

DECLARATION
A SURVEY OF THE USE OF DECISION TOOLS: THE CASE OF
MANAGEMENT CONSULTANTS IN NAIROBI: //


BY / KIPLAGAT E.K.
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SUPERVISOR:

KIPNGETICH J. (MR)

LECTURER DEPARTMENT OF MANAGEMENT SCIENCE.

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Signed:  JULY 1997

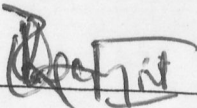
Date: 28/11/97

Julius K. Kipngetich

DECLARATION

This project is my original work and has not been submitted
for a degree in any university

Dedicated to my Mum and Dad

Signed:  Date: 24/11/97
Erick K. Kiplagat

This project has been submitted for examination with my
approval as the university supervisor.

Signed:  Date: 28/11/97
Julius K. Kipngetich

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My special thanks goes to my supervisor Mr. Julius Kipgetich for his support, advice, understanding, patience, guidance and availability.

I am grateful to all my classmates for the cooperation we had for demanding Master of Business and Administration Programme. And in particular I sincerely thank Peter Ngigi for the role he played. I will always miss you. My special

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thanks also goes to Michael Malywa and Stephen Kosgei for their brotherly love and their continued support at various stages of my academic life.

To my family members: my Mum Soti, my Dad Kiptoo, my brother Kipkoeh, my sisters; Rose, Linah and Jane, and my brother-in-law Michael and their children I say thank you for your love, understanding, patience and continued support.

I would also like to thank all the respondents to the questionnaire for their patience and their precious time.

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TABLE OF CONTENTS

PAGE

DECLARATION 1

DEDICATION 11

ABSTRACT

This study was set to survey the usage of decision tools by Management Consultants in Nairobi. A total of 32 consultants were studied. The major emphasis was on the decision tool and the factors affecting the use of the same. A semi-structured questionnaire was used to tap information on decision tools used, factors hindering the use of the decision tools, and the effects of environmental factors on the use of the decision tools. The results of the study indicated that very few Management consultants use the decision tools. A good number of the respondents said that consultancy is skills and experience from similar situations which lead to "best practices" and "innovative practices". The factor analysis used revealed inability to represent most of the problems quantitatively, inappropriate client's environment, unsuitability of the models in Kenya's environment among others as some of the factors that hinder the use of the decision tool. The statistical test of significance revealed that there is no significant difference in use of the decision tools between local and foreign management consultants.

TABLE OF CONTENTS.

	PAGE
DECLARATION	i
DEDICATION	ii
ACKNOWLEDGEMENTS	iii
ABSTRACT	iv
CHAPTER I INTRODUCTION	1
1.1 Background	1
1.2 Statement of the problem	4
1.3 Objectives of the study	6
1.4 Importance of the study	6
1.5 Population of the study	7
1.6 Sampling plan/Sample size	7
1.7 Data description and collection methods.....	7
1.8 Data analysis	8
CHAPTER II	
LITERATURE REVIEW	10
2.1 Problem and problem structuring	10
2.2 Operation research problem solving process	11
2.3 Modelling	13
2.3.1 Types decision tools	14
2.3.2 Importance of modelling	16
2.3.3 Limitation of modelling	18
2.3.3.1 Limitation of the decision tools	18
2.3.3.2 Organisational factors	20
2.3.4 Heuristic approach	22
2.4 Management consultants	23
2.4.1 Reasons for use of management consultants	23
2.4.2 Role of management consultants	25
2.4.3 Users of management consultancy services	26
2.5.4 Why decision tools for management consultants	27
2.5 Environmental effects on the use of decision tools	28
CHAPTER III DATA ANALYSIS AND FINDINGS	30
3.1 Firms characteristics	30
3.2 Analysis of factors that influence the se of	

LIST OF TABLES

	the decision tools	PAGE 33
3.1.0	3.3 Analysis of difference in use of the decision	30
3.1.1	tools between local and foreign management	30
3.1.2	consultants	35
3.1.3	3.4 Analysis of the extent to which environmental	31
3.1.4	factors influence the use of the decision	
	tools	36
	CHAPTER IV SUMMARY, COCLUSIONS AND RECOMMENDATIONS . .	37
3.2.0	4.1 Conclusion	41
3.2.1	4.1.1 Factors that influence the use of	
	the decision tools	41
3.2.2	4.1.2 Difference in use of decision tools	
	between local and foreign	
	management consultants	42
3.2.3	4.1.3 The environmental factors that	
	influence the use of the decision	
	tools	43
3.2.5	4.4 Recommendations	44
3.3.0	4.5 Limitations of the study	45
	4.6 Suggestions for further research	45
	Appendix A - A Letter of introduction	46
	Appendix B - Questionnaire	47
	REFERENCES	52
3.4.1(b)	Environmental factors	38
3.4.2	Final environmental factors statistics	39
3.4.3	Rotated Factor Matrix	39
3.4.4	Environmental factor loading	39
3.4.5	The environmental factors	39

LIST OF TABLES

TABLE	PAGE
3.1.0 Size in terms of	30
3.1.1: Number of years in operation	30
3.1.2: Types of clients served	31
3.1.3 Areas of Specialization	31
3.1.4 Computerization of the consultancy and the packages used	31
3.1.5: Respondents Characteristics	32
3.2.0: Statements presented to the respondents	33
3.2.1 Summary statistics of factors hindering respondents	33
3.2.2 Final Statistics principal-Components Analysis (PC)	34
3.2.3 Rotated Factor Matrix (varimax Rotation)	35
3.2.4 Summary of other factors that load heavily on the various factors	35
3.2.5 Factors that hinder the use of the decision tools	35
3.3.0: Paired descriptives statistics of local and foreign consultants	36
3.4.0: Environmental statements Presented to the Respondents	38
3.4.1(a) Nature of problems solved	38
3.4.1(b) Environmental factors	38
3.4.2 Final environmental factors statistics	39
3.4.3 Rotated Factor Matrix	39
3.4.4 Environmental factor loading	39
3.4.5: The environmental factors	39

Brook (1967) points out that operation research is a tool of management; it is an application of scientific method, tools and techniques to the problems of industrial or business management. It studies causes and effects on a firm-wide scale and hence comprehend a problem, and discern its effect on the firm's overall operations.

OR has indeed permeated almost every aspect of human life from its early beginnings in the military to its current wide usage in business. Its diversity of application

is very much indicative of its usefulness in solving problems in whichever area it is used. OR provides tools for use by management

CHAPTER I INTRODUCTION: an efficient allocation of the scarce resources.

1.1 Background

Busy managers analyze many situations and make hundreds of decisions everyday. Given the dynamic nature of our environment and the complexity of the problems solved by the most of the managers, decisions are generally becoming really complex.

The long run success and survival of any organisation depends entirely on how well management is able to use the limited resources most effectively and efficiently. This has called for the application of sophisticated techniques such as the Operations research /management Science (OR / MS) techniques.

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The optimum solution given the decision maker's constraints.

is very much indicative of its usefulness in solving problems in whichever area it is used. OR provides tools for use by management in its decision making, on efficient allocation of the scarce resources.

A central theme in the OR/MS approach to a decision-making is a problem orientation. Nearly all OR/MS techniques begins with the recognition of a problem situation that does not have an obvious solution. An OR/MS specialist can then be asked to assist in identifying a technique which would give the "best" solution for the problem¹. The use of the decision tools by the management consultants would equip them for consulting services. Odette (1982) points that the role of a management consultant should be that of providing advice and helping in the implementation. The manager cannot evade the ultimate responsibility for decision-making.

OR analysis involves definition of the problem under study, collection and analysis of the Data as pertains to the problem, construction of the model, solving of the model and using the appropriate technique, testing and evaluation of the model and the implementation of the results.

OR techniques do operate alternative outcomes which aid organizations in making sound decisions which will enable them take advantage of the opportunities in the market and to adapt to the changes in the environment.

From the various studies there is no doubt to the fact

¹ The optimum solution given the decision maker's constraints.

that if used appropriately OR/MS techniques would improve on organizations efficient use of its resources. Clark (1992) observed that all the OR tools have been used to a wide range of strategic problems with good results. Kenduiwo (1988) observed that use of transportation model could reduce the inter-factory transportation costs of bulk whole liquid milk by the Kenya creameries corporation.

However other studies have shown that application of decision tools are generally hindered by complexity of the problem, rigidity of the decision tools, and complexity of the decision tools among other factors. In addition studies have shown that the use of OR is influenced by the environment within which it is to be used ² observed that the administrative infrastructure provides unavoidable but important constraints that cannot be ignored in policy model development and application. These factors have led to unsuccessful use of decision tools, and managers have instead opted for heuristic approaches in solving their day-to-day problems.

The study looked at the application of decision tools in the consultancy sector. It covered only those firms traditionally regarded as management consultants. Such firms include consultancy firm owned by accounting firms, business and strategy advisors and human resources specialists.

² Papageorgiou (1994)

1.2 Statement of the problem

The essence of OR is model-building. Constructing a model helps you put the complexities and possible uncertainties attending a decision-making problem into a logical framework amenable to comprehensive analysis. Such a model clarifies the decision alternatives and their anticipated effects, indicates the data that is relevant for analysing the alternative and leads to informative conclusion. It is a vehicle for arriving at a well-structured view of reality.

The various researches on the application of decision tools have shown that decision tools would give good results if used; Clark (1992), Kenduiwo (1988), Goeller and Pawn team (1985), Taylor and Huxley (1982) Vlvilu (1983) winter Feldt (1982) & Kirkwood (1990).

However Yego (1995) in his study on the use of forecasting decision tools in the large manufacturing firms in Kenya, observed that virtually all the firms surveyed do not have independent forecasting department or units, nor do they use the forecasting decision tools. Most managers seemed to be contented with subjective methods though they acknowledge that these methods are not very accurate. Many either feels the decision tools are inappropriate or costly to use.

Papageorgiou (1994), Gass (1991) and Fripp (1985) observed that decision tools are influenced by the

environment within which it is. Given the economic changes that have taken place in Kenya in the recent past and the improvements in information technology facilities among other factors, there is need for better techniques of solving problems.

Most of the studies in this area have looked at the use of decision tools by managers to solve their own problems. This study, looked at the use of decision tools as a solution strategy by consultants in Nairobi. Their demand for the use of decision tools is a "derived demand", that is, they would be expected to use those techniques which suits the users' needs. One management consultant pointed out that the change in the models used depends on the change in the users needs.

Given the role of the sector in directing the economy (advising on the resource utilization which influence the future), and the growing use of OR techniques, there is need to know the basis on which management Consultants solve their consultancy problems. Do they use decision tools as a solution strategy or are they using judgemental methods like other managers in other sectors. What problems hinder them from applying decision tools, does the environmental factors really influence their use of decision tools? Given the fact that managers of foreign and local management consultant firms may have different orientation, does this influence their use of decision tools? The study tried to address

these questions.

1.3 Objectives of the study:

The study intended to establish:-

- (i) The factors that influence the use of decision tools by management consultants
- (ii) Whether there is a significant difference in the application of decision tools between local and foreign management consultants in Kenya.
- (iii) The extent to which environmental factors influence the use of the decision tools by management consultants.

1.4 Importance of the study:

It is hoped that the study will benefit the following:

- i) The management of consulting firms - The finding may form a basis for comparing their use of decision tools with industry habits.
- ii) Academic and other researches - The findings may stimulate further research especially on the use of specific decision tools.
- iii) Academic institutions - The findings may stimulate a need for modification or addition of OR courses that would capture the needs of the managers in the "real world". The decision tools should suit what the manager does not what he/she ought to do.

1.5 Population of the study

The population of interest in this study consisted of all management consulting firms in Nairobi. There were over 150 management consultants listed in the business directory (1996). Management consultants in Nairobi were selected for the study because of the time and cost limitation. However due to the fact that most active management consultants are situated in Nairobi, the sample selected was taken to be a good representative of most management consultants.

1.6 Sampling plan/Sample size

This study was exploratory in nature, all the firms surveyed were concentrated in Nairobi. A sample of 60 firms were selected randomly for the study. This represents 60% of the population considered for the study. The researcher could not study all the firms in the population due time and cost limitations. But because most of the firms had almost similar problems 60 firms were considered sufficient.

1.7 Data description and collection methods:

The study primary data. The data was obtained through both personal interviews and by use of questionnaires. The questionnaires were presented to the managing consultant/the head of consultancy department. The questionnaire were largely administered on the "drop and pick later" method. While the personal interviews was conducted to probe on

questionnaire's responses. The questionnaire was designed to extract information on the firm's; size, client's composition, nature of consultancy, statistical/spreadsheets packages used, decision tools used, factors that have hindered the use of the decision tools, the extent to which environmental factors have influenced the use of the decision tools, and the respondent's personal information on age, level of education and number of years worked. This enabled the researcher to get information on decision tools, limitations of the decision tools and environmental effects on decision tools use, and any other factors that improved the researchers understanding on the decision tools use by the firms.

1.8 Data analysis

Factor analysis mod was to determine those factors which hinder the use of the decision tools: Varimax rotation was employed to improve in the interpretation of the data. The method tried to reduce the number of variables without a great loss of information by discovering underlying variables to which a number of the observed variables are related. Statistical package for social science (spss) was used for analysis of the data. The package was found to be sufficient for the analysis that was required for the study and in addition the it was readily available thus preferred.

Descriptive statistics was used to generate frequency

tables and proportions or percentages. This enabled the researcher to determine differences in means, and get a general picture of the OR application in the sector.

LITERATURE REVIEW

2.1 Problem and problem structuring

Problems are conceptual entities defined as a way of allocating attention to unsatisfactory aspects of reality that one hopes to improve through action.

Given the diversity of problems human thought must be highly adaptive per Ashby's "law of requisite variety" if it is to be usefully used to more than a few problem types. Structuring methodologies help solvers identify solution strategies for structured problems and suggest heuristic lines of attack on unstructured problems*. The narrowest conceptualization of a problem structure is to the clarity of the problem's goal state. Indeterminate goals are of a significant source of ill-structuredness. Effective structuring presumes a fundamental undertaking of problems. And to identify an effective solution strategy, a technique must be able to say why alternative strategies will or will not be effective.

The impossibility of validating proposed solution

* Smith (1990)

* Smith (1991)

CHAPTER II
LITERATURE REVIEW

2.1 Problem and problem structuring

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The impossibility of validating proposed solution

³ Smith (1990)

⁴ Smith (1991)

results from uncertainty as to their ultimate effects rather than uncertainty about what is wanted. Well structured problems may be difficult to solve but there is little uncertainty in deciding what to do to solve them. With unstructured problems a major difficulty is in constructing a solution procedure. For example problem having multiple possible solutions are often unstructured since they lack a single target which would obviate solution procedures towards a pre-specified goal state. However with goal programming the same can be solved.

Problem structuring takes place within and is constrained by a problem- relevant field or "state-of-the-art". Since problem structure depends on available knowledge of relevant domains existing problem solving techniques, and one's basic cognitive capacities. Thus structuring activities are limited by the present state-of-the-art in those respects. Overtime problems become structured or structurable, through advances in the state-of-the-art⁵.

2.2 Operation research problem solving process

(1) Defining the problem under study. One needs to Problem solving like decision-making is action-oriented thought. Having identified a problem one acts to improve the situation. Once the problem has been represented, (ie.structured), then one can model and this determine the expected solution. Modelling tries to represent the "real

⁵ Smith (1991)

World" in a model which can easily be manipulated.

(ii) Before the problem can be addressed the would be solver must solve the second order problem of determining how to solve the original problem. Problem structure has behavioural correlates. Faced with unstructured problems, managers will behave differently than when solving structured problems. Their initial responses will reflect uncertainty about how to address the situation.

(v) Problem solving activity pre-supposes that one knows something of what he wants either he can envision a defined state or "will know it when he sees it"⁶, that is, the decision maker has a picture of what he/she wants. However the problem solver cannot know what the solution state will be like until it is achieved.

The problem solving process must be tailored to the problem at hand, implying the need for a description of problems that can inform process adaptation. In order to realize the benefits of using OR techniques the main step in OR analysis have to be followed systematically, that is;

(i) Defining the problem under study. One needs to know what the problem he/she is supposed to solve. Managers would often err by defining a problem in terms of a proposed solution, missing the big problems or diagnosing the problem in terms of its symptoms. We want to solve the problem not just

⁶ Smith (1991)

- cannot be eliminate the temporary symptoms.
- (ii) Collecting and analysing data that pertains to the problem.
 - (iii) Constructing the model. The suitable model should finally specify quantitative expressions for the objective and the constraints of the problem all in terms of decision variables
 - (iv) Solving the model using the appropriate techniques
 - (v) Testing and evaluating the model to ensure that the solution given corresponds with reality.
 - (vi) Implementing the results. This involves translating the results of the model in detailed instructions understandable by those who will use it⁷ find easy to use and which will enable him to develop and enhance his own insight into the task at hand.

A typical quantitative model contains the following

2.3 Modelling:

1) Decision variables - the unknowns that are to be determined by solving the model. A specific decision is made when decision variables take on specific values. constraints they may take the form of equations or set of inequalities. They usually restrict the range of the decision variables as a result of

There are no principled guidelines differentiating problems which can and cannot be usefully modelled, and which should and should not be structured by this means⁸. The technique implies a model based solution strategy and its use inordinately narrow solution options. This is especially as regards managerial problems most of which

⁷ Haessler (1983)

⁷ Bazerman, Cax H.

⁸ Smith (1991) (1980)

cannot be or have not been successfully modeled⁹.

Representing a problem presumes that one understands it, is able to differentiate relevant from irrelevant elements and can specify relationships interconnecting the former¹⁰. Modelling presumes these capacities but neither provides nor supports them except through the identification of standard problem structures¹¹.

2.3.1 Types decision tools

Initially, model building may be qualitative in nature, involving a rather informed descriptive approach from this informal qualitative model, a formal quantitative model is developed. The decision tools should be those which the managers will find easy to use and which will enable him to develop and enhance his own insight into the task at hand.

A typical quantitative model contains the following elements;

- i) Decision variables - the unknowns that are to be determined by solving the model. A specific decision is made when decision variables take on specific values.
- ii) constraints - they may take the form of equation or set of inequalities. They usually restrict the range of the decision variables as a result of

⁹ Haessler(1983)

¹⁰ Clark(1992)

¹¹ Von Winterfeldt(1980)

technological, economic, or physical constraints on the system.

- iv) Parameters - these are the known values, or constraints, of the model that relate the decision variables to the constraints and objective function of the model¹².

In the practice of management sciences four major types of mathematical decision tools are employed:-

- i) Descriptive model:- The model here attempts to represent some particular physical situation but does not indicate any preferred course of action. The waiting-line model and simulation model are good examples here.
- ii) Optimization decision tools: The decision tools here are prescriptive in nature in that it prescribes the course of action that the decision maker should select to achieve some defined objective. Most mathematical decision tools employed in OR are normative in nature and thus have an objective function that is optimised (maximised or minimized) subject to constraints that utilize decision variables and parameters. For example Networks decision tools, dynamism programming decision tools, Markovian decision tools, decision decision tools, mathematical programming decision tools (ie linear programming model, assignment model,

¹² Fripp, J (19850)

transportation model, goal programming decision tools). The major characteristic of the normative model is that it allows the modeller to determine the best course of action.

iii) Heuristic Model:- These are basically decision tools that employ intuitive rules or "rules of thumb" in the hope of generating "good" solutions. This is in contrast to optimization decision tools that seek to generate the best solution¹³.

2.3.2 Importance of modelling

Markland (1989) points out that most meaningful management science modelling efforts are of a scope and complexities that requires computerization for testing and solution. Many organisation have found the use of OR very useful to deal with those problems affecting their operation for instance queuing problem in banks, control and management of inventory, resources allocation, planning and decision making.

Borsting (1987) argues, from his experience in the top management of the United states of America's Department of defence, that OR background prepares one very well to address top level decisions because it teaches one to; "Conceptually define a problem, analyze data, diagnose, formulate; goals, objectives and criteria, hypotheses

¹³ Gass, S. I. (1991)

structure and relationships; build decision tools behaviour, generate alternatives, predict results of alternatives, measure results against criteria and implement in closed loop fashion"¹⁴.

Thus OR activity as pointed out by researchers improves understanding of an organisation processes and business objectives. Given this understanding the operation researches can construct a mathematical model incorporating all casual variables and their interactions. This model may be predictively by deliberately manipulating its variables to ascertain the probable outcomes. This therefore implies that the operation researches develop new measures of effectiveness of the company operation as he goes a long.

OR tools allow management to make optimum decision for the firm as a whole. Having identified the action alternatives, the best alternative may be identified and recommended to the decision making executive.

Fripp (1985) observed that decision tools have the effect of focusing the attention of users on the most pertinent issues which lead to more appropriate decision values and improved results. It forces executive attention in the right direction in the respect to such issues as;

- i) Who should know about decision made
- ii) when and how this information should be communicated

¹⁴ Brosting (1987)

iii) What each operating executive, from the top level down needs to watch most closely in respect to optimising future operating results¹⁵.

2.3.3 Limitation of modelling

2.3.3.1 Limitation of the decision tools

The basic limitation of the usefulness of OR is that it can neither define a management problem nor make and implement a management decision. The task is left to the Manager.

When the problems fails to fit the existing pigeonholes or when the modeller lacks experience with similar situations he/she is left with methodological basis for formulating the model. This weakness is especially serious for managerial problems due to their variety and the many potentially relevant variables¹⁶. There simply are not many situations where it is possible to find optional solutions to significant problems that occur in the "real life world". Significant problems virtually are ill-defined with much uncertainty and are ultimately resolved based on the judgement of experienced managers or they are combinational in nature (Haessler 1988).

Taylor (1974) observed that there is no definitive

¹⁵ Fripp(1985)

¹⁶ Smith(1991)

formulation of a wicked problem essentially because one cannot specify all the knowledge needed to solve it

The larger a firm the wider its market the greater the number of its customers, and so the more complex its internal organisation. This enlarges the number of variables and their interaction that must be taken into account in the mathematical model representing the business operation set up by the OR team. A kin to this factor is that of technology, that pace of which has become so rapid that sometimes a firm consults large-scale funds to building or modifying a given plant which in turn is obsolete even before it is completed. If OR is improperly done or fails to consider all factors, its recommendations may lead to a wrong action. Hence such possibilities contribute to the cost of effective decision-making. Though, however, the feedback principle built into OR team action and procedures tends to help to reveal such errors before their cost impact becomes too great.

OR activity may lead to optimization of a divisional activity rather than a company wide operation. Erroneous use of decision tools can result in recommendation for this sort of action followed, perhaps by insisting on adaptation regardless of the resulting impact. OR tools are merely tools and any tool must be correctly used to be truly effective. There is a danger of organisation executive not realising this thus taking OR tolls as ends themselves.

Papageorgiou (1994) observed that use of OR/MS in the public sector not only of developing countries, but even of developed one's is particularly difficult. This is in part as a result of the computing of both the decision makers objective function and the measures of effectiveness.

2.3.3.2 Organisational factors

Although OR contributes to the success of organisation it has been argued that it has not become popular among senior level management. It seems it is only suitable for junior managers where decision can be programmed. The top management sees the Decision tools as in appropriate to their complex decisions where a lot of personal judgement and discretion is needed to make a particular decision. Thus there are relatively few organisation where OR techniques, have made significant impact on the day-to-day activities of the chief executive officer (CEO). The rational quantitative ways that OR find easiest to model may not capture the qualitative aspects of the managerial problems. In addition most of CEO's may not have the analytical mind to tackle problem solving in this way and their environment is not conclusive to such methodical approach. Thus they do not really see the need of implementing such "useless" techniques as they see them as mere wastage of resources.

An effective OR model would require vast data that are far from the interest of the CEO for a variety of reasons.

The CEO would not see any justification in implementation of such a model. Studies have shown that most of the users of OR techniques are interested at the solution and not at the mechanism involved in arriving at the solution. They take least interest in understanding the OR thoroughly. This has contributed to the lack of understanding of the theoretical foundation of OR methods which have resulted in lack of appreciation of these techniques, and thus interfering with implementation of the OR goals.

The decision tools developed may be too sophisticated for the managers who are expected to use them. In addition there has been a problem among the OR experts who whenever they present issues of OR in journals they use very complicated mathematical expression which makes the understanding of the subject very difficult to the laymen who may not have had any background knowledge of OR.

Managers may accept the validity of OR work and wish to implement the proposed solution but the impact of political factor; bureaucracy flourishes and hinders decision making and eventual action even on minor problems¹⁷, thus makes the life for OR practitioners difficult because such kind of organisational life cannot help them achieve their goals.

The misconception among users of the decision tools on the fact that the Decision tools substitute decision making have made them helpless and can only take the decision made

¹⁷ Papageorgiou(1994)

by the model. They assume the decision tools are liable of influencing the environment. This to some extent have interfered with the implementation of OR techniques.

2.3.4 Heuristic approach

Since all problems cannot be fully structured and structuring is not necessary for successful problem solving, methodologies should not insist on finding structure in or informing every problem. If the problem to be solved is not sufficiently complex, optimization can be ruled out as being impracticable if not impossible¹⁸. This leads naturally to the recognition that if better answers are to be found a heuristic problem solving procedure will have to be developed. Man is presumed does and should make decisions by joint consideration of his/her expectations as to the ultimate decision outcome and his Valuations of those outcomes¹⁹. Human expectations can be operationalised as subjective probabilities of a future states and valuations and purportedly be captured in utility curves (Smith 1991).

Haessler (1983) argues that an effective heuristic problem solving procedure will necessarily be complex in order to be able to deal with the variety of problem situations that will be encountered in the real world. One of the structuring methodology here is decompositions are

¹⁸ Haessler (1988)

¹⁹ Haessler (1983)

suggested in simons (1973) analysis of architectural design and is widely used in problem solving²⁰. The approach attributes the lack of a solution strategies to problem complexities attempting to reduce intractably large problems into managable small ones. The assumption here is the existence of basic tasks themselves structured from which unstructured problems are formed. Given a way of decomposing problem into finite sets of simple building blocks structuring leads to successful solutions. However it is not easy to device a workable set of relatively structured basic tasks.

The Key issue in formulating a Phasic model of managerial problem solving is specifying the activities that work from a problem definition and culminate into a solution²¹. The most common move is to posit a sequence of alternative generation, evaluation and choice²². In such accounts the creative generations of alternatives is the critical steps towards solutions.

2.4 Management consultants

2.4.1 Reasons for use of management consultants:

Most organisations cannot effort to employ and/or maintain OR specialists and they would opt to go for a

²⁰ Von Winterfldt (1980)

²¹ Smith (1990)

²² Pounds (1969)

consultant. The need for innovation and foresight; it is when

There are four situations from which consulting assignment arises ; and lay plans for the future. New

- (i) The need for independent and impartial advice on an issue or policy. A consultant being unaffected by organisational politics and personality clashes which affect organisations from time to time is more likely to be impartial. The recommendations he gives are done on the basis that it offers the best solution to the problem posed.
- (ii) The need for extra executive manpower in the analysis and solution of identified problems. Managers may face problems that require knowledge, experience and training which they lack. Environmental changes may also outpace the abilities of the managers to keep up to date. It is rarely possible for an organisation to meet all kinds of vast contingencies. Management consultants provide special skills, knowledge and assistance on a temporary basis.
- (iii) Extra manpower may also be needed in situations where operational managers cannot take time off their normal duties to carry out necessary studies. Further the problem at hand may require a multi-disciplinary team of specialists to solve it.

"Opendo, C. A. (1988)

"Kasskende, C. S. (1984)

(iv) The need for innovation and foresight; it is when an organisation is doing well that its leader can forecast and lay plans for the future. New objectives or strategies may require new products or services, additional capital equipment or personnel and finance. The plan may require imports from fields or markets unknown to the company's planners. The consultant may have the additional contribution to make.²³

However in practice business organisations often call in consultants for less noble reasons such as:

- Lack of knowledge on what to do next.
- Fashion and prestige.
- To get a seal of approval for a predetermined course of action.
- Reasons of internal organisational politics such as to strengthen one faction's case for a strategy or getting rid of certain managers.²⁴

2.4.2 Role of management consultants:

Management must make a policy decision on whether to have only OR team of employees or whether to use only OR consultants or a combination of both. In either case it must fix an optimum OR team size and prescribe the abilities and

²³Opondo, G. A. (1988)

²⁴ Kasekende, C. S. (1984)

characteristics of the OR team members.

The OR workers or consultants must be compatible with line and staff executives already in the organisation. This will remove psychological bottlenecks to successful operation of OR.

Opondo (1988) observed that the following areas in which management consultants are employed;

- i) Business administration and company organisation
- ii) Capita projects, economic planning and finance
- iii) Operational research industrial engineering and production
- iv) Marketing distribution and transport
- v) Personnel and management training
- vi) Environmental planning
- vii) systems and data processing.

2.4.3 Users of management consultancy services:

Since OR/MS is relatively new discipline, it has not yet been fully integrated into managerial decision-making in all levels and all organisation. Many companies cannot afford to maintain a professional staff of OR experts or line consultants whenever a potential project arises. Krentzman and Samaras (1980) observed that it is mainly successful firms that use consultancy services.

Odette (1982) identified the major users of consultancy services in Kenya as ;

-The public sector; the central and local government, public co-operations and co-operatives.

-International funding agencies for example :European Economic Community Agencies, United Nations Agencies and American Aid Agencies.

-Private organizations which include mainly large local and multinational Companies.

KeseKonde (1984) observed that in Kenya funding agencies constitute the most lucrative market for consulting firms. They usually assign larger jobs for longer durations.

Opondo (1988) observed that the funding agencies employ consultants with the same reasons as those of business organisations. that is, for special knowledge, relevant experience, and pertinent advice.

2.5.4 Why decision tools for management consultants

The services of consultants are more needed in Kenya than in the developed world. This is because they would be helpful in the task of economic development, which is slackened by a shortage of managerial capacity, especially given the environmental changes that have taken place.

Caiden (1976) proposed a measure of the value of consultancy to be the extent to which because of the consultants presence something was done that otherwise would not have been done. He pointed out that in development management consulting work, a successful management

consultancy practice be a combination of technical knowledge, motivation belief in mission, cultural empathy and an understanding of local politics.

OR provides a systematic approach to decision making. Whatever advice the consultants give to its clients is always taken as final. This therefore requires the consultants to be extra careful when solving their consultancy problems. Use all available techniques to ensure a real viable solution give the constraints prevailing. One of such techniques would always be decision tools.

2.5 Environmental effects on the use of decision tools

In the recent past Kenya has undergone through major structural changes which has lead to changes in the environment within which most of the companies in Kenya operate. Such changes includes increased competition due to liberalization of the market, reduced grants to the government and globalization by most companies. Organisational survival depends on how it is able to analyse the environment and thus take the appropriate actions.

Organisational adaptivity is the ability of an organisation to change itself or the way in which it behaves in order to survive in the face of external changes which were not predicted in any precise way when the organisation was designed. The adaptation is through the taking of decisions. Those decisions may relate the overall policy to the way in which things shall be done in the organisation or

to more specific decisions as to whether a specific project shall be given a go-ahead or not.

Clark (1992) observed that many of the OR tools can assist in the first analysing the environment phase, and most importantly can be for the implementing strategy tasks. In order for the model to be of lasting value it should be capable of changing and adaptating as a response to changing circumstances. Fripp (1985) pointed out that it is this ability of the model to adapt to circumstances and still remain worthwhile, which would determine among other things whether management would continue to use it. Otherwise with the present conditions of increasing complexity and rapid change in which organisations, and managers have to operate may make the decision tools which claim to optimise a fruitless one.

Class (1991) observed that OR as is practice within the managerial and decision-making environment of the United States of america is not the OR as it is and will be practised in most other countries. The practice of OR involves not only science but also involves the cultural, ethical, behavioural and bureaucratic structures that influence a country's and individual's approach to decision-making.

Most of the firms surveyed seemed to have been in operation for more than 10 years. This therefore implies

CHAPTER III

DATA ANALYSIS AND FINDINGS;

A total of 60 questionnaires were circulated. The total number of useable responses was 32. This represented a response rate of approximately 53%. The data analysis in this study is summarized and presented in terms of proportions and mean scores, and principal component analysis (PCA).

3.1 Firms characteristics

Table 3.1.0 Size in terms of:

	1-3	4-12	>10	TOTAL
Number of Professional Staff	7 (29%)	11 (45%)	6 (25%)	24
Local Firms	2 (25%)	5 (62.5%)	1 (12.5%)	8
Foreign Firms	1-5	6-15	>16	
Sales Turnover (Million)	5 (21%)	12 (50%)	7 (29%)	24
Local Firm	3 (37.5%)	3 (37.5%)	2 (25%)	8
Foreign Firms				

Looking at the summary most of the firms surveyed both local and foreign had between 4 and 10 professional staff, and sale turnover of between Shs.6 Million and 15 Million per year.

Table 3.1.1:	Number of years in operation				TOTAL
	0-4	5-9	10-15	>16	
Local	6 (25%)	3 (12.5%)	3 (12.5%)	12 (50%)	24
Foreign	0	1 (12.5%)	0	7 (87.5%)	8

Most of the firms surveyed seemed to have been in operation for more than 16 years. This therefore implies

most of them had established consultancy department.

Table 3.1.2: Types of clients served:

	0-10		10-30		31-50		51-100	
	L	F	L	F	L	F	L	F
Public Sector	12	5	7	0	3	3	2	0
Internal Funding	10	3	9	2	4	3	1	0
Agency		1	2	2	7	4	12	1
Others	3							

Between 50% local consultants had between 51-100 percent of their business from the Private Sector, and 50% of them had between 0-10 percent of their business from the public sector. On the other hand 63.5% of the foreign consultants had between 0-10 percent of their business from the public sector and 50% of them had between 31-50 percent of their business from the private sector.

Table 3.1.3 Areas of Specialization

	Local †	Foreign †
Investment and Financial Consulting	9 37.5%	3 37.5%
Organisation Design and Development	7 29.2%	4 50%
Market Research	8 33.3%	4 50%
Human Resource Planning	8 33.3%	3 37.5%
Training	14 58.3%	2 25%

Most of the firms surveyed specialise in more than one area. It was observed that 58.3% of local firms offered some form of training consultancy in addition to other services. Foreign consultants on the other hand seemed to provide consultancy evenly on all the areas specified.

Table 3.1.4 Computerization of the consultancy and the packages used:

Computerization	Local	Foreign
Yes	15 (62.5%)	8 (100%)
No	9 (37.5%)	0 (0%)

<u>Packages :</u>	12 (50%)	4 (50%)
LOTUS 123	3 (12.5%)	1 (12.5%)
SPSS	0	0
SAS	0	1 (12.5%)
Statgraphics	0	0
Symphony	0	0
Supercalc	2 (8.33%)	1 (12.5%)
Micro Manager	15 (62.5%)	4 (50%)
Excel		
Mode of solving the consultancy problem:		
Through experience (fundamental)	23	8
By use of mathematical methods:	12	3

62.5 % of the local consultants and 100% of the foreign consultants surveyed had computerized operations.

On the packages : 50% of the local and foreign consultants Lotus 1-2-3, 65.5% of the local consultants and 50% of the foreign consultants use excel on their consulting job. Most of the other packages mentioned are hardly by the firms surveyed.

95% of the local consultants and 100% of the foreign consultants use judgmental method in solving their day to day consulting. While 50% of the local consultants and 37.5% of the foreign consultants use mathematical methods. However, most of the consultants use both the two methods.

Table 3.1.5: Respondents Characteristics		<u>Local</u>	<u>Foreign</u>
1.	Sex:	18	5
	Male	6	3
	Female		
2.	Age:	0	0
	25 years and less	0	1
	26-30 years	1	0
	31-35 years	10	2
	36-40 years	13	5
	40 and more years		
3.	Number of years in formal schooling		1
	Less than 10 years	2	3
	11-15 years	8	0
	16-17 years	3	4
	18 or more years	11	
4.	Years worked in present company		0
	Less than one year	2	2
	1-4 years	3	1
	5-9 years	5	5
	10 or more years	14	
5.	Years worked in other companies in similar capacity		
	Less than one year	2	2

1-4 years	4	3
5-9 years	3	1
10 or more years	15	2

75% of the local consultants and 62.5% of the foreign consultants surveyed were male.

96% of the local consultants and 87.5% of local consultants surveyed were aged above 36 years, 58% of the local consultants and 62.5% of the foreign consultants have worked in the present Company for more than 10 years.

3.2 Analysis of factors that influence the use of the decision tools

Factor analysis was performed on Section B Q9 of the questionnaire to determine the factors that hinder the use of decision tools by Management consultants to solve their consultancy problems. Table 3.2.0 below shows the statements that were presented to the respondents.

Table 3.2.0: Statements presented to the respondents

Q9S1.	Unavailability of appropriate models
Q9S2.	Inability to represent the problem
Q9S3.	Modelling takes time
Q9S4.	Modelling is costly
Q9S5.	Irrelevancy of the models solution
Q9S6.	Unavailability of suitably qualified staff
Q9S7.	Lack of appropriate technology
Q9S8.	Size of the problem
Q9S9.	Inappropriate clients environment
Q9S10.	Unsuitability of the models to Kenya's environment
Q9S11.	Lack of familiarity by self
Q9S12.	Lack of familiarity by clients
Q9S13.	Lack of top level Management support
Q9S14.	Complexity of the models

A summary statistics of the respondents response on the above factors are shown on table 3.2.1 below.

Table 3.2.1 Summary statistics of factors hindering respondents

Factors	Mean	Std Dev	Mode
Q9S1	4.53	1.05	5
Q9S2	4.06	1.34	5
Q9S3	4.16	1.30	5
Q9S4	4.47	.98	5
Q9S5	3.37	1.52	5

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Q9S6	4.25	1.02			5
Q9S7	4.34	.90			5
Q9S8	4.84	.45			5
Q9S9	4.16	1.32			5
Q9S10	3.47	1.19			3
Q9S11	4.28	.96			5
Q9S12	4.03	1.12			5
Q9S13	2.97	1.33			4

A score of 1 represented very great extent on the one extreme while 5 represented not at all on the other extreme. The respondents on average seemed indifferent on the hinderance of "irrelevance of the decision tools solution", "unsuitability of the decision tools in Kenya's environment" and "complexity of the decision tools". The other factors seemed not to hinder the use of the decision tools. In addition most respondent feel that non of the factors hinder the use of the decision tools.

Table 3.2.2 Final Statistics principal-Components Analysis (PC):

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
Q9S1	.51280	* 1	2.25621	17.4	17.4
Q9S2	.46460	* 2	1.88655	14.5	31.9
Q9S3	.53700	* 3	1.69050	13.0	44.9
Q9S4	.66969	* 4	1.59973	12.3	57.2
Q9S5	.53332	* 5	1.08710	8.4	65.5
Q9S6	.80396	*			
Q9S7	.66778	*			
Q9S8	.78729	*			
Q9S9	.68591	*			
Q9S10	.63447	*			
Q9S11	.81171	*			
Q9S12	.81358	*			
Q9S13	.59798	*			

From the above table factor I observed accounts for 17.4% of the total variation and the five-factor solution explained 65.5% of the total observed variation.

Varimax rotation was performed on the factor matrix and a rotated factor matrix as shown in table 3.2.3 below was extracted.

Table 3.2.3 Rotated Factor Matrix (varimax Rotation)

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
Q9S1	.49283	-.44786	-.10188	.23839	.04612
Q9S2	-.09849	-.20461	.05629	.04021	.63895
Q9S3	.48018	.26079	.48018	.07393	-.04868
Q9S4	.06813	.58775	.50583	-.00778	-.25233
Q9S5	.31709	-.07075	-.32526	-.45027	.34530
Q9S6	.85852	-.06675	.07204	-.01169	-.23900
Q9S7	.09965	-.05652	-.00931	.80904	-.00493
Q9S8	-.07739	.17818	-.20194	.66756	.51297
Q9S9	.76969	-.03010	.07853	-.05996	.28778
Q9S10	.22975	.38486	-.03324	-.02283	.65722
Q9S11	.01842	.08081	.81763	-.32203	.18057
Q9S12	.01180	.89309	-.07020	.06592	.08096
Q9S13	-.08038	.24909	-.61087	-.37968	.11029

From the rotated factor matrix summary of variables that load heavily on the various factors is shown below.

Table 3.2.4 summary of other factors that load heavily on the various factors:

Factor	Variables
1	Q9S6, Q9S9
2	Q9S4, Q9S12
3	Q9S4, Q9S11, Q9S13
4	Q9S7, Q9S8
5	Q9S2, Q9S8, Q9S10

Table 3.2.5 Factors that hinder the use of the decision tools:

- Factor 1 arises out of :
- * Unavailability of suitably qualified staff
 - * Inappropriate client's environment
- Factor 2 arises out of :
- * Modelling is costly
 - * Lack of familiarity of client's
- Factor 3 arises out of :
- * Modelling is costly
 - * Lack of familiarity by self
 - * Lack of top management support
- Factor 4 arises out of :
- * Lack of appropriate technology
 - * Size of the problem
- Factor 5 arises out of :
- * Inability to represent the problem
 - * Size of the problem
 - * Unsuitability of the models to Kenya's environment

3.3 Analysis of difference in use of the decision tools between local and foreign management consultants

Means, standard deviations, proportions and spearman coefficient of rank of correlation was determined for respondents' responses on questions. Statistics was to determine whether there is significant difference. The summary statistics of the responses are shown in tables 3.3.0 below.

Table 3.3.0: Paired descriptives statistics of local and foreign consultants:

Variable	FOREIGN		LOCAL		Difference of means Squared
	Mean (a)	Std Dev (b)	Mean (c)	Std Dev (d)	
Q2S1	8.75	8.91	6.88	4.53	3.4969
Q2S2	13.00	15.79	13.38	10.41	.1444
Q2S3	1.25	.74	1.17	1.41	.0064
Q4S1	1.75	1.04	1.79	.98	.0016
Q4S2	2.00	.93	1.83	.87	.0289
Q4S3	2.63	.92	3.25	.94	.3824
Q8S1	4.00	1.31	3.42	1.38	.3364
Q8S2	5.00	.00	4.96	.20	.00160
Q8S3	5.00	.00	5.00	.00	.0
Q8S4	5.00	.00	5.00	.00	.0
Q8S5	3.75	1.75	4.63	.92	.7744
Q8S6	4.63	1.06	4.62	.97	.0001
Q8S7	4.88	.35	4.71	.75	.0289
Q8S8	4.38	1.41	4.50	.98	.0144
Q8S9	4.63	1.06	4.92	.28	.0841
Q6S10	5.00	.00	4.92	.28	.0064
Q8S11	4.63	1.06	4.96	.20	.1089
Q8S12	4.12	1.36	4.88	.45	.5776
Q8S13	4.88	.35	4.92	.41	.0016
Q8S14	4.63	1.06	4.46	1.06	.0289
Q9S1	4.75	.46	4.46	1.18	.0841
Q9S2	4.25	1.16	4.00	1.41	.0625
Q9S3	4.25	1.49	4.12	1.26	.0169
Q9S4	4.25	1.16	4.54	.93	.0841
Q9S5	2.75	1.49	3.58	1.50	.6889
Q9S6	4.25	.89	4.25	1.07	.0
Q9S7	4.63	.74	4.25	.94	.1444
Q9S8	5.00	.00	4.79	.51	.0441
Q9S9	4.38	1.19	4.08	1.38	.09
Q9S10	3.88	1.25	3.33	1.17	.3025
Q9S11	4.63	.52	4.17	1.05	.2116
Q9S12	4.13	1.25	4.00	1.10	.0169
Q9S13	3.25	1.49	2.87	1.30	.1444
Q11S1	2.00	1.41	2.29	1.00	.0841
Q11S2	2.13	1.25	2.75	1.19	.3844
Q11S3	3.88	.83	3.58	1.38	.09
Q12S1	3.63	1.60	4.29	.91	.4356
Q12S2	4.50	1.41	4.37	.82	.0169
Q12S3	4.13	.99	4.00	.98	.0169
Q12S4	4.13	1.36	3.79	1.28	.1156
Q12S5	4.38	1.06	4.62	.88	.0576
Q12S6	4.13	1.36	4.33	.96	.0289
Q12S7	4.25	1.39	4.42	1.06	.0289
Q12S8	4.00	1.07	4.46	1.10	.2116

$$\sum D^2 = 9.3848$$

Spearman coefficient of rank correlation was to determine whether there is a significant difference in the extent and the factors hindering the use of the decision tools between local and foreign Management consultants.

$$r_s = 1 - 6 \sum D^2 / n(n^2 - 1) = 1 - 6 * 9.3848 / 44(43^2 - 1) = 0.9993$$

- r_s = Spearman Coefficient of rank correlation
- n = number of paired observations
- d = difference between the rank for each pair of observation

For the null hypothesis of no correlation here the

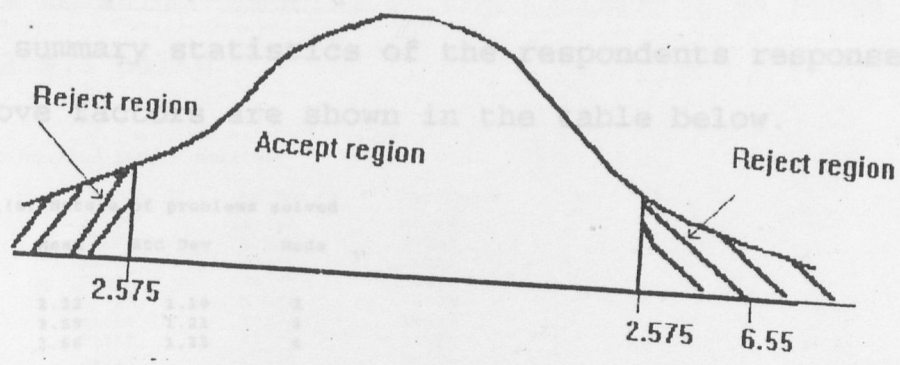
means and the variance are given by; $E(r_s) = 0$, and $Var(r_s) = 1/n-1$ respectively.

$$Z_c = r_s \sqrt{(n-1)} = 0.9993 * 6.55 = 6.55$$

H_0 : No correlation

H_1 : There is correlation

The critical value at a significant level of 99% is plus or minus 2.575, and the calculated Z-value(Z_c) is 6.55



correlation between the local and foreign management consultants in the use of decision tools, that is, the two groups have similar features.

3.4 Analysis of the extent to which environmental factors influence the use of the decision tools

The objective here was to identify the extent to which changes in the external environment affects the use of the decision tools. This was to be captured by Section C Q12 of

the questionnaire. Factor analysis was performed on responses of question to determine the environmental factors that influence the use of decision tools by Management consultants in solving their consultancy problems. Table 3.4.0 below shows the environmental statements presented to the respondents.

Table 3.4.0: Environmental statements Presented to the Respondents;

Q12S 1	Increased competition
Q12S 2	Increased use by other firms
Q12S 3	Increased problem's complexity
Q12S 4	Improved information technology facilities
Q12S 5	Changing clients' needs
Q12S 6	Increased suitably trained personnel
Q12S 7	Growth of the Company
Q12S 8	Easy to import models

A summary statistics of the respondents responses on the above factors are shown in the table below.

Table 3.4.1(a) Nature of problems solved

Variable	Mean	Std Dev	Mode
Q11S1	2.22	1.10	2
Q11S2	2.59	1.21	2
Q11S3	3.66	1.23	4

Table 3.4.1(b) Environmental factors

Variable	Mean	Std Dev	Mode
Q12S1	4.13	1.13	5
Q12S2	4.41	.98	5
Q12S3	4.03	.97	5
Q12S4	3.88	1.29	5
Q12S5	4.56	.91	5
Q12S6	4.28	1.05	5
Q12S7	4.38	1.13	5
Q12S8	4.34	1.10	5

Looking at table 3.4.1 (a) most Management consultants on average frequently solve existing problems, moderately help in dealing with new developments and expansion, and rarely help overcome the problem of manpower shortages. Table 3.4.1 (b) shows that the environmental factors presented to the respondents on average influenced their use of the decision tools to a low extent, However, many feel

the factor have not influenced them at all.

Factor analysis on the above factors shows in Table 3.4.2 below that Factor 1 observed accounts for 35.3% of the total variation and the 3-factor solution explained 64.4% of the total observed variation.

Table 3.4.2 Final environmental factors statistics:

Variable	Communality Pct	*	Factor	Eigenvalue	Pct of Var	Cum
Q12S1	.35874	*	1	2.82720	35.3	35.3
Q12S2	.66981	*	2	1.21505	15.2	50.5
Q12S3	.64560	*	3	1.10696	13.8	64.4
Q12S4	.68758	*				
Q12S5	.64890	*				
Q12S6	.72477	*				
Q12S7	.65927	*				
Q12S8	.75455	*				

Varimax rotation results on the factors is as shown in table 3.4.3 below.

Table 3.4.3 Rotated Factor Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3
Q12S1	.34362	.49056	-.00419
Q12S2	.45490	.27917	.62043
Q12S3	-.08999	.78233	-.15958
Q12S4	.20165	.71745	.36357
Q12S5	-.16723	-.15467	.77266
Q12S6	.67110	.28223	.44129
Q12S7	.71829	.35501	-.13151
Q12S8	.85747	-.13889	.00283

From the rotated factor matrix a summary of variables that load heavily on the various factors is shown below

Table 3.4.4 Environmental factor loading

Factor	Variables
1	Q12S6, Q12S7, Q12S8
2	Q12S3, Q12S4
3	Q12S5, Q12S2

Table 3.4.5: The environmental factors

Factor 1 arise out of:		
•	Q12S6	- Increased suitably trained personnel
•	Q12S7	- Growth of the Company
•	Q12S8	- Easy to import models
Factor 2 arise out of:		
•	Q12S3	- Increased problems complexity
•	Q12S4	- Improved information technology facilities
Factor 3 arise out of:		
•	Q12S5	- Changing clients needs
•	Q12S2	- Increased use by other firms

CHAPTER IV

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS4.1 Conclusion

Though almost all the Management consultants surveyed claimed that their consultancy is computerised, most of them at most only use spreadsheet packages, that is Lotus 123 or Excell. The other statistical packages are viewed by many as irrelevant. This explains why most of the decision tools such as simulation, linear programming and others are hardly used by many Management consultants.

4.1.1 Factors that influence the use of the decision tools

From the summary statistics most consultants feel that most of the factors presented to them have not hindered them in using the decision tools. This however is not because the factors did not hinder them but because they did not use the decision tools in the first place.

Though the study shows that most of the consultants have worked in the current or similar employment for more than ten years, many still do not even have an idea of what some of the decision tools are. The approach by many is

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SUMMARY, COCLUSIONS AND RECOMMENDATIONS:

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Though the study shows that most of the consultants have worked in the current or similar employment for more than ten years, many still do not even have an idea of what some of the decision tools are. The approach by many is

more qualitative and are designed on that basis. Many pointed out that the skills do exist to carry out OR modelling, but on a need basis. The use of OR modelling is only on specific appropriate and relevant clients' needs. Otherwise many feel judgemental methods is sufficient.

However it is not judgement that is sufficient, but the collection of experiences from similar situations which leads to "best and innovative practices". Individual skills, expertise and experience, and prior experience in similar areas locally or internationally would always influence the use of the decision tools.

It is unlikely as revealed by the study for one to use mathematical method alone, as the assumptions on which the models' parameters are based generally on judgemental. Simple decision tools whose solution can easily be understood by both the consultants and their clients was preferred by most consultants.

Inability to represent most of the problems quantitatively, Unsuitability of the models in Kenya's environment, inappropriate clients environment, and the size of the problem were identified as the key factors that hinder the use of the decision tools.

4.1.2 Difference in use of decision tools between local and foreign management consultants

75% of the Management consultants surveyed were locally owned. From the Spearman's coefficient rank correlation of

0.9997, there is no significant difference between the means of the two groups. They are perfectly positively correlated. Thus ownership does not influence the usage of the decision tools. Some pointed out that though the decision tools are used in other countries, Kenya's environment is not suitable for the same.

4.1.3 The environmental factors that influence the use of the decision tools

Many management consultants appreciated the fact that business environment in Kenya and Eastern Africa is becoming increasingly complex and the use of modelling tools is slowly emerging.

The on-going privatisation of public enterprises in the Eastern Africa region, have led to more assignments involving share and business valuations, and feasibility studies.

Gained experience and familiarity with models progressively over the years and especially in light of the increased computerisation of most management activities have led the use of some form of modelling. The changing clients' needs and the increasing complexity of organisational and environmental situations, and problems among other factors is likely encourage more use of modelling.

The usage of decision tools by management consultants was influenced by:-

- (i) Organizational factors such as growth of the firm,

increased suitably trained personnel and ability to import the models from other countries.

- (ii) Problem complexity and improved problem solving techniques. Increased computerization and increased client environmental complexity have lead to some form of modelling.
- (iii) Changing clients needs and the use of decision tools by others have encouraged the use by many. Most consultants poited out that their use of the decision tools is influenced so much by what the clients want.

4.4 Recommendations

Organizational decision affects the country's resource utilization. Given the potential benefits of using OR modelling, and the fact that the same is successfully in the developed countries, there is need to sensitive decision makers on the use of OR modelling. The government and if possible non-governmental organisation thus should set a system through which decision makers at whatever level get to know about OR modelling, say by organizing seminars.

Most of the Management consultants pointed out that there is no formal use of the decision tool because most of their problems are qualitative in nature. This calls for academic institutions to put more emphasis on decision tools that takes more qualitative data, say soft OR models for example conginitive mapping and decision conferencing.

4.5 Limitations of the study

The study confined itself to firms that were based in Nairobi and are listed in the 1997 business directory. A larger sample would have been better suited for the study but it was not possible.

Most of the consultants were reluctant in providing the required information for the study and many may have not been completed by the desired persons. Thus there is a high chance that some data does not depict the correct situation.

4.6 Suggestions for further research:

This was a survey on the use of decision tools by management consultants in Nairobi. The study revealed that the consultants employ both judgemental and mathematical methods in their consultancy. The study can be extended to the consultants orientation, does the source of consultants education influence his/her use of the decision tools?

Further the study can be extended to look at the extent to which the use of decision tools influence the success of the decision makers.

DR. F. G. KIMONYI
Dean, Faculty of Commerce

cc: MBA Co-ordinator
Chairman, Dept. of Management Science
Mr. Kipagetchi, Supervisor



UNIVERSITY OF NAIROBI
FACULTY OF COMMERCE
MBA — PROGRAMME

LOWER KABETE CAMPUS

Telephone: 732160 Ext. 225
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity Nairobi

P.O. Box 30197
Nairobi, Kenya.

April 25, 1997

INTRODUCTORY LETTER: MR. KIPLAGAT, ERICK, K.

MR. KIPLAGAT, ERICK K. is a Masters student in the Faculty of Commerce, University of Nairobi. In partial fulfilment of the requirements of the Masters in Business and Administration (MBA) degree, he is conducting a study on "A SURVEY OF THE APPLICATION OF DECISION SUPPORT TOOLS BY MANAGEMENT CONSULTANTS IN KENYA".

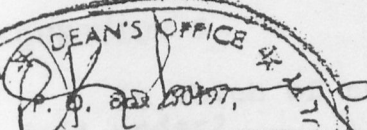
Your organization/firm has been selected to form part of this study. To this end, we kindly request your assistance in completing the questionnaire which forms an integral part of the research project. Mr. Kiplagat will be responsible for the administration of the questionnaire. Any additional information you might feel necessary for this study is welcome.

The information and data required is needed for academic purposes and will be treated in strict confidence. A copy of the research project will be made available to your organization/firm upon request.

Your cooperation will be highly appreciated.

Thank you.

Yours sincerely,


 DEAN'S OFFICE
 P. O. Box 30197,
 NAIROBI
 DR. P. Q. KIBONYO
 Dean, Faculty of Commerce

cc: MBA Co-ordinator
Chairman, Dept. of Management Science
Mr. Kipngetich, Supervisor

QUESTION 6

- i) Are your Consultancy activities computerized?
 YES () NO ()
- ii) If your answer in (i) above is "YES" which of the following statistical/spreadsheet packages have you for your consultancy work?

Lotus 1-2-3	()
SPSS	()
SAS	()
Statgraphics	()
Symphony	()
Supercalc	()
Micro Manager	()
Others (specify) _____	()

SECTION B

QUESTION 7

- i) How do you solve your consultancy problems?
 Through experience (Judgemental) ()
 By use of mathematical methods ()
- ii) Please give a brief description of the method you use

QUESTION 8

How frequent do you use the following decision tools in your day-to-day consulting; (Note: Tick the appropriate choice); where 1-very frequently, 2-frequently, 3- moderatetly, 4- rarely, 5-not at all

	1	2	3	4	5
(A) Linear programming	()	()	()	()	()
(B) Goal programming	()	()	()	()	()
(C) Integer programming	()	()	()	()	()
(D) Transportation model	()	()	()	()	()
(E) Networking (CPM/CPA)	()	()	()	()	()
(F) Markov model	()	()	()	()	()
(G) Inventory Decision tools	()	()	()	()	()
(H) Assignment model	()	()	()	()	()
(I) Queuing model	()	()	()	()	()
(J) Game theory	()	()	()	()	()
(K) Decision conferencing	()	()	()	()	()
(L) Decision trees	()	()	()	()	()
(M) Conginitive mapping	()	()	()	()	()
(N) Simulation	()	()	()	()	()
(O) Others (Specify)	()	()	()	()	()
.....	()	()	()	()	()

QUESTION 9

To what extent have the following factors hindered you from using the Decision tools specified in Question 8 above; Note: Tick the appropriate choice; where 1-very great extent, 2-great extent, 3- moderate extent, 4- low extent, 5-not at all

	1	2	3	4	5
Unavailability of appropriate model	()	()	()	()	()
Inability to represent the problem	()	()	()	()	()
Modelling takes time	()	()	()	()	()
Modelling is costly	()	()	()	()	()
Irrelevance of the model's solution	()	()	()	()	()
Unavailability of suitably qualified staff	()	()	()	()	()
lack of appropriate technology	()	()	()	()	()
larger size of problem	()	()	()	()	()
Inappropriate clients environment	()	()	()	()	()
Unsuitability of the decision tools in Kenya's environment	()	()	()	()	()
lack of familiarity: by self	()	()	()	()	()
by clients	()	()	()	()	()
lack of top level management support	()	()	()	()	()
Complexity of the decision tools.	()	()	()	()	()
Others (Specify)	()	()	()	()	()
.....	()	()	()	()	()

SECTION C

QUESTION 10

Please give a brief reason for the change in the use of the Decision tools in recent past.

QUESTION 11

How frequent is your consulting on; (Tick the appropriate choice; where 1-very frequently, 2-frequently, 3- moderately, 4- rarely, 5-not at all)

	1	2	3	4	5
Solving existing problems	()	()	()	()	()
Help dealing with new developments and expansion	()	()	()	()	()
Overcome the problem of manpower shortages	()	()	()	()	()
Other (specify)	()	()	()	()	()

QUESTION 12

SECTION D

To what extent would you say the following factors have influenced your use of the Decision tools in the last nine years.

(Tick the appropriate choice; where 1-very great extent, 2-great extent, 3- moderate extent, 4- low extent, 5-not at all)

	1	2	3	4	5
Increased competition	()	()	()	()	()
Increased use by other firms	()	()	()	()	()
Increased problems complexity	()	()	()	()	()
Improved information technology facilities	()	()	()	()	()
Changing clients needs	()	()	()	()	()
Increased suitably trained personnel	()	()	()	()	()
Growth of the company	()	()	()	()	()
Easy to import decision tools	()	()	()	()	()
Others (Specify) _____	()	()	()	()	()
_____	()	()	()	()	()

QUESTION 13

(i) Does your firm intend to use Decision tools (if you are not using them now)?

YES () NO ()

(ii) If "YES" in (a) above when?

Soon ()
 In six months time ()
 In one years time ()
 In five years time ()

(c) If "NO" in (a) above why?

(i) It has never succeeded ()
 (ii) Not appropriate ()
 (iii) The clients don't require ()
 (iv) It is not cost effective ()
 (v) Judgemental is sufficient ()
 (vi) Others (Specify) _____ ()

SECTION D REFERENCES

QUESTION 14

Kindly supply the following information about yourself.

- (i) Sex: Male () Female ()
- (ii) Age: 25 years old or less ()
 Between 26-30 years ()
 Between 31-35 years ()
 Between 36-40 years ()
 40 and more years ()
- (iii) Number of years in formal schooling
 less than 10 years ()
 Between 11-15 years ()
 Between 16-17 years ()
 18 or more years ()
- (iv) How many years have you worked in your present company?
 Less than one year ()
 1-4 years ()
 5-9 Years ()
 10 or more years ()
- (v) How many years have you worked in other companies in a similar or equivalent capacity.
 Less than one year ()
 1-4 years ()
 5-9 Years ()
 10 or more years ()

QUESTION 15

What do you consider to be sufficient educational qualification for one to use OR techniques effectively.

- High school level ()
 A Bachelors degree(quantitave biased) ()
 Any Bachelors degree ()
 A post graduate degree ()
 Others(specify) ()

THANK YOU FOR YOUR COOPERATION.

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