Research Gaps in Management Sciences: An X-Ray of Literature

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Abstract:- **Researchers and academia often have difficulties identifying the research gap in literature in various fields of study. Hence, exploring research gap is one of the most arduous tasks for researchers especially those at the preliminary stage. The explicit identification of research gap is an inevitable step in developing a research agenda including decision about funding and the design of informative studies. Thus, to identify the research gap, the researcher needs to prune down his area of interest as identifying research gaps requires a lot of reading and analyzing of materials from various literatures. Hence, this study explores literatures regarding the method of identifying research gaps in management sciences. This was done by extensively examining various literatures on the method of identifying research gaps from previous researchers. However, the study made use of content analysis to identify research gaps in some articles. This study revealed that researchers are focused on a single type of research gap, leaving other research gaps unexplored. Also, there are some methods of research identification that has remained understandable by researchers as there are little or no knowledge about them. Hence, the study recommended among others that the various research identification methods be explored by researchers who intend to engage in studies in this field of management sciences.**

Keywords:- *Research, Research Gap, Content Analysis.*

I. INTRODUCTION

Currently, the body of research is growing and new concepts and constructs keep evolving. However, the meaning of the term research gap differs depending on the research context as there is no standardized meaning (Nyanchoka, Tudur-Smith, Thu, Iversen, Tricco & Porcher, 2019). A research question which has not been properly addressed known as a research gap (Farooq, 2018). Researchers and academician often find it difficult to identify the research gap in literature in their various fields (Farooq, 2018). Hence, exploring research gap is one of the most difficult tasks for researchers especially those at the preliminary stage (Farooq, 2018). Robinson, Saldanha and Mckoy (2011) cited in Farooq (2018) opined that the identification of research gaps in a clear and explicit manner is a salient step in developing a research agenda including decision regarding funding and designing informative studies. Thus, to identify the research gap, the researcher has to prune down his area of interest as identifying research

gaps requires rigorous reading and analyzing of materials from various literatures (Farooq, 2018).

Research gap according to Robinson, Saldanha and Mckoy (2011) arises when the ability of the systematic reviewer to draw conclusions is limited. Research gap can be referred to as a starting point for research (Mueller-Bloch &Kranz, 2015). Robinson et al., (2011) opined that research gap represents an output of literature reviews while Mueller-Bloch and Kranz (2015) perceives research gap as an input as it can be motivation for further research.

However, regardless of how salient research gap seem to be to research development, there exist no specific research gap process defined in literature. Hence, this study aims at examining the literature development of the process of identifying research gap in research study.

II. STATEMENT OF THE PROBLEM

The idea of establishing gaps in research has been a major concern for many researchers for some time as there were no formal or defined frameworks for identifying or characterizing research gaps (Miles, 2017). What constitutes a research gap to a researcher might not be what constitutes a research gap to another; hence, research gaps seem to be a case of "in the eye of the beholder" (Miles, 2017). However, the majority of the conflicts regarding research gaps are mostly based on perception (Miles, 2017). Identifying research gap from literature is a common practice but the criteria used seems to be ambiguous and vague (Farooq, 2018). Research gap analysis is ambiguous and equivocal for novice, young researchers as researchers finds it difficult and challenging to explore research gaps because of lack of criteria or predetermined procedures.

Hence, there is a paucity of research about research gap analysis. There are rare studies which have conceptualized research gap based on certain dimension and propositions. Thus, the need for this study.

- **Objective of the Study**
  This study examined how to identify research gaps for proper clarity in statement of the problem.

- **Literature Review**
  This section gives an overview of the studies of various researchers. The section consists of the conceptual review, theoretical review and empirical review.

III. CONCEPTUAL REVIEW

A. Research Gaps

Research gaps are defined as gaps in sets of information (Mueller-Bloch & Kranz, 2015). Also the National Collaborating Center for Methods and Tools in Canada described research gap as a research question for which paucity of information limits the ability to reach a conclusion. Scott, Carmen, Christa and Jacques (2008) also posited that research gaps are evidence missing from a body of research on a particular topic that could otherwise potentially answer the question of decision makers. Also research gap is when there are little or no information available and/or there is a high level of uncertainty about the accuracy of the existing estimate (Rudan et al., 2015), where additional research is needed from policy-makers perspective to address the gap in the available primary research (Scott et al., 2008).

B. Research Gap Process

According to Farooq (2018) the current research gap process is based on five elements, which are; identifying the research gap, Methods of identifying the research gap, Feasibility of research gap, Selection of research gap and Expected Outcome.

- **Identifying the research gap:** The method of identifying research gap in literature remains debatable as there is no generally accepted opinion among researchers and academicians. In order to identify research gaps the research will have to engage in a lot of reading and analyze the materials from literature and these have been made simplified with the existence of some online and electronic database.
- **Methods of identifying the research gaps:** According to Tom (2012) the first step is to identify and select relevant information sources (such as books, catalogs, database, internet etc.). However, there are a number of methods used in identifying the research gap, these are via; Citation analysis report, meta-analysis reports, content analysis report and systematic review.
- **Feasibility of research gap:** Feasibility of research gap depends upon the availability of both primary and secondary data, sufficient literature available and statistical tools available. However, after exploring different methods of identifying research gaps, the research gap identified has to check if it is feasible, if not the method of identification will have to be modified and repeated.
- **Selection of research gap:** The selection of research gaps depends on the available literature, the researcher's own interest and the contribution to the study. Selection of research gap is similar to the decision making process whereby decision is taken based on the various alternatives.
- **Expected Outcomes:** A researcher must have a prior knowledge of the expected outcome of the research being carried out, which should lead to contribution to knowledge or study. Thus, if the identified research

gap does not lead to the expected outcome then the research gap identified is referred to as being vague and indefinite and as such has to be revised.

C. Identification of Research Gaps

According to Farooq (2018) there are various conceptualizations regarding the identification of research gaps or methods of identifying research gaps. These can be through;

a) **Citation Analysis:** Citation analysis is one of the most effective ways to identify and analyse research gap (Farooq, 2018), as studies which are frequently cited provide the basic understanding about problem identification. However, Hoffmann & Doucette (2012) opined that "Citation analysis is a branch of bibliometric which studies the citations found in publications such as journal articles and books to ascertain the patterns of use.

Citation analysis is the most used method of identifying research gap with the aid of Google scholar, Scopus, Web-of-Science, CiteSeer, other scholarly database including Ebsco, ProQuest, Emerald etc. The keywords and nature of study are used in analyzing the citations.

b) **Content Analysis:** Content analysis is a research technique used in qualitative research to make decisions and conclusions by interpreting the texts, images and documents. Content analysis reports can be very supportive for identifying the research gap in a qualitative research (Farooq, 2018).

"Content analysis is a class of methods at the intersection of the qualitative and quantitative traditions, is promising for the rigorous exploration of many important but difficult-to-study issues of interest to management researchers" (Duriau; Reger & Pfarrer, 2007).

c) **Meta-Analysis:** Meta-analysis is the process of integrating the findings from previous studies by statistically analyzing the literature (Farooq, 2017). Meta- Analysis report provides an overview regarding a particular construct; that is the measurement of the construct and the different findings of that particular construct.

d) **Systematic Reviews:** This is a scientific tool used in appraising, summarizing and communicating the result and implications of otherwise unmanageable quantities of research (Green, 2005). A systematic review collates, analyse literatures regarding a research problem from different studies. Systematic reviews are quantitative in nature whereby the researcher explores the literature that could support or contradict a finding depending on the form of study (Farooq, 2018).
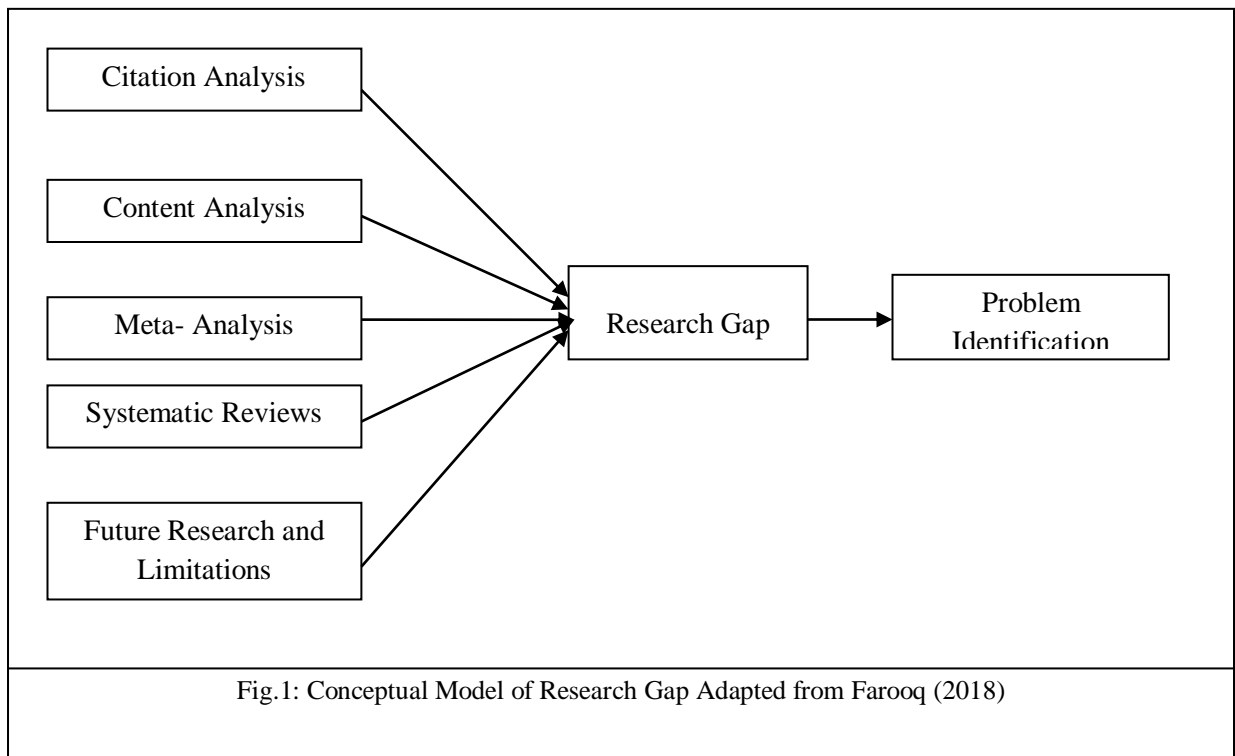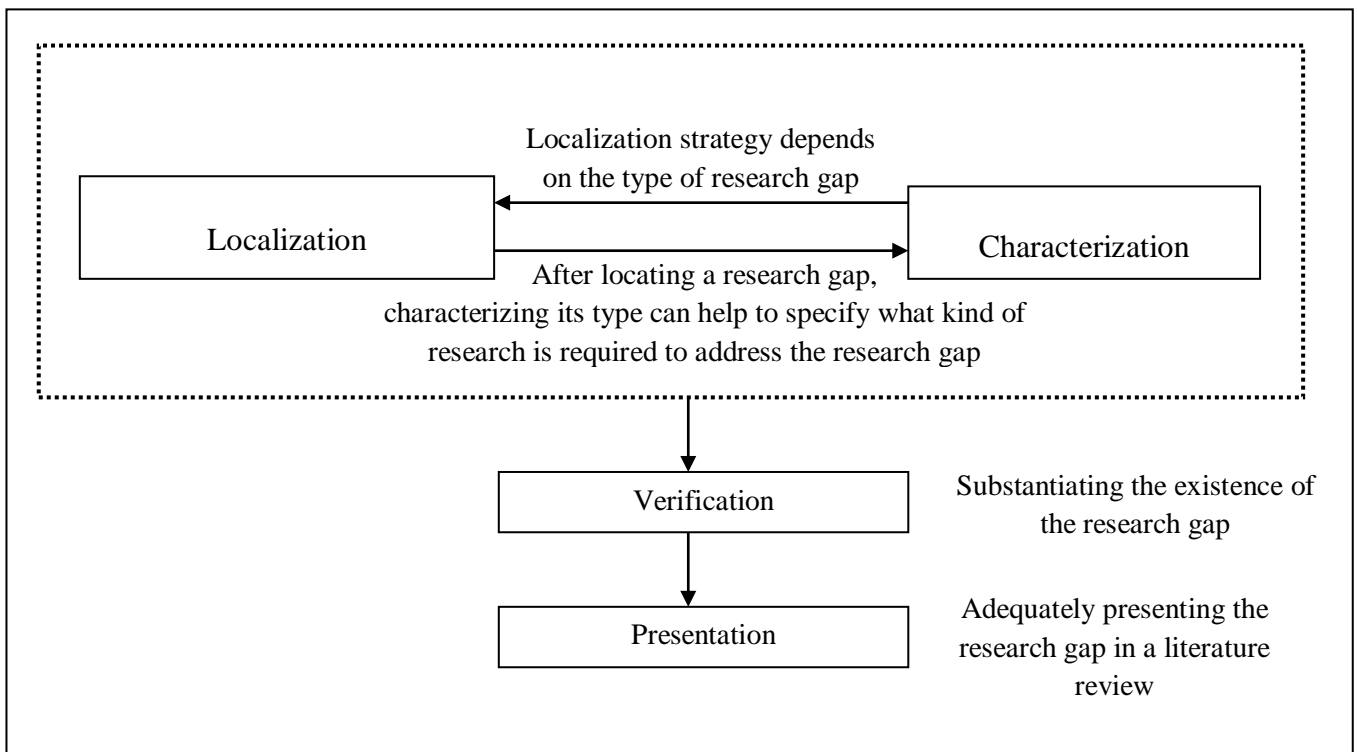
Fig.1: Framework for identifying research gaps in literature review

- *Identifying Research Gap*

Fig. 2: Framework for Identifying Research Gap

Adopted from (Mueller-Bloch &Kranz, 2015)

The above framework by Mueller-Bloch &Kranz (2015) established a distinction between the identification of research gap in the broader sense and the localization of research gaps in the narrower sense. The framework was constructed based on the findings of the analysis of literature reviews. However, from the framework it is evidenced that the begining stage is the localization of research gap, which is intiated by the characterization of research gaps. After the initial stage has been completed, the verification of research gaps may be necessary.

D. Localization of Research Gap
Mueller-Blochand Kranz (2015) posited that localization of research gaps begins when literature is being synthesized. As researchers frequently examine concepts that become visible from a literature, they start to uncover potential gaps in the literature. However, the process of localizing research gaps is being informed strongly by the characterization of research gaps.

E. Characterization of Research Gap
Characterization of research gaps means to classify research gaps owing to the reasons of their existence (Robinson et al., 2011). Also, Muller-Bloch and Kranz (2015) assume that this is an integral aspect of identifying research gaps.

F. Verification of Research Gap
After research gaps have been localized, verification is needed. However, verification herein means to ensure the research gap does really exist (Mueller-Bloch &Kranz, 2015). Conducting an extensive search based on the articles from which the various research gaps emerged or closely linked to the research gap is necessary for verification of research gap. The reason for this approach is that other researchers who may have closed the research gap would have quoted the articles from which the research gap emerged from to justify their studies. However, in case where the research gap did not directly emanate from a specific study, it might help to search relevant databases or scan prevailing textbooks for search terms that refer to the research gap. In addition, the researcher might have to undertake further efforts beyond this proposed approach if there is an indication that the prospective research gap may have been filled already.

G. Presentation of Research Gap
There are two approaches to present research gaps in literature reviews. These are Sequential Presentation and Parallel Presentation (Mueller-Bloch &Kranz, 2015). Sequential Presentation describes the research gaps after the synthesis, in that the research gaps are presented differently from the synthesis. Hence, making it possible for the reader to swiftly locate research gaps in the review. Sequential presentation of research gap according to Mueller-Bloch and Kranz (2015) is more structured compared to Parallel presentation of research gaps. Parallel Presentation of research gap is a more natural approach to presenting research gaps. Parallel Presentation allows the researcher to fully describe how the research gaps unfold as a result from the synthesis. Parallel presentation facilitates the detailed divulgence of the sets of information that the research gap stem from, allowing researchers concede the origins of the respective research gap and to garner better perception for what reasons the gap exists.

H. Theoretical Review
The theoretical review of this research work is premised on the theory formulated by Miles (2017). However, Miles (2017) built his theory based on the frameworks suggested by Mueller-Bloch and Kranz (2014) and Robinson et al., (2011).The work of Robinson et al., (2011) was the initial article that developed the framework for defining research gap. This framework identified and described five types of research gaps, known as the (PICOS; (a) Population (b) Intervention (c) Comparison (d) Outcomes and (d) Setting). Afterwards, Mueller-Bloch and Kranz (2014) formulated a research gap model that was developed from the Robinson et al., (2011) framework. This framework was based on Jacob (2011) theory on research problems. Mueller-Bloch and Kranz (2014) framework of research gaps comprises of six gaps: (a) Contradictory Evidence Gap (b) Knowledge Void Gap (c) Action-knowledge conflict gap (d) Methodological gap (e) Evaluation Void Gap and (f) Theory Application Void Gap.

Miles (2017) building on the foundation of the two aforementioned theorist, a theoretical framework that synergizes both aforementioned theories was developed. This model comprises of seven core research gaps;
a) Evidence Gap
b) Knowledge Gap
c) Practical-Knowledge Conflict Gap
d) Methodological Gap
e) Empirical Gap
f) Theoretical Gap
g) Population Gap
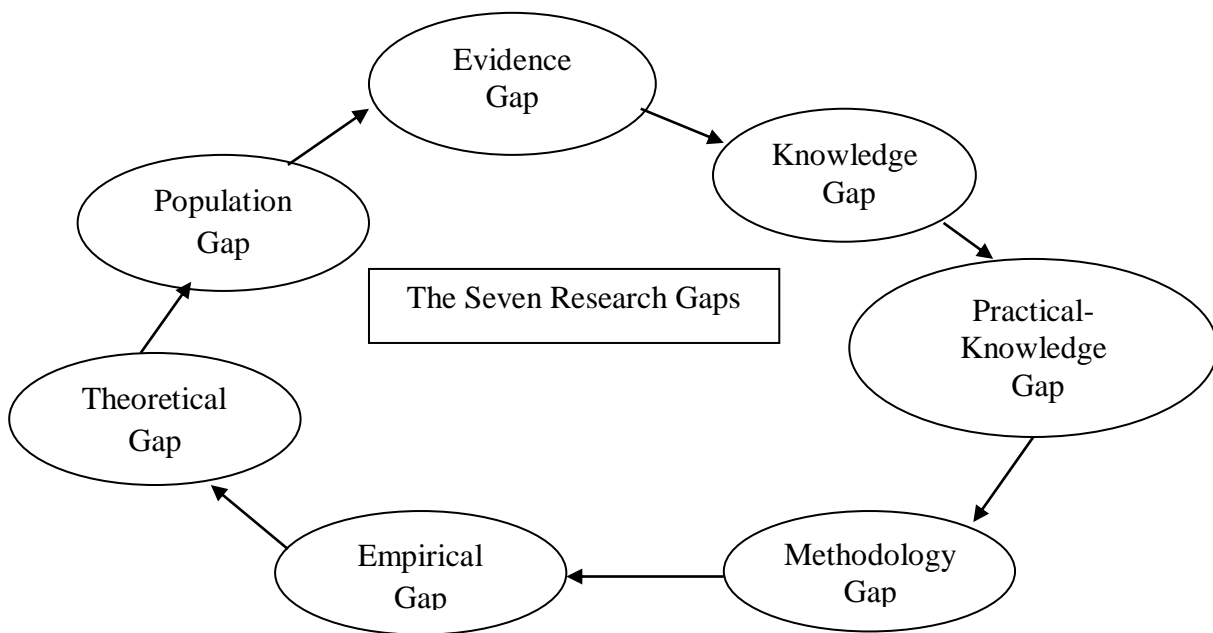
Source: Miles (2017)

a) **Evidence Gap:** An evidence gap occurs with a provocative exception if a new study finding contradicts widely accepted conclusion. The evidence gap involves divergence in findings of the prior research. This type of gap occurs when conclusions from the result of a study are accepted in its own right but is contradictory when viewed from a more abstract point of view, that is it is contradicting when compared to the result of similar researches. The identification of contradictory evidence starts with analyzing each research stream (Mueller-Bloch & Kranz, 2014 cited in Miles, 2017).

b) **Knowledge Gap:** Knowledge gap is a common form of research gap. There are two situations in which a knowledge gap or knowledge void may occur; first, there may not be existing knowledge in the particular field of study regarding theories and literatures from related research domain; second, a possibility that the result of the study is different from the expected outcome (Mueller-Bloch &Kranz, 2014 cited in Miles, 2017).

c) **Practical-Knowledge Gap:** Practical-knowledge gap refers to discrepancies that can bring about new research. A practical-knowledge (action-knowledge) conflict arises when the actual behaviour of professionals differs from their advocated behaviour (Mueller-Bloch &Kranz, 2014 cited in Miles, 2017).

d) **Methodological Gap:** A methodological gap is the gap refers to the conflict that arises in research as a result of the influence of methodology on a result. This gap seek to address the conflicts which arise as a result of the research methods in initial studies and offers a new line of research that is different from the previous research methods(Mueller-Bloch &Kranz, 2014 cited in Miles, 2017).

e) **Empirical Gap:** An empirical gap is the type of research gap that has to do with gaps in the previous researches. This type of research gap deals with the research findings or propositions which requires evaluation or empirical verification (Mueller-Bloch &Kranz, 2014 cited in Miles, 2017).

f) **Theoretical Gap:** The theoretical gap deals with the gap in theory in previous research. Theoretical gaps are a common occurrence in examining prior research on a phenomenon (Mueller-Bloch &Kranz, 2014 cited in Miles, 2017).

g) **Population Gap:** A population gap is a commonly identified gap among researchers. There always exist under-served populations that have been under-researched. This gap exists when there are populations that were not properly represented or under-researched in the evidence based on previous researches (Robinson, et al, 2011cited in Miles, 2017).

I. Empirical Review

Common consent is lacking regarding what constitutes the most suitable methodological approach to identifying research gaps, determining research priorities and displaying research gaps or priorities (Robinson, et al, (2011); Gadsby, et al., (2012); Rudan, et al, (2015); and Nasser (2018)). Research gaps significantly differs across research contexts and no common methodological guidance on which approach should be used to identify research gaps or determine research priorities (Nyanchoka, et al, 2019). However, Nyanchoka et al, (2019) posited that half of the methods used to display research gaps are traditional ways of presenting findings. Hence, the study of Nyanchoka et al,(2019) provided a synopsis of different methods that can be used to report the identification of research gaps. The findings of the study can be adopted to inform the

development of standardized methods of identifying, prioritizing and displaying of research gaps. Also, the findings informed the need for further studies and evidence-based-decision making by providing description of different methods that can be adopted to identify research gaps which will guide the development of qualitative study needed in identifying, communicating and displaying gaps in research.

Study by Farooq (2017) identified some method of identifying research gaps but also was of the opinion that meta-analysis (which is one of the methods designed by the researcher) is the least preferred by researchers because there is lack of knowledge or expertise regarding the method while systematic review is the most widely accepted method of identifying research gap as it just requires the researcher to review and analyze literature over a period of time.

Also, Farooq (2017) opined that researchers and academicians often lack preliminary knowledge regarding the identification and exploration of research gap using content analysis. Meanwhile, Duriau, et al, (2007) is of the opinion that content analysis if well implemented should be of particular interest for management researchers because of several factors such as access to deep structures of managers, non-intrusiveness, analytical flexibility and the ability to implement longitudinal designs.

Robinson, et al,(2011) formulated a framework to facilitate the identification and characterization of research gaps from systematic review. The researchers were of the opinion that mere exploration of literatures from database is not a lead to research gap, because literature explored requires extensive reading and understating particular problem or research question.

Hence, Mueller-Bloch and Kranz (2015) identified the need to formulate a framework that will help scholars to identify research gaps in literature review whose objective is to summarize extant theory to identify gaps in theory or research. As lack of methodological literature on the area of research suggests that the procedures are often creative, implicit and informal.

IV. METHODS

Having reviewed several literatures and discovering the different types of research gaps that exists in literature, this study choose a simplified way of identifying research gaps in some selected articles. Content analysis was carried out on ten article papers from two Journal publications (LASU Journal of Employment Relations and Human Resources Management and LASU Journal of Business Review), to examine the types of research gaps that were used by the researchers in their studies. The selection and inclusion is based on convenient sampling.

S/N	ARTICLE TITLE	AUTHOR(S)	TYPES OF GAPS	Remarks
	Structural challenges and local government administration in Nigeria.	Afegbua, S.I.; Osakede, K.O. & Nkomah, B.B.	Knowledge Gap	The gap identified in the study substantially reflected knowledge gap
	Frauds and forgeries on the performance of the Nigerian banking industry.	Araga, A.S. & Sufian, J.B.	Empirical Gap	From the study it can also be inferred that there is an evidence gap in the study which was not filled
	Entrepreneurship skills development, risk taking propensity and students' self-employment intention.	Ojapinwa, A.F.; Fapohunda, T.M. & Jayeoba, F.I	Practical-Knowledge Gap	In the study practical-knowledge gap was identified but was not fully filled. An empirical gap was established
	Workforce retention strategies and corporate development: An empirical Study.	Abioro,M.A; Oladejo, D.A. & Ashogbon, F.O.	Empirical Gap	From the study it was discovered that the empirical gap identified was filled.
	Impact of staff welfare on job commitment in Tuyil Pharmaceutical company, Ilorin. Kwara State.	Jimoh, A.L. & Kadiri, I.B.	Empirical Gap	The gap identified in the study substantially reflected empirical gap and was filled
	The impact of advertising and sales promotions on Brand equity: A study of the Nigerian Bottling Company (NBC).	Olumoko, T.A.	Empirical Gap	The gap identified in the study substantially reflected empirical gap and was slightly filled
	Assessment of the effect of multiple tax on the survival of selected small and medium enterprise in Abuja.	Ibrahim, M.G.	Empirical Gap	The gap identified in the study substantially reflected empirical gap and was appropriately filled
	Effect of supply chain management on organizational productivity. A study of Nigeria	Solomon, J.; Marcus, G.O. & Akhaine, M.E.	Knowledge Gap	The gap identified in the study substantially reflected empirical gap and was

			adequately filled
Effect of forensic accounting on fraud management in Nigeria public service (A study of Ogun State Board of Internal Revenue).	Idowu, K.A.; Olagunju, A. & Atere, A.	Empirical Gap	The gap identified in the study substantially reflected empirical gap and was slightly filled
Effect of branding on the corporate image of selected insurance companies in Lagos State, Nigeria.	Hassan, A.R.; Balogun, T.M. & Yusuf, O.A.	Empirical Gap	The gap identified in the study substantially reflected empirical gap and was substantially filled

Table 1: Some Examples of Gaps in Literature in some Selected Articles Published

Source: Author (2021)

From analysis carried out above, it was discovered that researcher majorly built their research on what previous researchers have done, they must empirically verified what previous researcher have done. Hence, seven out of ten articles that were reviewed showed that the researchers identified adopted the empirical gap in their study and only two researchers identified a knowledge gap (i.e. tried to investigate the inexistence of knowledge in the study carried out) while one researcher identified practical-knowledge gap (i.e. had a conflicting view regarding what is previously obtained in the study carried out and investigated another perspective to the study).

- **Contribution to Study**

From this review, it was observed that recent literature probably seem not to be in existence regarding research gaps and previous ones had many limitations and suggestions for studies that were hoped to be filled by other researcher. Hence, this review had been able to achieve the research objective of this study by exploring the various research gaps in literature.

V. CONCLUSIONS

In the literature being reviewed for this study, it was discovered that some research platforms such as Google Scholar, Scopus and some other scholarly databases can be used to identify research gaps through citation analysis, these method should be empirically tested and confirmed for usage as it will help researchers especially those at the preliminary stage to better understand and identify research gaps. This will help improve the quality of research.

RECOMMENDATIONS

From the study it was discovered from the content analysis carried out that very few types of research are being identified and emphasized by authors or researchers. All of types of research gaps in existence identified in literature that were not captured in the any of the articles reviewed during the content analysis will be left lagging. Hence, this research recommends are follows;

- All existing research gaps should be well investigated by researchers who want to further investigate into research gaps.
- Research gaps such as theoretical gap, population gaps, methodological gaps; methods of identifying them should

be well designed and its understanding should be emphasized.

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