

# Research Methods: Issues and Research Direction

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Received: September 15, 2020      Accepted: September 28, 2020      Online Published: September 30, 2020

doi:10.5430/bmr.v9n3p46

URL: <https://doi.org/10.5430/bmr.v9n3p46>

## Abstract

This paper proposes a research plan to investigate the research methods issues (i.e. research design, sampling methods, data collection methods, data analysis techniques, measurement scales, and reliability/validity tests, among others) used in business students' thesis/dissertation works in institutions of higher learning. Specifically, the proposed research aims to help in understanding the dominant research methods used by thesis/dissertation research students in the field of business management in institutions of higher learning, shed light on possible relevant research methodology issues in business management education and proffer managerial and theoretical recommendations that will assist research methodology in business disciplines in institutions of higher learning. Among other things, the proposed investigation is expected to help in assessing the quality and relevance of business research works in higher institutions; assist in repositioning business education curricula to align with academic, regulatory and industry expectations; improve the quality and relevance of research works undertaken in business schools in institutions of higher learning; and stimulate research in cognate areas.

**Keywords:** Research methods, business schools, students, research framework

## 2. Introduction

The need for advanced and specialized forms of knowledge motivated the establishment of different kinds of higher institutions in many countries. Research is one of the main foci of any institution of higher learning, with the others being teaching and community service.

Generally, research is about knowledge creation, which comprises development of theory and finding of facts via systematic investigation (Henneberg & O'Shaughnessy, 2007). Research entails systematic search for new knowledge via understanding and application of appropriate methods in order to provide answers and draw conclusions (Christiani, 2016), and research may be undertaken when gaps exist between organizational knowledge and empirical methods (McNichols, 2000). According to Sa and Serpa (2020), any scientific research comprises two aspects: the Process and the Product. The *Process* deals with the methods used to address the problem of research interest, while the *Product* deals with results emanating from the Process. Generally, research methods are the foundation for the generation of knowledge in any discipline or domain, including business management, and are influenced by research issues and paradigm or philosophy of interest to the researcher (Pinsonneault & Kraemer, 1993; Dube & Pare, 2003).

Research is a major activity of any higher institution. As a result, it is given high priority by students, Lecturers, institutional management, regulatory agencies and funding agencies, among others. For example, lecturers are promoted on the basis of their research quality and quantity. Also, students are awarded degrees on the basis of completing quality research works. Therefore, the quality of lecturers' and students' research works is of serious concerns to management, regulators, funding agencies and owners of institutions of higher learning. This is because such research works are expected to have relevance for learning, teaching and solution of national and societal problems. However, the relevance of such research works depends on the research methods employed, in addition to the significance of the research works in providing theoretical and practical solutions to societal challenges. Research methods and methodologies are used to make correct inferences and to answer relevant research questions (Wahyuni, 2012).

As business education and its research continue to advance and mature in many institutions of higher learning, it is important for researchers to assess the methods that are employed in investigating issues of business and managerial

relevance. Such assessment avails stakeholders insights regarding the rigour and appropriateness of the research methods used, in addition to relevance associated with the research results (Pfeffer, 1993; Scandura & Williams, 2000, Bouckennooghe et al., 2007). Researchers make such research methods decisions with regard to research design used, data collection methods employed, measurement scales used, sampling approaches employed, methods for testing reliability and validity, data analysis methods used, and practical and theoretical forms of significance associated with the research (Stone-Romero, 2002). Generally, it may be argued that research in business schools in institutions of higher learning could benefit from more triangulation in research strategies, more advanced analytical techniques and methodologies, and more longitudinal research resulting in higher reliability and validity levels (Bouckennooghe et al., 2007).

Business students in institutions of higher learning are usually exposed to many forms of research methods trainings which include focus group discussions, case studies, surveys, projective techniques, and statistical methods, among others (Fedotova, 2013; Vorobyeva & Ermakov, 2015). Therefore, it is useful for business students in institutions of higher learning to have understanding regarding the degree to which the research methods employed in their relevant studies give them latitude to make valid and reasonable conclusions and inferences pertaining to cognate research findings in the field of business management/administration. According to Scandura and Williams (2000), the further development of any discipline (such as business management) is a function of the appropriateness and rigour of the chosen research methods. With regard to marketing research, Umer and Razi (2018) have, via systematic literature review, explored the major research methods employed in service marketing studies, concluding that there have been preferences for survey methods, factor analysis, structural equation modeling (SEM), ANOVA (Analysis of variance), and tests of reliability and validity of research measures. Generally, research methodology development in any discipline should be a function of knowledge of the relevant concepts, approaches and phenomena to be investigated (Zaltman, 1997). Researchers need measures for the evaluation of their research works (Muller, 2013), and evaluation of the value of any research effort entails using indices that are relatively simple and understandable, free from all forms of bias (Petersen, 2019), in addition to using appropriate research methods. However, some researchers use certain methods of research based on their knowledge of the methods (Constantin, 2012). The chosen method may or may not be appropriate for the research in question.

Research is one of the salient activities of an institution of higher learning (Soutar et al, 2015), and academics in institutions of higher learning, including students, are required in their careers to engage in scholarly research activities (Abbott, 2019). Research methodology courses for students in institutions of higher learning provide students with relevant knowledge and skills needed to conduct research (Balloo et al., 2016). In addition, via their research activities and publications, academics in institutions of higher learning (including students) publish in scholarly outlets (Kwiek, 2020). Also, students' understanding of research methods helps them in enhancing their professional career profile, developing abilities in addressing complex organizational issues, analyzing associated research data, and drawing relevant conclusions and insightful recommendations (Alexandrov & Alexandrov, 2015). However, professors are different regarding the research methods they teach and expose their students to, including the methods used by students in their theses/dissertation works (Mitchell & Jolley, 2010). In addition, Ijaz (2019) posits that some students' research interests tend to wane as their academic training progresses. This paper isolates some major business research methods issues of relevance for business management students' research theses/dissertations, and proposes a research direction. Specifically, the paper discusses salient dimensions of research methods (such as research design, data collection methods, measurement, sampling, data analysis, and reliability and validity tests) and proposes a research direction for business students in their theses/dissertation works.

### **3. Dimensions of Research Methods**

Research, generally, can be conceptualized as the systematic, objective, (sometimes subjective) conceptualization of problems and the consequent collection, analysis, interpretation and reporting of data and information in order to clarify the identified problems and/or solve them. It is the process associated with arriving at problem solutions via objective, planned and systematic data collection, analysis and interpretation (Osugwu, 2008). Many research methods and techniques can be used for basic and applied types of research. However, the research methods/techniques used should be a function of the resources available, the research problem being investigated, the research environment, the relevant research variables in focus, and the audience for the research report, among others. Research objective, research process (method) and research results (product) are some of the major pillars of any research work. Scholarly publications (products) represent an important aspect of the research community (Schwab-McCoy, 2019).

Research is, also, a scientific, reliable, and valid way of acquiring knowledge. It is thrust towards knowing the relationships between and among variables of the phenomena being studied. According to Osuala (1990), research is

the most important tool for the advancement of knowledge and promotion of national/organizational growth and progress, in addition to enabling humans to live happily in the society and relate with their relevant environments. There are three major research approaches, which include quantitative, qualitative and triangulation of quantitative and qualitative methods, also known as mixed methods of research (Williams, 2007).

Conceptually, research methods are different from research methodologies. A business research methodology, for example, is a model within a specific research paradigm (i.e., positivist, relativist, or mixed methods), while a research method deals with a particular research procedure, technique or tool (including a combination of these) relevant for a research work. Therefore, research method is practical research application (such as use of interviews for data collection), while methodology is theoretical foundation or philosophy guiding a specific research method used (Wahyuni, 2012).

Research methods, generally, include designing studies, collecting data, analyzing collected data, testing for relevant relationships/differences between/among variables, making sense out of research findings and reporting the findings to the relevant audience in the appropriate format. Daft (1983) submits that using data to describe and explain how organizations/institutions function is the “why” of research. Alias et al. (2013) have investigated, via content analysis method of data collection, research methods trends of journals with regard topics investigated, research contexts or settings, sampling methods used, research designs employed, and data analysis methods utilized, among others. In a research work undertaken by Akdemir et al. (2015) regarding curriculum development in education, results indicated that document analysis was the preferred data collection technique; the preferred sampling method was purposeful sampling, while qualitative research method was preferred to quantitative research approach. Erdogan et al. (2012) isolated, via content analysis approach, some concerns in the research methods used in some studies with regard to their research designs, samples used, data collection instruments employed, reliability and validity tests conducted, and data analysis methods used.

Business organizations are complex and multi-dimensional. Therefore, many research methods can be employed by organizational managers, or those studying organizational tendencies, including academics, researchers and students. Generally, the research methods that can be used to study organizational tendencies relate to such issues as research design, sampling methods, data collection methods, data analysis methods, measurement scales, reliability and validity tests, and data analysis methods, among others. Improvement in research methods, generally, is accomplished via issues relating to new comprehension and application of the scientific approach, among other cognate issues (Zaltman, 1997), and every research method is an approach for attending to a specified research problem (Kubas & Stofkova, 2017). Therefore, effective research is a function of proper comprehension and definition of the problem to be investigated (Eden & Ackermann, 2018), in addition to the utilization of appropriate, efficient and effective methods of investigation. Some basic research methods issues include research design, data collection methods, measurement methods, sampling methods, reliability and validity tests, and data analysis, among others (Kubas & Stefkova, 2017). These research methods issues are further discussed in this paper.

### *3.1 Research Design*

Research design is the program that guides the researcher in the process of collecting, analyzing and interpreting data and information. It defines the domain of generalizability; that is, whether the obtained research interpretation can be generalized to a larger population or to different situations. Research design has four components namely comparison, manipulation, control and generalizability. The main purpose of research design is to provide answers to research questions and to control variance. The strengths of a good research design are evident in research works utilizing randomness (Angrist & Pischke, 2010). According to Rahi (2017), quantitative and qualitative research methods are the most dominant research design approaches.

Research design is the plan that guides a researcher in the process of collecting, analyzing and interpreting data and information for clarifying and solving organizational/national problems. It attempts to connect research methodologies to a set of research methods for the purpose of drawing reasonable inferences (Wahyuni, 2012). According to Kerlinger (1983), research design is the plan, structure and strategy for a research work which is conceived in order to get data and information for relevant research problems and to control variance. It provides basic guidelines for conducting research and may be seen as a series of interrelated decisions that serves as a master plan for an investigation (Luck & Rubin, 1989). Generally, research designs address research issues pertaining to data collection methods (e.g. survey, field or experimentation), measurement scales used, sampling techniques used, data analysis techniques utilized and methods used for reliability and validity tests, among others. There is no generally accepted research design. Research methodology in the social and human sciences has continued to evolve, with mixed methods research design approach (which combines the strengths of quantitative and qualitative research approaches) being the latest phase in the

evolution of research methodology (Creswell, 2009). Therefore, researchers utilize a combination/triangulation of research designs in order not to generate research findings that have questionable theoretical and practical implications (Joslin & Muller, 2016). Generally, triangulation in research relates to data, researcher, methodology, theory, and philosophy/paradigm (Joslin & Muller, 2016), and research objectives and the associated research questions are the foundations for a research design (Wahyuni, 2012; Yin, 2012). Major research designs used in business research are exploratory, descriptive and causal research designs.

### *3.2 Data Collection Methods*

Data can be defined as raw or unprocessed facts. It can also be defined as facts usually collected as the result of experience, observation or experiment. Data may consist of numbers, words, or images, or as measurements or observations of a set of variables. Data are often viewed as a lowest level of abstraction from which information and knowledge are derived. Data collection methods can be combined to collect primary and secondary forms of data (Patton, 2002; Wahyuni, 2012).

There are many data collection methods in research, each having its strengths and weaknesses (McGrath, 1982). The choice of data collection methods to be used in business research is a major research issue. A researcher (such as a student) must have thorough and adequate knowledge of the relevant data collection methods to be used. These methods include surveys, interviews, focus groups, experimentation, observations, content analysis, meta-analysis, case study, and archives, among others. For example, experiments are a widely used research method in marketing, but business researchers, generally, rely on surveys, observations, or interviews to collect data. Data collection via survey method is efficient and gives quick turnaround (Frippiat & Marquis, 2010), although with decrease in survey response rates over the years (Schmeets, 2010).

Surveys, generally, have been associated with some difficulty in addition to cost inefficiency (Nesbary, 1999). However, Majhi et al (2016), in an empirical research work via content analysis method of data collection, reported that survey research and descriptive data analysis were the most used research methods. Also, online survey methods possess some benefits relating to cost efficiency, high response rate, better quality of response rate, better quality of responses, time efficiency, and reduced interviewer bias, among others (Lee, 2010). Experimental methods of data collection, on the other hand, strive for precision by controlling variables in the research environment (Davis et al., 2012). Most of the empirical research works in the management and behavioural disciplines use the quantitative method of research, and data collection is via questionnaire (Baruch and Holtom, 2008). Research methods used in the social and behavioural science disciplines, including data collection methods, should be contextualized (Flyvbjerg, 2001).

### *3.3 Measurement in Research*

Measurement in research is conceptualized as the assignment of numbers or quantities to variables or things. It is the peculiarities of the objects that are being measured (Kinnear & Taylor, 1983). Generally, the aim of measurement in research is to provide an empirical estimation of relevant research constructs (Malhotra et al., 2012), and measurement scales to be used for research across countries are required to be relevantly generalizable (Sharma & Weathers, 2003). Methodological concerns associated with research measurement scales have been adequately reviewed by Ladhari (2010). Effective measurement in research is possible when the relationships existing among the objects or events in the empirical system directly correspond to the rules of the number system. In a business research measurement scale, positively and negatively worded items can be used in the same measurement scale, although the advantages and disadvantages associated with this measurement approach should be noted (Salazar, 2015). The most popular measurement format for collecting quantitative data is via rating scales, which include Likert-type scales (Lee & Soutar, 2010; Pearse, 2011).

Some of the measurements scales used in business research are nominal scale, ordinal scale, interval scale and ratio scale. Each of these scales has its permissible statistics (Luck & Rubin, 1989). Also, there is sample size requirement in relation to the use of certain data analytic techniques. In exploratory factor analysis (EFA), for example, the recommended minimum sample size is 100 to 500 respondents, and the recommended minimum ratio of number of sample respondents to number of items in the measurement scale ranges from 3:1 to 10:1 (MacKenzie et al., 2011). Reliability and validity are the two most important features of a measurement method (Bajpai & Bajpai, 2014). According to Croasmum and Ostrom (2011), it is important to determine Cronbach's alpha reliability coefficient when Likert-type measurement scales are used in research works. In addition, single-item and multi-item measurement scales can be used in business research, with multi-item measurement scale being preferred to single-item measurement scales (Diamantopoulos, 2012).

### 3.4 Sampling in Research

Sampling is the process of drawing a subset or sample from a population. A sample is a finite part of a statistical population whose properties are studied to gain information about the whole/population. When dealing with people, it can be defined as a set of respondents (people) selected from a larger population for the purpose of a survey/research. Inadequate sample size has negative impact on the accuracy of research results (Barlett et al., 2001). Sampling can be classified into probability and nonprobability types (Rahi, 2017). In probability sampling approach, the chance or likelihood of a subject or an element being included in the sample is known or the chance of someone being selected is known. In nonprobability sampling approach, the reverse is the case, and the subject or element being included in the sample is not known. Use of nonprobability sampling approach limits generalization from research findings unlike probability sampling methods (Onwueguzie & Johnson, 2006; Etikan & Bala, 2017). Non probability sampling methods include quota sampling, accidental/convenience sampling, judgmental or purposive sampling, expert sampling, and snowball sampling, among others. Probability sampling methods, which have been the dominant sampling methods over the years (Sarstedt et al, 2017), include systematic sampling, stratified sampling, cluster sampling, multistage sampling, and area sampling, among others. Probability sampling methods are preferred mostly by statistical organizations, while nonprobability sampling approaches are preferred mostly by business organizations, marketers and researchers (Etikan & Bala, 2017). Generally, nonprobability sampling methods have the advantages of ease of use, ease of securing cooperation from research respondents, and cost efficiency, but have the disadvantages of lack of representativeness and generalizability of research results from sample to the population which can limit research replication (Levy & Lemeshow, 2013; Lehmann & Bengart, 2016; Sarstedt et al, 2017).

### 3.5 Reliability and Validity in Research

Generally, the criteria used in determining the quality of any research include reliability, validity and generalizability (Ali & Yusof, 2011). Reliability of a research measure/instrument is an indication of whether it measures anything at all. It is an index of the internal consistency of a research instrument (Kayes, 2005). The notion of consistency has been developed by researchers to estimate reliability in research measures, and helps researchers have confidence in their research measures. A business research instrument (for example, questionnaire) with a reliability coefficient of 0.7 means that 30% of its variance is irrelevant or is associated with error. A research instrument's reliability can be assessed via Cronbach' alpha (Cronbach, 1951) method, in addition to exploratory and confirmatory factor analysis approaches (Walls et al., 2011).

Validity can be defined as the degree to which a test measures what it is supposed to measure. Validity, generally, is a measure of how well a research-measuring instrument or scale measures what is intended to measure (Bajpai & Bajpai, 2014). A research instrument is valid if it measures what is intended to measure accurately. Validity deals with accuracy while reliability deals with replicability. Using valid research instruments or scales is an important condition for research in business and science, and reliability is a necessary condition for validity of a research instrument or scale (Knight, 1997). According to Peter (1979), the advancement of business is a function of developing and designing reliable and valid research instruments or scales, and reliability and validity are the necessary conditions for drawing research inferences and conclusions (Sarstedt et al., 2017).

Also, reliability and validity tests are important in research because they enhance transparency and decrease bias from researchers (Singh, 2014), in addition to helping in the determination of measurement errors and relevant relationships between and among research variables (Mohajan, 2017). The rigour and strength of any research work are a function of the reliability and validity tests associated with the research (Morris & Burkett, 2011). Business students, professors, and programme assessors evaluate the quality of students' theses/dissertations and cognate research works on the bases, among others, of the quality criteria of reliability, validity and generalizability (Smallbone & Quinton, 2004). Types of validity tests generally used in empirical social research, including business research, include content validity, construct validity, internal validity, external validity and reliability (Yin, 2003). Content validity, for example, deals with the power of a research measuring instrument's items to measure the intended concept (Astuti et al, 2018). Construct validity deals with how well research results align with the associated theory from where the research measurement or scale is derived, and is assessed via convergent and discriminant validity (Bajpai & Bajpai, 2014). However, it should be noted that validity in research is associated with certain threats (Onwueguzie & Johnson, 2006).

### 3.6 Data Analysis in Research

Data analysis in business research is concerned with the categorizing, ordering, manipulating and summarizing of data in order to get relevant answers to research questions. According to Book and Epstein (1982), data analysis is concerned with searching and finding out what information that can be isolated from a set of research data using appropriate analytical tools. It is concerned with the making of reasonable inferences from raw data (Wahyuni, 2012).

The aim of data analysis in business research is for the reduction of data to reasonable, discernible and interpretable forms so as to test and understand relations between/among research variables. It helps to reveal relevant information from research data using multivariate methods (Rajalahti & Kvalheim, 2011), although outlier data can adversely affect data analysis, thereby leading to faulty research conclusions (Moller et al., 2005). The use of multiple methods to conduct data analysis in research is referred to as triangulation of data analysis methods (Patton, 2002), and there are many data analytic tools, techniques, packages and software that can be used by researchers for quantitative and qualitative data analyses. For instance, Singh and Modi (2019) studied major research trends using information modeling techniques. Also, multiple regression analysis is a statistical tool that helps in organizing research thoughts and development of relevant theories (Woodside, 2013). The appropriateness of the data analysis methods used in a specific research helps in determining the statistical conclusion validity associated with the research in question. The data analysis step in research is connected to other steps in the research process. For instance, sophisticated data analysis method cannot solve research defects associated with poorly designed sampling methods (Sarstedt et al., 2017). Also, data analysis is affected by missing data (Livacic-Rojas et al., 2020).

#### 4. Conclusion and Proposed Research Direction

Research methods used in business and allied disciplines include the quantitative, qualitative and triangulation of quantitative and qualitative methods, also known as mixed methods forms of research. Research works in business disciplines, generally, have theoretical and practical forms of relevance, and this relevance is substantially a function of the research methods utilized. It can be concluded, therefore, that there are many types of business research methods with issues relating to research design, data collection methods, sampling approaches, measurement methods, data analysis methods, and reliability and validity test issues, among others. The extent to which these issues are addressed in research works will go a long way in determining the quality and relevance of such studies. In addition, periodic assessment of business research methods used by scholars, researchers and students will assist in improving the rigour and relevance of research works.

Based on relevant conceptualizations of research methods issues presented in this paper, a research direction is proposed. The proposed research should seek to investigate the areas in which business students in institutions of higher learning have placed research emphases in terms of topics/problems investigated, research design used, sampling method employed, measurement methods used, data analysis methods used, validity and reliability tests conducted, practical managerial recommendations given, theoretical/academic recommendations made, and areas suggested for further studies. These are the general issues that seek to determine the quality of any research endeavour in the academia. The content analysis method of research, among other relevant research methods, can be used for the proposed research. The content analysis method of research has been conceptualized as a qualitative research approach which is utilized in making replicable and valid research inferences from research data to their relevant contextual settings (Krippendorff, 1980), in addition to studying changes in trends, contents and methods (Loy, 1979). The proposed research direction is likely to assist in evaluating the quality of research works undertaken by business management students in institutions of higher learning, highlight observed deficiencies in students' research theses/dissertations, and help professors and institutional assessors and accreditors to ensure that relevant research methods issues are taught, practised and assessed (Smallbone & Quinton, 2004).

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