Principles of Research Framework and Methodology: A Critical Assessment

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Abstract: Research involves a series of judicious and carefully executed activities that enable the researcher to know how problems can be solved or at least considerably minimized. Ergo, it embodies the processes of inquiry, investigation, examination and experimentation. These processes have to be carried out systematically, diligently, critically, objectively and logically. The anticipated end results help the researchers to deal with the problem. The paper dilates on the proposition that a problem does not necessarily mean that something is seriously wrong with a current situation that needs to be rectified immediately. A problem could simply indicate an interest in an issue where finding the right answers might help to improve an existing situation. Methodology, on the other hand, is driven by certain ontological and epistemological assumptions, and consists of research questions or hypotheses, a conceptual approach to a topic, the methods to be used in the study and consequently the data sources. All of these components are inextricably linked to one another in a logical manner. The paper canvasses quantitative and qualitative researches which constitute different approaches to social investigation. Various studies such as exploratory, descriptive and explanatory are discussed into the bargain.

Keywords: *Research methodology, sampling, data analysis*

1. Introduction

Research is simply the process of finding solutions to a problem after a thorough study and analysis of the situational factors (Sekaran 2003, p. 3).[1] Greenfield (2002) argues that research is an art aided by skills of inquiry, experimental design, data collection, measurement and analysis by interpretation and by presentation.

Research involves a series of well-thought-out and carefully executed activities that enable the researcher to know how problems can be solved or at least considerably minimized. It therefore encompasses the processes of inquiry, investigation, examination and experimentation. These processes have to be carried out systematically, diligently, critically, objectively and logically. The expected end results help the researcher to deal with the problem. Saunders et al. (2003, p. 3) conclude that research has a number of characteristics:

- Data are collected systematically.
- Data are interpreted systematically.
- There is a clear purpose: to find things out.

Grix (2004) believes that methodology is concerned with the logic of scientific enquiry; in particular with investigating the potentialities and limitations of particular techniques or procedures. The term pertains to the science and study of methods and the assumptions about the ways in which knowledge is produced. Methodology is

[1] A problem does not necessarily mean that something is seriously wrong with a current situation that needs to be rectified immediately. A problem could simply indicate an interest in an issue where finding the right answers might help to improve an existing situation. Therefore a problem is defined as any situation where a gap exists between the actual and the desired ideal states (Sekaran 2003, p. 69).

driven by certain ontological and epistemological assumptions, and consists of research questions or hypotheses, a conceptual approach to a topic, the methods to be used in the study and consequently the data sources. All of these components are inextricably linked to one another in a logical manner.

The discourse that follows is divided up into nine broad sections altogether. Section 2 discusses the research methodology. Section 3 deals with the research design and strategy. Section 4 and Section 5 give an overview of the research methods and data collection methods respectively. Section 6 presents a detailed explication of sampling, sampling designs and sample size. Section 7 goes through pilot study. Section 8 is germane to the evaluation of research. Section 9 canvasses the process of data analysis. Finally, Section 10 recapitulates the discussion and draws inferences therefrom.

2. Research Methodology

Research methodology is a collection of procedures that scientists use to obtain and evaluate facts (Dominowski 1980, p. 37). It is therefore the study of methods, principles and their applications in a given field of academic inquiry. Research methodology is considered to be the keystone of the successful accomplishment of the empirical study. It plays a significant role with respect to the collection of the anticipated primary or secondary data in order to carry out the necessary statistical analysis and reach the interpreted results of the research.

Quantitative and qualitative researches constitute different approaches to social investigation and carry with them important epistemological and ontological considerations. Quantitative research entails a deductive approach to the relationship between theory and research in which the accent is placed on the testing of theories (Bryman & Bell 2003, p. 25). Grix (2004) observes that quantitative research uses techniques that apply to numerical data. Researchers develop variables or concepts which can be measured, and convert them into specific data-collection techniques. These techniques produce precise numerical information which can be understood as the empirical representation of the abstract concepts. Quantitative techniques include identifying general patterns and relationships among variables, testing hypotheses and theories, and making predictions based on these results. The most common types of method associated with quantitative research are social surveys, analyses of previously collected data or official statistics and structured observation.

Qualitative research is seen by many as almost the complete opposite of quantitative research (Grix 2004, p. 119). It predominantly emphasizes an inductive approach to the relationship between theory and research in which the emphasis is placed on the generation of theories (Bryman & Bell 2003, p. 25). Qualitative research refers to information gathered in a narrative form (Sekaran 2003, p. 32). It means that qualitative research tends to be concerned with words rather than numbers (Bryman & Bell 2003, p. 280). It usually involves in-depth investigation of knowledge through, for example, participant observation, employing the interviewing technique, archival or other documentary analyses, and ethnographic study. These methods do not rely on, but can involve, numerical measurements (Grix 2004, pp 119-120). This type of research involves the interpretation of data whereby the researcher analyzes cases,

usually a few in number, in their social and cultural context over a specific period of time, and may develop grounded theories that emphasize tracing the process and sequence of events in specific settings.

3. Research Design and Strategy

The research design involves a series of rational decision-making choices. Bryman and Bell (2003) point out that a research design provides a framework for the collection and analysis of data. A choice of research design reflects decisions on the priority being given to a range of dimensions of the research process.

Saunders et al. (2003) and Sekaran (2003) discuss two types of research, namely applied and basic. Research done with the intention of applying the results of the findings to solve specific problems currently being experienced in the organization is called applied research. Research done chiefly to enhance the understanding of certain problems that commonly occur in organizational settings, and seek methods of solving them is called basic research. The findings of such research contribute to the building of knowledge in the various functional areas of business. In spite of this distinction, both types of research follow the same steps of systematic inquiry to arrive at solution to problems.

Studies may be either exploratory in nature, or descriptive or explanatory. Sekaran (2003) highlights that an exploratory study is undertaken when not much is known about the situation or no information is available on how similar problems or research issues have been solved in the past. In such cases, extensive preliminary work needs

to be done to gain familiarity with the phenomena, and understand what is going on before the researcher develops a model and sets up a rigorous design for comprehensive investigation. A descriptive study is undertaken in order to ascertain and be able to describe the characteristics of the variables of interest in a situation. Descriptive studies that present data in a meaningful form therefore help to understand the characteristics of a group in a given situation, think systematically about the aspects in a given situation, offer ideas for further probe and research, and make certain simple decisions. An explanatory study engages in hypotheses testing; it usually explains the nature of certain relationships or establishes the differences among groups or the independence of two or more factors in a situation.[2]

The case-study, which is an examination of studies done in other similar organizational situations, is also a method of solving problems or understanding phenomena of interest and generating further knowledge in that area (Sekaran 2003, p. 119). Case-studies are not tied to any particular research method and they are not methods themselves, but should be seen as an organizational strategy within which social data are organized so as to preserve the unitary character of the social object being studied (Grix 2004, p. 51). Case-studies that are qualitative in nature are, however, useful in applying solutions to current problems based on past problem-solving experiences. They are also useful in understanding certain phenomena and generating further theories for empirical testing.

Research strategy simply means a general orientation to the conduct of business research (Bryman & Bell 2003, p. 25). Theories based on deduction and induction

[2] For more details, see Grix 2004, pp 50-51; Saunders et al. 2003, pp 96-98

help to understand, explain and predict business and research phenomena. Saunders et al. (2003) discuss in detail the major differences between deductive and inductive approaches to research. Deduction involves the development of a theory that is subjected to a rigorous test (Saunders et al. 2003, p. 86). Bryman and Bell (2003) state that deductive theory represents the commonest view of the nature of the relationship between theory and research. The researcher, on the basis of what is known about in a particular domain and of theoretical considerations in relation to that domain, deduces a hypothesis (or hypotheses) that must then be subjected to empirical scrutiny. Sekaran (2003) also discusses the deductive process in research. It is the process by which the researcher arrives at a reasoned conclusion by logical generalization of a known fact.

Induction, on the other hand, is a process where the researcher observes certain phenomena and arrives at conclusions (Sekaran 2003, p. 27). In induction, the researcher infers the implications of his or her findings for the theory that prompted the whole exercise. With an inductive stance, theory is the outcome of research. In other words, the process of induction involves drawing generalizable inferences from observations (Bryman & Bell 2003, p. 12). It means that deduction entails a process in which theory leads to observations and findings whereas with induction, the connection is reversed; observations and findings lead to theory.

As deduction entails an element of induction the inductive process is likely to entail a modicum of deduction. Both the deductive and the inductive processes are applied in scientific investigations.

4. Research Methods

In practice, business and economic problems can be quite complicated and their solution may entail the application of a variety of research approaches. Research methods, quite simply, can be seen as the techniques or procedures used to collate and analyse data (Grix 2004, p. 30). They can be and are associated with different kinds of research design. The methods chosen for a research project are inextricably linked to the research questions posed and to the sources of data collected. Research methods can involve a specific instrument such as a questionnaire, or a structured interview schedule or participant observation whereby the researcher listens to and watches others (Bryman & Bell 2003, p. 32). Grix (2004) demonstrates that in research, methods have two principal functions: firstly, they offer the researcher a way of gathering information or gaining insight into a particular issue; and secondly, they enable another researcher to re-enact the first's endeavours by emulating the methods employed.

Methods can be used in either quantitative research which is concerned predominantly with quantity or qualitative research which is concerned with interpreting the subjective experiences.

Ferber and Verdoorn (1962) note that the aim of research is to arrive at a solution to a given problem, the available data and the unknowns of the problem have to be related to each other to make a solution possible. From this point of view, research methods, they further maintain, fall into three main categories. The first category is concerned with the collection of data; it is used where the data already available are not

sufficient to arrive at the required solution. The second category consists of a set of statistical techniques for establishing relationships between the data and the unknowns. The third category is used to evaluate the accuracy of the results obtained. These techniques will show whether or not the solution is adequate from the statistical point of view. Since the techniques of third category overlap to some extent those of the second it is often convenient to refer to both as the analytical tools of research.

5. Data Collection Methods

Sekaran (2003) spells out that certain types of information such as the perceptions and attitudes of the people are best obtained by talking to them or by observing events, people and objects. In contrast, certain other types of information can be obtained from available published records, web sites, archives and other sources. It means that the data already exist and do not have to be collected by the researcher. Some secondary sources of data are statistical bulletins, government publications, information published or unpublished and available from either within or outside the organization, data available from previous research, case-studies, library records and on-line data.

Data collection methods include interviews, questionnaires, observation of individuals and events, and a variety of other motivational techniques.

5.1. Questionnaires

A questionnaire is a preformed written set of questions. It is an efficient data collection mechanism where the researcher knows exactly what is required and how to measure the variables of interest. Questionnaires can be administered personally, or mailed to the respondents or electronically distributed.

Sekaran (2003) states that the main advantage of personally administered questionnaires is that the researcher or a member of the research team can collect all the completed responses within a short period of time. Any doubts that the respondents might have with respect to any question could be clarified on the spot. The researcher is also afforded the opportunity to introduce the research topic and motivate the respondents to offer their frank answers. On the other hand, the main advantage of mail questionnaires is that a wide geographical area can be covered in the survey. However, the return rate of mail questionnaires is typically low. A 30% response rate is considered acceptable (Sekaran 2003, p. 237). Another disadvantage of the mail questionnaire is that any doubts the respondents might have cannot be clarified.

5.1.1. Questionnaire Design

Saunders et al. (2003) describe that questionnaires must be introduced carefully to the respondents to ensure a high response rate. Open-ended questions allow respondents to answer them in any way they choose (Saunders et al. 2003, p. 292). A closed question, in contrast, asks the respondents to make choices among a set of alternatives

given by the researcher. Closed questions are typically preferable for a survey (Bryman & Bell 2003, p. 173). They help the respondents to make quick decisions to choose among the several alternatives before them. They also help the researcher to code the information easily for subsequent analysis (Sekaran 2003, p. 239).

There are a number of significant issues in questionnaire design which minimize biases in research. For instance, Bryman and Bell (2003), Sekaran (2003) and Saunders et al. (2003) espouse that:

- The language of the questionnaire should approximate the level of understanding of the respondents. If some questions are either not understood or are interpreted differently by the respondent the researcher will obtain the wrong answers to the questions, and responses will thus be biased.
- Instead of phrasing all questions positively, it is advisable to include some negatively worded questions as well in order that the tendency in respondents to mechanically circle the points can be minimized.
- A double-barrelled question that lends itself to different possible responses to its parts should be avoided, and two or more separate questions asked instead.
- Questions that are ambiguously worded and the respondent may not be sure what exactly they mean ought to be eschewed because responses to ambiguous questions have built-in bias inasmuch as different respondents might interpret such items in the questionnaire differently.
- Questions should not be phrased in such a way that they lead the respondents to give the responses that the researcher would like or want them to give.

On account of the inherent biases in each of the data collection methods, the collection of data from multiple sources and through multiple methods is recommended (Sekaran 2003, p. 261).

Sekaran (2003) canvasses different rating scales which are often used in organizational research to elicit responses in regard to the object, event or person studied. The researchers employ various scales such as (1) dichotomous scale which is used to elicit a Yes or No answer, (2) category scale which uses multiple items to elicit a single response and (3) five-point Likert scale.

6. Sampling

Sekaran (2003) maintains that sampling is the process of selecting a sufficient number of elements from the population. The study of the sample and an understanding of its properties or characteristics make it possible to generalize these properties or characteristics to the entire population. As such, the sample statistics, e.g. $\bar{x}$ (the sample mean), S (standard deviation), and S^2 (the variation in the sample) are used as estimates of the population parameters μ (the population mean), σ (the population standard deviation), and σ^2 (the population variance).

6.1. Sampling Designs

Saunders et al. (2003) state that there are two major types of sampling designs:

- Probability or representative sampling

- Nonprobability or judgemental sampling

In probability sampling, the elements in the population have some known chance or probability of being selected as sample subjects (Sekaran 2003, p. 269). The aim of probability sampling is to keep sampling error to the minimum (Bryman & Bell 2003, p. 93). Lynn (2002) asserts that probability sampling is often thought to be the only defensible selection method for serious scientific study unless such a sampling is not feasible. Probability sampling involves a lot of preparation. It is frequently avoided because of the difficulty and costs involved (Bryman & Bell 2003, p. 105). In nonprobability sampling, the elements do not have a known or predetermined chance of being selected as subjects (Sekaran 2003, pp 269-270). Essentially, this implies that some units in the population are more likely to be selected than others (Bryman & Bell 2003, p. 93).

Each of these two major designs has different sampling strategies. Depending on the extent of generalizability desired, the demands of time and other resources, and the purpose of the study, different types of probability and nonprobability sampling designs are chosen.

The nonprobability sampling designs consist of convenience sampling and purposive sampling. Sekaran (2003) argues that convenience sampling, as its name implies, refers to the collection of information from members of the population who are conveniently available to provide it. Notwithstanding the fact that convenience sampling, as Sekaran (2003) describes, is the least reliable of all sampling designs in terms of generalizability, this is very common in the field of business and

management (Bryman & Bell 2003, p. 105). Instead of obtaining information from those who are most readily or conveniently available, it might sometimes become necessary to obtain information from specific target groups. This sampling is confined to specific types of people who can provide the desired information. This type of sampling design is called purposive sampling (Sekaran 2003, p. 277). With purposive sampling, the researcher recognizes that there may be inherent variation in the population of interest. The researcher attempts to control this by using subjective judgement to select a sample that he believes to be representative of the population (Lynn 2002, p. 189).

6.2. Sample Size

An important element of sample design is the determination of the sample size (Lynn 2002, p. 192). A reliable and valid sample ought to enable the researcher to generalize the findings from the sample to the population under investigation. Roscoe (cited in Sekaran 2003, p. 295) proposes the following rules of thumb for determining sample size:

- Sample sizes larger than 30 and less than 500 are appropriate for most research.
- Where samples are to be broken into subsamples (male/female, junior/senior, etc.), a minimum sample size of 30 for each category is necessary.
- In multivariate research, the sample size should be several times (preferably 10 times or more) as large as the number of variables in the study.

- For simple experimental research with tight experimental controls, successful research is possible with samples as small as 10 to 20 in size.

Sekaran (2003) asserts that the sample size is determined by the level of precision and confidence desired in estimating the population parameters, and the variability in the population itself. Precision is a function of the range of variability in the sampling distribution of the sample mean. Confidence, on the other hand, reflects the level of certainty with which we can state that our estimates of the population parameters, based on our sample statistics, will hold. The level of confidence can range from 0 to 100%. Although any value of the confidence level can be chosen to construct a confidence interval, the more common values are 90%, 95% and 99% (Mann 1995, p. 411). The corresponding confidence coefficients are .90, .95 and .99. Sekaran (2003) maintains that a 95% confidence is the conventionally accepted level for most business research. It implies that at least 95 times out of 100, our estimate will reflect the true population characteristic.

Krejcie and Morgan (cited in Sekaran 2003, p. 294) greatly simplified size decision by providing a table that ensures a good decision model. This table specifies a sample size of 384 when the population size is one million.

Mann (1995, p. 439) and Saunders et al. (2003, pp 466-467) use the following formula in order to find the sample size:

$$n = \frac{z^2 pq}{E^2}$$

where:

n is the sample size which is unknown;

z denotes the units of the standard normal distribution. The value of *z* is obtained from the standard normal distribution table for the given confidence level. A 95% confidence level is normally used in the research. The value of *z* for a 95% confidence level is 1.96;

p is the population proportion;

q is the probability of failure for the binomial experiments. The values of *p* and *q* are not known. Therefore the researcher might assume that *p* = .50 and *q* = .50;

E is the maximum error of estimate. The value of *E* is unknown. The researcher might, yet again, assume its value to be .05.

The required sample size is

$$n = \frac{z^2 pq}{E^2}$$

$$n = \frac{(1.96)^2 (.50)(.50)}{(.05)^2} = 384.16 \approx 384$$

7. Pilot Study

The purpose of the pilot study is to refine the questionnaire (Saunders et al. 2003, p. 308). Therefore it is always desirable to conduct a pilot study before administering a questionnaire or structured interview schedule. Many difficulties can be avoided by

having a pilot study (Altman 2002, p. 147). Bryman and Bell (2003) discuss some uses of pilot studies in research. They, for example, include:

- If the main study is going to employ closed questions open questions can be asked in the pilot study to generate fixed answers.
- Piloting an interview schedule can provide interviewers with some experience of using it and can infuse them with a greater sense of confidence.
- If everyone replies in the same way the resulting data are unlikely to be of interest because they do not form a variable. A pilot study allows such a question to be identified.
- Questions that seem not to be understood or questions that are often not answered should become apparent. The latter problem of questions being skipped may be due to confusing or threatening phrasing, or poorly worded instructions. Whatever the cause might be, such missing data are undesirable, and a pilot study may be instrumental in identifying the problem.
- Pilot studies allow the researcher to determine the adequacy of instructions to interviewers or to respondents.
- It may be possible to consider how well the questions flow and whether it is necessary to move some of them around to improve this feature.

For most student questionnaires, the minimum number of a pilot study is 10 (Saunders et al. 2003, p. 309).

8. Evaluation of Research

Three of the most prominent criteria for the evaluation of business and management research are reliability, replication and validity.

8.1. Reliability

Reliability means the ability of a technique to yield the same results if repeated under invariant conditions (Ferber & Verdoorn 1962, p. 282). Therefore a series of attitudinal questions on the desirability of resale price maintenance would be adjudged reliable if the repetition of the test under the same conditions produces the same attitude. Sekaran (2003) takes the view that the reliability of a measure indicates the extent to which it is without bias and hence ensures consistent measurement across time and across the various items in the instrument. The ability of a measure to remain the same over time, despite uncontrollable testing conditions or the state of the respondents themselves is indicative of its stability and low vulnerability to changes in the situation. Bryman and Bell (2003) suggest that reliability refers to the consistency of a measure of a concept. It is fundamentally concerned with the question of whether the results of a study are repeatable. Dominowski (1980) finds that reliability refers to the degree to which a measure is correlated with itself.

Cronbach's alpha is a commonly used test of internal reliability. It indicates how well the items in a set are positively correlated to one another. Cronbach's alpha is computed in terms of the average intercorrelations among the items measuring the concept (Sekaran 2003, p. 307). A computed alpha coefficient varies between 1

(denoting perfect internal reliability) and 0 (denoting no internal reliability). The figure 0.80 is typically employed as a rule of thumb to denote an acceptable level of internal reliability (Bryman & Bell 2003, p. 77). Pallant (2010) also maintains that the Cronbach's alpha value above .7 is considered acceptable, although values above .8 are preferable.

8.2. Replication

The idea of reliability is very close to another criterion of research – replication or more especially replicability. Bryman and Bell (2003) claim that for replication, a study must be capable of replication. If a researcher does not spell out his or her procedures in great detail replication is impossible. The results of the tests of hypotheses should be supported again and again when the same type of research is repeated in other similar circumstances (Sekaran 2003, p. 24).

8.3. Validity

A further and, in many ways, the most important criterion of research is validity. Bryman and Bell (2003) observe that validity refers to the issue of whether an indicator or a set of indicators that is devised to gauge a concept really measures that concept; that is to say validity is concerned with the integrity of the conclusions that are generated from a piece of research.

Ferber and Verdoorn (1962) discuss various approaches and procedures to establish validity. One approach involves obtaining independent opinions from experts in the

relevant field. The extent to which these opinions agree is taken as a measure of validity.

9. Data Analysis

Data analysis is a very significant stage in the research process. Here the researcher has to select appropriate statistical techniques in order to garner interpretative results and to achieve the research aim. The following statistical approaches to data analysis are employed:

9.1. Descriptive Statistics

Pallant (2010) argues that descriptive statistics address specific research questions, and enable, as Saunders et al. (2003) state, the researcher to describe and compare variables numerically. Sekaran (2003) also defines that descriptive statistics involve transformation of raw data to such a form that provides information to describe a set of factors in a situation. This is carried out through the manipulation and ordering of the raw data collected. In this regard, the following statistical technique is utilized to analyze the data:

- **Frequencies:** Frequencies simply refer to how frequently certain phenomena occur (Sekaran 2003, p. 394; Dominowski 1980, p. 161).

9.2. Inferential Statistics

Inferential statistics help to establish relationships among variables and draw conclusions therefrom. Sekaran (2003) points out that inferential statistics can be categorized as parametric or non-parametric. The use of parametric statistics is based on the assumption that the population from which the sample is drawn is normally distributed and data are collected on an interval or ratio scale. Non-parametric statistics, on the other hand, make no explicit assumption regarding the normality of distribution in the population, and are used when the data are collected on a nominal or ordinal scale. The following non-parametric techniques are harnessed to analyze and interpret the data:

- **Chi-Square Test for Independence:** The chi-square test is associated with the degrees of freedom (df), which denotes whether or not a significant relationship exists between two nominal variables (Sekaran 2003, p. 403). Pallant (2010) states that the chi-square test for independence is used to explore the relationship between two categorical variables.
- **Kruskal-Wallis Test:** The Kruskal- Wallis Test is similar in nature to the Mann-Whitney U Test, but it allows to compare the scores on some continuous variable for three or more groups (Pallant 2010, p. 232).
- **Spearman Rank Order Correlation (rho):** Correlation is the term used for any significant association or covariation between two or more variables (Grix 2004, p. 163). Correlation analysis is used to describe the strength and direction of the linear relationship between two variables (Pallant 2010, p.

128). The Spearman Rank Order Correlation (rho) is used when the data does not meet the criteria for Pearson correlation.

- **Logistic Regression:** The basic idea underlying regression analysis is to use some data on one or more variables to try to predict the value of a further variable (Grix 2004, p. 118). Pallant (2010) asserts that logistic regression assesses how well the set of predictor (independent) variables predicts or explains the categorical dependent variable. It gives an indication of the adequacy of the model by assessing 'goodness of fit'.

10. Conclusion

Quantitative and qualitative researches constitute different approaches to social investigation, and carry with them important epistemological and ontological considerations. Studies may be either exploratory in nature, or descriptive or explanatory. Theories based on deduction and induction help to understand, explain and predict business and research phenomena. The paper discussed in detail the major differences between deductive and inductive approaches to research. Sampling is the process of selecting a sufficient number of elements from the population. The study of the sample and an understanding of its properties or characteristics make it possible to generalize these properties or characteristics to the entire population.

The paper gave a detailed explication of statistical approaches to data analysis, namely descriptive statistics and inferential statistics. The latter can be categorized as parametric or non-parametric. The use of parametric statistics is based on the assumption that the population from which the sample is drawn is normally

distributed and data are collected on an interval or ratio scale. Non-parametric statistics, on the other hand, make no explicit assumption regarding the normality of distribution in the population, and are used when the data are collected on a nominal or ordinal scale.

References

Altman, D. (2002). *Randomised Trials*. *In*: Greenfield, T. (ed.). *Research Methods for Postgraduates*. Arnold, London, pp 143-150

Bryman, A. & Bell, E. (2003). *Business Research Methods*. Oxford University Press

Dominowski, R.L. (1980). *Research Methods*. Prentice-Hall, Inc., New Jersey

Ferber, R. & Verdoorn, P.J. (1962). *Research Methods in Economics & Business*. The Macmillan Company, New York

Greenfield, T. (ed.) (2002). *Research Methods for Postgraduates*. Arnold, London

Grix, J. (2004). *The Foundations of Research*. Palgrave Macmillan, New York

Lynn, P. (2002). *Principles of Sampling*. *In*: Greenfield, T. (ed.). *Research Methods for Postgraduates*. Arnold, London, pp 185-194

Mann, P.S. (1995). *Statistics for Business and Economics*. John Wiley & Sons, Inc., New York

Pallant, J. (2010). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS*. Open University Press, England

Saunders, M. et al. (2003). *Research Methods for Business Students*. Pearson Education Limited, England

Sekaran, U. (2003). *Research Methods for Business: A Skill-Building Approach*. John Wiley & Sons, Incorporated, USA