A REVIEW OF RESEARCH THEMES, FRAMEWORKS, METHODS AND FUTURE RESEARCH DIRECTIONS IN CLOUD COMPUTING

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ABSTRACT

The research work seeks to present a systematic analysis of cloud computing research in computer information systems where cloud computing can be implemented to improve business operations. The paper will take stock of literature related to cloud computing environment and focus on the research themes, the frameworks, research methodologies used and the future direction of research areas in cloud computing. The literature reviewed covered a period of five (5) years spanning from 2018 to 2022 and a total of 25 articles (5 from each year) from various journals were used for the analysis. This was due to time bound nature of the study. At the end of the analysis, it came clear that cloud computing research is geared towards technical issues with a decline in business issues, conceptualization of cloud and cloud domain and application. Also the findings indicate that simulation and experiment are the current trend of research methodology used in cloud computing. It also came out clear that all articles leveraged on different frameworks in their study. The research therefore, based on the finds contribute to the body of knowledge in the field of cloud computing by the provision of trends in research methodology, research frameworks, research themes, level of analysis and future directions in cloud computing research.

Keywords: Cloud Computing, Cloud Classification, Cloud Research Frameworks, Cloud Research Themes.

I.   INTRODUCTION

Cloud computing technology a new field in computer science that is gaining grounds in the area of research. Globally, most people have computer and mobile devices that they use to perform transaction through the internet with ease and very fast. Cloud computing provides business solution to cooperate organization through the following service models PaaS, IaaS, SaaS. Since this technology is new and still gaining grounds in research is the need to find out the areas under cloud computing that needs research, areas that researchers are researching in, various themes of cloud computing, methodologies that have been used in these researches.

Cloud computing technological is one that offers advance facilities, platform and software of information technology as Internet services (Nassif et al., 2021). These solutions are provided by cloud service providers to organizations that need their services. The provision of information Technology (IT) solutions to organizations and cooperate bodies as a service than just a mere product is referred to as Cloud computing (Senyo et al., n.d.)

In the field of academia, the cloud technology has gained some ground in research into various aspects of cloud computing such as load balancing, resource management and utilization, security and trust issues, reliability and availability of services in cloud computing. Although research as gained grounds in cloud computing, there are some knowledge gaps in this domain that still needs further review. These gaps identified include

1. Inadequate understanding of understudied cloud computing topics;
2. Insufficient cloud computing research approaches
3. Inadequate understanding of the research's underlying cloud computing frameworks
4. Limited Knowledge in the future direction of cloud computing research

With these gaps identified, if better understanding is gained in these areas, it will serve as springboard for future research studies since there is no clear direction of cloud computing research

A meta-analysis of cloud computing research from 2018 to 2022 is presented in the publication. Based on the year of publication, several databases were searched to discover publications on cloud computing.

II.   RESEARCH QUESTIONS

1. What are the current trends of research themes in cloud computing?
2. What are the most classified theme for the period under review?

3. What are the trends of classified research methodologies used in research during the review period?

4. What is the current research frameworks used in the period under review?

5. What is the current trend of research direction?

III. LITERATURE REVIEW

The first ten years of the new millennium saw the emergence of the Cloud computing technology. The concept is driven by the notion that massive computing and storage farms that are available over the Internet can process information more effectively. 2013 (Marinescu).

Being able to access files, data, programs and third party services from a Web browser via the Internet that are hosted by a third party provider and paying just for the computing resources and services used," according to [Hodson08]. is how cloud computing is defined in Kim's (2009) study.

Water molecules come together to form real cloud in the sky, this concept underpins the definition of cloud computing which is defined as the collection of various networks. The services available on cloud computing are boundary less whenever the need arises to use. Due to the cost of setting up physical infrastructure by an organization they intend a third party service provider for the services of the internet in cloud computing. The organization only pays for the services that they used (Srivastava & Khan, 2018)

A "scalable Information Technology (IT) enabled capacity in which resources of the computer infrastructure are supplied as services through the Internet" is how cloud computing is defined in this study (Sang, 2013; Yu, Wang, Ren, & Lou, 2010).

In their study, Vaquero et al. (2008) described cloud computing as a sizable collection of readily available virtualized resources (such hardware, development platforms, and/or services). To adapt to a changing demand (scaling), these resources can be dynamically adjusted, which also allows for optimal resource use. This resource pool is often utilized under a pay-per-use arrangement, with the Infrastructure Provider providing guarantees through specialized SLAs.

There are various services that are provided through the cloud technology for clients to use. Organizations roll on these services depending on their needs such as computation power, storage, memory, software development tools and software's in general.

Cloud is able to share subscribed resources with client or application in a variety of abilities called services. The functional models that underpins cloud computing are the services models. A thorough search on the web reveals three major service models that is being used across the globe. (Malik, 2018)

These service models include;

1. Infrastructure as a Service (IaaS).

2. Platform as a Service (PaaS).

3. Software as a Service (SaaS).

A. Infrastructure as a Service (IaaS).

In this type of service, clients subscribe to computing power, CPU RAM, network bandwidth, firewalls etc as if it is physically present at the clients organization. The clients have access to physical infrastructure through the cloud. The client pay for the services based the resource allocated and the time frame the resource was used.

B. Platform as a Service (PaaS).

This service provides a platform for clients to used tools made available for developing applications, application deployment, create databases. (PaaS) is similar to IaaS, but also includes operating systems and required services for a particular application. In other words, PaaS is IaaS with a custom software stack for the given application.(1412, 2008)

C. Software as a Service (SaaS).

Software-as-a-service (SaaS) is one of the three main elements of cloud computing service models, together with platform-as-a-service (PaaS) and infrastructure-as-a-service (IaaS). SaaS is built upon PaaS, which is built off IaaS. SaaS has its own particular development practices and computing infrastructure in addition to its own business strategy. SaaS is typically installed on a PaaS system at the system level, as opposed to traditional software, which runs on operating systems. (2014) Tsai et al.

IV.   CLASSIFICATION FRAMEWORK

Although cloud computing is a relatively new technology, classifying literature using it can be difficult because all facets of the subject matter must be taken into account. To accomplish this, the Senyo et al., n.d. classification scheme was modified to match the developments in cloud computing four years later. The classification scheme of Senyo et al., n.d. classified computing into 4 top themes and 25 sub theme and the top theme are business issues, conceptualization, domain and application and technology issues.

Table 1: Literature classification framework in Cloud Computing (Adapted from Senyo et al., n.d.)	
Topics	Subtopics
Technological Issues	Measures Of Performance, Management Of Data Centers, Analytics Of Data, Security, The Architecture Of The Cloud, Service Availability And Reliability, Management Of Resources, Software Development, Cloud Computing, And Machine Learning
Business Issues	Adoption, acceptance, and use of cloud computing, as well as privacy, legal and ethical challenges, operational effectiveness, trust, strategy, and financial concerns, as well as service value
Conceptualizing Cloud Computing	Foundational and Prediction
Cloud Domains and Applications	E-Science, E-Government, E-Education, E-Health, Mobile computing, Knowledge management, Open source software, Simulation Tools, and Social media

The topics that fall under the heading "Technology concerns" take into account articles that relate to different mechanisms and technologies that support cloud computing, with a focus frequently on the technological foundation of cloud computing. Performance Measurements, Data Center Management, Data Management and Analytics, Security, Cloud Computing Architecture, Service Reliability and Availability, Resource Management, Software Development, and Machine Learning in Cloud are some of the subthemes in this category. The category of business issues includes articles that look at how cloud computing has changed the corporate landscape. Cloud computing adoption, acceptability, and implementation, privacy, legal and ethical issues, operational performance, trust, strategy, financial issues, and service value are some of the subthemes for this subject. Senyo and coworkers, undated. The Cloud Domains and Applications topics look at the articles that explore how cloud computing has affected various aspects of our society.E-Science, E-Government, E-Education, E-Health, Mobile computing, Knowledge management, Open source software, Simulation Tools, and Social media are some of the subthemes within this category.

Studies on cloud phenomena are provided through the conceptualization theme, which aids in subject area comprehension. It also aids in outlining the route cloud computing technology will take in the future. The subcategories of this category are Foundational and Prediction.

V.   METHODOLOGY

Research showed that there are four methods of reviewing literature is information systems. These methods are narrative review, descriptive review, vote-counting and meta-analysis. It has been discovered that meta-analysis is found to be underutilized in information systems (IS). To provide statistical evidence to support the studies, they adopted the meta-analysis approach for the review of literature..(King & He, 2005)

In order to back this studies with empirical evidence statistically, we adopted this approach to support the research as compared to the other methods where biasness is likely to be very high

A. Scope of Literature Search

In other to find articles for the study, we resorted to internet and database search and the search text was either cloud or cloud computing and also attached the preferred year to it. Example, cloud computing 2020 to

help pull articles in that year category. Most of the articles came from the Journal of cloud computing which is a journal dedicated for cloud computing. In order to find relevant publications for this review, we looked in databases including IEEE Explore, Springer, DOAJ, SCOPUS, Science Direct, and Google Scholar. To determine which research publications came from reputable, high-quality journals and conferences, Scimago and Scopus databases were examined to cross check.

Based on limiting factors and time constrains, we considered 25 research papers from 2018 to 2022 and the selection criteria was first come first serve basis where paper that are ranked first in the search database are considered and the journal it was published was taken into consideration. Scimago and Scopus journals for ranking journals were used to ascertain whether a journal was predatory or disreputable. More information about the articles can be seen at Appendix 1

Compared to Senyo et al., n.d., we divided the theme into 4 major themes and 28 sub themes, and the methodical division was based on simulation and experiment, qualitative, mixed method, and quantitative as well as no method (Senyo et al., n.d.)

The study of literature form these articles were classified considering the targeted group and stage of study. In information systems, the levels of analysis classification are put into three levels, micro which is based on individuals, meso which is based on organization and industries as target group and macro whose target group is a continent

Finally, this study also classified the research frame work and it was revealed during the classification, many research framework were revealed, however, some articles could not prove the use of a definite framework for their studies and was classified as no framework group.

VI. PRESENTATION AND FINDINGS

Publication Journals

The journals from which articles were gotten from are presented in Apendix 1. The journals for the study are distributed as follows. The Journal of Cloud Computing had the highest number of articles (24%) and this was not surprising to us because the journal is solely dedicated to cloud computing research. The IEEE Access journal, Journal of Big Data, KSII Transactions on Internet and Information Systems journal, Journal of Applied Science and Technology Trends and 2019 International Conference on Intelligent Computing and Control Systems, ICCS 2019 journal had the same number of studies (8% each). Also the following journal recorded the same number of articles(4% each), Applied sciences (Switzerland), International Journal of Computer Applications Technology and Research, PeerJ Computer Science, Electronics (Switzerland), Procedia Computer Science, EAI Endorsed Transactions on Cloud Systems, Journal of Internet Services and Applications, Future Generation Computer Systems

Research Themes

The cloud computing research theme are categorized into four (business issues, conceptualization, domain and application and technology issues) and represented as follows. Technological issues theme during the study had the highest of 88%, followed by domain and application with 8%. Business issues recorded 4 % while's conceptualization themes recorded 0%. The concept of cloud computing per studies is driven most by technology it could been in the study that most of the themes in literature were geared towards technological issues from 2018 to 2022. With this fact, it is seen that most researchers now understand the technological concept of cloud computing and so attention has been drawn to that field of study as compared to the other themes. Fig.1 shows the articles distributed by themes and details of the classification can been seen at Appendix 2.
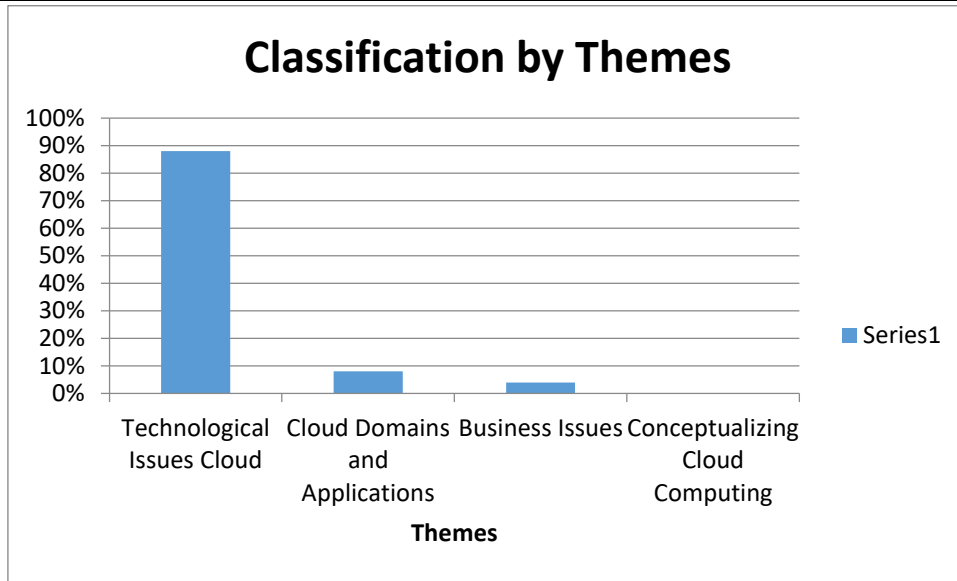
Figure 1: Literature Classification by research themes

Research Methodology

The literature reviewed in is the study reveals that most the articles that are technical in nature used the simulation and experimental approach which recorded the highest number (72%) of articles that used it. This was followed by Descriptive review which recorded 28% whiles Quantitative, Qualitative, Mixed Methods and No methods all record 0%. The figure below (Figure 2) depicts classified by the research method used and further details in Appendix 3.
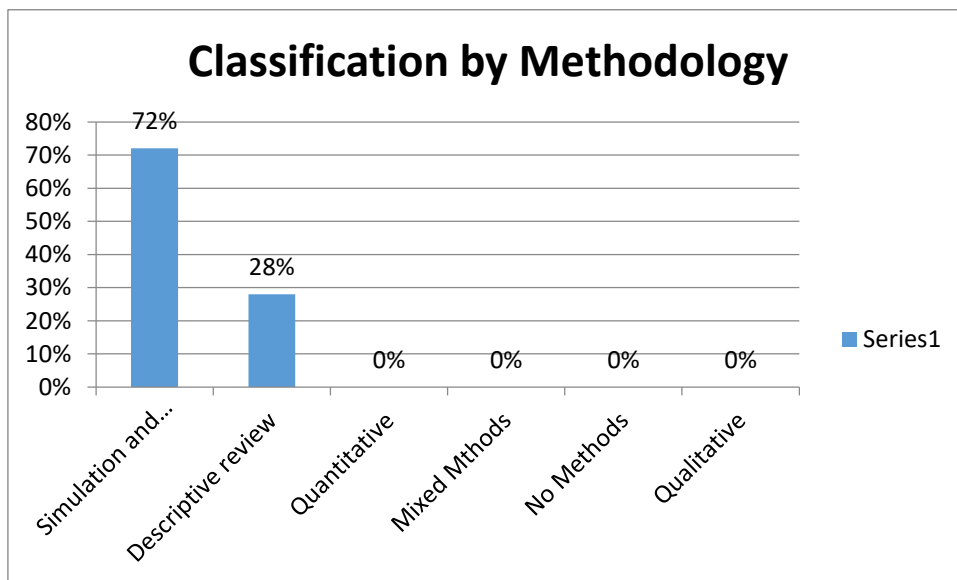

Figure 2: Literature Classification by research methodology

Level of Analysis

The general category scored 100% and per the facts shows that the research was not geared toward individuals (Micro) or countries/organizations (Macro) but only contributing to the body of knowledge in cloud computing.
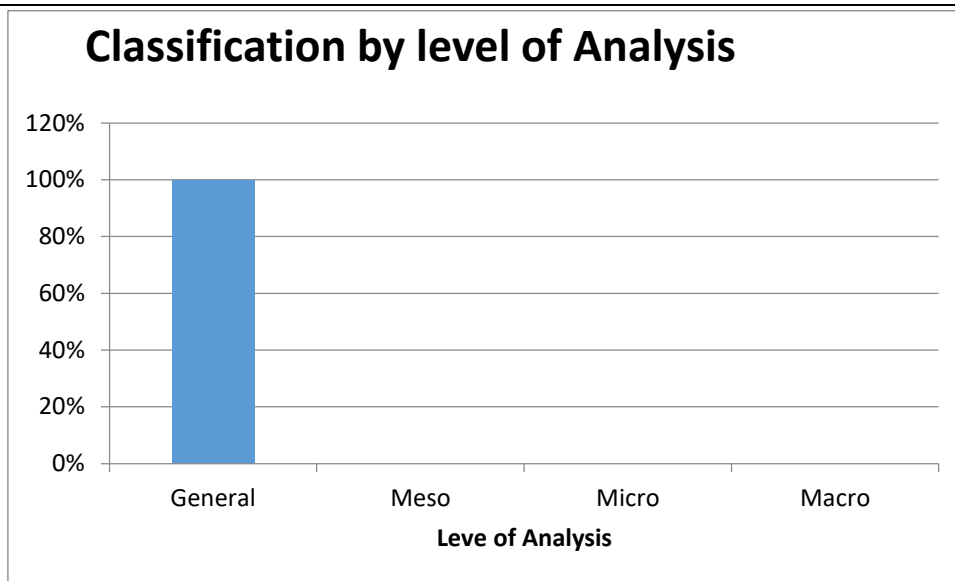
Figure 3: Classification by Level of Analysis

VII.   RESEARCH FRAMEWORK

The research framework used in the various articles were categorized and it revealed that most of the studies did not use frame work for their work. Although majority of the of the studies used the stimulation and experiment method, they did not use any frame work to achieve their results representing 28%. The other frameworks used in some of the studies are Architecture and workflow of CMP evaluation testbed CMP2, Dynamic Resource Aware Load Balancing Algorithm (DRALBA), Energy model, fuzzy set theory, General Equilibrium Theory (GET), IoT Framework for Heathcare, Long-short term memory (LSTM) model, LSTM deep neural network, metaheuristic methods, pricing schemes adopted by Amazon EC2 for IaaS, Quadruple Transfer Learning (QTL) method , Resource Aware Load-Balancing Algorithm (RALBA), Support Vector Machines (SVM) and Fuzzy C-means Clustering (FCM), System model, The automated deployment process for the IBM Cloud, The manual deployment process for the IBM Cloud, workflow model and resource model. Three of the articles used two frameworks for their studies. Table 2 shows the various frameworks used in the studies.

Table 2: Classification by Framework

Classification by Framework		
Research Framework	**No of Articles Classified**	**Percentage**
Architecture and workflow of CMP evaluation testbed CMP2	1	4%
Dynamic Resource Aware Load Balancing Algorithm (DRALBA).	1	4%
Energy model	1	4%
fuzzy set theory	1	4%
General Equilibrium Theory (GET)	1	4%
IoT Framework for Heathcare	1	4%
Long-short term memory (LSTM) model.	1	4%
LSTM deep neural network	2	8%
metaheuristic methods	1	4%
pricing schemes adopted by Amazon EC2 for IaaS	1	4%
Quadruple Transfer Learning (QTL) method	1	4%

Resource Aware Load-Balancing Algorithm (RALBA)	1	4%
Support Vector Machines (SVM) and Fuzzy C-means Clustering (FCM)	1	4%
System model	1	4%
The automated deployment process for the IBM Cloud	1	4%
The manual deployment process for the IBM Cloud.	1	4%
workflow model, resource model	1	4%
No framework	7	28%
Total	25	

VIII.   DISCUSSION

We explain the study's findings in this section, which also contains research themes, research methodology, levels of analysis, and research framework.

A. Publication Journals

It was noticed that most of the studies were drawn from the Journal of Cloud Computing((Ashawa et al., 2022), (Panwar et al., 2022), (Khojasteh Toussi et al., 2022), (Dimitri, 2020), (Lu et al., 2020), (Afzal & Kavitha, 2019)) meaning that the area of cloud computing is gaining ground in its domain journal. However the field of cloud computing cut across many other journals as depicted by the study as this include IEEE Access((Nassif et al., 2021), (Nabi et al., 2021), (Abbasi et al., 2019)), Journal of Big Data((Iranpak et al., 2021),), KSII Transactions on Internet and Information Systems((Hussin et al., 2021), (Zhang et al., 2020), (Tariq, 2019)), Journal of Applied Science and Technology Trends((Alzakholi et al., 2020)), 2019 International Conference on Intelligent Computing and Control Systems, ICCS 2019((Patel & Bhalodia, 2019)), Electronics (Switzerland)((Minh Dang et al., 2019)), Procedia Computer Science((Marwan et al., 2018)), EAI Endorsed Transactions on Cloud Systems((Priyadharshini et al., 2018)), Journal of Internet Services and Applications((Silva et al., 2018)), Future Generation Computer Systems ((Juarez et al., 2018)), Proceedings of the International Conference on Cloud Computing Technology and Science((Serhiienko & Spillner, 2018)), International Journal of Computer Applications Technology and Research((Muchori & Mwangi, 2022)), Applied sciences (Switzerland) ((Lăcătuşu et al., 2022)), PeerJ Computer Science((Sana & Li, 2021)). From the publication outlets it can be seen that cloud computing cuts across other disciplines like Big Data, Information systems, Computer Science, Applied Sciences and Internet of Things. In Senyo et al., n.d. study, the journal with the hiest number of publication was found to be Journal of Cloud Computing: Advances, systems and Applications but per this current study, the Journal with the most articles in cloud computing is Journal of Cloud Computing. This we believe is due it its dedication to only cloud computing articles and foresee that this journal will overtake all the Journals as far as cloud computing is concern.

B. Research Themes

The study analyzed the research themes based on four major themes and this include business issues, conceptualization, domain and application and technology issues. The study revealed that most of the articles were geared toward Technological issues and the central point of concentration was on issues of Load Balancing, Resource Allocation((Juarez et al., 2018), (Patel & Bhalodia, 2019), (Afzal & Kavitha, 2019), (Shukur et al., 2020), (Nabi et al., 2021), (Ashawa et al., 2022), (Khojasteh Toussi et al., 2022), (Muchori & Mwangi, 2022)). As Cloud computing is gaining grounds, ore companies and adopting this technology to run their business since the cost involved is relatively cheaper than setting up your won Data centers to manage your Technological need. The central point about these studies is the provide an efficient algorithm to that will efficiently allocates resources in the cloud environment there by making sure other servers are not idle whiles others are over loaded with a lot of task. Some of the studies adopted machine learning((Nassif et al., 2021), (Ashawa et al., 2022), (Muchori & Mwangi, 2022)) as a tool to develop a model that will efficiently allocate resources in the cloud environment. It can be seen that under the technological issues, load balancing, resource allocation and scheduling are most dominant studies and can be concluded that in the area of research from

2018 -2022, the researches that are coming up are towards load balancing, resource allocation and scheduling. Others articles reviewed showed a number of studies done in Security of cloud. One study added a third layer, the CloudSec module, to the traditional two-layered design to lower the risk of the potential leak of medical information while classifying picture pixels more effectively using Support Vector Machines (SVM) and Fuzzy C-means Clustering (FCM). Another paper created a software architecture for data aggregation security (Nassif et al., 2021), (Marwan et al., 2018), and (Silva et al., 2018). Additional papers ((Dimitri, 2020), (Hussin et al., 2021), looked at concerns of Price and cost in the cloud environment. Some studies was found within the Cloud Domains and Applications ((Minh Dang et al., 2019), (Iranpak et al., 2021)). These studies delved into application of cloud in Internet of Thing, cloud in healthcare all was geared toward patient's privacy, security and threats issues

A paper theme focused on Business Issues ((Priyadharshini et al., 2018)) and the study revealed that in the cloud environment, cloud providers don't know who ever access their data and most often people who are not authorized get access to data. To curtail this problem the paper proposed a Trust Management Service (TMS) to stop such unauthorized access to data.

It can been that from the studies of (Senyo et al., n.d.It was clear that cloud computing was initially focused on adoption but now a different trajectory has been drawn. This study reveals that cloud computing now focuses on load balancing, resource allocation and scheduling issues.

C. Research Methodology

The area of cloud computing is receiving attention now due high demands of cooperate organization due to cost. Most of the studies reviewed in this paper did not use mixed methods, Qualitative, Quantitative. All the papers reviewed used either descriptive review ((Nassif et al., 2021), (Sana & Li, 2021), (Shukur et al., 2020), (Dimitri, 2020), (Alzakholi et al., 2020)) or simulation and experimental approach with the simulation being the most prevalent in the article. ((Dimitri, 2020), (Iranpak et al., 2021), (Nabi et al., 2021), (Ashawa et al., 2022), (Lăcătuşu et al., 2022), (Khojasteh Toussi et al., 2022), (Lu et al., 2020)). Since the majority of research attempted to address load balancing, resource allocation, and scheduling concerns, this may be because of the technical nature of cloud computing. A few of the papers used the descriptive approach and then focus was in cloud securities issues, trust and privacy in relation health. Some used the descriptive approach to discuss cloud security using machine learning. This studies gives a clear cut information that the trend of methodology used in cloud computing recently is the stimulation and experiment and predict that more research will continue to emerge in this area.

D. Research Framework.

Per the review of literature, it was found that research frameworks, models and theory were used in the various articles. However, some of the articles had no clear framework was put in the "No framework" group. The frameworks identified in the study include the following Energy model ((Juarez et al., 2018)), fuzzy set theory ((Tariq, 2019)), General Equilibrium Theory (GET) ((Hussin et al., 2021)), IoT Framework for Heathcare, ((Minh Dang et al., 2019)), Long-short term memory (LSTM) model ((Ashawa et al., 2022)), pricing schemes adopted by Amazon EC2 for IaaS ((Dimitri, 2020)), Quadruple Transfer Learning (QTL) method ((Zhang et al., 2020)), Support Vector Machines (SVM) and Fuzzy C-means Clustering (FCM) (), System model((Marwan et al., 2018)), workflow model and resource model ((Khojasteh Toussi et al., 2022)), No framework((Muchori & Mwangi, 2022), (Sana & Li, 2021), (Nassif et al., 2021), (Afzal & Kavitha, 2019), (Patel & Bhalodia, 2019)). It is observed from the study that most of the articles employed different theories to studies which indicate that there is no single theory a group of frameworks that are dedicated to cloud computing research. Also some papers did not use a clear cut framework in their articles which indicate that this field in still gaining grounds in research works. Its gives room for further research to be conducted to unveil the frameworks that will be standard tool for cloud computing research.

E. Level of Analysis

In this study, as we reviewed literature, the level of analysis used for all the articles fell under the general category. This means that the level of analysis was not in terms of individuals, organization, national and even globally. These reveal that current articles emerging from the cloud computing domain are just contributing to

the body of knowledge and that further studies be conducted to get clear guide as far as analysis of cloud computing research is concerned.

IX.   CONCLUSION

25 articles have been thoroughly reviewed from various journals in cloud computing and journals from other fields as indicate in Appendix 1 using a meta-analysis approach. This study checked out the new trends of cloud computing literature, current research themes, current research methodologies used in literature, the current trend of research framework used in cloud computing research over a five (5) year period (218-2022) and also find out the gaps yet to be addressed.

During the study, it came out clear that the themes that are technical in nature is still on the increase as compared to business issues and cloud domain applications which has seen a decline over the years under review. No articles was recorded for conceptualization of cloud computing and this is very critical for its adoption by cooperate organization. We therefore request for further studies on cloud computing themes on the foundation of cloud and its future predictions. We also call for further research into business issues themes such as Trust, Security, and privacy on business issues themes since articles on such themes have declined over the past years.

Furthermore, research methodology is critical to the success of every research. During this study, it was revealed that no research in the articles reviewed used research methodologies like mixed methods, qualitative and quantitative. However, it was realized that most of the articles leveraged on simulations and experiment research methodology with few articles using descriptive review methods. This point to the fact that more research is gaining grounds using the simulation and experiment methods which develops an efficient model or algorithm to solve problems the articles is pointing at. We therefor call for further studies to get a clear cut research methodology that can leverage on two or more methodologies to solve a problem in cloud computing domain.

Notably, it was realized that all the articles leveraged on different individual framework to solve their problems. We call for more studies to propose a research framework that is tied to a methodology for uniformity in future research works.

At the end of the study, it came out clear that the research has made contribution to the body of knowledge the body of knowledge in cloud computing research. First of all the study took stock of literature and pointed out the trends of cloud computing research over the past five year. With these facts at hand, it shows the areas that needs more research studies such as research methodology and level of analysis. Furthermore, the research revealed the areas that further research be conducted in the Technological themes which are geared towards solving technical issues of cloud computing and tech giants can leverage on the research to improve their operation performance. Last but not least, the research has offered a clear and distinct understanding that acts as a bridge to a deeper understanding of the field of cloud computing as well as future research.

APPENDIX 1							
Distribution of Journals of Publication							
Journals	2018	2019	2020	2021	2022	Totals	Percentage
International Journal of Computer Applications Technology and Research					1	1	4%
Journal of Cloud Computing		1	2		3	5	20%
Applied sciences (Switzerland)					1	1	4%
PeerJ Computer Science				1		1	4%
IEEE Access				2		3	12%
Journal of Big Data			1	1		2	8%
KSII Transactions on Internet and Information Systems		1		1		2	8%

Journal of Applied Science and Technology Trends			2			2	8%
2019 International Conference on Intelligent Computing and Control Systems, ICCS 2019		2				2	8%
Electronics (Switzerland)		1				1	4%
Procedia Computer Science	1					1	4%
EAI Endorsed Transactions on Cloud Systems	1					1	4%
Journal of Internet Services and Applications	1					1	4%
Future Generation Computer Systems	1					1	4%
Proceedings of the International Conference on Cloud Computing Technology and Science, CloudCom	1					1	4%
Totals	5	5	5	5	5	25	100%

Appendix 2

Classification by Themes		
Themes	No of Articles Classified	Percentage
Technological Issues Cloud	22	88%
Cloud Domains and Applications	2	8%
Business Issues	1	4%
Conceptualizing Cloud Computing	0	0%
Total	25	

Appendix 3

Classification by Research Methodology		
Research Methodology	No of Articles Classified	Percentage
Simulation and experiment	18	72%
Descriptive review	7	28%
Quantitative	0	0%
Mixed Methods	0	0%
No Methods	0	0%
Qualitative	0	0%
Total	25	

Appendix 4

Classification by Level of Analysis		
Level of analysis	No of Articles Classified	Percentage
General	25	100%
Meso	0	0%
Micro	0	0%
Macro	0	0%
Total	25	

X.   REFERENCES

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