AN OVERVIEW OF QUANTITATIVE APPROACH IN WELFARE SERVICE DELIVERY RESEARCH

SAMIHAH KHALIL @ HALIM
School of Government
College of Law, Government and International Studies
Universiti Utara Malaysia
06010, UUM Sintok
Kedah, Malaysia
samihah@uum.edu.my
Tel: +604 928 6001
Fax: +604 928 6005

SALIHU, ABDULWAHEED ADELABU
School of Government
College of Law, Government and International Studies
Universiti Utara Malaysia
06010 UUM Sintok
Kedah, Malaysia
salihu@uum.edu.my
Tel: +604 928 6399
Fax: +604 928 6005

ABSTRACT

Quantitative research stresses on an inquiry that attempts to systematically measure and predict phenomena through the use of standardized tools. The paper aims to demonstrate the utilization of systematic procedures of conducting quantitative research on the delivery of primary education and healthcare service by local governments. Specifically, this paper describes research design, sampling framework, instrumentation, measurement of variables, reliability and validity, piloting the questionnaire and redesigning the final instrument. The Modified Quantitative Service Delivery Survey (MQSDS) constructed for the study is an effective tool to be used in determining the status of service delivery by local governments in Nigeria.

Keywords: Welfare Service Delivery, Statutory Allocation, Managerial Accountability, Leadership, Local Government councils (LGCs)

INTRODUCTION

The importance of welfare service delivery cannot be over-emphasized because of the peculiar nature of human needs. There are some basic needs that must be delivered by governments at various levels. These needs include basic education, healthcare, road network, transportation, amusement and recreation parks, and infrastructural development. Of these social services, primary education and healthcare service become inevitable because they are

central to human survival and development. Therefore, research needs to be conducted on how best these welfare services should be delivered to the people by various governments.

Quantitative research in public service delivery is scientific research on understanding and explaining the dominant problems, trends and issues in service delivery provision of public goods and services by public institutions. This paper intends to approach the delivery of welfare service pertaining to the delivery of primary education and healthcare service by local governments in Oyo state, Nigeria through the use of quantitative analysis. The quantum of welfare service being delivered by local governments in Nigeria needs to be examined and determined through quantitative research. This enables local governments in Nigeria to respond effectively and efficiently to the delivery of welfare service, especially the delivery of primary education and healthcare service. This study is premised on empirical data where quantitative survey is said to be suitable for the collection of data on the delivery of primary education and healthcare service.

There are several quantitative methods used in determining the quantity and quality of welfare services delivered by local governments in African countries. Among them are Quantitative Service Delivery Survey (QSDS) (Das, 2002; Sundet, 2004), "Own Right" Service Provision (OSP) (Ravindra, 2004; McNamara, 2006), Contracting Out Model (COM) (Council of Europe, 1993), and Collaborative Venture Model (CVM) (Wagstaff & Claeson, 2004; World Bank, 2004). Most of these models are developed by researchers working on service delivery by various arms of government.

Research Model Construct

Before proceeding to the discussion of the survey model used, it is essential to review the objective of the model. In the study of welfare service delivery, the objective is to assess service delivery (a dependent variable) of primary education and healthcare with respect to the utilization of statutory funds, managerial accountability and leadership structure (independent variables) of the service providers, which are the local governments. Briefly, the objectives are broken down into hypotheses which describe the relationship of these variables:

H$_1$: Statutory allocation/fund is significantly related to the delivery of primary education and healthcare service to the public through local government administration.

H$_2$: Managerial accountability is significantly related to the delivery of primary education and healthcare service to the public through local government administration.

H$_3$: Leadership structure is significantly related to the delivery of primary education and healthcare service to the rural dwellers through local government administration.

Figure 1 illustrates the conceptual framework of the study encompassing the objective and the relationship of variables.
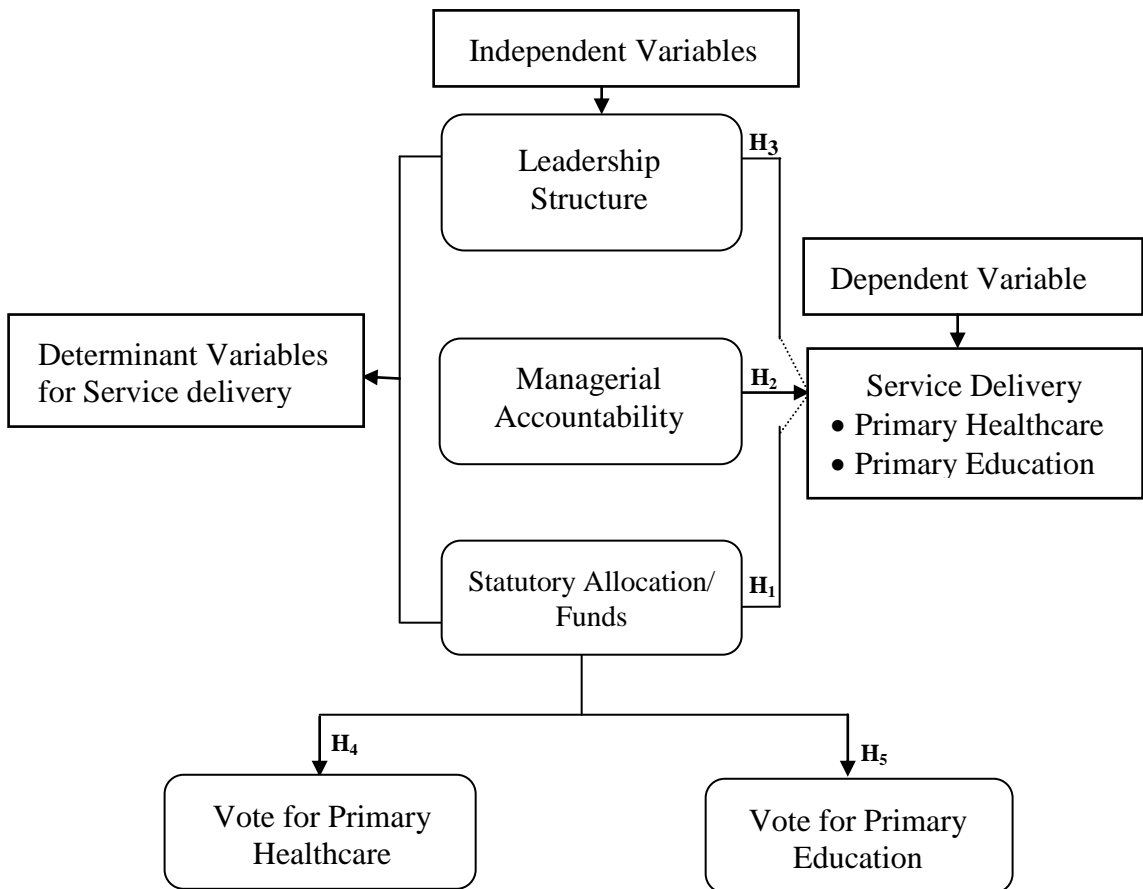
Figure 1: Model Construct for Welfare Service Delivery

Modified Quantitative Service Delivery Survey (MQSDS)

The researchers performed a literature search for any similar surveys which have been constructed by other researchers in service delivery. Inquiries were made to corporate organizations on service delivery such as the World Bank Headquarters in Washington, International Institute for Educational Planning (IIEP), Paris, and Lang Education, Kuala Lumpur for related material on questionnaires on primary education and healthcare service delivery.

In our service delivery study in Nigeria, the researchers utilized two major models to measure the quantity and quality of primary education and healthcare service delivered by local governments. These models are Public Expenditure Tracking Surveys (PETSs) and Quantitative Service Delivery Surveys (QSDSs). A Public Expenditure Tracking Survey (PETS) assesses how money actually reaches the front-line service providers, i.e. local governments, while QSDS is a multipurpose provider survey that analyzes how efficiently the local governments utilize the resources they receive to deliver welfare services. Using the

model together, PETSs and QSDSs measure the difference between what is allocated to local governments, and what people receive in terms of welfare services. The two models highlight the complex transformation from public budgets to welfare service by boosting the observability of both outputs and actions. The combination of the model is called Modified Quantitative Service Delivery Survey (Salihu, 2011). The purpose of MQSDS is to capture the public spending on service delivery on the one hand, and the quantity of welfare services delivered by local governments in Oyo state on the other.

Designing Quantitative Instrument

The next step in research design after a research construct has been established is to design the instrument to gather data for the study. The survey method is the most appropriate method of data gathering in this study of service delivery. A well-designed questionnaire is vital to the success of quantitative study. The questionnaire is designed to collect quantitative information in order to test the hypotheses that have been generated prior this stage. In designing the instrument for the study, the researchers took the following into consideration:
   i)   Literatures on the delivery of welfare services by various governments and their agents were critically reviewed, and inferences were drawn out of these literatures; and
   ii) Items in the questionnaire were designed in line with the research objectives. Thus, the items in the instrument were designed in such a way that it would be able to achieve the objective of the study.
   The MQSDS instrument consists of 90 items; all variables are included. There are 40 items under service delivery, 16 items for statutory/fund allocation, 14 items for managerial accountability and 20 items for leadership structure. Each item is worded precisely in closed-ended responses of five-point Likert scale rating. The five-point Likert scale is easier for respondents to pick their choice conveniently. Double-barreled questions are avoided to ensure that respondents understand and are able to answer without being confused. Items in the questionnaire are tested using factor loading to determine whether the questions in the instrument can measure the research question(s), and achieve the research objective(s). The unloaded items in the instrument are replaced with new items that can measure the research questions, and achieve the research objectives. The design of the instrument took into account all available resources.

Population and Sampling Technique

A quantitative research enables generalized relationships of variables to a population in which the sample has to be chosen to test the relationship. Although, there are 774 local governments in Nigeria, which spread across 36 states, and the federal capital territory (FCT), Abuja, according to 6 geo-political zones in Nigeria. The 36 states in Nigeria are shown in Table 1 below.

Table 1: Nigerian Thirty-six States according to the Six Geo-political Zones

S/NO	South-East	South-West	South-South	North-East	North-West	North-Central
1.	Abia	Ekiti	Akwa Ibom	Adamawa	Jigawa	Benue
2.	Anambra	Lagos	Bayelsa	Bauchi	Kaduna	Kogi
3.	Ebonyi	Ogun	Cross-River	Borno	Kano	Kwara
4.	Enugu	Ondo	Delta	Gombe	Katsina	Nassarawa
5.	Imo	Osun	Edo	Taraba	Kebbi	Niger
6.	-	Oyo	Rivers	Yobe	Sokoto	Plateau
7.	-	-	-	-	Zamfara	-

The researchers selected Oyo state which has 33 local governments. Therefore, the 33 local governments in Oyo state are considered the population of the study because investigation is conducted on the 33 local governments in Oyo state, Nigeria. There is no need for sampling technique since no local government is left out in the study in Oyo state.

Piloting the Research

According to Ruxton et al. (2006), a pilot or feasibility study is a small experiment designed to test logistics, and gather information prior to a larger study; in order to improve the latter's quality and efficiency. A pilot study can reveal deficiencies in the instrument design which must be addressed before questionnaires are distributed. For the purpose of the pilot study, 90 questionnaires were distributed to ninety cases (90 local governments). The 90 cases were chosen randomly from the 6 geo-political zones of Nigeria. The reason for choosing these 90 local governments is to cover at least ten percent (10%) of the total population of the study. Since the total population of the local governments in Nigeria is 774, at least a minimum of 75 local governments is required for the pilot study. The selection of cases catered for service providers in rural, urban and inter-city local governments.

Reliability and Validity of Instrument

The main procedure of determining the consistency and accuracy of the contents of the items in quantitative data is to check the reliability and validity of the instrument. According to Zikmund (1994), reliability is the degree to which measures are free from error and therefore yield consistent results. This is done through either test-retest method or internal consistency method. The Cronbach's Alpha Coefficient with values ranging from zero to any higher value indicates greater reliability. A minimum level of 0.7 is recommended (Nunnally, 1978) and the optimal mean inter-item correlation values range is from 0.2 to 0.4 (Briggs & Cheek, 1986). Table 2 shows the reliability and validity of the items of the variables in the study.

Table 2: Construct Reliability for Pilot Study

Variables	No. of Items	Average Cronbach's Alpha
Service Delivery	40	.921
Statutory Allocation/Fund	16	.881
Managerial Accountability	14	.825
Leadership	20	.859

From the table above, the variables for welfare service delivery are reliable because the Cronbach's Alpha Coefficient of each variable is above 0.7. This is higher than the value recommended by scholars.

Table 3: Kaiser-Meyer-Olkin (KMO) and Bartlett's Test for Validity of the Construct of the Pilot Study

Variables	Items	KMO Measure of Sampling Adequacy	Level of Significance
1. Service Delivery	40	0.698	0.000
2. Statutory Allocation/Fund	16	0.750	0.000
3. Managerial Accountability	14	0.769	0.000
4. Leadership	20	0.724	0.000

From Table 3 above, the validity of the variables is tested one by one using KMO and Bartlett's test. According to KMO and Bartlett's test, each variable is said to be valid, if the value obtained is more than 0.6. The value obtained for the four variables is higher than 0.6, meaning that items in the variables are valid to measure what it is designed for.

Designing Final Instrument

After the pilot study, the design of the final instrument becomes imperative in this research study. The questionnaire is improved upon after the pilot study. The reason for this is not far-fetched, because some of the items in the instrument are not valid and reliable for eliciting information from respondents. Therefore, the researchers designed the final questionnaire to be administered in the field. The questionnaire has 96 items. 6 of the items are under demographical data, and they are classified as background information about the research study. There are four (4) variables that form the research construct. The dependent variable in the study is service delivery (primary education and healthcare service). Service delivery has 40 items in the questionnaire. The independent variables are leadership structure in the local government, managerial accountability of local government administration, and the flow of statutory allocation/fund to the local governments in Oyo state. Leadership has 20 items in the

questionnaire, while managerial accountability has 14 items. Finally, funds/resource allocation has 16 items in the questionnaire.

Administration of Instrument

Bowling (2005) posited that modes of data collection by questionnaire differ in so many ways. They include the method of contacting respondents, the medium of delivering the questionnaire to respondents, and the administration of questionnaire in order to elicit the required information. The administration of questionnaire ought to follow a pattern. The administration of questionnaire should be outlined in a manner that will show the number of respondents in the organization for which the instrument is meant.

The researchers set out to administer 400 questionnaires to 33 local governments of Oyo state. Twelve questionnaires each were administered to the management staff (respondents) of 29 local governments, while thirteen (13) questionnaires each were administered to the remaining 4 local governments of Oyo state. Table 4 shows how the questionnaires were administered to respondents according to individual local governments in Oyo state.

Table 4: Types of Local Government Councils (LGCs) and Administration of Questionnaire

S/NO	Rural LGCs	Questionnaires Administered	Semi-urban LGCs	Questionnaires Administered	Urban LGCs	Questionnaires Administered	Total
1.	Ibarapa East	12	Afijio	12	-	-	24
2.	Ibarapa North	12	Akinyele	12	-	-	24
3.	Iddo	12	Atiba	12	-	-	24
4.	Ibarapa Central	12	Atisbo	12	-	-	24
5.	Olorunsogo	12	Ibadan Northwest	12	-	-	24
6.	Ogbomosho South	12	Irepo	13	-	-	25
7.	Ogo Oluwa	13	Itesiwaju	12	-	-	25
8.	Orelope	12	Iwajowa	12	-	-	24
9.	-	-	Kajola	12	-	-	12
10.	-	-	Lagelu	12	Egbeda	12	24
11.	-	-	Ogbomosho North	12	Ibadan North	13	25
12.	-	-	Oluyole	12	Ibadan Northeast	12	24
13.	-	-	Oriire	12	Ibadan Southeast	12	24
14.	-	-	Oyo East	13	Ibadan Southwest	12	25
15.	-	-	Oyo West	12	Saki West	12	24
16.	-	-	Saki East	12	Iseyin	12	24
17.	-	-	Surulere	12	Ona Ara	12	24
Total	-	97	-	206	-	97	400

As shown in Table 4 above, 400 questionnaires were administered to different categories of respondents in the local governments of Oyo state. The respondents included the Executive Chairman, the Chief Accounting Officer, Director of Personnel, Director of Finance &

Supplies, Director of Works, Housing, & Transport, Director, Primary Healthcare Coordinator, Director, Department of Agriculture, Director, Department of Education and Social Services, Leader, Legislative council, Supervisory Councillors, and Head of Units in the local governments of Oyo state. Out of the 400 questionnaires that were administered to the respondents for the conduct of research on welfare service delivery, 371 questionnaires, representing 92.75% of the total questionnaires distributed to the respondents, were returned.

During the course of administering the questionnaires, the researchers encountered several problems, such as the issue of confidentiality because of the 'oath of secrecy' in the local governments, poor record keeping by local governments, administrative bottlenecks in the local governments, and absenteeism from duty by management staff of local governments in Oyo state. The mindsets of the administrators of local governments in Oyo state was the most challenging part of this stage because the management staff did not believe that information sought on funding, budgetary allocation and welfare services was meant for academic research; rather, they thought the researcher might want to use it for indictment. Professional skills of academic research were used to convince the management staff of the local governments in Oyo state that the data were meant purely for research. At last, the questionnaires were administered to the management staff of the thirty-three (33) local governments of Oyo state, and primary data were collected for the study.

Measurement of Variables

The welfare service delivery in this study identified four important variables that needed attention in the context of Nigeria. In this research, we study service delivery as a dependent variable. As the grass-root organizations, local governments in Oyo state should demonstrate their capabilities in providing essential services to the public. This dependent variable measures the relationship between the selected independent variables (statutory allocation/fund, managerial accountability and leadership structure) and primary education and healthcare service on the one hand, and unique significant contributions of the independent variables to the delivery of primary education and healthcare service on the other.

In an attempt to measure the interrelationship of the four variables in the study, three hypotheses were formulated, namely: H_1, H_2, and H_3 (see p. 3). Having formulated the hypotheses, the independent variables are therefore measured against the dependent variable in order to arrive at the findings of the study. The average means for all the variables are determined in the study, and the results are used to determine the correlation coefficients of the relationship between the independent variables and the dependent variable. Other statistical tests that were performed to further confirm the outcome of the variables under quantitative analysis are multiple regression analysis, and multicollinearity.

Based on the findings of the delivery of primary education and healthcare service by local governments in Oyo state, the findings show that the three identifiable variables, which are, statutory allocation/fund, managerial accountability, and leadership structure of the local government, play a unique significant contribution to the delivery of primary education and healthcare service in Oyo state.

Method of Data Analysis

Primary data collected through the use of questionnaire were verified for completeness, coded and keyed into a computer data file, using different types of software such as Statistical Packages for Social Sciences (SPSS) software, Number Cruncher Statistical System (NCSS), etc. The data were analyzed in three phases. Phase one looks at the respondents' overall profile, which has to do with frequencies and descriptive analysis. Descriptive analysis is used to identify the respondents' profile. The analysis helps to identify any bias in the response. Statistical mean and standard deviation, significance differences between mean that is flagged and test for effect were applied to determine if the significance is truly sufficient or it is just by chance (Pallant, 2005). Phase two consists of analysis to ensure goodness of measure by using correlation coefficient. Finally, phase three focuses on hypothesis testing through the use of multiple regression analysis, multicollinearity, and other statistical analyses.

In analyzing the data collected from the field, there is a need to note that observations that do not logically fit into variables of the study being treated must be accounted for. They are called missing values and it may occur for a number of reasons, such as no response, no answer from respondents, uncodable responses, incorrect measurement and lost data or incomplete data. The number of missing data was reported in a table note. The number of missing data is added to valid responses in order to account for all responses in the sample of the study. Information on the variables is represented with data and illustrated with frequencies and group data. This was done through the use of computer programs. Frequency tables and group data should be presented, labeled and identified in the analysis of the study. In order to allow for statistical analysis, there should be coding of variables into numerals so that analysis can be performed, and logical inference drawn from the study.

Coding of Instrument

Items in the variables of the instrument were coded for the purpose of data analysis. There were four variables, namely, service delivery (primary education and healthcare service), statutory allocation/fund, managerial accountability, and leadership structure in the local government administration in the study. These variables were coded by abbreviating each variable in the study. Thus, Service delivery is coded as "SD", statutory allocation/fund is coded as "FRA", managerial accountability is coded as "MA', and leadership structure is coded as "LDR'. This was done in order to give room for the researcher to use Statistical Package for Social Sciences (SPSS). These codes are therefore represented by using numerals such as "1", "2", "3",…….. After the coding, the software such as SPSS was used to run the information collected from the field.

DISCUSSION

Quantitative approach is suggested to be suitable for determining factors/variables responsible for the delivery of welfare services to the public by service providers (governments/institutions). This approach is suggested because MQSDS is set out to determine the quantity and quality of welfare services delivered by service providers

(governments/institutions) on the one hand, and funds voted by various service providers to provide welfare services to the public on the other. This implies that the instrument is used to determine fund voted for provision of welfare services, and the outcomes in terms of delivery of these services to the public by service providers.

In the context of delivering welfare services to the public by local governments, MQSDS is designed to achieve the set objectives of the study. The objectives of the study are to determine the unique significant contribution of the three independent variables (statutory allocation/fund, managerial accountability and leadership structure in the local governments) to the dependent variable (primary education and healthcare service). Primary data elicited from the respondents are analyzed to show that the three independent variables in the study play unique significant contributions in the delivery of efficient and effective welfare services to the public by the local governments of Oyo state in Nigeria. The study equally shows that there exist discrepancies in budgetary allocation and what is actually spent on primary education and healthcare service by local governments in Oyo state, Nigeria.

The instrument used for this study adopts a quantitative approach through the designed research model (see p. 4). Besides, the survey can equally be conducted adopting a qualitative approach. In using a qualitative approach, the survey is designed using information data sheet. Secondary data will be collected from desk officers of local governments, and information will be elicited through structured interviews from the stakeholders of local government administration. This shows that MQSDS can be used by researchers adopting mixed modes (the use of both quantitative and qualitative analyses). To some extent, secondary data collected from the archives can be analyzed using percentage and descriptive statistics. This is allowed under qualitative analysis.

There is room for improvement in this survey. The Cronbach's Alpha Coefficients of the variables in this study are between 0.7 and 0.8, showing that the contents in the variables can still be improved upon. The contents in the instrument can always be improved upon from time to time depending on what the research sets out to achieve. The researchers need to know that the instruments (either designed or adopted) can be improved upon because Cronbach's Alpha Coefficients of variables cannot measure 100% reliability and validity of the instrument. So, there is always room for improvement. Having designed an instrument that can elicit the required data, and measure the set objectives of the study, the administration of questionnaire becomes an issue.

The researchers need to identify and know the target respondents. The questionnaire is not just administered to any respondent. For instance, the target respondents in the study of welfare service delivery by local governments are the management staff of local governments. An average of 12 questionnaires were administered to management staff of each local government in Oyo state. A total of 400 questionnaires were administered to respondents in the thirty-three local governments of Oyo state. So, there should be target respondents, and how the questionnaire should be administered in a study is equally important in research.

The administration of questionnaire becomes inevitable because information and data must be collected and elicited from right source. Otherwise, the researchers will not be able to collect the right data, if the questionnaire is not well administered. In case the respondents are not willing to respond, the researcher needs to use professional conduct and build confidence in the respondents. The researchers should convince the respondents that information and data collected are purely meant for research and academic purpose. Once the questionnaires are

properly administered to the respondents, collection of data will be easier. Then, the data and information collected from the field can be analyzed using SPSS.

The researchers should note here that SPSS is being updated from time to time. So, the researchers should ensure that the latest version of SPSS version is used. This helps to generate more accurate results of the study. The researchers are not restricted to SPSS alone, other software such as Number Cruncher Statistical System (NCSS) can be used to analysis the findings of research study.

A thorough quantitative research must be adequately funded. Otherwise, a sample of say 10% of the population of the study will be studied, and the results of the study can be generalized on the population. But, in some cases, it may be difficult to generalize the findings of the sample on the population of the study. For example, research on welfare services delivery was conducted on a sample of 33 local governments in Nigeria. And, there are 774 local governments in Nigeria. It is a bit difficult to generalize the findings of this research on all local governments in Nigeria because the local governments studied is less than 5% of the total population in Nigeria. Therefore, funding for research is very essential.

Lastly, the research needs to be extended to other local governments in Nigeria, if there is availability of fund to conduct the research. The template in terms of research design, research model, hypothesis, administration of questionnaires, and modes of analysis are in place. So, further research to cover the whole local governments in Nigeria is suggested in order to examine the unique contribution of identified variables on welfare services delivery.

CONCLUSION

MQSDS is suitable for the conduct of welfare service delivery by service providers using the quantitative approach. It is recommended that where the researcher seeks to know the quantity and quality of social services being provided by service providers, and where the researcher wants to measure budgetary allocation with outcomes in delivering welfare services by service providers, MQSDS seems to be the best instrument to elicit information from respondents using a quantitative approach.

Other survey instruments can as well be used in conducting quantitative researches, but it is better to study the peculiarities of the institutions, and the environment in which the research is to be conducted before arriving at the survey instrument to be used for the study. It is suggested in this paper that whatever survey instrument the researcher intends to use, it must be modified to suit the peculiarity of the institution/organization and the environment in which the research is to be conducted.

Lastly, all the survey instruments such as Public Expenditure Tracking Survey (PETS), Expenditure Service Delivery Survey (ESDS), Quantitative Service Delivery Survey (QSDS), Own-right Service Provision (OSP), Contracting Out Model (COM), Collaborative Venture Model (CVM), etc. are suitable for the measurement of quantity of welfare services delivered, and determination of funds voted for welfare services by service providers, but caution must be taken by the researcher to choose a suitable survey instrument based on other criteria in order to obtain appropriate data from respondents of the research study.

REFERENCE

Adeniyi, J., Oladepo, O., & Soyibo, A. (2003). *Survey of primary healthcare service delivery in Lagos and Kogi: A field report.* Ibadan: African Regional Health Education Centre, University of Ibadan.

Amin, S., Das, J., & Goldstein, M. P. (Eds.). (2008). *Are you being served? New tools for measuring service delivery.* Washington, DC: The International Bank for Reconstruction and Development / The World Bank.

Bowling, A. (2005). Mode of questionnaire administration can have serious effects on data quality. *Journal of Public Health, 27*(3), 281-291.

Briggs, S. R., & Cheek, J. M. (1986). The role of factor analysis in the development and evaluation of personality scales. *Journal of Personality, 54*(1), 106-148.

Council of Europe (1993). *Role des appels d'offres dans la prestation efficace des services locaux.* Strasbourg: Council of Europe, Publishing and Documentation Service.

Daft, R. L. (1983). Learning the craft of organizational research. *Academy of Management Review, 8*(4), 539-546.

Das, J. (2002). *Delivering education in Zambia: A guide to expenditure and service delivery surveys.* Washington, DC: World Bank, Development Research Group, Public Services Research.

Lancaster, G. A., Dodd, S., & Williamson, P. R. (2004). Design and analysis of pilot studies: Recommendations for good practice. *Journal of Evaluation in Clinical Practice, 10*(2), 301-312.

McNamara, P. (2006). Provider-specific report cards: A tool for health sector accountability in developing countries. *Health Policy and Planning, 21*(2), 101-109.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Pallant, J. (2005). *SPSS survival manual: A step by step guide to data analysis using SPSS (version 12)* (2nd ed.). Maidenhead: Open University Press.

Ravindra, A. (2004). *An assessment of the impact of Bangalore citizen report cards on the performance of public agencies.* ECD Working Paper No. 12. Washington, DC: World Bank, Operations Evaluation Department, Knowledge Programs & Evaluation Capacity Development.

Reinikka, R. (2001). Recovery in service delivery: Evidence from schools and health centers. In R. Reinikka & P. Collier (Eds*.), Uganda's recovery: The role of farms, firms, and government* (pp. 343-69)*.* Washington, DC: World Bank Development Research Group.

Ruxton, G. D., & Colegrave, N. (2006). *Experimental design for the life sciences* (2nd ed.). Oxford: Oxford University Press

Salihu, A. A. (2011). *Primary education and healthcare service delivery by local government of Oyo state, Nigeria* (Unpublished doctoral dissertation). Universiti Utara Malaysia, Sintok

SPSS (2003). SPSS 12.0 for Windows: Software developed by the Apache Software Foundation [Computer software]. Standard License: 'AS-IS'.

Stevens, J. M. (1984). Relationships between top level managerial strategies and effectiveness in local government management: Findings and implications for productivity improvement. *Public Productivity Review, 8*(4), 369-385*.*

Sundet, G. (2004). *Public expenditure and service delivery monitoring in Tanzania: Some international best practices and a discussion of present and planned Tanzanian initiatives.* Working Paper 04.7. Dar es Salaam, Tanzania: HakiElimu. Retrieved from http://www.hakielimu.org/files/publications/document73pub_expend_servc_deliv_en.pdf

Wagstaff, A., & Claeson, M. (2004). *The millennium development goals for health: Rising to the challenges.* Washington, DC: The International Bank for Reconstruction and Development / The World Bank.

Walliman, N., & Baiche, B. (2001). *Your research project: A step-by-step guide for the first-time researcher.* Thousand Oaks, CA: SAGE Publications.

World Bank. (2001). *World development indicators*. Retrieved from http://data.worldbank.org/
    data-catalog/world-development-indicators

World Bank. (2004). *Education management information systems: Guidelines and references for
    putting information systems to work in education advisory report*. Washington, DC: World
    Bank, Education Advisory Service.

Zikmund, W. G. (1994). *Business research methods* (4th ed.). Orlando, FA: The Dryden Press.