on the basis of the data that they have collected. This involves a move from the specific to the general and is sometimes called a bottom-up approach. However, most research projects also involve a certain degree of deductive reasoning.

Qualitative researchers do not base their research on pre-determined hypotheses. Nevertheless, they clearly identify a problem or topic that they want to explore and may be guided by a theoretical lens - a kind of overarching theory which provides a framework for their investigation.

The approach to data collection and analysis is methodical but allows for greater flexibility than in quantitative research. Data is collected in textual form on the basis of observation and interaction with the participants e.g. through participant observation, in-depth interviews and focus groups. It is not converted into numerical form and is not statistically analysed.

Principles

Researchers will tend to use methods which give participants a certain degree of freedom and permit spontaneity rather than forcing them to select from a set of pre-determined responses (of which none might be appropriate or accurately describe the participant's thoughts, feelings, attitudes or behaviour) and to try to create the right atmosphere to enable people to express themselves. This may mean adopting a less formal and less rigid approach than that used in quantitative research.

Qualitative research often involves a smaller number of participants. This may be because the methods used such as in-depth interviews are time and labour intensive but also because a large number of people are not needed for the purposes of statistical analysis or to make generalizations from the results.

3. Pragmatic approach to research (mixed methods)

The pragmatic approach to science involves using the method which appears best suited to the research problem and not getting caught up in philosophical debates about which is the best approach. Pragmatic researchers therefore grant themselves the freedom to use any of the methods, techniques and procedures typically associated with quantitative or qualitative research. They recognise that every method has its limitations and that the different approaches can be complementary.

They may also use different techniques at the same time or one after the other. For example, they might start with face-to-face interviews with several people or have a focus group and then use the findings to construct a questionnaire to measure attitudes in a large scale sample with the aim of carrying out statistical analysis.

Depending on which measures have been used, the data collected is analysed in the appropriate manner. However, it is sometimes possible to transform qualitative data into quantitative data and vice versa although transforming quantitative data into qualitative data is not very common.

4. Advocacy/participatory approach to research (emancipatory)

To some degree, researchers adopting an advocacy/participatory approach feel that the approaches to research described so far do not respond to the needs or situation of people from marginalised or vulnerable groups. As they aim to bring about positive change in the lives of the research subjects, their approach is sometimes described as emancipatory. It is not a neutral stance. The researchers are likely to have a political agenda and to try to give the groups they are studying a voice. As they want their research to directly or indirectly result in some kind of reform, it is important that they involve the group being studied in the research, preferably at all stages, so as to avoid further marginalising them.

The researchers may adopt a less neutral position than that which is usually required in scientific research. This might involve interacting informally or even living amongst the research participants (who are sometimes referred to as co-researchers in recognition that the study is not simply about them but also by them). The findings of the research might be reported in more personal terms, often using the precise words of the research participants. Whilst this type of research could by criticised for not being objective, it should be noted that for some groups of people or for certain situations, it is necessary as otherwise the thoughts, feelings or behaviour of the various members of the group could not be accessed or fully understood.

Vulnerable groups are rarely in a position of power within society. For this reason, researchers are sometimes members of the group they are studying or have something in common with the members of the group.

Significance of research

Research is significant both in scientific and nonscientific fields. In our life new problems, events, phenomena and processes occur every day. Practically, implementable solutions and suggestions are required for tackling new problems that arise. Scientists have to undertake research on them and find their causes, solutions, explanations and applications. Precisely, research assists us to understand nature and natural phenomena.