

MIXED METHODS RESEARCH APPROACH AND ITS APPLICATION IN THE FIELD OF MANAGEMENT SCIENCES

ONYEMA, Chukwuemeka Collins, MBA, MSc, ACTI, FCA, PhD Student¹ Ojo-Agbodu Ayodele. PhD, FCA, CFAN, ACTI² Adebayo M. Adeniyi. PhD³ and FCA SULEIMAN Abdulwasiu Alade PhD

ABSTRACT

The paper is centered on Mixed Method Research (MMR) which is made up of quantitative and qualitative research methods. The choice of this method is very important as it aids researchers to cater for increasing complex needs of today's researchers. It helps to overcome the weaknesses witnessed by the use of quantitative and qualitative research methods and enable researchers to produce refined results. It elucidates the justifications for adopting Mixed Method Research (MMR). This method integrates results of the two traditional methods. Based on the notable works, types, and challenges of mixed method research were explained. This is to assist new researchers and already existing ones in the field of research.

Author's Affiliation:

Department of Accounting,
Faculty of Management
Sciences, Lagos State
University, Ojo ^{1,2,3 & 4}

Keywords:

Mixed Methods Research,
Quantitative Method
Research, Qualitative
Research Method

Corresponding Mail:

emekason124@gmail.com
[m¹](mailto:m1)
ojoagbodu@gmail.com
ayodele.ojo-agbodu@lasu.edu.ng
mudashiru.adebayo@lasu.edu.ng
wascolade2k5@gmail.com
[m⁴](mailto:m4)

Introduction

Research is the processes of enquiry that is systematic and methodical in nature which is aimed at increasing knowledge. Research is the art of scientific investigation that involves the movement from known to the unknown. Research as an academic activity is defined as redrafting problems, formulating hypotheses, organizing, collecting and evaluating data, reaching conclusion which leads to making recommendations. Aryal, Shama and Koirala Bhattari (2023), noted that for the researcher to be able to achieve this, there is need for him/her to ensure that appropriate research design is chosen. This is because where a wrong research design is chosen, it will lead the researcher into a wrong conclusion and wrong recommendations which is not the aim of research. Mixed method research approach is a research design that combined the attributes of quantitative and qualitative research designs to produce a better robust output. It is also known as Hybrid research method.

Ramatu, Murate, Metin, Ismail (2020), explained that mixed method research as a methodology used for conducting research which involves collection, analyzing, interpreting and integrating quantitative data (surveys) and the qualitative data (focus groups) discussions, interviews guides research. This approach is used when it is viewed that it will give better view and understanding of the research gaps to be filled.

Dawadi and Shrestha (2021), defined Mixed Method research design as a research that has its own philosophical assumptions. It has its methods of conducting inquiries data analysis, interpretation, combination and interpretation and application in accounting and business research. This research design provides number of benefits to complex research issues design researches an upper hand to be able to answer research questions with sufficient department and breadth. Wilkinson and Staley (2019), explained mixed method research design as a research design that combined the characteristics of qualitative and quantitative research design. It is a higher approach when compared with either qualitative or quantitative research approaches they opined. Timans et al (2019), argued that mixed methods design is committed to a research design that standardized methodological framework that bring together two research methods. The mixed research method leverages from the same data used by both quantitative and qualitative research approaches. Onwuegbuzie (2022), noted that mixed method design is a combination of both qualitative and quantitative data by mixing them in order to provide improvement of the already existing results.

The focus of this paper is to explain the three mixed methods research designs, the advantages and disadvantages, then differences, usages and analysis for researchers to select which one best suit their interest and areas of study. The three methods are applicable in accounting and business researches. They are all relevant depending on the study to be conducted and the type of research design intended to use by the researcher.

Statement of the problem:

There are challenges which faces researchers who uses quantities or qualitative research designs in their various research endeavours. This has been a concern for them. These challenges include limitations

attached to each of these designs (Albanese, 2022). The need to search for an enhance research method that would play a hybrid role of compensating each other's weakness led to the adoption of mixed method research design. It is viewed that the adoption of mixed method research designs will methodically triangulate these limitations by compensating that gaps that exist when single methods like quantitative or qualitative research designs are used in research investigations. This design makes use of a combination of both qualitative and quantitative features to mitigate whatever challenges faced by researchers. This promotes the growth of comprehension of phenomenon which will advance the frontiers of learning, wisdom and knowledge which is the goal of scientific research. Ivankova and Wingo 2018 and Gegenfurtner et al (2020) noted that mixed method research design is beneficial in netting of the challenges of discrepancies between quantitative and qualitative finding. It reflects the opinion of respondents. It allow the voices of the participant in the study. Scholarly collaborations are strongly encouraged in the research

Objectives of the study

The main objective of the study is to explain the importance and types of Mixed method Research and its application in the research field.

The specific objectives are to explain:

- the importance of mixed method research
- the types of mixed method research
- the application of mixed method research

Empirical Reviews

Conceptual Reviews

Mixed Method Research:

Mixed method research approach unites elements of quantitative research with qualitative data to answer research questions. This hybrid research method aids researchers to gain absolute picture than using quantitative or qualitative study alone. It integrates the gains of both research methods in order to enhance the research output. Mixed method research is used in behavioural, health, and social sciences researches in multidiscipline Journals and complex cases research. Massino (2022), explained mixed method research as the one that uses triangulation to mitigate some limitations in the research works. Harrison et al (2020), noted that Mixed method research combined the qualitative and quantitative data in a single research to improve upon the earlier results achieved by the researcher when each of the research methods were used separately. Otieno et al (2023), explained further that mixed method research is a wide area of study that integrates data from qualitative and quantitative studies to produce enhanced results. They stated that mixed method research has a long history in social studies. Mixed method research will be the right choice where

the researcher research process suggests that quantitative or qualitative data only will not be enough to completely respond and provides the right answers needed by the researcher.

Factors That Motivate Mixed Method Research Approach

According to Ramatu, Murate, Metin, Ismail (2020), these are the reasons why people takes the decision to conduct research. It is the motivating factor for going into research investigation. Mohammed (2021), argued that people do not just go into research. There are reason(s) why they embark on the activity of researching on a given topic that demand scientific investigations. Some of such reasons may be to solve a problem, to gain new knowledge, to contribute to an already existing knowledge in the society. However, the following are some of the motivating factors for conducting such research:

- Research allows the researchers to gain some level of specialty which they discover during the period of their investigations.
- It leads to creativity, delighted, happiness, joy and loving.
- Research aid to find out the hidden and unhidden facts of an event.
- Research leads the researcher to have the curiosity to find new ways of doing things.
- Research is meant to serve the society by providing solution that solves societal problems
- To be awarded the Degrees
- For getting benefit like jobs, employment, promotion and high salary increment in the work place.
- To become a senior researcher and research position in International countries overseas.
- Research helps us to discover the unknown.
- It helps us to move from known to unknown which lead us to new discoveries and theories
- It gives recognition, credits, appreciations and acknowledgement to the individual

Types of research Methods

Quantitative Research Method

A quantitative research method is the gathering of numerical data that are transformed into statistics which are used for analysis and generalization into conclusion. Balwan et al (2022), stated that quantitative research is based on the measurement of quantity or amount. Its application is based on the phenomenon that it can be expressed in terms of quantity. It is noted that quantitative approach is used to quantify views, attitudes behaviors, opinion and others defined variables (Fàbregues, et al2021). The results from quantitative research is generalized from a large population sample. It is measurable in data. For researchers to work with these numbers demands that they must know standard deviation, correlation and calculations and interpretation. The data are collected through forms like online survey, paper survey, mobile survey or face to face. This method allows the researcher to be able to conduct a wide depth coverage with accurate result (Eady et al 2020).

This is because the information are direct from the respondents. One of the demerits of this research method is that its time consuming to research all the population. It is costly too. The respondents may be afraid of their privacy and that information about them are being leaked or devoid by the researcher.

Qualitative Research Method

Mohammed (2021), explained qualitative research as an approach that provides the researcher with the chance to collect in details information as per conducting experiments on human behaviours, attitudes and others. This researcher method centres on researching on attitudes, attributes of the subjects. Qualitative research method is a method of observation (Anas and Ishaq 2022). Information are gathered via non-numerical data. Various data collection methods used includes interviews guides, case studies, focus group discussion with participation and respondents. The data observed and obtained are very vital and powerful as it is made up of human experiences, characteristics and attributes. This type of research method has a direct, clear mission and vision on the expectation of the framework. It has some disadvantages Vivek (2022) and Arifin, 2018 noted respectively. This is because of the quality of the research outcome will depend on the knowledge and experience of the research on the topic. Its time consuming and difficulty to assess. It is deductive in nature noted by (Mohammed 2021).

Comparative Analysis of Quantitative, Qualitative and Mixed Method Research Approach

Quantitative research method	Qualitative Research Method	Mixed Research Method
It focused on quantity how much numbers)	It focused on quality (features / characteristics)	This method combined quantity and quality.
It deals with positivism	It deals with phenomenon	This is a combination of positivism and phenomenon
Experiences and correlations are employed	It deals with Ethnography observations	This method uses combination of observation and experiences depending on the study and goals.
There is prediction test of hypotheses	It deals with meaning and understanding	Mixed method Research makes use of prediction and understanding.
Structured and predetermined questionnaires used	Flexibility are applied	Where the data and goals required structured and predetermined questionnaires, it is applied under Mixed Method.
It deals with large, random representation	Here small and purposeful group of population	This method uses a combination of quantitative and qualitative methods.
There is questionnaires, scales, tests used in data collections and gathering	Qualitative makes use of interviews, observations, documents and artifact to gather data	A combination of the questionnaires, interviews and others are adopted.
The analysis under this research method is based on deductive (statistical methods)	While qualitative make us of inductive	Deductive and inductive statistical methods are used.

Its findings are based on numerical and precise	This is based on comprehensive description and a detailed holistic result.	Findings are based on a combination of numerical and additional details.
---	--	--

Source (Author 2024)

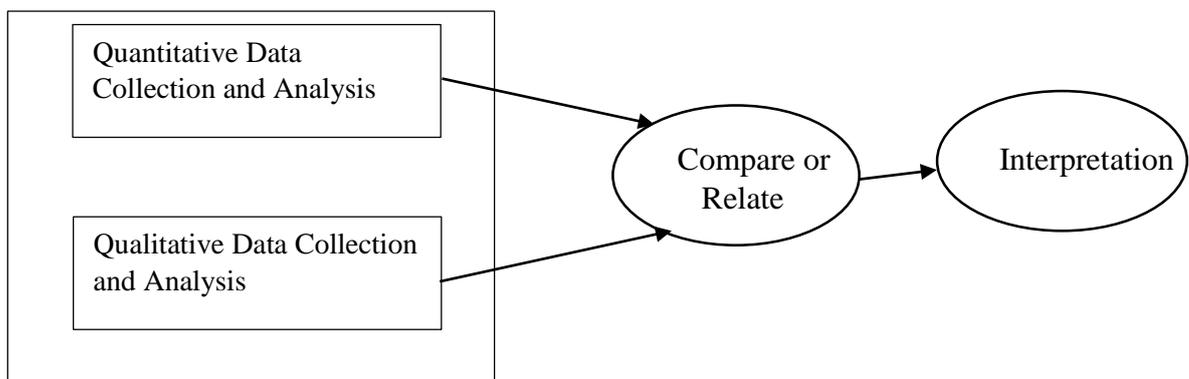
Types of Mixed Method Research

(i). Convergence parallel Mixed Research Approach

Under convergence parallel mixed research design, the data are collected simultaneously, analyze with different sample sizes and results/reports presented separately. The results are compared and interpretations made by the researcher. This design can be used when: There is need to collect both types of data in one visit to the field. Both types of data have equal understanding on the researched problem (Vivek & Nanthagopan 2021).

The researcher needs to demonstrate both quantitative and qualitative skills in a single research work. The researcher can manage extensive data collection individually or with a team.

The Challenges of Convergence Parallel Mixed Research Design includes: It requires substantial efforts and expertise knowledge. There are issue as it relate to sample sizes. It is extremely difficult to converge two sets of different data. Discrepancies are often difficult to resolve as per results.

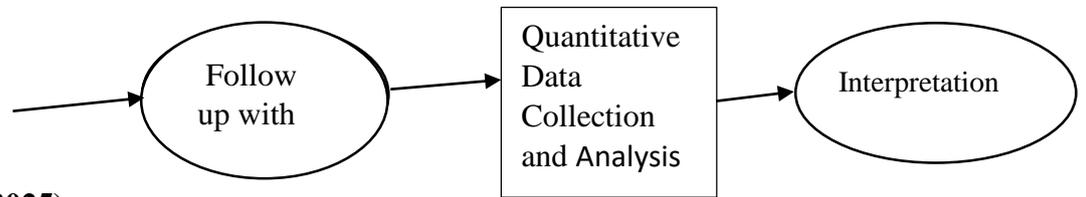


Source (Author 2024)

(ii) Explanatory Sequential Mixed Research Design

Under this type of Mixed Research Design, the researcher first undertake Quantitative data collection and analysis first, then followed by Qualitative data collection and Analysis and interpretation of the analyzed data. The researcher connects the two phases by using the quantitative results to shape the qualitative researcher questions, sampling and data collection.

Quantitative
Data
Collection
and Analysis

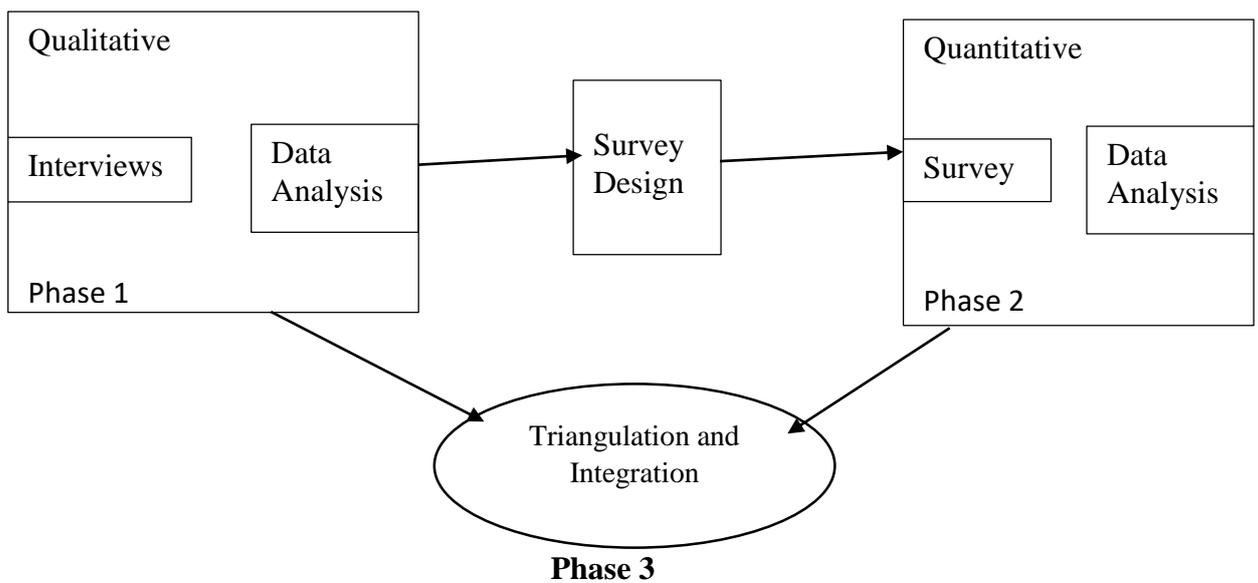


Source (Author 2025)

(iii) Exploratory Sequential Mixed Research Design.

This design under Mixed Method Research collects and analyzes qualitative data first, and later collect quantitative data. The researcher analyses the qualitative data and uses the results to build to subsequent quantitative phase. The researcher connects the phase by using the qualitative result to shape the quantitative questions and variables, developing an instruments or a topology.

The purposes of Exploratory Mixed Method Research are: to first explore variables, theories, and hypothesis that are not known. To develop an instrument or typology that is not available. To assess whether qualitative themes generalize to a population.



Source (Author 2025).

Challenges of Using Mixed Methods Research Design

Mixed Method Research Design results is not always easy to achieve (Dawadi, Shrestha and Giri 2021). This is because of the combination of quantitative and qualitative methods. These two results and its analysis and convergences are not easy to come by. These have posed some challenges as noted by Davadi (2019), he pointed out the key challenges as data collection and analysis process taken lengthy time to process. This affects the timing and costs budget of researchers as a result it discourages them from adopting it as a research method design. Innader et al (2019), noted that the timeliness of recruiting data collectors is demanding and intensive under mixed method research design. Secondly, integrating qualitative and quantitative data together is hard for researchers. The

processes or merging quantitative (survey) and qualitative (interview and oral diaries) makes some researches lacks the confidence they need in their research work. The strategy to adopt in this process/integrating is always a problem. According to Wilkinson et al (2019). Thirdly, quantitative and qualitative research methods have separate philosophies and epistemologies that guides its framework because of these separate philosophies, questions are raised on validities and reliabilities of the results conflicting results may come out as a result of the combination of the separate philosophies from a different methods.

The fourth issues with mixed method is the quality of data integrating the data collected under quantitative method via survey research design may be influenced under qualitative method using interview and oral as research instruments (Knappertsbusch, Langfeldt, and Kelle, 2021).

Some researchers sometimes find it difficult on deciding on which of the three methods under Mixed Method research to adopt in their studies. The fact remains that the decision on which design to use is dependent upon the purpose of the study and the priority given to the qualitative and quantitative method and the goal of the research work. It is certain that every research work have a goal to be achieved and it has to be taken into consideration in taking decision on which mixed method design to adopt.

Application of Mixed Method Research in Accounting and Social Researches

David (2019), explained that the mixture of two research methods is far and superior to a single research method. It provides insights into research phenomena which cannot be absolutely understood only by quantitative or qualitative methods.

The followings are the major justification/ Application of Hybrid Research Method

- **Expansion of study:** Mixed method research enables the researchers to widen their research inquiry with enough depth. The researcher collects open ended (quantitative) data and close ended (qualitative data) information during the course of their research. This support the understanding of the research problem the use of (interviews and focus groups) which are qualitative in nature provided the researcher with an in-depth inquiry on the pheromone. It supports the researcher with accumulated data and different aspects of phenomena which emanate from different participants.
- **Added value:** The combination of qualitative approach and quantitative Research Method is expected to bring in complementary respects and an added value in the field of research. The Researcher uses the information provided under both qualitative and quantitative to produce greater certainty and wide application of the benefit from the results achieved. The mixture of the methods leads to complete picture and an opportunity for wider new and valuable contributions (Okpotor (2021).

- **Mixed method research helps over epistemological differences that exist between Quantitative and Qualitative paradigm.** It provides a royal road map for progress and true knowledge. The system of combining the two research methods enable researches to have an in-depth understanding of research outcome and phenomenon.
- **It helps to obtain more rigorous conclusions as the two methods are used together.** This is by relying on the strength of both qualitative and quantitative methods. The strength and weaknesses of each of this methods compensate each under this parlance called mixed method research. The combination aids the researchers to escape the weakness of any of the two methods. A more accurate conclusion is arrived at.
- **For the purpose of triangulation and component: Data triangulation under mixed method is highly acceptable as a way of data validation.** It enable the researcher to have a more valid data about an issue by directly comparing the findings drawn from one method (qualitative) for quantitative to other. It is useful for either convergence or divergence. The collections of diverse types of data will lead to having greater insight and preferring solution on the study. It will lead to new discoveries which is really what the intentions of research is.
- **The development of effective and refined conclusion based on the result of the mixed method is another justification for the practice of mixed method research.** The conclusions reached with the mixture of quantitative and qualitative methods produced a higher conclusion which will be of more reliable in the research world.

Conclusion and Recommendations

In conclusion, mixed method Research design is to contribute to the already existing literatures. It is to help students and other researchers who are new in research designs, gain adequate knowledge on the design. Some literatures reviewed together have pointed out some limitations under quantitative and qualitative designs which can be overcome by the adoption of Mixed method Research approach. This method comprises of multiple approaches available from research paradigms depending on the purpose and state of the work. The paper stated the view of the positivists and constructivist. The positivists under (quantitative research) encourage the usage of figures and statistics to arrive at empirical evidence while the constructivist's scholars support the construction of meaning based on the attributes, characters and experiences of the participants. The paper made available cogent reasons on why mixed method research should be adopted in research work to solve complex research needs.

Recommendations

New researchers need to develop adequate skills on qualitative and quantitative research methods.

They need to undertake trainings to develop more skills before undertaking studies that requires the application of mixed method research design. Mixed method research has emerged as a valuable approach in research depending on the goal of the research work. It is comprehensive and inclusive techniques. Mixed method research design should be used to examine complex researches. The use of mixed method research in the examination of complicated research questions that are multifaceted techniques is a nice approach that fit in the use of the mixed method approach therefore it should be adopted in research works. Mixed method research design should be used as it has the ability to strengthen the results of our research outputs. This is because it incorporates both quantitative and qualitative data to attain to more refined results.

This research designs should be used in the process of validating outputs in research work. Researchers who are carrying on works that requires the capturing of diverse perspective should adopt mixed method research work.

References

- Anas, N. & Ishaq, K. (2022). Qualitative Research method in social and behavioural Science research. *International Journal of Management, social sciences, peace and conflict studies*, 5(1) 89–93.
- Arfin, S. R. M. (2018). Ethical consideration in a qualitative Study. *International Journal of Care Scholars*, 1(2), 30-33.
- Albanese, M. (2022). Mixed Method in Business Management and Accounting Research. An Experimental Design in the Entrepreneurship Domain. *European Journal of Inter-disciplinary studies*, 8 (1), 35 – 48.
- Balwan, A. K., Balwan, W. K., & Saba, N. (2022). Glance of Research Methodology for Researchers: a logical Assessment, *Scholar Bulletin Journal* 8(3), 95–100
- Eady, A., Dreyer, B., Hey, B., Riemer, M., & Wilson (2020). Original mixed-methods research- Reducing the risks of extreme heat for seniors: communicating risks and building resilience. *Health Promotion and Chronic Disease Prevention in Canada*.
- Dawadi, S., Shrestha, S., & Giri, R. A. (2021). Mixed Methods Research; A Discussion on its types, challenges and criticisms. *Journal of Practical studies in Education*, 2(2), 25-36.
- Fàbregues, S., Escalante-Barrios, E. L., Molina-Azorin, J. F., Hong, Q. N., & Verd, J. M. (2021). Taking a critical stance towards mixed methods research: A cross-disciplinary qualitative secondary analysis of researchers' views. *Plos one*, 16(7): e0252014.
Flick
- Fabregues, S., Hong, Q. N., Escalante-Barrios, E. L., Guetterman, T C, Menses, J. & Fetters, M. D. (2020). A Methodological Review of Mixed methods Research in Palliative and End of Life care (2014 – 2019). *International Journal of Environment Research and Public Health* 17(11), 38–53.
- Gegenfurtner, A., Zitt, A., & Ebner, C. (2020). Evaluating webinar-based training: a mixed-methods study of trainee reactions toward digital web conferencing. *International Journal of Training and Development*, 24(1): 5-20.
- Harrison, R. L., Reilly, T. M., & Creswell, J. W. (2020). Methodological rigor in mixed methods: An application in management studies. *Journal of mixed method Research*, 14(4), 473–495.
- Ivankova, N., & Wingo, N. . (2018). Applying mixed methods in action research: Methodological potentials and advantages. *American Behavioral Scientist*, 62(7): 978-997.
- Knappertsbusch, F., Langfeldt, B. & Kelle, U. (2021). *Mixed Methods and Multi-method Research*. *Sociology in the German-Speaking world*. 261 – 272.
doi:10.1515/9783110627275-018.
- Ramatu, U., Murat, E, Metin, C., & Ismail, O. B. (2020). Research Methodologies: Qualitative and Mixed Research Method in Social Sciences. *International Journal of Academic Multidisciplinary Research*, 4(6), 83–91.
- Sharma, L. R., Jha, S. Koirala, R., Aryal., U. & Bhattarai, T. (2023). Navigating the Research

landscape: a guide to the selection of the right research design. *International Research Journal of Mixed method research*, 4(1) 64-77.

- Timans, R., Wouters, P., & Heilbron, J. (2019). *Mixed method research, what it is and what it could be* ?. *Theory and Society*, 48 (2) 193–216, <https://doi.prg/10.1007/s11186-019-09.345-5>
- Otieno, J. O, Obura, C. O. & Owino, E. O., (2023). Mixed methods in Accounting Research. The rationale and Research Designs. *Middle East Journal of Applied Science and Technology* 6(1), 70–76.
- Okpotor, F. I. (2021). We All Need Philosophy of Science: Analyticism as a Vehicle for Explanatory Understanding in Multi-Method Research. *African Affairs*, 120(479) 277 -296.
- Onwuegbuzie A. J. (2022). Receiving the Baton for the Journal of Mixed Method Studies. *Journal of Mixed methods studies* 6, 1-6.
- Massimo, A, (2022). Mixed methods in Businesses, management and Accounting Research: an Experimental Design in the Entrepreneurship Domain. *European Journal of inter-disciplinary studies*, 8(1) 35–45.
- Mohammed, B. A. (2021). How to write qualitative research. *International Journal of Quantitative and Qualitative Research Methods*, 9(3), 1-6.
- Wilkinson, I. A. G. & Staley, B. (2019). On the pitfalls and promises of a using Mixed Methods in Literacy research: Perceptions of reviews. *Journal Research papers in Education*, 34(1) 61-83.
- Vivek, R., & Nanthagopan, Y. (2021). Review and Comparison of Multi-Method and Mixed Method Application in Research Studies. *European Journal of Management Issues*, 29(4), 200-208.