

**KWAME NKRUMAH UNIVERSITY OF SCIENCE
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FACULTY OF ARTS
COLLEGE OF ART AND SOCIAL SCIENCES

**SCHOLARLY COMMUNICATION IN GHANA: AN ASSESSMENT OF THE
STRENGTH OF JOURNAL PUBLICATION**

Johnson Kwame Wor
B.F.A. (Hons.) Graphic Design

A Thesis submitted to the School of Graduate Studies,
Kwame Nkrumah University of Science and Technology, Kumasi,
in partial fulfillment of the requirements for the award of the degree of

MASTER OF ARTS IN PUBLISHING STUDIES

January, 2013

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DECLARATION

I, Johnson Kwame Wor, hereby declare that this thesis, "Scholarly Communication in Ghana: An Assessment of the Strength of Journal Publication", consists entirely of my work produced from research undertaken under supervision and that no part of it has been published or presented for another degree elsewhere, except for the permissible excerpts/references from other sources, which have been duly acknowledged.

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ABSTRACT

This study examines the strength of scholarly communication through journal publication in Ghana. Areas such as the economics, editorial, production, marketing and distribution of scholarly journal publication were examined. The challenges and opportunities in the Ghanaian scholarly publication process are brought to the fore and recommendations made to improve upon them. In all, 232 authors (researchers) and 14 scholarly journal editors drawn from the major research institutions in Ghana have taken part in the study. The mixed research approach which combines the qualitative and the quantitative research methods have been adopted for the study. Questionnaires and structured interview guides have been used to collect primary data from respondents. Content analyses have also been done on some sampled Ghanaian scholarly journals to establish the validity of claims made by the respondents. Lack of funding, difficulty in accessing data, unavailability of journals in varied subject areas, ill-equipped laboratories and high cost of printing are some of the major problems for stakeholders of research activities in Ghana. Editors and reviewers possess a minimum education qualification of Masters'degrees in their respective fields with an average working experience of six years. These editors and reviewers are conscious of quality and the need for credibility of their respective journals hence they put best practices in place to ensure that. Ghanaian journals, though little

known domestically, enjoy wide international visibility and acceptance and their quality is also of an appreciable standard. Editors must endeavour to publish more in the electronic domain for two basic reasons, (i) authors prefer it and (ii) it is economical. Institutions in Ghana must also begin to host journals in their training disciplines to provide more options for authors to publish their research findings. Government and organisations should assist research activities in Ghana financially so the desired benefits can be fully derived.



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TABLE OF CONTENTS

Title Page	i
Declaration	ii
Abstract	iii
Acknowledgements	v
Table of Contents	vii
List of Tables	xiv
List of Figures	xv
List of Abbreviations	xvii

CHAPTER ONE

INTRODUCTION

1.1 Background to the study	1
1.2 Statement of the Problem	4
1.3 Objectives of the study	6
1.4 Research questions	6
1.5 Delimitation of the study	7
1.6 Importance of the Study	8
1.7 Definition of terms	8
1.8 Organisation of the rest of the chapters	12

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1	Introduction	13
2.2	Overview of publishing	13
2.3	Scholarly or scientific publishing	15
2.4	The Ghanaian publishing industry	17
2.5	Importance of scholarly publications in tertiary/ research Institutions	19
2.6	Historical background of journal publication	23
2.7	Types of journals	24
2.8	Journal production stages	26
2.9	Major concerns in journal publication	28
2.9.1	The economics of journal publication	28
2.9.1.1	Cost analysis of print and electronic journal publication	33
2.9.2	Editorial concerns of journal publication	36
2.9.2.1	Editing and peer reviewing of scholarly journals	37
2.9.2.2	Pool of journal editors and peer reviewers	41
2.9.2.3	Throughput time for journal publication	42
2.9.3	Design and production concern of journal publication	44
2.9.3.1	Online publication of journals	45

2.9.3.2 Print publication of journals	47
2.9.4 Legalities in scholarly publication	48
2.9.4.1 Intellectual Property law and its enforcement	48
2.9.4.2 Referencing and acknowledgements	51
2.9.5 Marketing and distribution of scientific journals	53

KNUST

CHAPTER THREE

METHODOLOGY

3.1 Introduction	56
3.2 Research process and design	56
3.3 Development of instruments	58
3.3.1 Preliminary information gathering	59
3.3.2 Questionnaire design	60
3.3.3 Pre-testing of the questionnaire	62
3.4 Population, sampling and data collection	62
3.4.1 Population	62
3.4.2 Sampling	64
3.4.3 Data collection	66
3.5 Content analysis	67
3.6 Data editing and coding.....	69
3.7 Data analysis plan	70

CHAPTER FOUR

DISCUSSION AND ANALYSIS OF FINDINGS

4.1	Introduction	71
4.2	Demographic discussions on respondents	72
4.2.1	Demographic information of editors.....	72
4.2.2	Demographic information of authors (researchers)	74
4.2.3	Representation by type of tertiary institution of respondents	76
4.3	Working with journals: Authors' perceptions, preferences and motivations	77
4.3.1	Usefulness of scholarly journals	78
4.3.2	Preference of print or electronic source of journal	79
4.3.3	Research publications in scholarly journals	80
4.3.4	Motivational factors for Ghanaian authors.....	82
4.3.5	Factors that influence the choice of journals by authors	83
4.4	Access and usage of scholarly journals in Ghana	84
4.4.1	Access and usage of data for research in Ghana	85
4.4.2	Sources of scholarly journals used by Ghanaian authors	86
4.4.3	Acquisition of journals by authors (researchers)	87

4.5	Competence of Ghanaian scholarly journal editors	88
4.5.1	Educational background of the editors	88
4.5.2	Experience of editors	89
4.5.3	Selection criteria for peer reviewers by the editors	90
4.6	Work specification and satisfaction of Ghanaian editors	92
4.6.1	Motivational factors for editors	93
4.6.2	Assessment of satisfaction of reward by editors	94
4.7	Editing and publication of Ghanaian journals	95
4.7.1	Mode of journal publication	96
4.7.2	Challenges associated with mode of publication	97
4.7.3	Rejection rate of articles by journals	98
4.8	Scholarly journal publication throughput in Ghana	101
4.8.1	Average length of time spent on an article	102
4.8.2	Average number of papers edited per editor per year	103
4.8.3	Challenges faced by Ghanaian authors	104
4.9	Economics of scholarly publications in Ghana	109
4.9.1	Sources of funding for the publication of journals	109
4.9.2	Profitability of scientific journal publications in Ghana	111
4.9.3	Major motivations for scholarly journal editors in Ghana.....	112

4.10 Marketing, distribution and visibility of Ghanaian journals	113
4.10.1 Audience for Ghanaian journals	113
4.10.2 Marketing strategies adopted for Ghanaian Journals	114
4.10.3 Visibility of Ghanaian journals	116
4.11 Quality assessment of Ghanaian research outputs	117
4.11.1 Assessment of Ghanaian research works by authors	118
4.11.2 Measures put in place to ensure quality of research works	120
4.11.3 Assessment of areas of Ghanaian journals that need improvement	123

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction	125
5.2 Summary of findings	125
5.3 Conclusions	130
5.4 Recommendations	132

BIBLIOGRAPHY	134
APPENDICES	148

KNUST



LIST OF TABLES

2.1	Proportion of costs in journal publication	33
2.2	Common file formats for electronic publishing	45
2.3	Global piracy rate between 2003 – 2009	49
4.1	Distribution of gender by age of respondents	73
4.2	Age distribution of respondents by research Category	75
4.3	Assessment of the importance of journals against medium	78
4.4	Preferred sources of research information by category of respondents	80
4.5	Publication of scholarly article by category of respondents	81
4.6	Access to journal articles by category of respondents	88
4.7	Distribution of educational level by specialization of editors	89
4.8	Results of content analysis	119

LIST OF FIGURES

2.1	Simple linear (science-push) model	21
2.2	Chain-link model	22
2.3	The growth of active, peer reviewed, learned journals since 1665	24
2.4	Journal publishing cycle.....	27
2.5	Editorial structure of journal publication	39
2.6	Summary of main referencing styles	52
3.1	Major population for the study	64
4.1	Institutional affiliation of editors	74
4.2	Institutional affiliation of authors	76
4.3	Distribution of respondents by institution	77
4.4	Rank of motivational factors for journal publication	82
4.5	Rank of factors influencing the choice of journals for publication	84
4.6	Sources of information for research	85
4.7	Sources of journals used by Ghanaian authors	86
4.8	Editing experience of editors	90
4.9	Selection criteria for peer reviewer for journals	91
4.10	Type of remittance given to Ghanaian journal editors.....	94
4.11	Satisfaction of reward	95

4.12	Mode of publication	96
4.13	Affirmation of publication challenges by editors	98
4.14	Rate of rejection of submitted articles	100
4.15	Reasons for non-publication of submitted articles	100
4.16	Average time spent working on article by editors	103
4.17	Average number of articles edited per year	104
4.18	Authors' challenges in research and publication ...	106
4.19	Length of time for article preparation for journal publication	108
4.20	Sources of funding for operation of journals	111
4.21	Assessment of profitability of scholarly publication in Ghana	112
4.22	Market target for journals	114
4.23	Marketing strategies for journals	115
4.24	Extent of exposure/visibility of Ghanaian journals	116
4.25	Knowledge of local journals by Ghanaian authors	117
4.26	Assessment of research publications in journals in Ghana	118
4.27	Peer review method adopted for journal publication	121
4.28	Availability of guidelines (house style) for journals	123
4.29	Recommendation for improvement of Ghanaian journals	124

ABBREVIATIONS USED



AD:	Anno Domino (in the year of our Lord Jesus Christ)
ADPE:	Accelerated Development Plan of Education
AFSJG:	Agricultural and Food Science Journal of Ghana
AJOL:	African Journals on-line
APA:	American Psychological Association
GPC:	Ghana Publishing Corporation
CD-ROM:	Compact Disc – Read Only Memory
CODE:	Canadian Organisation for Development through Education
CSIR:	Council for Scientific and Industrial Research
DOI:	Digital Object Identifier
Et al:	“et alii” (masculine plural) or “et aliae” (feminine plural)
Fig:	Figure
GBPA:	Ghana Book Publishers Association
GIMPA:	Ghana Institute of Management and Public Administration
GJDS:	Ghana Journal of Development Studies
GJS:	Ghana Journal of Science
GJSA:	Ghana Journal of Agricultural Science
GLJ:	Ghana Library Journal
GMJ:	Ghana Medical Journal
GSA:	Ghana Science Association

HTML:	Hypertext Mark-up Language
ICT:	Information and Communication Technology
IP – Address:	Information Processing Address
ISSN:	International Standard Serial Number
JAST:	Journal of Applied Science and Technology
JBR:	Journal of Business Research
JGSA:	Journal of Ghana Science Association
JPEG:	Joint Photographic Expert Group
JOPOG:	Journal of Polytechnics in Ghana
JUST:	Journal of University of Science and Technology
KNUST:	Kwame Nkrumah University of Science and Technology
LI:	Legislative Instrument
MLA:	Modern Language Association
MPhil:	Master of Philosophy
NGO:	Non Governmental Organisation
ORI:	Office of Research Integrity
PASA:	Publishers Association of South Africa
PDF:	Portable Device Format
PhD:	Doctor of Philosophy
PHS:	Public Health Service
RRIAS:	Research Review of the Institute of African Studies
SGML:	Standard Generalized Markup Language

SPSS:	Statistical Package for Social Sciences
UCC:	University of Cape Coast
UG:	University of Ghana
USA:	United States of America
WAJAE:	West African Journal of Applied Ecology
WWW:	World Wide Web
XML:	Extensible Markup Language
RTF:	Rich Text Format
TIFF:	Tagged Image File Format
GIF:	Graphics Interchange Format
EPS:	European Physical Society
VRML:	Virtual Reality Modeling Language
WAV:	Wave
CSIR – INSTI:	Council for Scientific and Industrial Research – Institute for Scientific and Technological Information



CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Research, and for that matter scholarly communication, is a vital tool, towards the development of any nation or society. The development of technologies, science, culture and almost every facet of our lives depends largely on the extent of research and its utilisation. It is also necessary that research findings are duly and adequately communicated for the benefit of the larger society. Channels such as books, journals, magazines, newspapers and letters among others are commonly used to relay the findings of research for the enrichment of life.

Scholarly publishing is the nucleus for the dissemination of research findings and thus forms the spotlight of this study. The raw materials in terms of ideas and knowledge for the industry, academia, politics, agriculture and other vital sectors of the economy emanate to a greater extent from scholarly publishing. It is not surprising however that the scholarly ability of an individual and the integrity of institutions of higher learning are rated based on research outputs and contribution to knowledge. In affirming the importance of journals over other channels of scholarly discourse, Solomon (2007) states that journals act as a means of

tying a scholarly community together and thereby maintaining community standards in the conduct of research. Stranack (2006) indicates that journals provide a new and unique record of scholarly activity. Research publications in journals by academics are therefore very essential towards the attainment of excellence in an academic environment.

Comparatively, scholarly publishing in Africa, according to many scholars is not as prominent as it is case in other regions of the world. The situation in the Sub-Saharan Africa, which includes Ghana, is even worse. Ondari-Okemwa (2007) identifies that scholarly publications coming from Sub-Saharan Africa and the entire African continent lack visibility. He again stressed that for the period between 1997 and 2007, South Africa, the leading producer of scholarly publication in Africa, recorded less than half the scholarly publication of the United States in the year 2006 alone. This situation is blamed on low reading culture, economic and technological barriers, lack of a common language, environmental inhibitions such as lack of free speech or freedom of the press, and illiteracy, among others (Adebowale, 2001 & Ondari-Okemwa, 2007). Journals, which serve as conduits to scholarly communications are not adequate enough to serve the intellectual demands in the African regions. While Makotsi (1999) laments that an African journal is yet to secure a reputable position among

journals published in other regions of the world, Jaygbay (1998) recounts the continual decline of active scholarly journals in Africa.

Many studies have sought to outline the factors that constitute a successful scholarly publication through journals from varied perspectives. A lot of factors contribute to the success of a scholarly journal and by extension, its integrity. Some of these factors include economic, production and editorial inputs, marketing and distribution strategies put in place for the journals. In this study therefore, the strength of scientific publications through journals in Ghana will be assessed to determine whether the low numbers of scholarly publications recorded by other researchers is still the case or there is an improvement.

It is necessary that this study is carried out in order to duly send a signal towards the reformation or strengthening of scholarly activities in the country and Africa at large based on the findings derived. This is in support of Jaygbay's (1998) assertion that journal publication in Africa should evolve out of the understanding that "we should not expect or rely on others to make utterances on our behalf". He maintains that the books and journals that contain these utterances which represent our voice must have to come from us. This is because, "African scholars best understand the topical dynamics of socio-political and economic issues which need to

be captured and recorded by way of scholarly publishing, and scholars from other regions may not have any research interest in Sub-Saharan Africa, and therefore not inclined to view scholarly publications from the region as being of any significance in their research” (Ondari-Okemwa, 2007).

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1.2 STATEMENT OF THE PROBLEM

The extent of a nation’s or a continent’s research capability determines its level of development. The idea of journal publication to communicate research findings is important and must be the prime concern of every community that seeks development.

The research findings published in journals serve as major sources of information or knowledge for the development of new technologies or innovations which ultimately translate into socio-economic benefits for a nation, (Martin and Tang, 2007). Faculty members are also promoted based on their research publications in journals. Certain journals receive much attention and the researches published in them are rated higher than others. This is due to the research strengths of the contents of these journals and niche of integrity and credibility carved for them by the stakeholders who contribute to their publications.

Many studies seek to suggest that scholarly communication in Africa and for that matter, Ghana, is weak. For instance, Makotsi (1999) indicated that journal publication and indeed, scholarly communication in Africa is not as prominent as is the case in other regions of the world. The situation in Ghana is not different from the rest of the African region, as journals produced here do not earn the same attention and recognition as those produced elsewhere even by the scholarly community within the nation. Technology is fast advancing and Internet accessibility is now commonplace for scholars in Africa and Ghana in particular. As a result, there is likely to be a change in terms of the quality of research and its outputs in Ghanaian journals and by Ghanaian scholars.

This study seeks to assess the current strength of scholarly communication through journal publication in Ghana and appropriately make recommendations since it is not clear how scientific publishing is faring in Ghana.

Aspects of journal publication which are of vital concern such as editorial, production, economic and marketing are given prime consideration. These, the researcher believes, form the critical areas which when addressed properly, will lead to greater strength, credibility and recognition of Ghanaian research outputs.

1.3 OBJECTIVES OF THE STUDY

1. To assess the strength of scholarly publication through journals in Ghana based on its editorial, production, marketing and economic concerns.
2. To investigate the challenges and opportunities that confront stakeholders involved in scholarly communication in Ghana.
3. To examine the research strengths in the various levels of tertiary education and the measures put in place to ensure quality in Ghanaian scholarly journals.

1.4 RESEARCH QUESTIONS

1. The major areas of concern as observed by the researcher in analysing the strength of the Ghanaian scholarly journals will be interrogated as follows:
 - *Economic Concerns:* How are journal publications funded in Ghana and what are the prospects of scientific publishing in Ghana?
 - *Editorial Concern:* How are editors and peer-reviewers recruited? What is the publication lags for these journals? How competent are the editors for their jobs?

- *Design and Production Concerns:* What is the mode of publication for the journals? How do Ghanaian scholars perceive the strength of Ghanaian journals?
 - *Marketing and Distribution Concerns:* What factors will motivate a Ghanaian scholar to publish in a local journal? Where will scholars in Ghana prefer to receive their scholarly journals? What marketing strategies are adopted for the journals? To what extent are Ghanaian journals visible?
2. Which factors inhibit effective scientific publications or communications in Ghana?
 3. What are the research strengths of the various levels of institutions of higher learning in Ghana and what measures are put in place to ensure quality output of research works by Ghanaian editors and publishers?

1.5 DELIMITATION OF THE STUDY

Scholarly communication has a broad outlet but this study focuses on academic or scientific journal publication in Ghana. Though editors contacted for the study cut across affiliations to particular journals in Ghana, the researcher sampled only some of the journals represented on African Journal on-line for the content analysis.

The main population for the study is scholarly journal editors and

scholars who undertake research in various tertiary institutions across the country. This study was carried out within two academic semesters.

1.6 IMPORTANCE OF THE STUDY

1. Findings of the study will create awareness for stakeholders to improve upon scientific publication in Ghana.
2. Findings of the study will serve as an important source of information for institutions or bodies who are either into scholarly publishing or are yet to engage in it.
3. Recommendations of the study will assist in calling authorities or stakeholders into action, who have reneged on their responsibilities so far as ensuring quality of scholarly activities within their jurisdiction is concerned.
4. Findings of the study, conclusions and recommendations will serve as both a good source of reference and directions for future research endeavours. Recommendations will also undoubtedly help strengthen scientific publishing in Ghana.

1.7 DEFINITION OF TERMS

Abstracts: A summary of a research article, thesis,

review, conference proceeding or any in-depth analysis of a particular subject or discipline used to help the reader quickly ascertain the paper's purpose.

Assessment: A process of gathering, analysing, interpreting and using information.

Copyright: A legal concept, enacted by most governments, giving the creator of an original work exclusive rights to it, usually for a limited time.

Editing: The process of selecting and preparing written, visual, audible, and film media with the intention of correcting, condensing and making it more accurate and complete.

Encryption: A process of converting data to unreadable format to exclude use by unauthorised people.

Falsification: A misrepresentation especially by embellishing a true memory with false details especially with regard to scientific data.

Firewalls: Related computer programme used to help keep a network secure.

Footnotes: Notes at the foot of the page meant to give credit to sources of materials borrowed.

Hardware: The physical components of a personal computer

<i>House style:</i>	Guidelines adopted by a publishing house or editors for publications which must be followed by authors to arrive at consistency or uniformity of style.
<i>Internet:</i>	An openly available computer network made up of a Worldwide network of computer networks using TCP/IP network protocols to facilitate information transmission and exchange.
<i>Journal:</i>	A peer-reviewed periodical in which scholarship relating to an academic discipline or disciplines.
<i>Libel:</i>	A law on false and malicious publications for the purpose of defaming people.
<i>Manuscript:</i>	A literary work submitted for publication.
<i>Model:</i>	A system or thing used as an example to follow or imitate.
<i>Monographs:</i>	A detailed and documented essay on a particular subject.
<i>Obscenity:</i>	Any statement or act that strongly offends the prevalent morality of a time within a particular locality.
<i>Online:</i>	Being connected to a computer network or accessible by computer.
<i>Password:</i>	A secret word or phrase known to only a restricted group in accessing a computerized system.

Patent right: The exclusive right given to a person for an invention.

Peer review: Evaluation of a colleague's work especially scholarly work.

Piracy: An unauthorised use of another person's scholarly work, (a form of plagiarism).

Plagiarism: The act of taking and presenting someone's work or idea as if it were one's own without due acknowledgement.

Pre-press: Every activity done on manuscripts before printing or final publication is carried out.

Publishing: The act of putting a piece of writing into print.

Referee: Someone who reads a manuscript and judges its suitability for publication.

Research: Investigation done systematically to establish facts.

Sedition: An illegal action of stirring a resistance to lawful authority and tending to disrupt or overthrow a government.

Software: Written programme, procedure or rules that govern the operation of a computer or computerized system.

Sub-Saharan Africa: Regions of Africa located south of the Sahara Desert.

Throughput: The amount of information passing through a system from input to output with respect to time.

1.8 ORGANISATION OF THE REST OF THE CHAPTERS

Chapter Two provides a review of related literature on the study. In Chapter Three, the research methodologies and strategies adopted for the study were discussed. The subsequent chapter (four) deals with the data gathered in the study, its analysis and interpretation to unravel the situation on the ground pertaining to the study. Chapter Five provides a summary, conclusion and recommendation to the study.



CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

This chapter reviews the available literature in relation to the study. It states both the theoretical and the empirical review of the topic under consideration – “Scholarly Communication in Ghana: An Assessment of the Strength of Journal Publication.” In this review, the related literature shall be looked at under the broader headings; Publishing, Scholarly Communications, Journal Publications and the major areas of concerns raised with regard to journal publication. These, the researcher believes will tackle the major areas that the research questions of this study seek to address and ultimately meet the set objectives of the study.

2.2 OVERVIEW OF PUBLISHING

Publishing, indeed, had played and still play significant roles in the area of civilization through literacy since its inception around the 19th century. The publishing industry was strengthened as a result of the invention of writing, paper and printing in the 4th millennium, 6th century and AD 105 respectively (Encyclopaedia Britannica, 2011). The World Book Encyclopaedia (2001) defines publishing as the process that endorses the

preparation, manufacturing, and distribution of products such as books, magazines, newspapers among others, either in print or electronic form.

In the 20th century, publishing became a huge industry employing a lot of people and making a gigantic stride in the economies of many nations that invested in it. America, India, Britain and most countries in Europe dominated the publishing industry, (Encyclopaedia Britannica, 2011). African countries were not aptly represented in the early discussion regarding the publishing industry; they are catching up now albeit at a very slow pace. While Makotsi (1999) indicates that Africa did not contribute effectively to the publishing industry due to a weak institutional base, poverty, lack of expertise, and illiteracy, Bgoya (1992) blames the situation on infrastructural constraints. Adebowale (2002) in conceding to the sharp contrast between Africa and other continents that saw the flourishing of the publishing business and described it as a “wide North and South dichotomy in publishing”. Bgoya (1992) again believes this development can be curtailed through training, private-public partnership, state investments and the encouragement of international donors to buy books published in Africa by Africans. The researcher also believes that the encouragement of reading culture among children will positively affect the African publishing industry.

A publication can either be periodical or non-periodical depending on the publication intervals and usage or function. According to Encyclopaedia Britannica (2011), periodicals are those publications that come at regular intervals and non-periodicals do not come on regular intervals and most often may appear only once. Carson (2011) also classifies publishing into trade, scholarly/scientific or professional and educational. The researcher will therefore zero in on scholarly publishing since it forms the basis of the study.

2.3 SCHOLARLY OR SCIENTIFIC PUBLISHING

ProQuest (2004) considers scholarly publications as those whose authors target academics or the intellectual community and whose publications are handled by recognised societies with academic goals and missions. It further states that scholarly publications do not only provide research findings thereby advancing new knowledge, but their contents are subjected to rigorous scrutiny by experts in a given discipline. Keefer (2007) focuses not only on the content as “scholarly” but the authors of the publications as well.

Ondari-Okemwa (2007) showcases the relevance of scholarly publishing by linking it to the career development and promotional needs of authors. He identifies the author, editor, publisher and the subscriber as the main

parties involved in scholarly communication. Items such as conference abstracts, book reviews, and papers in conference proceedings, invited chapters, books, monographs and journals, fall within the ambit of scholarly or scientific publications (Knight and Steinbach, 2008). In addition to the list, Ware & Mabe (2009) consider informal seminar discussions, face-to-face or telephone communication, and even e-mail exchanges as part of scholarly communication. In all these, the researcher considers the journal as the most effective and trusted medium for scholarly discourse. This assertion is also supported by Hussein (2002) who posits that journals are the backbones of scholarship due to the platform they present for scholars to exchange information, educate and stimulate debate among themselves.

Currently journals, and for that matter scholarly publications, are used as instruments to establish the professional acumen of scientists and have decisive influence in the allocation of research resources (Ruiz-Pérez, López-Cózar & Jiménez-Contreras, 2006). Stranack (2008) and Angrosh (2005) also catalogued the importance of scholarly journals as:

- Serving as a major source of information and knowledge acquisition through the provision of a unique record of scholarly activity
- Giving an institution scholarly recognition
- Enhancing career growth of individuals and

- Ensuring the economic and socio-cultural development of a nation

2.4 THE GHANAIAN PUBLISHING INDUSTRY

Darko-Ampem (2002) indicates that European missionaries began publishing activities in Ghana in the 19th century which later led to the state's strong involvement. The government of Ghana, in 1951 and 1961 embarked on Accelerated Development Plan of Education (ADPE) and the policy of free distribution of textbooks to every pupil respectively. Though Darko-Ampem (2002) insists that these moves by the government led to the disintegration of the "book-buying culture" that was inherited from the European missionaries, the researcher holds a contrary view. The researcher is of the opinion that the government's action injected some vigour and urgency into the publishing industry at the time.

Under a Legislative Instrument No. 413, and subsequently amended by L.I 672 of December 11, 1970, the Ghana Publishing Corporation (GPC) was established in March 1965. Its core mandate was to "print, publish and distribute very high quality books and stationery to educational institutions, government departments and the public at competitive prices" (GPC website, 2009 & Darko-Ampem, 2002). The GPC served as the breeding ground for training experts not only for Ghana but also for several African regions.

As the industry in Ghana grew, there was the need for more policy formulation and regulation, hence, the formation of the Ghana Book Publishers Association (GBPA) in 1976. This, according to Darko-Ampem (2002) was as a result of the support from the Canadian Organisation for Development through Education (CODE). The GBPA had also succeeded in influencing policy issues in favour of indigenous publishers, active participation in the publication of literary and educational materials and seeking sponsors to support publications. Unfortunately, it is still not clear what the country's policy on book development is and the situation is leading to the weakening of the efficacy of the GBPA and ultimately the publishing industry in Ghana (Ghana News Agency, 2010).

Currently, the industry has shifted into the hands of private companies though there are still a few state-owned ones in operation. Sensitive publications for the government such as ballot papers for all levels of elections in the country, Reports of Committees and Commissions of Enquiries, Government Bulletins and White Papers among others, used to be handled by the GPC. Fuachie-Sobreh (2006) noted that the state-owned industries especially the GPC is now faced with challenges such as lack of funds and outmoded equipment leading to substantial loss of jobs and under-performance.

Realising therefore the huge economic potential of the publishing industry to the country, Armah (2010) suggested that all stakeholders must come on board to strengthen the system.

2.5 IMPORTANCE OF SCHOLARLY PUBLICATIONS IN RESEARCH INSTITUTIONS

Hassan (2011) defines tertiary institutions as higher places of learning such as Universities, Polytechnics and Colleges. One of the core responsibilities of tertiary institutions is to positively impact society through research and development. Maher (2006) states that hiring and promotion of faculty members by universities is contingent on the scholarly prowess of the individual or the quantum of publications to one's credit. The economic impact of research by universities is further highlighted by DiStefano (2010), Beemster (2009) and Carey (2007). For instance, according to Carey "Charney cites a 2003 study which estimates that \$10 million in research spending in Arizona creates 334.5 jobs, \$8.65 million in wages, \$452,000 in state revenue and \$13.5 million in sales". Though Beemster believes in the long term economic benefits of research, he disagrees that all research work is economically viable as some indeed can be a total waste of resources.

There are also industrial gains from research (Carey, 2007; Beemster, 2009 and DiStefano, 2010). Beemster (2009) believes that there is a greater output when universities collaborate with the industry through researches because of logistical constraints. Carey (2007) observes that a study by University of Utah identified 62 firms that could be traced directly back to the university's research laboratories. These firms, he noted, employed nearly 5,000 people and paid \$223.2 million in wages, giving a clear evidence of both social and economic importance of research. Martin and Tang (2007) identify seven (7) “mechanisms or exploitative channels” by which benefits of research flow into the economy:

- Knowledge increase
- Contribution of skilled graduates and quality research
- Formation of new and more relevant scientific instrumentation and methodologies
- Development of networks and stimulation of social interaction
- Empowerment of problem-solving capacities
- Establishment of new firms, and the
- Provision of social knowledge

Martin and Tang (2007) also explored several research benefit models through further studies. Two of these models shall be considered by the researcher due to their relevance to the study. First, the simple linear (science-push) model.

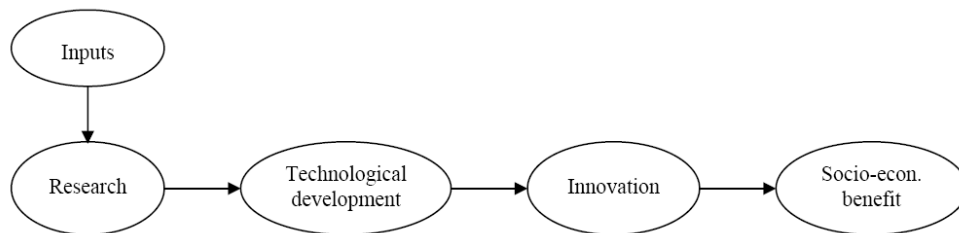


Fig. 2.1: Simple linear (science-push) model

This model reveals that an input in the form of money or people is needed to carry out a research and the main output is a codified knowledge, which brings about socio-economic benefits.

The second model according to Martin and Tang (2007) is the Chain-link model. This model explains the inter-dependence or interactivity of research. It says that research enhances technological development allowing for more innovations and subsequently having socio-economic benefits on the people, and could in turn give rise to more research explorations or opportunities.

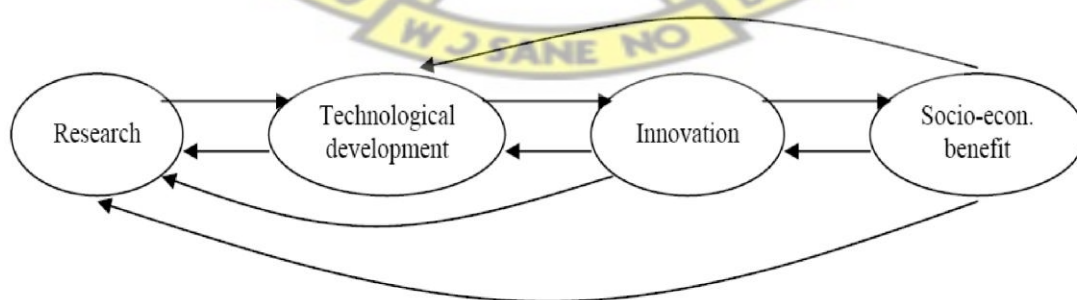


Fig. 2.2: Chain-link model

The hub of scholarly publications is undoubtedly the tertiary institutions. The reason ascribed to this is that apart from the individual students and faculty members who need research to move on to the next level, the institutions themselves need it for recognition and credibility (Stranack, 2008 and Ondari-Okemwa, 2007).

The researcher believes that when tertiary institutions are given the needed financial support, useful research will be undertaken to the overall benefit of humanity. According to Teferra & Altbach (2004), Africa is struggling to catch up with the world in terms of enrollment in tertiary education. They indicated that, by far, Africa has the lowest access rate to higher education in the world. This was attributed to poverty and the refusal of Africa's colonial masters to make formal education a priority in their governance. The severity of Africa's poverty situation is revealed when Teferra & Altbach (2004:27) noted that "the total yearly expenditure for higher education in Africa as a whole does not even come close to the endowments of some of the richest universities in the United States". This, the researcher believes casts a negative slur on the research output by the continent.

2.6 HISTORICAL BACKGROUND OF JOURNAL PUBLICATION

Keefer (2007) defines a journal as a book combining articles with other materials, presented uniformly based on a publication schedule and ensures timely production and distribution. Specific about Keefer's description of journals is the fact that journals have succession of issues in separate parts, chronologically identifiable and have no fixed period of termination. Ware and Mabe (2009) also define journals based on the following values:

- (i) Registration,
- (ii) Dissemination,
- (iii) Certification and
- (iv) Archival record.

It is therefore indicative that journals establish the originality of ideas by authors, aptly communicate findings to the target audience, and guarantee quality control through rigorous reviews and then preserve knowledge for future use.

In the seventeenth century (around 1665), journals were first introduced by the Learned Societies as a scholarly communication tool, by the French (*Journal des sçavans*) and English (*Philosophical Transactions of the Royal Society of London*) almost simultaneously (Keefer, 2007 & Angrosh, 2005). Journal publication has thereby gone through many revolutions and the 2009 estimate of active scholarly peer-reviewed journals is about

25,400 and it is constantly increasing at an annual rate of 3.5 per cent for the past three centuries (Ware and Mabe, 2009). This growth is due to the upsurge of scientific researchers globally. Again, according to Ware and Mabe (2009), America continues to dominate in the output of scientific publication constituting about 29% of the world's output.

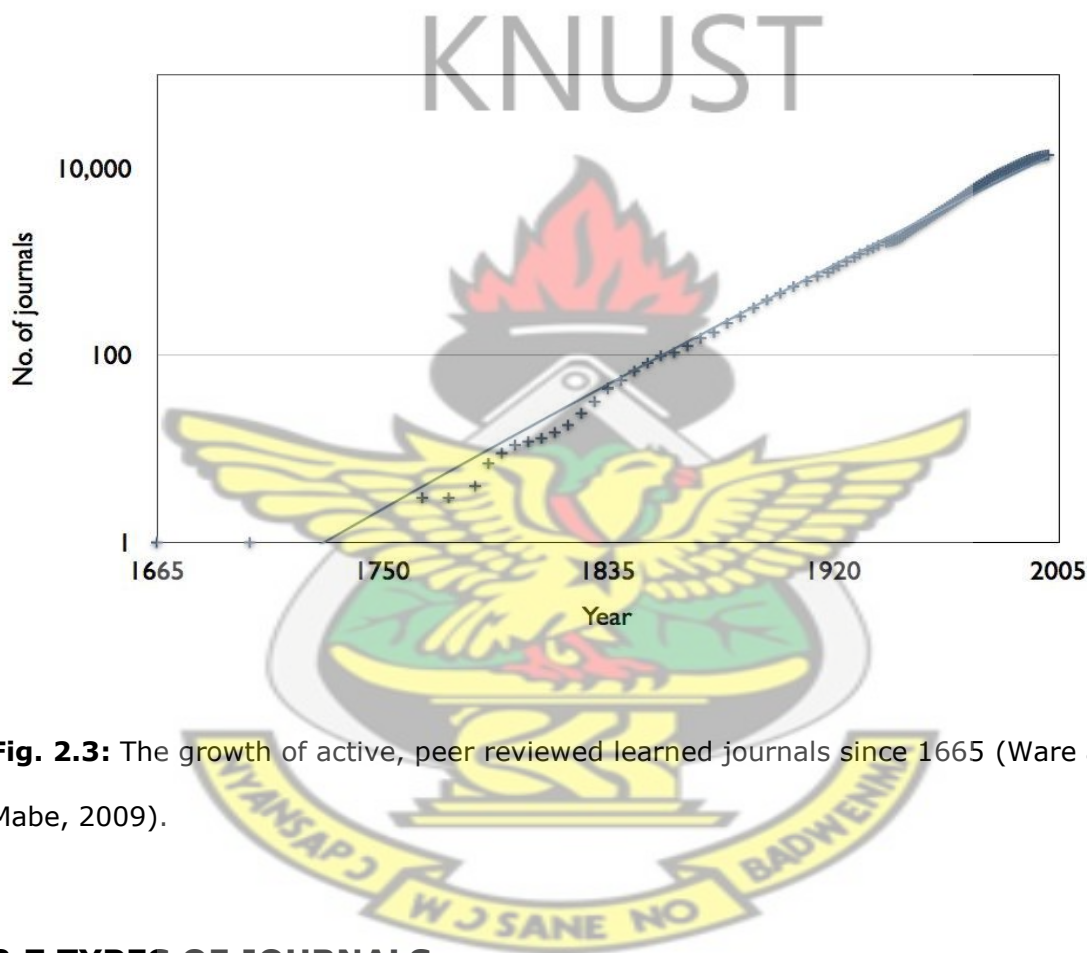


Fig. 2.3: The growth of active, peer reviewed learned journals since 1665 (Ware and Mabe, 2009).

2.7 TYPES OF JOURNALS

Many studies have sought to classify journals based on varied factors. For instance, while Stranack (2008) gives a narrower classification based on publication focus and geographical location or circulation, Gradowski, Snaveley, & Dempsey (1998) based theirs on focus and the orientation of

the publication. Stranack (2008) classifies journals as multidisciplinary, specialized, regional, institutional and annual reviews. Gradowski et al (1998) have scientific journals, trade or industry journals, popular and news magazines, and newspapers as their classification. This study is in line with the classification made by Gradowski et al based on their wide focus and the iron-clad distinction it provides.

Scholarly/Scientific Journals: These are journals focusing on research findings by scientists. Usually, articles in these journals are quite lengthy and undergo a review system or some form of vigorous editorial examinations. Technical as they are, they contain few illustrations except needed for detailed explanations to text and contain extensive documentation of bibliographies and footnotes. They are mostly published by professional organisations, universities or research institutions and scholarly presses (Gradowski et al, 1998).

Trade or Industry Journals: These supply information on current trends, news and products in a field or career among others. They are written by experts in a particular field for practitioners in the same field with high use of jargons. Though its articles are not peer reviewed, they go through some editing to ensure that they follow certain formats. They contain many illustrations but fewer references or bibliographical information and

their publication is done by commercial publishers or professional associations (Gradowski et al, 1998).

Popular and news magazines: These journals supply brief but factual information on current events, news and hot topics through interviews. They have comparatively informal tone and are not geared towards a specified readership. Written by journalists and other freelance writers, they do not undergo any or much editorial scrutiny. They are usually dotted with lots of colourful illustrations and advertisements and are published by commercial or trade publishers (Gradowski et al, 1998).

Newspapers: This category of journals rely on news stories, current information with local and foreign interests with a general audience. Written in simple and non-technical language by journalists, they conform to some level of editing for grammatical appropriateness. Illustrations are also common with advertisements dominating and do not usually cite references and bibliographical information (Gradowski et al, 1998).

As a matter of emphasis, this study focuses on scholarly or scientific journals as described by Gradowski et al.

2.8 JOURNAL PRODUCTION STAGES

Stranack (2008), realising the frustrating and challenging tasks of starting a new scholarly journal, cautions that one needs to be adequately

ments.

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the journal published by the different participants (1999) give a vivid



Fig. 2.4: Journal publishing Cycle (Parsell and Bligh, 1999)

Information moves from the writer through the editorial processes to the final reader after several correspondences through the peer review and the

editing process. Thus, the author of this study, having drawn inspiration from Parsell and Bligh's illustration examined the various stages in journal publication as the writing stage, the editorial and peer review stage, production stage and marketing and distribution stages.

These stages are delved into deeply in this study under the major concerns in journal publication where the questions based on this study are raised.

2.9 MAJOR CONCERNS IN JOURNAL PUBLICATION

In order to do a thorough examination of the current state of scholarly communication in Ghana, it is prudent that key areas are reviewed in consonance with the objectives and the questions raised in the study. These include the economic, editorial, design and production, legal, marketing and distribution concerns of journal publications. The researcher believes that the amount of attention given to these critical areas will have a concomitant effect on the credibility and integrity of the scholarly communication channels in the country.

2.9.1 THE ECONOMICS OF JOURNAL PUBLICATION

This concern looks at the profitability of journal publication. Sources of funding, and the various elements of cost are also taken into

consideration. It has been proven through many studies that journal publication is a very lucrative business when adequately funded. For instance, Outsell (2009) reveals that the total research and information industry was worth about \$400 billion in 2008 alone.

Global distribution of incomes from journals according to EPS (2006) as cited by Ware and Mabe (2009) stands at the following: 55% from America, 30% from Europe, 10% from Asia/Pacific, and 5% from the rest of the world. This therefore authenticates a study by Mattlage (1999) which reveals that scholarly publication is now mainly being handled by profit making corporations rather than academic institutions as the case used to be. In Africa, publication of journals is not attracting the kind of attention as is the case on other continents in terms of profitability due to lack of finances (Bgoya, 1992; Ware & Mabe, 2009; Castells, 1998 and Ondari-Okemwa, 2007). Smart (2004) also attributes the situation to the fact that journal publication is solely handled by academic presses who are usually cash-strapped rather than commercial entities. Since it is not clear as to whether this trend continues to exist, this study will find out the current situation in terms of funding, profitability and whether the presses handling journal publications are all academic ones.

Financial input towards the success and maintenance of journal publication is very crucial, it is prudent therefore to identify avenues for funding journal publications. Stranack (2008) discovers three of these avenues from which funding can be drawn. These are through: subscriptions, open access and limited open access. Subscription is very successful when the journal has established a niche and is highly visible. Though contents of open access journals are made freely available online, publishers get revenue through website advertisements and sponsorship from some organisations among others (Stranack, 2008). Limited open access according to Stranack, is when publishers make some parts of journal articles, usually abstracts of new articles and old articles, freely available online while reserving new ones for subscription. This strategy according to Stranack will lure readers and substantial gains will be induced.

Morris (2006), on his part also identifies other equally vital sources of funding for journal publication. These are: support from organisations (not necessarily money), funding from governments, author-side payments (a fee paid by authors), research funds, and libraries (usually through subscriptions). Stranack (2008) was again quick to add that journal publishers should not only focus on money but other necessities as well such as office spaces, volunteer services and other technological infrastructure for sustained financial stability.

African publishers generally find it difficult getting support from external sources financially. According to Olukoju (2002), not even financial institutions such as banks are willing to give loan assistance. The reason, according to Wafawarowa (2002) is that, the banks do not regard African publishing as a viable venture worthy of investment. Ofei (1997) supports the opinion of Wafawarowa indicating that the publishing industry in Ghana lacks financial support both from the government and the banks. This study as already stated, will attempt to find out how these journal publishers source funding for their publications.

There are several elements of cost in journal publication. A report by 'Wellcome Trust' (2004) categorises these cost elements into fixed costs, variable costs and overhead costs. According to the report, fixed costs elements include: editorial expenditure such as selection and review of articles, manuscript management, editing, designing and illustrations among others. Variable costs include costs of materials (paper, ink, chemicals etc), subscription management, licensing, distribution (postage, packing and shipping), sales and marketing. Overhead costs involve hiring of premises, payment of utility bills and management costs among others. King and Tenopir (1998) also mention five areas of cost in journal publication namely:

- *The cost of article processing:* This includes the cost of processing a manuscript, editing and other editorial works.
- *Non-article processing:* this cost is not incurred by working on the article itself. It covers areas like cover designing and the preparation of the tables of content.
- *Reproduction:* It includes the cost for printing, collating, binding, and other finishing works.
- *Distribution:* this covers items such as wrapping, labelling, sorting, mailing and subscription maintenance among others.
- *Support:* Certain areas demand extra spending. This is seeking for support in the areas of marketing, administration, finance and so on.

King and Tenopir affirm that the basic consideration for determining article processing costs are the volume, number of special graphic pages produced and the number of issues involved. The table below (Table 2.1) gives the various elements and their proportion of cost as it applies to journal publication.

Table 2.1: Proportion of costs in journal publication

Cost element	Proportion of costs
1. Refereeing	22%
2. Editorial and typesetting (i.e. from acceptance to first copy)	33%
3. Subscription management	7%
4. Physical production and distribution (including postage)	23%
5. Sales and marketing	13%
6. Promotion to authors	2%
Total	100%

The Wellcome Trust report, 2004, estimates that the first copy of a journal costs between \$250–\$2000 depending on the quality of the journal.

2.9.1.1 COST ANALYSIS OF PRINT AND ELECTRONIC JOURNAL PUBLICATION

While Stranack (2008) defines electronic publishing (online publishing or e-publishing) as placing contents on the Internet, and to share with the wider world, Angrosh (2005) describes it as “a serial publication produced and stored in electronic format only, subjected to peer review process, carrying International Standard Serial Number (ISSN) and adhering to stringent quality standards of electronic technicalities”. Print journals on the other hand according to the researcher, are journals that are printed in

a hard copy format (on paper). The printed journal is older than its electronic counterpart.

Though Dalgaard (2004) is of the opinion that the reason for the introduction of electronic publishing or digitization of text is to help cater for the “overload of scholarly text or flood of information”, many studies proffer that it is rather more of the cost element (Asamoah-Hassan, 2007, C. McAllister, F. McAllister & Fritz, 2004; Angrosh, 2005; & Mattlage, 1999). For instance, the Wellcome Trust report indicates that the cost of processing a journal in the printed domain is far more than that of electronic and that even the total cost of paper alone is far more than the entire cost of electronic publication of the journal. Due to the cost effectiveness and wide coverage capacity of the electronic mode of journal publication, more journal publishers are now leaning towards electronic publishing. Karp (2007) indicates that irrespective of this development, “Print publishing won’t be dead until the people who value print distribution are dead”. Karp and Stranack are therefore convinced that people will continue to cling to the physical presence of print journals as they do not require internet connectivity, software and hardware to access them. There is also a growing concern that the print journal still holds a certain prestige that does not always come with its electronic counterpart.

Though according to Dalgaard (2004) the printed journal is still dominating, a lot of researchers including Asamoah-Hassan (2007) believe that electronic publication of journals is not only strongly competing with the print, but it is also the way to go. In terms of current usage, Luther (2007) asserts that "Electronic journal use exceeds print use by a factor of at least ten". Johnson and Luther, (2007) say that electronic publication presents comfortable environment to stakeholders and they are as well cost effective. It is also observed by McAllister C., McAllister F. & Fritz, (2004) that there is no need for warehousing, inventory and cost distribution in electronic publishing, which are fundamental cost elements when it comes to the print publications. There is also shorter throughput time and cheaper labour in terms of reviewing and editing and it is easier to include multimedia elements (sounds, photographs, animations and videos) to contents when it comes to electronic publications (Prosser 2003 and Morris (2006).

According to a report on e-publishing and peer review workshop held in Ghana (2009), African publishers are faced with financial difficulties resulting in irregular production, lack of visibility and indexing in online database. The report further reveals that though the internet technology is at a growth rate of 6.7% in Africa, the penetration is at a rate of 1359.9%. This, the researcher believes paints a good picture towards a solid

foundation for electronic publication in Africa. Murray and Crampton (2007), as cited in Ezema (2010) point to the fact that absence of relevant skills, common language barriers, poor ICT infrastructure, economic strangulation, and the maintenance cost of technology changes among others add to the list of why Africans have not done much in electronic publishing. Studies however have not touched on how African, and for that matter Ghanaian publishers are surmounting these problems and taking advantage of the fast penetration rate of internet technology to engage in e-publications. This will be one of the focuses of the study.

2.9.2 EDITORIAL CONCERNS OF JOURNAL PUBLICATION

Editorial and peer review processes are very critical to the success of a scholarly journal. Caelleign, Shea and Gary (2001) state that the quality and usefulness of a journal rests on the quality of the research submitted, its reviewers' critiques and editorial judgments. This puts the review and editorial processes at the 'heart' of the scholarly journal publication process. Editorial and peer review processes also give a journal its prestige and thus attract the attention of promotion panels and search committees in the scholarly fraternity (Knight and Steinbach, 2008; Mattlage 1999). Kumar (2009) argues that in these days of 'publish or perish' philosophy, the quality and quantity of scientific output has become important for the continued survival of researchers. In dealing with the editorial concerns of

scholarly journal publication, the study considers aspects such as: journal editing and peer reviewing, pool of editors and reviewers and the throughput time of journal publication.

2.9.2.1 EDITING AND PEER REVIEWING OF SCHOLARLY

JOURNALS

Basically, editing, according to Montagnes (1991) is making authors' manuscripts easily understandable to the reader. The editor works closely with the peer reviewer, other members of the editorial team and publishers to ensure the success of a journal (Scruggs, 1975; Elsevier, 2009 and Samkin, 2011). Montagnes (1991) presents the primary roles of the editor as follows:

- Determining the authenticity and approving the publication of a journal.
- Occasional commissioning of authors to write for journals when the need arises.
- Coordinating with reviewers, authors, publishers, illustrators and designers, typesetters, printers and even administrators to ensure the success of a publication.
- Ensuring that articles or manuscripts are vigorously edited and that quality is enhanced by reviewers to qualify them for publication.
- Ensuring strict adherence to production schedules.

- Often assists in the promotion and distribution of the publication especially by bringing on board experiences of vast networks.

On the other hand, peer review, also a quality assurance measure in journal publication, is described by Kelly (2011) as “the standard process for reviewing articles for academic journals”. ProQuest (2004) also sees peer reviewing as subjecting a journal article to official editorial process which is approved by an author’s peers (people who are experts in the same subject area). Caellegh et al (2001), mention that a reviewer “serves as advisor to the editor but also as teacher to the author, especially to the less experienced”. Richard (2007) also concedes that though it will be acceptable for a reviewer to fix typos and comment on grammar, their main task is to comment on the content of articles and assist editors in deciding on which articles to publish. They find out whether the research is interesting, valuable and innovative; and whether the paper has merit and thoughts are well organised. Richard (2007) while acknowledging that reviewers handle manuscripts with great confidentiality and fight against conflicts of interest, summarises their main roles as follows:

- To check the originality and currency of the study.

- To examine the structure of the study: as to whether the arguments raised are well reasoned, articles are chronologically followed in required structure and are informative enough.
- To measure the content, are articles too long or short in accordance with the journal's requirements and has the topic been adequately covered?
- To research and theory: are research design and analysis appropriate? and do measurements and discussions follow the generally accepted scientific standards?
- To identify errors of facts, technique, calculation, interpretation and style. Address issues of scientific misconduct such as plagiarism, falsification and double publications among others.
- To check whether conclusions are reflective of the issues raised in the paper and whether they summarise the scope and findings of the research.

Traditionally, the editorial structure of journal publication is such that an author's manuscript from the publisher goes to the editor-in-chief who then gives to the Associate or Executive Editors. From there, the editorial Board members work on it before it finally goes to a reviewer (Elsevier, 2009).



Fig. 2.5: Editorial structure of journal publication (Elsevier, 2009)

Kumar (2009) and Ware & Mabe (2009), say that there are two broad categories of peer reviewing. These are the single-blind review and double-blind review. In the single-blind review, it is only the reviewer who is aware of the author's identity while both the author and reviewer are unaware of each other's identity in the double-blind review. Of the two, the double-blind review is considered the most robust and effective (Kelly, 2011) perhaps due to its level of anonymity to prevent any grounds for undue favouritism.

Hussein (2002) remarks that African scholarly communication does not transcend its borders due to editorial lapses. This study will therefore

assess the current situation in Ghana and bring to the fore some of these challenges that editors, reviewers and publishers alike are contending with and measures being taken to address them.

2.9.2.2 POOL OF JOURNAL EDITORS AND PEER REVIEWERS

Recruiting editors and peer reviewers for journals can be a hefty task for publishers. According to PRC (2008) as mentioned in Kumar (2009), good quality reviewers are difficult to find and the few existing ones are also overburdened. While Scruggs (1975) suggests two main criteria being competence and availability of local support for selecting editors, Callaham & Tercier (2007) say that a reviewer's performance cannot be determined by any formal training or means: "Skill in scientific peer review may be as ill-defined and hard to impart as is – common sense".

In support of Scruggs' suggestion, Caellegh, Shea, & Penn (2001) think that reviewer selection should be based on expertise in the field and their availability. Expertise, according to Malone (2011) is measured by the number of papers or journals worked on and sometimes the quality of the institution that the reviewer works for. Again, Montagnes (1991) cautions that a person chosen as an editor or a reviewer ought to understand the process of communication and the limitations of print; must be able to seek good manuscripts, respect and work with others and be able to determine the most effective way of communicating with the reader.

Possible editors and peer reviewers can be drawn from “contacts at professional meetings, personal acquaintances, editorial boards, literature searches, society membership lists, and manuscript bibliographies”; and some reviewers and editors themselves look out for journals to work with sometimes (Caelleigh et al, 2001).

One of the factors that constantly devalue scientific publications from African regions as many studies sought to outline is the question of competency on the part of editors and peer reviewers. The researcher will therefore have to find out the criteria used in selecting editors and peer reviewers for the selected journals and their backgrounds.

2.9.2.3 THROUGHPUT TIME FOR JOURNAL PUBLICATION

Time, according to Herrmann and Chincholkar (2001) is a valuable and critical commodity to the manufacturer and when managed well could yield numerous benefits. Johnson (2003) defines production throughput time as “the length of time between the release of an order to the factory floor and its receipt into finished goods inventory or its shipment to the customer”.

Stranack (2008) mentions lengthy throughput time as one of the challenges of journal publishers. This, the researcher believes is due to the

fact that journal publication involves several stages of intensive work. Reviewing, according to Ware (2008) is one of such time consuming areas. For instance, a paper takes about 80 days to be reviewed and reviewers also are said to review up to eight papers per annum on the average. The editors' report of the duration of submission-to-acceptance time is also estimated by Ware as 130 days. The researcher also considers areas such as pre-press activities, production inputs and post-production activities as adding to longer throughputs of journal publishing.

Reduction in throughput time (Johnson, 2003; Herrmann & Chincholkar, 2001) brings numerous benefits such as lower cost elements, flexibility in working, and higher productivity and profitability. It is therefore imperative that journal publishers work hard at reducing throughput time, and one way to do it according to Blocher, Garrett and Schmenner (1999), is that production schedules should be planned well and stricter monitoring and control mechanisms should be maintained.

Among African publishers, inability to meet deadlines and production schedules are major flaws identified by many researchers. The continent is said to be lagging behind in terms of scientific communication due to poverty, illiteracy, political instability and inadequate infrastructure among others. While Adebowale (2001) states that an African journal is yet to be

listed among the best in a chosen field, Gray (1997) as cited in Montagnes (2009) describes scholarly publishing in Africa as “dead”. This study will therefore find out whether Ghanaian publishers are able to meet deadlines so far as continuity in publication is concerned and how long it takes to produce the journals.

2.9.3 DESIGN AND PRODUCTION CONCERNS OF JOURNAL

PUBLICATION

Adebowale (2001) opines that production concerns must be given attention in order to achieve optimum success in scientific communication. Currently, journal publication is in both print and electronic formats and more publishers are coping with these systems in order to be in touch with subscribers. This study will therefore look at the designing and production of journals in the online and the printed domains. It is believed that the requirements for publishing in the online environment are not entirely the same when it comes to the print. The discussion on designing and production of scientific journal in the online environment will focus on file formats, layouts, illustrations and advertisements. For that of the print output, discussions shall focus on cover designing, quality of materials and equipment used, binding and finishing.

2.9.3.1 ONLINE PUBLICATION OF JOURNALS

Online publications have several elements of consideration and their handling differs from that of print. According to ProQuest (2004), the frontal or cover design of a scholarly journal should be “plain, formal, sober and serious” in appearance. It should as much as possible avoid any fanciful look.

Layout of a journal published online could either be in a column or two with typography good enough to ensure legibility and readability. ProQuest (2004) again recommends that a scholarly journal must also be focused and do in-depth analysis of issues with academic or professional audience among others. Articles must be structured according to abstracts, results and accountability with appropriate bibliographical information. The content should also be dotted with a particular language style and jargons and should go through a peer review scrutiny by experts in the field within which the journal operates. Online publications also allow for advertisements and the addition of multimedia elements such as audio, video, photographs and animations (Prosser, 2003 & Morris, 2006).

Publishing online demands that publishers acquaint themselves with the appropriate software and the right file formats. Mark Bide and Associates

(2000) enumerated standard file formats suitable for the online presentation of documents. The table below gives a vivid description of these file formats and their corresponding medium.

Table 2.2: Common file formats for electronic publishing

Item	Element (Medium)	Online File format (Software)
1	Text	HTML, SGML/XML, RTF, PDF
2	Still Image	JPEG, TIFF, GIF
3	Page Facsimiles	PDF, EPS
4	Structured data	Excel, Access, Lotus 123
5	Audiovisual (Video)	QuickTime, RealVideo, Lotus QuickCam, VRML
6	Software	Executable or Source code
7	Audio	MP3, WAV, RealAudio
8	Graphics	GIF, JPEG, EPS, TIFF
9	Other	Microsoft word templates, PowerPoint Presentation, TeX for maths

Ultimately, this study will delve into the extent to which Ghanaian scholarly publishers have gone into electronic publication of their journals.

2.9.3.2 PRINT PUBLICATION OF JOURNALS

Though ProQuest (2004) is of the view that scholarly publication should be handled by professional or academic presses, Smart (2004) disagrees, indicating that most academic publishers do not have the requisite funds to ensure the continuous publication of these journals unlike their commercial counterparts.

The requirement for the cover designs for the printed journal is the same for the electronic in that it must not be fanciful. In the printed journal, the cover plays a significant role. The researcher believes that it serves as a 'silent salesman' for the journal. The cover is the first point of call to the journal hence it must be given the necessary treatment that will accord it the necessary attention by the targeted audience.

Again, the quality of materials and equipment used for the printed journal is an issue for consideration. While good quality materials and modern equipment will give better results, the contrary should be expected for the use of poor quality materials with obsolete equipment. Indeed ProQuest (2004) indicates that the general appearance of a journal to a large extent impacts on the motivation of readers to select one journal over others in the same field. Though this criterion may be weak in terms of journal

selection, the researcher believes that it plays a tremendous role in the overall success of the journal.

Critical assessment shall be done to ascertain the quality of printing materials and equipment used by Ghanaian scholarly publishers for their journals.

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2.9.4 LEGALITIES IN SCHOLARLY PUBLICATIONS

Scientific misconducts such as plagiarism, falsification, improper authoring, conflicts of interest and piracy among others have dotted the scholarly communication process. Any behaviour by a researcher either intentionally or otherwise that fails to respect high scientific and ethical standards is referred to as 'research misconduct' (Sinha, Singh & Kumar, 2009). These research misconducts pose a great threat to authors' works and their scholarly integrity and according to Keilman, Hinde and Goldstein (2011), they must not be tolerated. This review will discuss areas such as the enforcement of intellectual property laws and scientific acknowledgements.

2.9.4.1 INTELLECTUAL PROPERTY LAW AND ITS ENFORCEMENT

Bainbridge (1999) defines the intellectual property law as the law which ensures that creative efforts, or commercial reputation and goodwill of authors are protected. Intellectual property includes literary and artistic

works, films, computer programmes, inventions, designs and marks used by traders for their goods and services. According to Bainbridge, the law forbids piracy and puts checks in place to safeguard authors' creations. Areas such as copyrights, rights in performance, the law of confidences, patents, registered designs, design rights, trademarks, passing offs and trade libels, among others are captured by the intellectual property law. Montagnes (1991) calls for the need for publishers to educate themselves on national laws regarding libel, obscenity, sedition, and the right of privacy among others.

Publishers are adopting ways of enforcing the intellectual property law, both in the case of the electronic and the printed journal. For instance Wahid (2011) and Longdin (2005) enumerate some of these protective mechanisms as "the use of passwords, firewalls, screening for IP addresses or domain names, hardware connections, encryption or using CD-ROMS as a delivery vehicle." Longdin proposes the use of these methods either in isolation or in combination. Unfortunately, Sharma, Agarwal & Singh (2011) indicate that none of these protective mechanisms is strong enough to impede piracy as the global piracy rate is still on the ascendancy as indicated in Table 2.3 below.

Table 2.3: Global Piracy rate between 2003 - 2009, (Sharma et al, 2011).

Country Name	Piracy Rate (%)						
	2003	2004	2005	2006	2007	2008	2009
Asia Pacific	53%	53%	54%	55%	59%	61%	59%
C & E Europe	71%	71%	69%	68%	68%	66%	64%
Latin America	63%	66%	68%	66%	65%	65%	63%
ME & Africa	56%	58%	57%	60%	60%	59%	59%
N America	23%	22%	22%	22%	21%	21%	21%
W Europe	36%	34%	35%	34%	33%	33%	34%

In spite of these annual growths in piracy, the fight is still ongoing to curtail it. In the USA for example, (Handa, 2008), the Office of Research Integrity (ORI) has been set up under the auspices of the Public Health Service (PHS) to define scientific misconducts and set guidelines for institutions. Other advanced economies are also ensuring stringent enforcement of the copyright laws to protect the works of their authors.

Wafawarowa (2002), noticed that the blatant violation of the copyright laws and the weakness shown in implementing and enforcing the intellectual property law in African countries have brought a lot of challenges to the publishers on the continent. According to him, "the Commissioner of Commercial Crime branch of the South African police that

is now in charge of piracy acknowledges that law enforcement personnel do not regard copyright violation as a serious crime.”

He further revealed that the Publishers Association of South Africa (PASA) found out that some institutions have a higher budget allocation for photocopying than they do for purchasing books. The researcher believes that the situation in other regions of Africa, including Ghana, is not different from what pertains in South Africa.

2.9.4.2 REFERENCING AND ACKNOWLEDGEMENTS

Referencing is an acceptable form of giving acknowledgement to the contribution or inputs of others to the success of one's research or scholarly work. Referencing plays a vital role in the scientific communication process because it gives credence to the authors whose works have been relied upon. Thus Neville (2008) cited Angélil-Carter (2000) that referencing and acknowledgements should not be seen as a nuisance but rather a way of asserting and validating researchers' own arguments.

Many researchers have relayed the need for referencing and acknowledgements variously. For instance, Cleal (2005) indicates that, it is both honest and ethical on the part of researchers to acknowledge the sources of their information. This is because the chunk of the information

used belongs to another person; it is their intellectual property, hence failure to acknowledge them will amount to intellectual thievery. Relatively, Neville (2008) agrees that referencing or acknowledgement is necessary because:

- It gives a hint of the source of an idea
- It enables researchers to build a web of ideas
- It legitimises an argument
- It spreads knowledge and reveals the extent to which an idea has been interrogated by other researchers
- It gives opportunity to acknowledge the input of others
- It gives researchers grounds to advance their own ideas.

Since journals are the main conduits for communicating scholarly findings, it is important that their publishers adopt an acceptable format for their journals. Neville (2008) opines that because referencing is not usually given major attention in academic writing, plagiarism has become common. Currently, there are about nine (9) referencing styles in vogue according to Neville. Four out of these, are accepted scholarly discourses globally, and they are:

- The Harvard style,
- The British Standard Running-notes numerical style ('Vancouver' style)

- The American Psychological Association (APA) style and
- The Modern Languages Association (MLA) style.



Fig. 2.6: Summary of main referencing styles (Neville, 2008).

The study will attempt to find out the extent to which Ghanaian journal publishers consider the need for referencing and acknowledgements in their journals and what measures are used to curb scientific misconducts.

2.9.5 MARKETING AND DISTRIBUTION OF SCIENTIFIC JOURNALS

Morris (2006) defines marketing as discovering the wants of the market and then providing them. Marketing and distribution are very crucial to the survival of any scholarly journal. Alpine, Fischman and Willinsky (2008) declare that the responsibilities of “the researcher extend beyond the

design, conduct and supervision of research and goes into the way research is circulated and shared.”

Thus both researchers and publishers should be concerned about the marketing and distribution needs of their journals.

Ware and Mabe (2009) identify libraries and individuals as the major subscribers to scholarly journals. This notwithstanding, the researcher believes that other institutions such as non-governmental organisations (NGO) and state institutions, can also subscribe to journals. Since the extent of visibility of journals is dependent on the effort put into marketing, necessary measures ought to be put in place to ensure that as many target audiences as possible are reached. In a study conducted in 2005, it was found out that “almost 90% of journals were available online and researchers increasingly expect materials to be available online (Morris, 2006). This shows how the internet technology is such a great asset in meeting the marketing, and to a greater extent, the distribution needs of journal publishers.

Other means by which journals can be marketed or promoted according to Stranack (2008) are:

- Through promotions and advertisements
- Dependence on professional links to locate the right people

- Discussion lists, blogs and forums
- The use of search engines by the help of electronic platforms
- Providing open access to the content of journals
- Participating in indexing services
- Obtaining an International Standard Serial Number (ISSN) and
- Obtaining a Digital Object Identifier (DOI).

It is important that proper distribution strategies and channels for journals by their publishers are adopted in order to save cost and reach the target audience easily and effectively.



CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

Hussy & Hussey (1997) and Crotty (1998) as cited in Kripanont (2007) argue that there are several research types and designs but whichever the type chosen, the researcher needs to focus on a particular methodology and justify how the chosen methodology is the most appropriate for the study.

In this chapter, the research type for the study has been identified and a justification given why it is the most suitable to achieve the set objectives of the study. This will be discussed in terms of the research process and design, instrument development, population, sampling and data collection, and the data analysis plan.

3.2 RESEARCH PROCESS AND DESIGN

The mixed research approach is adopted for this study. This, according to Spratt, Walker and Robinson (2004), is the combination of quantitative and qualitative research methods in a study. This method as stated by has the advantage of capitalising on the collective strengths of both the quantitative and the qualitative approaches while offsetting their different

weaknesses. They further stressed that the mixed research approach could also provide more comprehensive answers to research questions going beyond the limitations of a single approach. The mixed research approach though can be more time consuming, it can, according to Johnson & Onwuegbuzie (2004), also “provide a stronger evidence for a conclusion through convergence and corroboration of findings.”

The researcher believes the objectives of this study which are to examine the current state of scholarly communication through journal publication in Ghana and to suggest recommendations geared towards strengthening it can best be met by this research approach.

Qualitatively, data is derived from some Ghanaian journal editors and a bit of content analysis of some sampled Ghanaian journals. Best (1991) as cited in Tettey, (2009:21). describes qualitative research method as portraying the complex pattern of a study in satisfactory depth for the easiest comprehension of all. Ary, Jacobs and Razavie (2002) as cited in Tettey (2009:22) also argue that qualitative inquiries seek to understand human and social behaviour from an “insider perspective” resulting in vivid description of a phenomenon.

The quantitative aspect of the study focuses on sampling and deriving data

from people who undertake research and or publish their findings in journals through questionnaires. This category of people include lecturers, postgraduate students and other faculty members of higher institutions such as the universities, polytechnics, training colleges and other research institutes in Ghana. Abawi (2008) indicates that quantitative enquiry is based on testing a theory made up of variables and measured with numbers and characterised by statistical techniques or analysis. This research method eliminates the subjectivity of the researcher in a study while endorsing neutrality (Johnson & Onwuegbuzie (2004).

3.3 DEVELOPMENT OF INSTRUMENTS

Instrumentation according to Fraenkel and Wallen (2000) as cited in Tettey (2009) is basically the process adopted by a researcher in collecting data for a study. It involves both the selection and design of the instruments and the prevailing conditions in the administration of the instruments. Fraenkel and Wallen further stress that the choice on the type of data collection instruments depends on factors such as cost, available resources and time. Common among data collection instruments are questionnaires, interviews and observations.

The researcher depended principally on questionnaires coupled with a bit of content analysis of some randomly sampled journals represented on the

African Journals Online (AJOL) platform to collect primary data for the study. The development of the questionnaire as the major data collection instrument goes through three main processes namely preliminary information gathering, questionnaire design and pre-testing of the questionnaire.

3.3.1 PRELIMINARY INFORMATION GATHERING

In order to develop a potent questionnaire to collect data for the study, the researcher had to conduct preliminary information gathering through semi-structured interviews together with secondary information gathered through literature survey before attempting to develop the questionnaire for the main survey.

Since there are two separate questionnaires involved in the study i.e. one for the sampled Ghanaian journal editors and the other for all those who undertake research works, quite a lot of time was spent doing the preliminary data gathering (interviews). In all, about twenty-one (21) days were spent in contacting the respondents to gather enough data. This was done through a list of predetermined open-ended questions and other relevant follow-up questions. After the interviews, more insight was provided in areas of scholarly publishing in terms of its economics, production, marketing and visibility, as well as credibility of journal

publications. Additional information about specific variables of interest and insights of possible determinants crucial for the study were also derived. Questions in the main questionnaires for the survey were formulated thereafter to elicit important information for the study in order to get answers to the research questions raised.

3.3.2 QUESTIONNAIRE DESIGN

McMillan and Schumacher (1993) as cited in Tetley, (2009) describe the questionnaire as an instrument presented by researchers for soliciting reactions, beliefs or attitudes. It is mainly used in observing data beyond the physical reach of the observer and may be sent to respondents far away and whom the researcher might never have seen or will ever see, Leedy, (1995) in Tetley (2009).

According to Sekaran (2003) as cited in Kripanont (2007), three thematic areas need attention when designing a questionnaire, namely: the wording of the questions, planning of the issues of categorizing variables and the general appearance of the questionnaires. The researcher followed the procedure as indicated by Sekaran (2003) to design the questionnaires for the study. Statistical analysis methods were used to analyse data from the questionnaire survey. The researcher was guided by the fact that the questionnaires needed to achieve the objectives of the research

which, according to Kripanont(2007), is a basic criterion for relevance and precision.

For the Ghanaian journal editors, questions raised in the questionnaire sought information regarding areas such as demographics, competence and experience, editorial and production concerns of the local journals they work on, the economic concerns of the journals, and then the marketing or exposure concerns of the journals. The other questionnaire which was geared towards people involved in undertaking research and having them published in journals, also raised questions to help affirm or otherwise, the claims made by the editors. They also provided additional insights into the realities of scholarly publications through journals in Ghana. Questions in the questionnaires were mostly close-ended with a few being open-ended. The close-ended questions, according to Fraenkel and Wallen (2000), ensure consistency of response because they are easier and faster to tabulate while open-ended questions (Marshal 1997) give respondents the opportunity to present views which might not have hitherto occurred to the researcher (as cited in Tettey, 2009).

It was essential to attach a covering letter to the questionnaire to the prospective respondents, especially journal editors. This was meant to introduce the researcher to the sampled population and to explain the

survey's objectives thereby establishing credentials and legitimacy of the study.

3.3.3 PRE-TESTING OF THE QUESTIONNAIRES

Again according to Sekaran (2003), as cited in Kripanont (2007:125) pre-testing is a trial run with potential respondents with the aim of detecting problems in the questionnaire instruction or design, and determining whether there is ambiguity or bias in its presentation. A total of twenty-five (25) questionnaires were distributed; twenty (20) to the researchers (people who publish in journals) and five (5) to journal editors. It became clear after the pre-testing exercise that there was the need for improvement on the questions asked. The questionnaires were therefore revised in terms of wording and sequencing of questions. There were also some additions and elimination of questions to ensure that the general objectives of the study were met.

3.4 POPULATION, SAMPLING AND DATA COLLECTION

3.4.1 POPULATION

Yount (2006) as cited in Yeboah (2011) asserts that a population consists of all the subjects under study that comprises all the possible cases (persons, objects, events) that constitute a known whole.

Among the core population for the study as mentioned earlier are Ghanaian editors of scholarly journals. This is because, the entire production of scholarly journals falls directly at the doorstep of editors. The editors' work together with authors and reviewers and find appropriate printers for the final publication. In all, about thirty-two journal editors scattered all over the major specialised research and tertiary institutions in the country were identified by the researcher. This was determined through available documents such as local journals, a list of editors who attended local editors' forums and through snowballing. These editors are located in the various universities and specialised institutions in Ghana including the University of Ghana (UG), Kwame Nkrumah University of Science and Technology (KNUST), University of Cape Coast (UCC) and the Council for Scientific and Industrial Research, (CSIR).

Another set of population which forms the nucleus for this study are people who publish or have the potential of undertaking researches and having them published in a scholarly journal. They include postgraduate research students, lecturers and other faculty members. Again, this group of respondents was drawn from Ghanaian universities, polytechnics and training colleges. The major population of the study is as shown diagrammatically below.

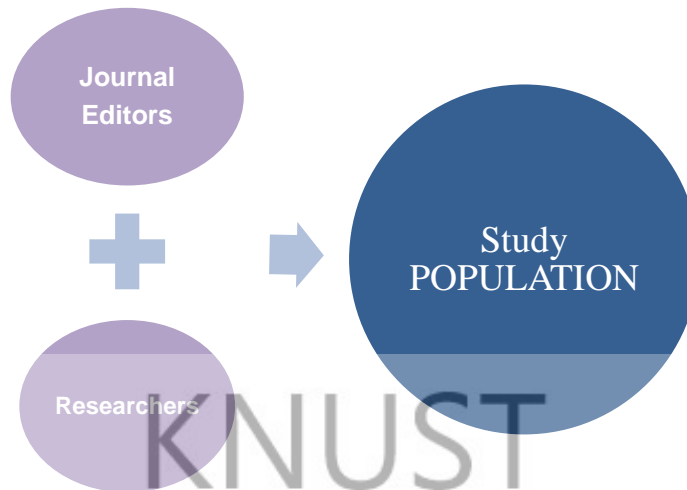


Fig. 3.1: *Major population for the study*

3.4.2. SAMPLING

While Sidhu (2003) as cited in Tettey (2009:26), defines sampling as the process of selecting a representative unit from a population, Cohen and Manion (1994) indicate that in sampling, the researcher endeavours to collect information from a smaller group or subset of the population in such a way that the knowledge gained is representative of the total population under study.

The researcher used the probability sampling method in settling on the researchers. This is to avoid the exertion of the researcher's influence on the study. Taylor-Powell (1998) as cited in Yeboah (2011) describes probability sampling technique as that which gives a statistical basis for the general representation of the entire general group. O'Leary (2004)

also indicates that in random or probability sampling technique, each element in a population has an equal chance of selection. In the case of the journal editors, the researcher used snowball sampling technique to get in touch with the respondents. This is because, though there are names of some of these editors in some of the identified local journals, not all of these editors can easily be traced. Again, most of these editors are no more in active service hence their responses might not give a clear current state of affairs. The researcher therefore depended on editors currently in service to be linked to their colleagues working for other journals. O'Leary (2004), while acknowledging that snowballing is the best sampling method for populations that are not easily accessible, sees snowballing as involving building sample through referrals.

Zakaran (2003) and Roscoe (1975) as cited in Kripanont (2007:133), argue that "sampling design and sample size are important to establish the representativeness of the sample for generalisability". Roscoe indicated that in determining a sample size, as a rule, a minimum of 30 and a maximum of 500 sample sizes is appropriate for most studies

In all, twenty-one (21) questionnaires were sent out to identified Ghanaian journal editors. Fourteen (14) of the editors responded, yielding the response rate of about sixty-seven percent (67%). For the researchers (authors), three hundred and ten (310) questionnaires were given out.

Out of these, two hundred and thirty-two (232) were retrieved forming a return rate of about 75%.

3.4.3 DATA COLLECTION

The researcher depended mainly on surveys through questionnaires in collecting primary data for this study. The researcher agrees with Fraenkel and Wallen (2000) as cited in Tettey (2009:27) that the choice of a particular tool for data collection depends on cost, available resources and time. Based on these factors the researcher believed that questionnaires could best serve the purpose. In addition to the questionnaires, content analysis was used to examine the production needs of available local journals.

The researcher initially identified eight (8) Ghanaian scholarly journal editors through an electronic blog. An e-mail was used to contact some of the editors; it was difficult to reach them personally. An online version of the questionnaire was therefore designed and sent to all the eight editors online. Seven (7) out of the eight (8) editors responded to the mail with four (4) filling the questionnaires online. The remaining three (3) however, demanded a hard copy of the questionnaires rather than the online (soft) copy. A visit to the remaining three editors in their respective institutions provided access to a host of other journal editors who contributed to the

study. Most of these journal editors were accessed from KNUST, UG, UCC and CSIR.

The questionnaires for the second group of the population (authors or researchers), were printed (hard-copy) and distributed at random to respondents in various tertiary institutions. The researcher distributed the questionnaires and made a follow-up on them after an hour for collection. This was to ensure that the rate of loss was minimised.

3.5 CONTENT ANALYSIS

Schwandt (1997) as cited in Hara, Bonk & Angeli (1998:6) indicates that content or document analysis involves comparing, contrasting and categorising a set of data, and it is both numeric and interpretive in nature O'Leary (2004) also opines that document analysis is examining the content of materials such as books, journals, newspapers and radio programmes among others.

In this study therefore, content analysis on some sampled journals was carried out. This was to establish claims made by others who contributed to the study. In all, there are nineteen (19) Ghanaian journals available on the African Journals onLine – AJOL platform (<http://www.ajol.info/index.php/ajol/browse/country?countryId=82>).

Twelve (12) out of these nineteen (19) journals represented on the AJOL platform were sampled at random. The sampled journals were:

- Ghana Journal of Agricultural Science
- West African Journal of Applied Ecology
- Ghana Journal of Science
- Journal of Applied Science and Technology
- Journal of the Ghana Science Association
- Research Review of the Institute of African Studies
- Journal of Science and Technology (Ghana)
- Ghana Library Journal
- Ghana Journal of Development Studies
- Agricultural and Food Science Journal of Ghana
- Ghana Medical Journal
- Journal of Business Research

For the printed journals, the researcher focused on the following areas while analysing the contents of the journals— quality of design, typesetting and editorial strength such as copy editing and proofing among others. Again, quality of materials used and the standard of finishing given to the journals were analysed against the standard required of scientifically accepted journals. For instance, ProQuest (2004) established that in terms of appearance, a scholarly journal should have a “plain,

formal, sober and serious” look. In terms of content, ProQuest again indicates that articles must be structured such that they have the headings in a chronological order as heading, abstract, results and accountability together with their appropriate bibliographical information.

Contents of the journals which have electronic versions were also considered. Layouts and typesetting, and the file formats adopted were also of prime concern to the researcher.

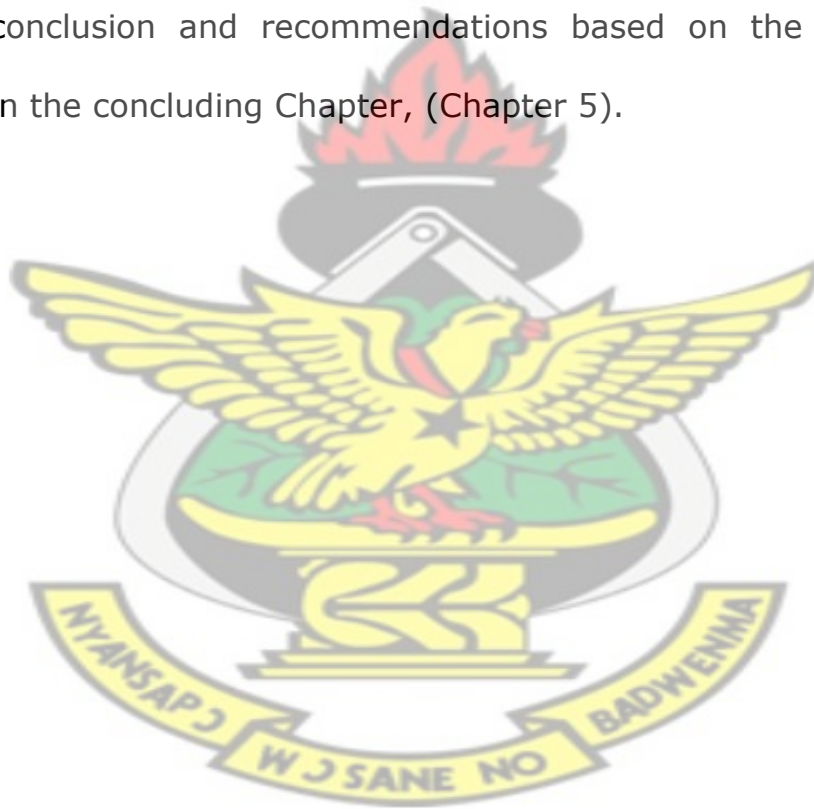
3.6 DATA EDITING AND CODING

There was the need for coding to ensure that the collected data was stored and to make them possible for analysis. The researcher used the SPSS software version 16.0 to code the collected data. As a result of the editing of the collected data, errors, omissions, legibility and readability were checked in order to ensure consistency and completeness. This was made possible by using “frequency distribution” in SPSS. Data was entered into the SPSS software in a coded numeric form with each representing a particular variable such as age, sex etc. Further screening was carried out to ensure that errors that come as a result of human slips while entering the data were checked before the analysis.

3.7 DATA ANALYSIS PLAN

Findings of the analysis of this study are published in Chapter 4. Statistical elements such as bar and pie charts were used in representing the analysis done on the data collected where appropriate. To make findings and the interpretation of the analysis clearer, descriptive analysis or interpretations were added to the diagrams.

Further, conclusion and recommendations based on the findings were recorded in the concluding Chapter, (Chapter 5).



CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.1 INTRODUCTION

This chapter seeks to provide answers to not only the research questions raised, but also the principal objectives of the study namely:

- To examine the publication of journals in Ghana in order to bring out their weaknesses and strengths based on their editorial, production, economic and marketing concerns.
- To give recommendations that will help strengthen journal publication and ultimately scholarly communication in Ghana.

In addressing the above concerns raised in the study, data were categorised and analysed under the following sub topics:

- (i) Demographic discussions on respondents
- (ii) Working with scholarly journals: authors' perceptions, preferences and motivations
- (iii) Access and Usage of scholarly journals in Ghana
- (iv) Competence of Ghanaian scholarly journal editors
- (v) Work Specification and satisfaction of Ghanaian journal editors
- (vi) Editing and publication of Ghanaian journals

- (vii) Scholarly journal publication throughput in Ghana
- (viii) Economics of scholarly publications in Ghana
- (ix) Marketing, Distribution and Visibility of Ghanaian scholarly publications
- (x) Quality assessments of Ghanaian research outputs.

4.2 DEMOGRAPHIC DISCUSSIONS ON RESPONDENTS

As already established, the main population for the study were editors of scholarly journals in Ghana and all other stakeholders (authors, students, lecturers) within the research or scholarly community.

4.2.1 Demographic information of Editors

In all, fourteen (14) editors participated in the study — twelve (12), 86% males and two (2) 14% females. This representation of gender in the population is a reflection of the gender inequality present in educational institutions in Ghana especially at higher levels. This low representation of females in educational institutions in Africa is attributed to many factors. For instance, Offorma (2009) catalogued the following as the major contributing factors:

- (i) early betrothal of the girl child by parents,

- (ii) the fact that the boy child keeps the family lineage hence should be the one given the opportunity in education in cases of extreme poverty in families and
- (iii) the fact that the girl child is made to stay at home to help cater for her younger siblings rather than being in school.

It is also worth noting that about eight 8(57%) of the editors are between the ages of 25 – 54 years (recognised as the most productive age groups in Ghana.) The remaining six 6 (43%) of the editors are within the ages of 55 – 64 years which is the age near retirement (60 years) in Ghana. There is therefore a fair blend of youth and experience in the performance of editorial functions which is likely to impact positively on the output of Ghanaian scholarly editors. Table 4.1 gives the results on the demographic data collected from the editors.

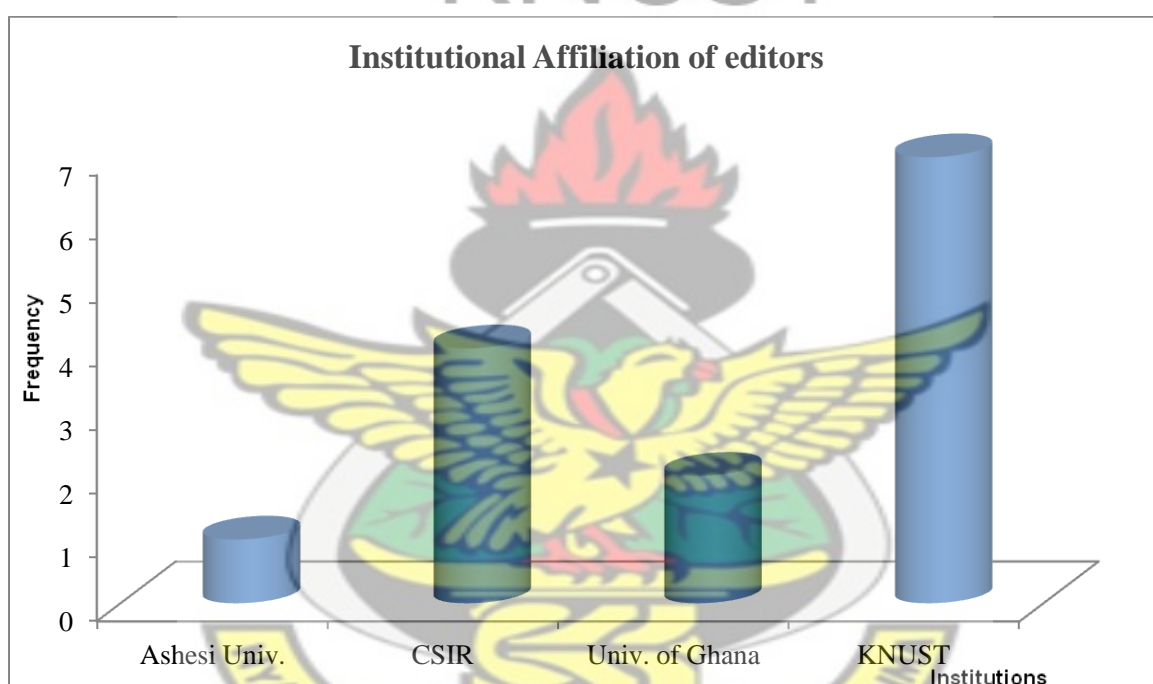
Table 4.1: Distribution of gender by age of respondents (n= 14)

Gender			
	Male	Female	Total
Age			
25-34 years	1(8%)	0(0%)	1(7%)
35-44 years	2(17%)	1(50%)	3(21%)
45-54 years	4(33%)	0(0%)	4(29%)

55-64 years	5(42%)	1(50%)	6(43%)
Total	12(100%)	2(100%)	14(100%)

The figure below (Fig. 4.1) is a graphic representation of editors who contributed to the study from various institutions.

Fig. 4.1: Institutional affiliation of editors (n = 14)



4.2.2 Demographic information of authors (Researchers)

Out of the total of 300 questionnaires sent out, 232(77%) were retrieved from the respondents. For those who responded, 94(41%) are lecturers, 120(52%) postgraduate students and 6(2%) of the respondents declined

to give any response as to their status. Table 4.2 gives information on the respondents.

Table 4.2: Age distribution of respondents by research category (n = 232)

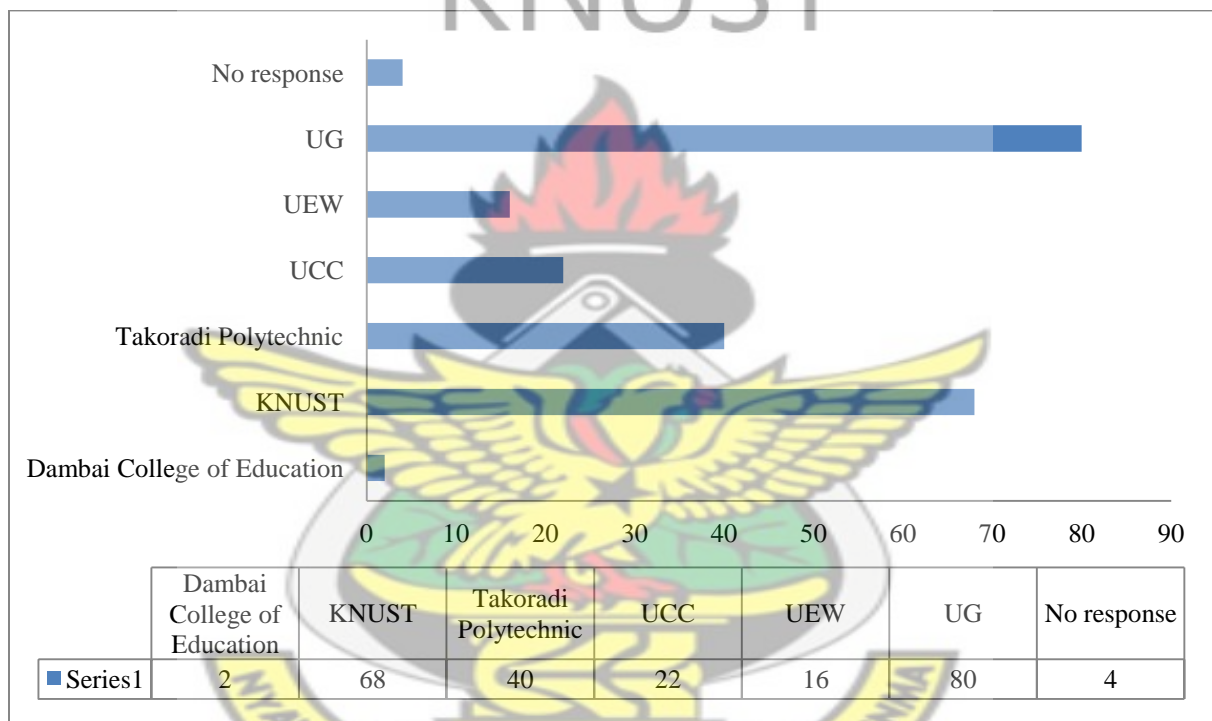
Age group	Researchers (Authors)				Total
	Lecturer	Student	Other	No response	
Below 20 years	0(0)	0(0%)	0(0%)	0(0%)	0(0%)
21-30 years	22(23%)	96(80%)	6(50%)	0(0%)	124(53%)
31-40 years	44(47%)	22(18%)	6(50%)	6(100%)	78(34%)
Above 40 years	28(30%)	2(2%)	0(0%)	0(0%)	30(13%)
Total	94(41%)	120(52%)	12(5%)	6(2%)	232(100%)

Note: Figures in parenthesis are column percentages

Out of the total number of 232 respondents, 202(87%) as evidenced in Table 4.2, are below age forty (40). Contrary to the findings on editors' contribution to the study, University of Ghana was the institution that recorded the highest response rate of 80 authors representing 34%, followed by KNUST, 68(29%), Takoradi Polytechnic, 40(17%), University of Cape Coast, 22(9%) and the University College of Education, Winneba, 16(7%). Four (2%) respondents did not indicate their institutions of

affiliation and 2(1%) respondents came from the Dambai College of Education. Again this result reflects the quantum of the population (Researchers) in each institution with the University of Ghana being the tertiary institution in Ghana with the highest population followed by the KNUST and in that order as above.

Fig. 4.2: Institutional affiliation of Authors (n=232)

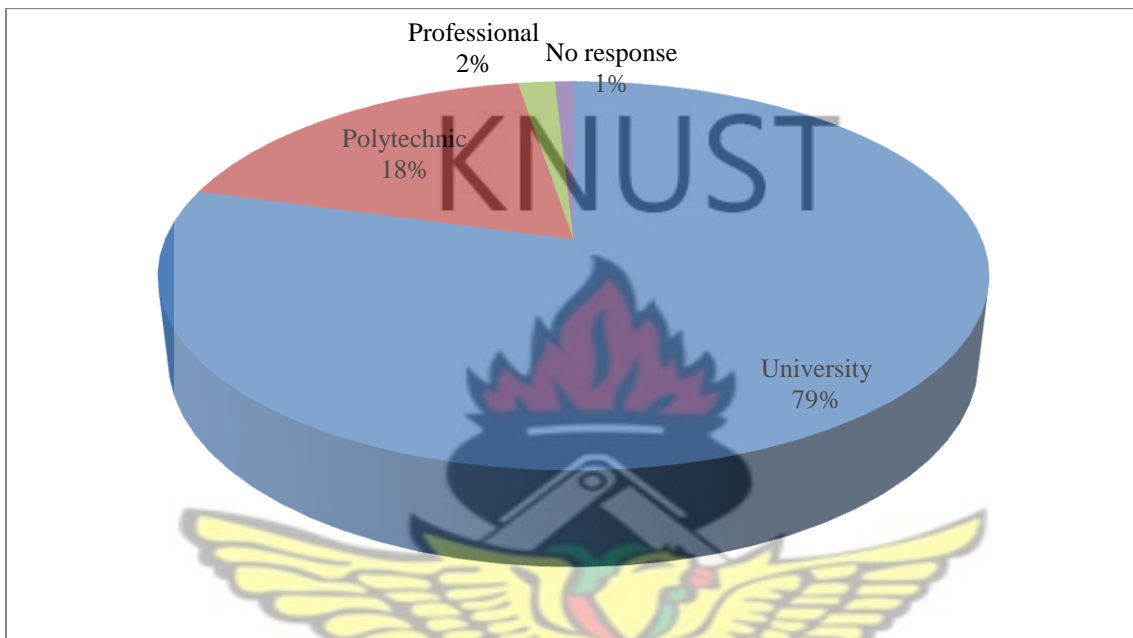


4.2.3 Representation by type of tertiary institution of Authors

In analysing the representation by types of tertiary institutions in Ghana according to the authors (researchers) sampled, about 183(79%) of the respondents were drawn from the universities, 42(18%) from the polytechnics, 5(2%) from professional institutions and 2(1%) gave no

response. This result again mirrors how the various kinds of tertiary institutions in Ghana contribute to research activities; see Fig. 4.3 below.

Fig. 4.3: Distribution of respondents by institution (n=232)



4.3 WORKING WITH JOURNALS: AUTHORS' PERCEPTIONS, PREFERENCES AND MOTIVATIONS

This section seeks to evaluate the significance attached to scholarly communication by Ghanaian scholars. This, the researcher believes, will help in the general appreciation of the study's objectives.

4.3.1 Usefulness of Scholarly Journals

As indicated in Table 4.3 below, a total of 202 (97%) of the respondents attested to the usefulness of journals as a helpful and credible source of information for scholarly communication, 7 (3%) of them failed to acknowledge the relevance of scholarly journals. This result indicates that an overwhelming majority of Ghanaian scholars appreciate the relevance of journals in scholarly activities. This endorsement of the importance of journals by authors in Ghana is likely to give significant credence to Ghanaian journals.

Table 4.3: Assessment of the importance of journals against medium (n=209)

Usefulness	Type of access				Total
	Library	Personal subscription	Online/Internet	All	
Very helpful	67.50	40.00	57.14	80.00	64.04
Quite helpful	27.50	40.00	40.82	20.00	32.46
Neither helpful nor unhelpful	2.50	0.00	2.04	0.00	1.75
Rarely helpful	2.50	20.00	0.00	0.00	1.75
Total	100.0	100.0	100.0	100.0	100.0

4.3.2 Preference of Print or Electronic source of data by Authors

Table 4.4 gives an indication as to the extent of preference for either the printed or electronic journals. While 179 (77%) of the respondents would not be concerned about a specific media in which the journal comes, 39(17%) of the respondents said they prefer only electronic sources of data and 14 (6%) would opt for the printed source only. While this result does not seem to put editors and publishers under pressure as to a specific kind of publication for their journals, it reflects a growing acceptance or shift towards electronic publishing by Ghanaian researchers. The result also shows a growing phenomenon of adherence to electronic consumption of data among lecturers as only 6 (3%) of them indicated their preference for only the printed source of information.

The slight preference for electronic materials over the printed ones goes a long way in portraying the growing rate of internet technology in Ghana especially among the scholarly community. Indeed, it will not be out of place to infer that the decision by many countries to define government policies in support of ICT is beginning to pay off as it is evident that preference for data from electronic sources is higher than that of print. The Internet World Statistics (2007), estimated that the total internet usage growth in Africa between the years 2000 to 2007 increased by 639% as compared to 209% being the world's growth rate for the same period. Though the result shows a shift from print towards electronic

journals, there is no evidence to suggest the demise of the print medium, affirming the assertion of Karp (2007) that print publication will not die until the people who appreciate print distribution are “dead”.

Table 4.4: Preferred sources of research information by category of authors (n=232)

Sources	Category of Authors			Total
	Lecturer	Student	Other	
Print only	6(6%)	5(4%)	3(17%)	14(6%)
Electronic/Online source only	15(16%)	24(20%)	0 (0%)	39(17%)
Both Electronic & Print	73(78%)	91(76%)	15(83%)	179(77%)
Total	94(100%)	120(100%)	18(100%)	232(100%)

4.3.3 Research publications in Scholarly Journals by Authors

When asked whether they have ever published in scholarly journals, the following results came up from the respondents (authors) as indicated in Table 4.5 below. Out of the total of 222 respondents who attempted the questions, 106 (48%) said they have published in a journal while 116 (52%) said they have never published in a journal. Out of this, lecturers

constitute the highest number of respondents 65 (61%) followed by students 35 (33%) and then other workers (administrators and librarians, etc.) within the research institutions 6(6%). This result may affect the benefits from research output on the country since majority of scholars do not publish their works. The reasons accounting for low research publication by the respondents is discussed in detail later in this chapter. The result also reveals that others within the academic environment other than lecturers, majority being students 146(63%), do not publish in journals. This could mean that there are not enough motivational factors to propel them to publish. The few students who publish their research works claimed they are either urged to do so in collaboration with their academic tutors (professors) or to pursue a career within academia. Table 4.5 throws more light on the extent of publication by the respondents.

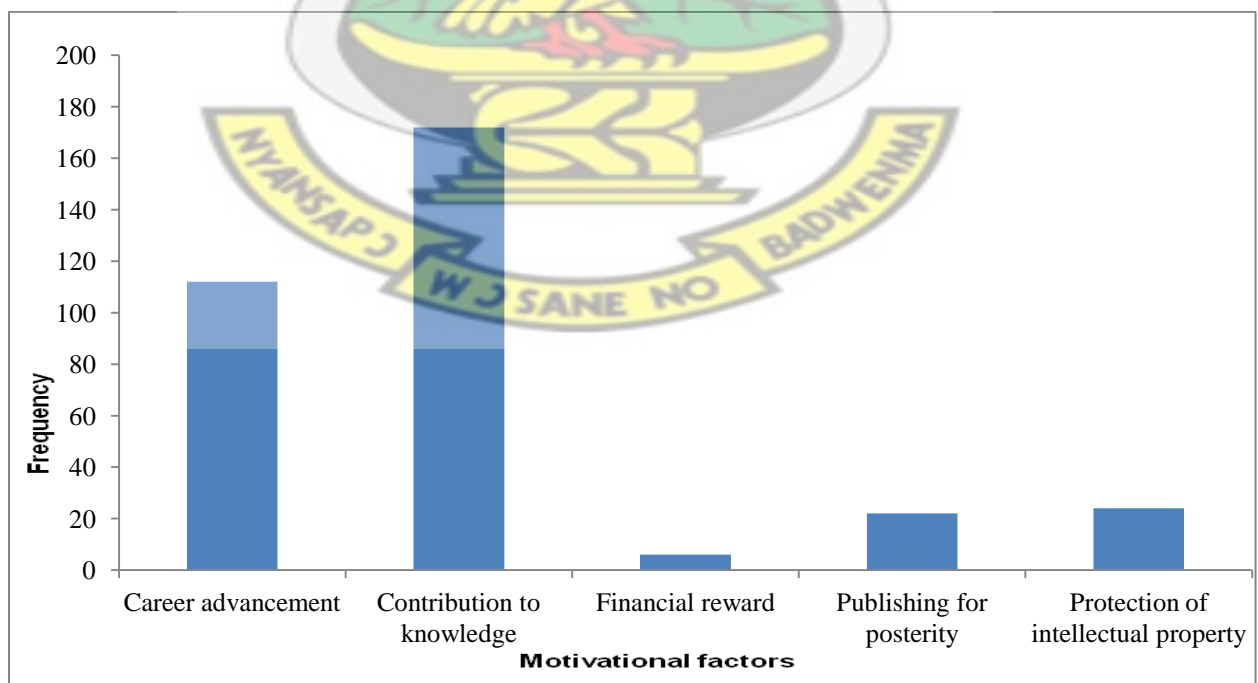
Table 4.5: Publication of scholarly article by category of respondents (n=222)

Publications			
Category	Yes	No	Total
Lecturer	65(61%)	29(25%)	94(42%)
Student	35(33%)	85(73%)	120(54%)
Other	6(6%)	2(2%)	8(4%)
Total	106(48%)	116(52%)	222(100%)

4.3.4 Motivational factors for Ghanaian authors (Researchers)

When asked what would motivate them to publish in a scholarly journal, the respondents made reference to several factors (see Figure 4.4). Most of the authors mentioned contribution to knowledge as their motivation, followed by advancement of careers. Some of the respondents also stated that they would publish for the sake of posterity and to have their intellectual properties protected. Financial gains constituted the least reason authors would want to publish their research findings. It is a positive development for Ghanaian scholarship that authors are motivated mostly by their desire to contribute to knowledge rather than financial gains. Figure 4.4 below gives a concise presentation of the motivational factors for the researchers.

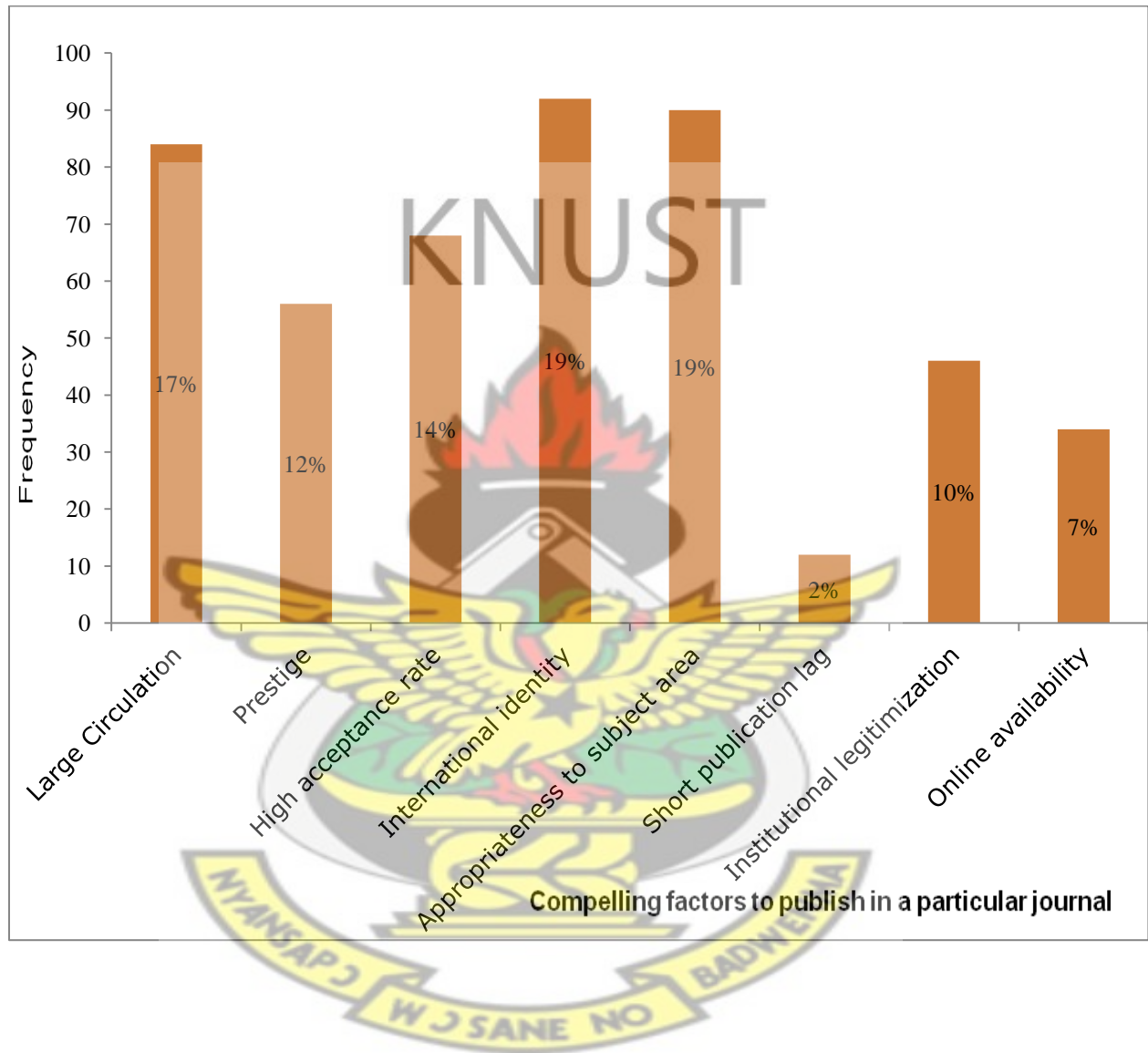
Fig. 4.4: Rank of motivational factors for journal publication (n =232)



4.3.5 Factors that influence the choice of Journals by Authors

In deciding on the kind of journals to publish in, majority of the respondents mentioned several factors. Factors that influence choice of journal as revealed in Figure 4.5 include: a journal with international identity 44 (19%), the appropriateness of the journal to the subject 44 (19%) and journals with high circulation rate 39 (17%). The rest are journals with high acceptance rate 32 (14%), journals with high prestige 28 (12%), journals with institutional legitimisation 23 (10%), journals available in the online domain 16 (7%) and finally, journals with short publication lags 5 (2%). These factors were considered by the authors as those that contribute to the credibility and integrity of a scholarly journal. The authors hinted that their scholarly image would not only be enhanced but that they are also likely to score more points to publish in journals with these qualities. It is therefore imperative that before local journals can enjoy large contributions from authors both from within and outside the country these qualities to a large extent ought to be seen in them.

Fig. 4.5: Rank of factors influencing the choice of journals for publication
(n=232)



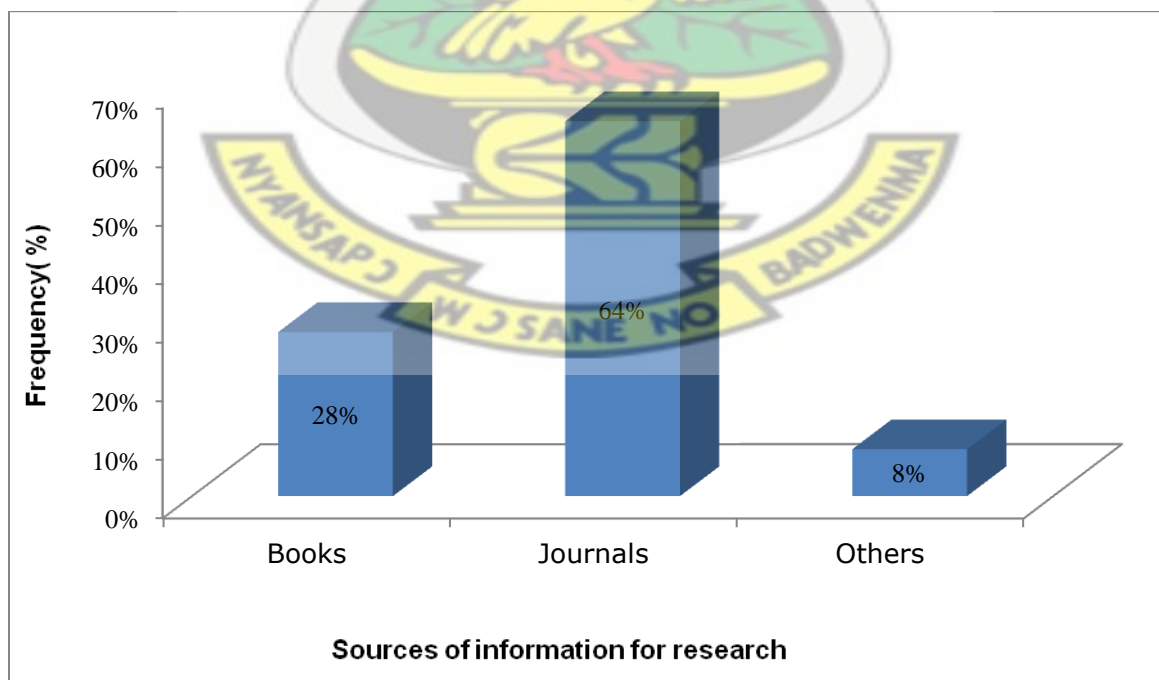
4.4 ACCESS AND USAGE OF SCHOLARLY JOURNALS IN GHANA

This portion of the findings discusses how researchers in Ghana access and use journals for their research activities.

4.4.1 Access and usage of data for research in Ghana

Journals, according to the majority of the respondents 104 (64%), constitute the main source of information for their research works; 65 (28%) said they preferred books, and 19 (8%) indicated their preference for sources other than journals and books. However, about 44 (19%) of the respondents did not respond to this question. Many studies seek to put journals ahead of other sources of information as far as the credibility and accuracy of research data are concerned. The above result is therefore indicative of the fact that since journals form the main source of information by Ghanaian authors, quality and strength of research activities stand a high chance. Figure 4.6 presents the distribution of the major sources of information for research works by the respondents.

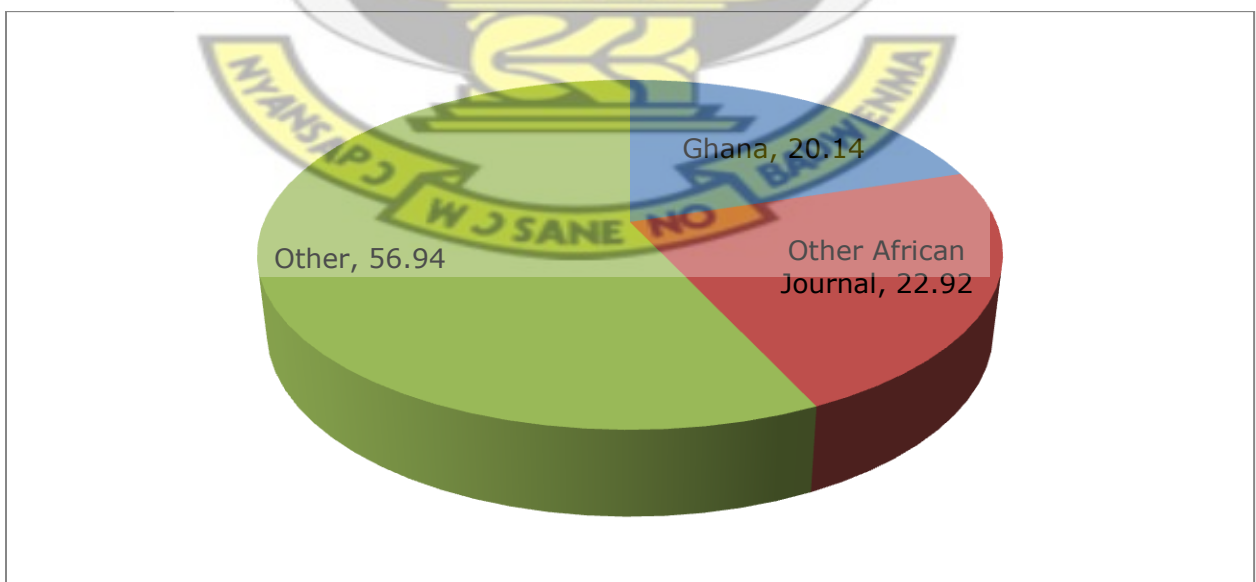
Fig. 4.6: Sources of information for research (n =188)



4.4.2 Sources of scholarly journals used by Ghanaian Authors

Even though majority of Ghanaian scholars claimed they would rely on data from journal sources, only about 20% of the journals available to them that are of Ghanaian origin. Thus about 80% of journals being relied on by Ghanaian scholars are foreign. Though the emergence of the internet technology makes it possible for one to access data from any part of the world, the statistics about the low level of Ghanaian journals could mean information drought as far as peculiar issues bothering the nation are concerned. The result could also mean that Ghanaian authors seem to prefer or depend largely on foreign journals rather than the local journals due to the credibility factors discussed earlier in Figure 4.5 and so do not depend on local journals.

Fig. 4.7: Source of journals used by Ghanaian authors



4.4.3 Acquisition of journals by Authors (Researchers)

In responding to how journals are acquired for research work in Ghana, libraries, personal subscriptions and online (Internet) sources were identified. In all, majority of the respondents 152 (51%) mentioned the Internet for the acquisition of their articles for research. This is followed by 82 respondents (27%) who acquired their journals from library sources. Personal subscription recorded the least form of access to journals by Ghanaian authors as only 20 (7%) of the respondents indicated that they personally subscribed to journals. It was realised that while students dominated in instances where journals can be accessed freely (open access resources online), lecturers on the other hand are seen to prefer the personal subscriptions. On the whole, the result substantiates the claim of Ware and Mabe (2009) that libraries and individuals form the major subscribers to scholarly journals. It is also indicative from the findings that authors are investing more in ICT and the internet technology rather than the traditional patronage of libraries and personal subscription to journals to access data for their research. Table 4.6 shows the column distribution in percentage by the various ways the respondents access their journals.

Table 4.6: Access to journal articles by category of respondents (n=298)

Access to journal articles					
	Libraries	Personal subscription	Online/internet	All	Total
Respondents					
Lecturer	37 (45%)	15(75%)	47(31%)	26(58%)	125(41%)
Student	37 (45%)	5(25%)	105(69%)	14(32%)	161(54%)
Other	8 (10%)	0(0%)	0(0%)	4(10%)	12(4%)
Total	82(27%)	20(7%)	152(51%)	44(15%)	298(100%)

4.5 COMPETENCE OF GHANAIAAN SCHOLARLY JOURNAL EDITORS

Competence and expertise in a particular field are two dominant factors that inform the selection of editors and peer reviewers for a scholarly journal (Scruggs, 1975; Caelleigh, Shea, & Penn, 2001). Based on these foundations, the educational backgrounds, editing experience of the editors and the selection criteria for adopting peer reviewers adopted by the editors who contributed to the study were assessed.

4.5.1 Educational backgrounds of the Editors

In all 14 Editors who contributed to the study, 12 (86%) hold Master's degrees in the disciplines Humanities followed by 2 (14%) in the sciences.

Editors who hold Doctorate degrees are in the Sciences 10 (71%) and Engineering 4 (29%). None of the respondents contacted holds either Master's in Engineering or Doctorates in the Humanities. This result therefore confirms the fact that Ghanaian journal editors are competent enough for their work as there is evidence of attainment of an appreciable academic height in various areas of scholarship. Table 4.7 shows the educational backgrounds of the editors.

Table 4.7 : Distribution of educational level by specialization of editors
(n=14)

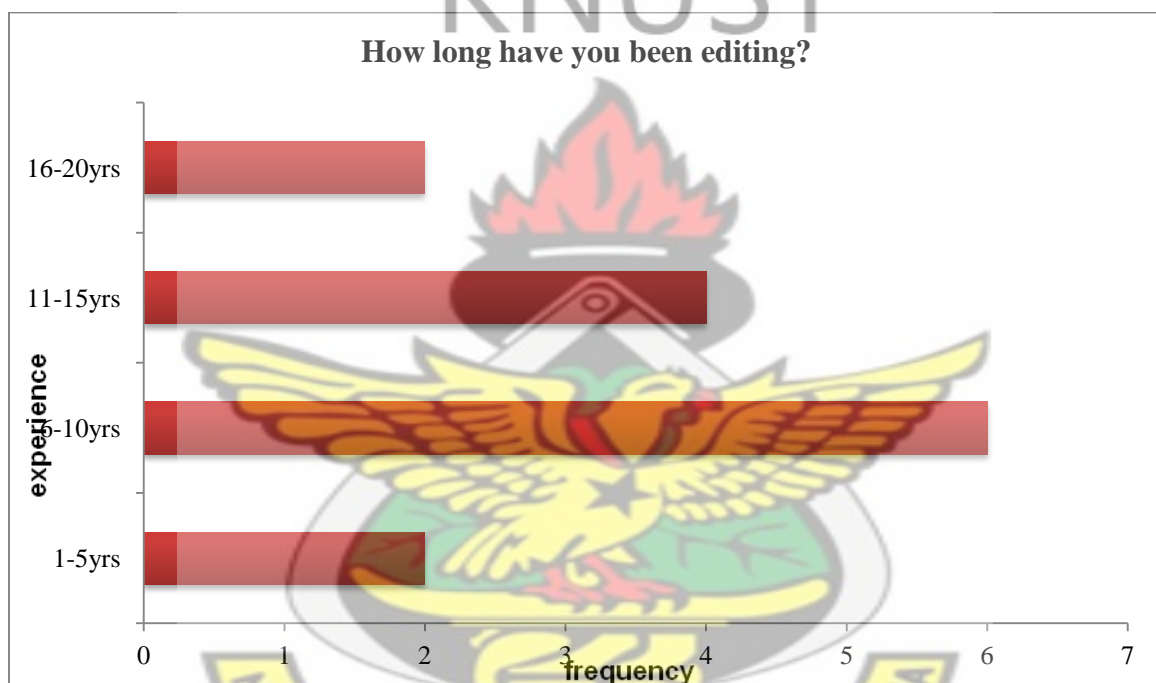
Educational level			
Specialisation	Masters degree	Doctorate degree	Total
Humanities	12(86%)	0(0%)	6(43%)
Sciences	2(14%)	10(71%)	6(43%)
Engineering	0(0%)	4(29%)	2(14%)
Total	14(100%)	14(100%)	14(100%)

4.5.2 Experience of the Editors

With regard to experience in editing as revealed in Figure 4.8, more than eighty-seven percent 12 (87%) of the respondents claimed they have more than six years' experience in editing scholarly journals. It is only a marginal number of 2 (13%) of the editors who claimed they have under five years' experience. This connotes that coupled with wide knowledge in subject areas, Ghanaian journal editors are richly endowed when it comes

to experience in their work. Indeed, the content analysis carried out on the sampled journals also shows the high quality and standard of editing done on the journals. This development negates the perceptions held by earlier researchers in their studies that African scientific publications are not of high standard because of inexperience and incompetence of the editors.

Fig. 4.8: Editing experience of editors (n=14)

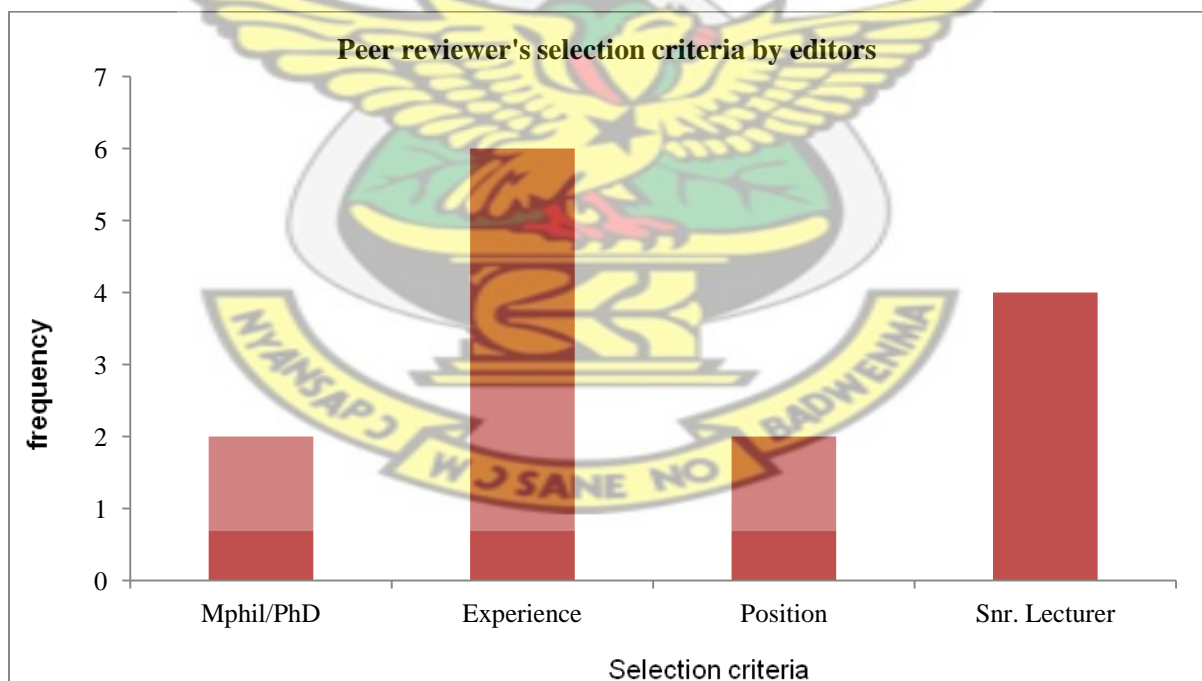


4.5.3 Selection Criteria for peer reviewers by the Editors

Since reviewers form an integral part of the success story of scholarly journals, the study sought to delve into the background of the reviewers selected by the local editors to work on the journals. On the criteria for selecting reviewers, majority of the editors, 6(43%) who responded

indicated that they depend on people with rich experience in peer reviewing. A person who is a senior lecturer in an academic institution would be preferred for reviewing, according to 4(29%) of the respondents. Finally, about 2(14%) each of the respondents also mentioned that a person with a strong MPhil or PhD background as well as someone who holds a position of repute in an academic institution would be their preferred choice of reviewers. Just as the editors emphasise on quality of the journals so are they conscious of the significant roles of reviewers in the success of their journals. Figure 4.9 gives further elaboration.

Fig. 4.9: Selection criteria for peer reviewer for journals (n=14)



In addition to all the above, the respondents stated that they use most of the criteria used for their own selection as editors for their respective

journals as the criteria for selecting reviewers. These, they recounted as follows:

- Appointment by the General Assembly of the Ghana Science Association (GSA)
- Number of publications to one's credit
- Quality of previous works
- Representativeness of a notable professional association such as Ghana Engineers Association
- Strength of the person's background in publishing and editorial works
- Professional and scholarly achievements.

4.6 WORK SPECIFICATION AND SATISFACTION OF GHANAIAN EDITORS

Generally, the work of an editor, according to Montagnes (1991), is to make authors' manuscripts comprehensible to the reader. In finding out their main responsibilities, the editors who were contacted enumerated the following duties which are in accord with the editor's role as catalogued by Montagnes:

- Management of the editing processes, especially copy and substantive editing.
- Coordination of the works of the editorial board and reviewers

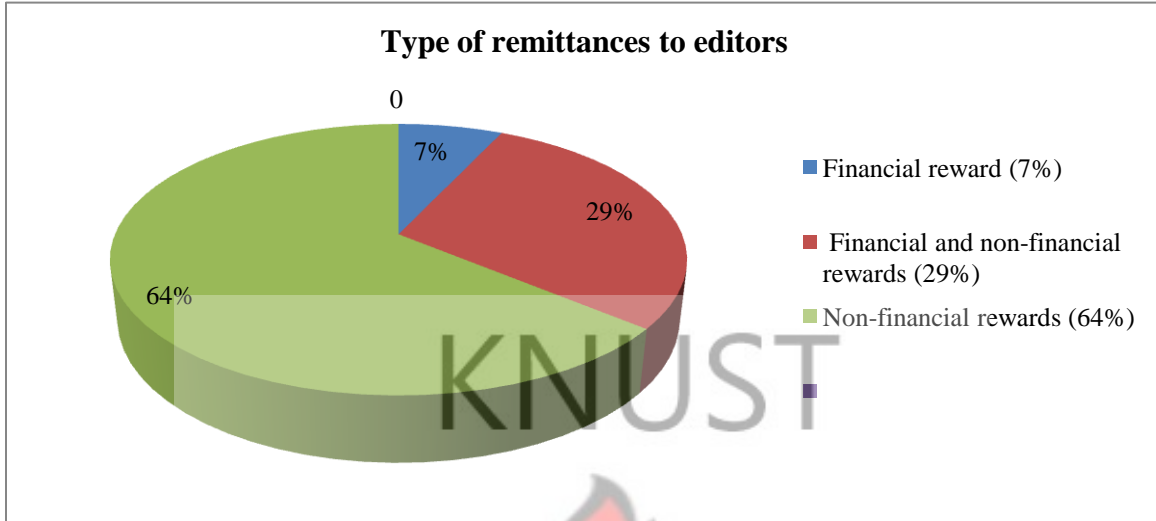
- Preliminary assessment of manuscripts: grammar, typos, formatting and so on
- Manages the journals and ensures their quality output.
- Finds reviewers for the journal and sometimes helps in the review process.

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4.6.1 Motivational Factors for Editors

Editors work more because there are some forms of motivational factors that they enjoy. As demonstrated in figure 4.10 below, 9 (64%) of the editors contacted revealed that they are motivated by non-financial incentives, while only 1 (7%) indicated that they are motivated financially. However, 4 (29%) of the editors said they are into scholarly communication for both financial and non-financial gains. This is an affirmation of the fact that true scholars do not consider financial incentive as inspiration for their work. The major non-financial motivating reason the respondents gave for their continuous engagement in scholarly publication is the joy of adding to knowledge and the fact that they are so recognised.

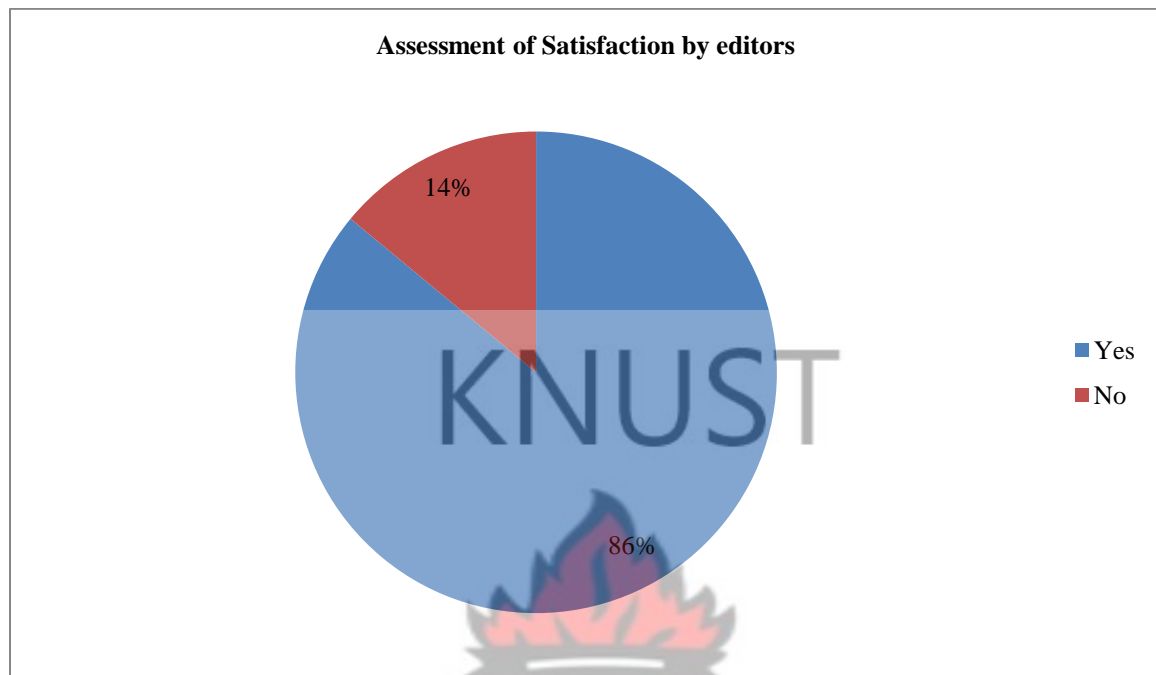
Fig. 4:10 Type of remittance given to Ghanaian journal editors (n=14)



4.6.2 Assessment of Satisfaction of Reward by Editors

When asked whether they are satisfied by the non-financial incentives, majority of the editors 12(86%) responded in the affirmative while 2(14) responded in the negative. It is therefore envisaged that on the part of the editors, scholarly communication in Ghana is not likely to suffer due to the poor financial remittances of editors. This notwithstanding, funding is a crucial element in research activities. Apart from reviewers who are paid for their work, there are other activities catalogued in Chapter Two of this thesis which require a great deal of financial support. Figure 4.11 graphically represents the views of the editors.

Fig. 4.11: Satisfaction of reward (n=14)



It is therefore envisaged that once the majority of the editors claimed they were satisfied with the kind of reward they receive, they will be happy with their work and productivity is likely to improve.

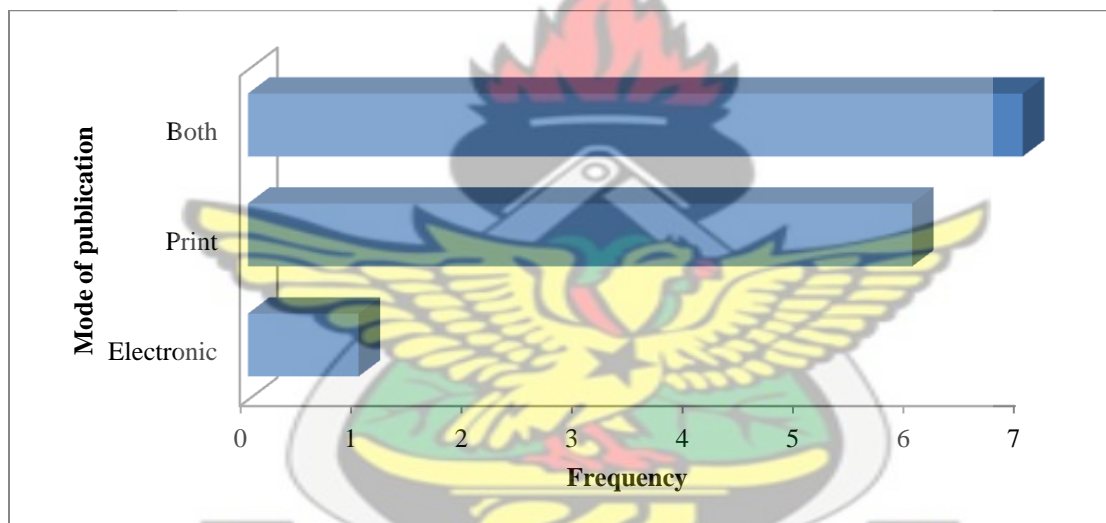
4.7 EDITING AND PUBLICATION OF GHANAIAN JOURNALS

This section of the findings seeks to unravel the editorial and publication concerns of journal publication in Ghana. It explores areas such as mode of publication adopted for the journals and their associative challenges and the rate of rejection of submissions from authors.

4.7.1 Mode of journal publication

In responding to the mode of publication adopted for their journals, majority of the editors, 7(50%) who contributed indicated that their journals are published in both print and electronic formats. This is followed by those who said they adopt only the print formats 6(41%). It is only 1(9%) of the editors who admitted that his journal is printed wholly in the electronic domain. The result is relayed in Figure 4.12 below.

Fig. 4.12: Mode of publications (n=14)



Even though electronic publication is said to be less expensive as compared to the print (Asamoah-Hassan, 2007, C. McAllister, F. McAllister & Fritz, 2004; Angrosh, 2005; & Mattlage, 1999), the result indicated that electronic publication of journals is at its early stages in Ghana. It is also interesting to note that this revelation with regard to the medium of printing by the editors, contradicts the preference of the authors who opted for electronic sources over the print. Hence, the result seeks to

suggest that editors and publishers of scholarly journals are not meeting the full requirements of their readership. Again, it is also obvious from the findings that while the authors are investing more in ICT and the internet to acquire data for their research activities, editors and publishers of Ghanaian journals are rather doing less in that regard. It is therefore important that publishers of the local journals take the needs of the authors into consideration to ensure vibrant research activities. Editors would be able to meet publication deadlines and spend less in the performance of their duties if more attention was paid to publishing their journals electronically.

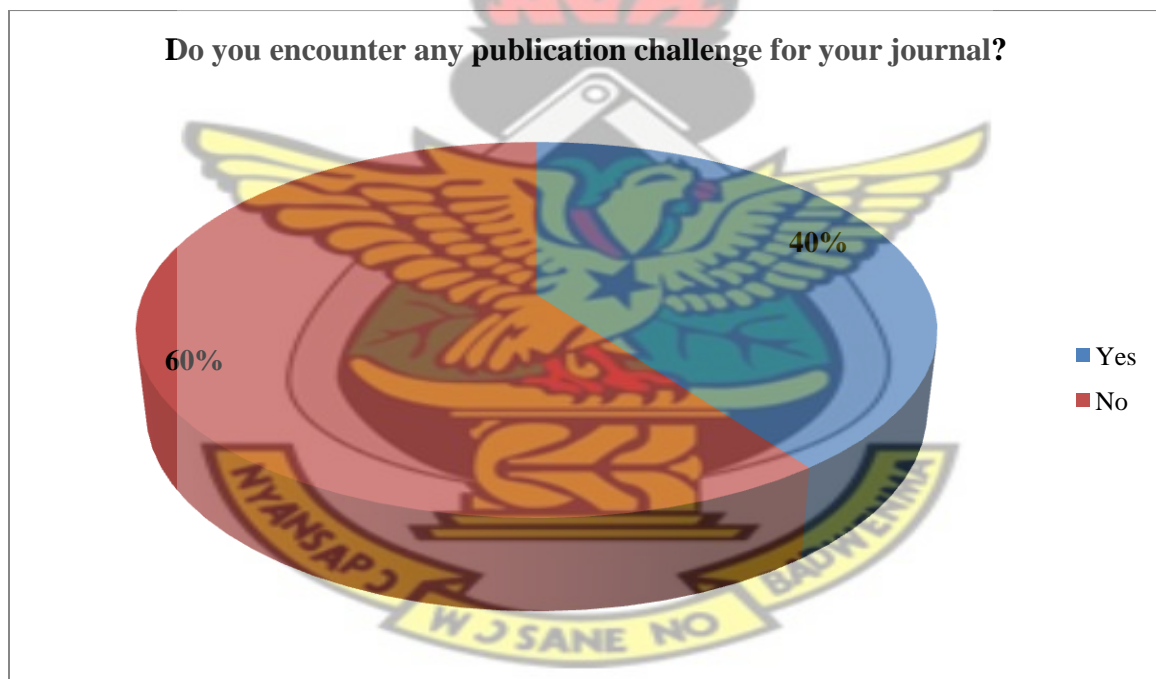
4.7.2 Challenges associated with Mode of Publication

When asked whether they face some challenges regarding the publication of their journals, 6(40%) of the editors indicated they do encounter challenges while majority 8(60) said they do not.

Among the challenges faced by the editors are the high cost of publication, (Fig.4:13) the rising cost of printing and difficulty in getting a place to host the titles. Journal publishers in Ghana have had to endure very expensive printing materials and unstable and expensive power supply among others, in order to publish their journals at any point in time. These conditions result in undesirable editorial and publication lapses which

ultimately impact negatively on the quality and hence affect the international image of the journals. All the editors contacted indicated that they are connected with one academic institution or the other. The academic institutions with printing presses , according to Smart (2004), are usually cash strapped and do not have what it takes to bring to bear the quality required for the journals as compared to commercial presses that are relatively richer.

Fig. 4.13: Affirmation of publication challenges by editors (n=14)



4.7.3 Rejection Rate of Articles by Journals

In response to the question pertaining to the rejection rate of articles submitted to the journals by authors, the editors concurred that they

usually received more articles than needed for publication. Though this could not be attributed to the rejection of the articles it could be a factor in considering the selection for articles for publication. As shown in Figure 4.14 below, majority of the editors 6(43%), indicated that they have a rejection rate of less than 10% of the received articles. This is followed by 4(28%) who have a rejection rate of between 10%-30% and then the rejection rate of between 30%-50% being 3(21%). None of the respondents however indicated that they have a rejection rate of more than 50%. The reasons attributed to these rejections in order of preference by the respondents are poor grammar, scientific misconducts, inability of authors to adhere to journal guidelines (journal writing style), improper referencing and methodological deficiencies. Since the editors claimed they do receive more articles than needed for publication it stands to reason that authors have confidence in the local journals. Figures 4.14 and 4.15 show the rejection rates of articles by the editors and the reasons attributable to these rejections respectively.

Fig. 4.14: Rate of rejection of submitted article (n=13)

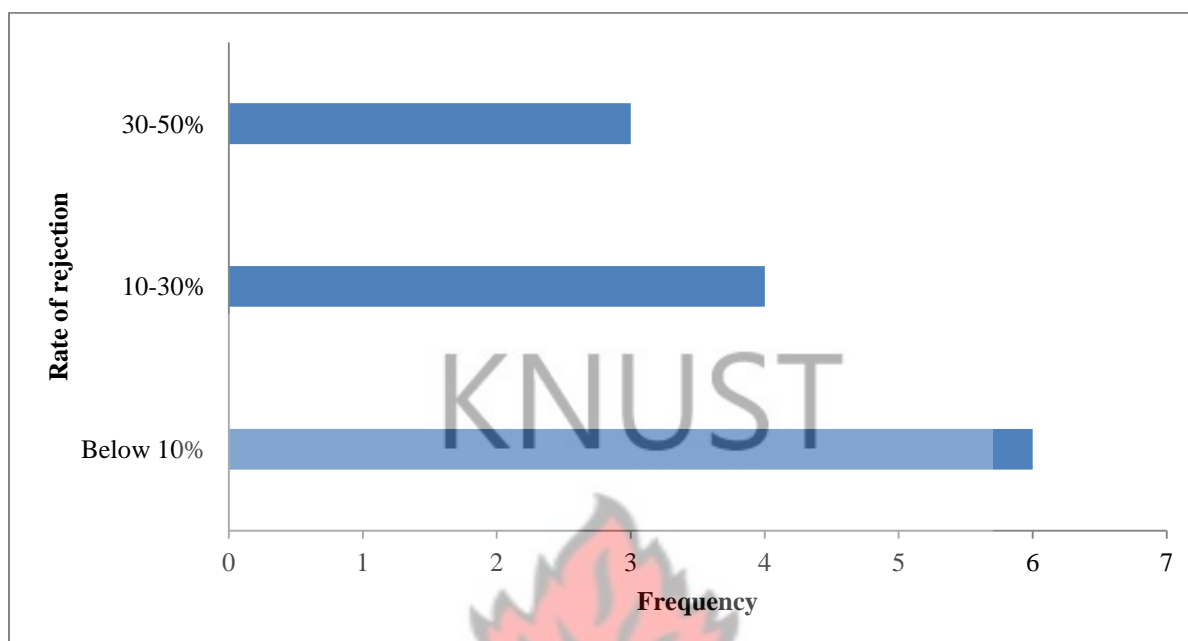
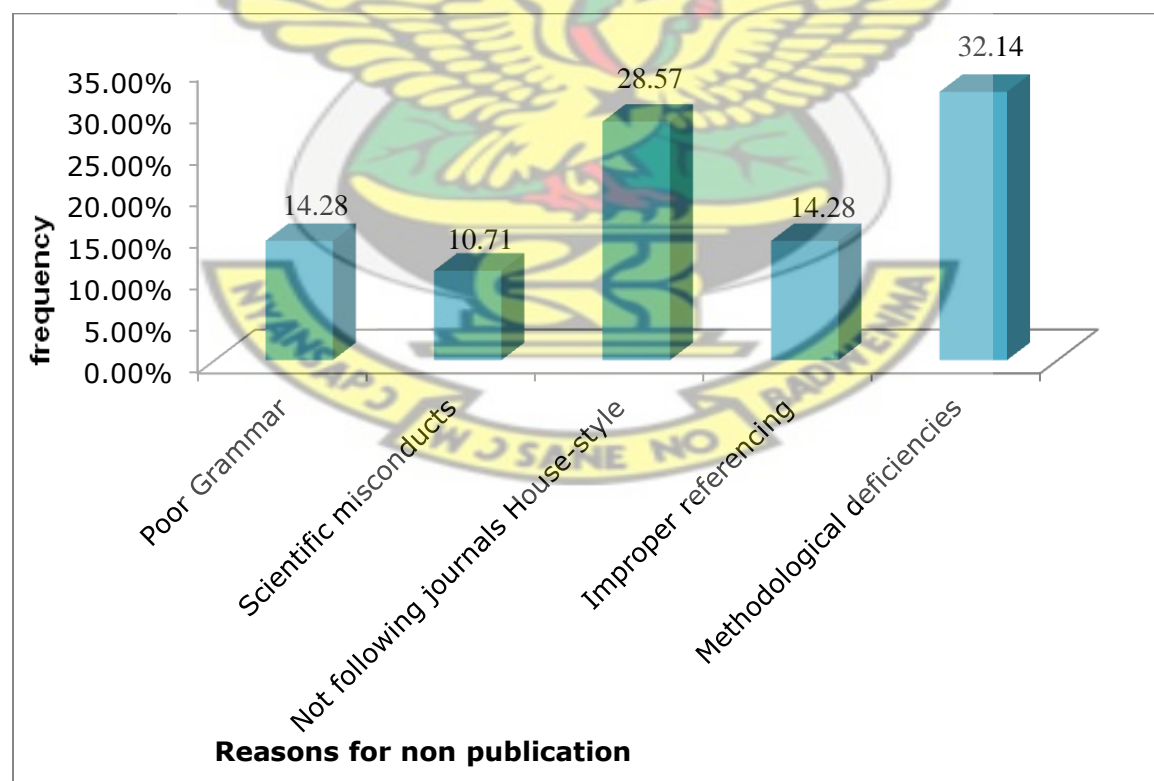


Fig. 4.15: Reasons for non-publication of submitted articles (n=14)



The content analysis done on the sampled journals did not point to any flaws in terms of grammar. Again, with regard to referencing, it was found out that majority of the journals adopted the American Psychological Association (APA) style of referencing with only a few settling on the Modern Language Association (MLA) referencing style. The problem observed however, is that the editors do not update their choice of referencing style. For instance, most of the journals analysed continue to use the old editions of the APA styles instead of the current (6th) edition. It was also observed that in terms of presentation, articles were organised to meet scientific standards. It is only one out of the twelve sampled journals that did not present its articles in accordance with the standard required of scientific journals as outlined by Prosser and Morris. According to Prosser (2003) and Morris (2006), articles in standard scientific journals must be structured according to the following sequence: abstract, introduction, methodology, results and accountability with appropriate bibliographical information of references cited.

4.8 SCHOLARLY JOURNAL PUBLICATION THROUGHPUT IN GHANA

As explained earlier in the literature review, publishing through scholarly journals entails the time for collating papers from authors, editing and passing the received articles through the review process until publication is

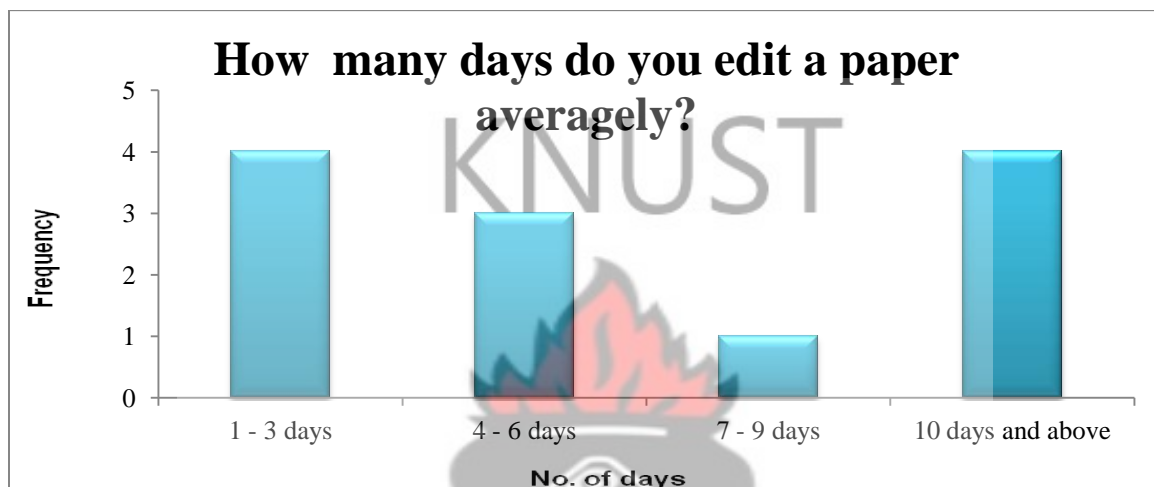
done and made available to the intended audience. It is important to consider publication lag in scholarly communication since time, according to Herrmann and Chincholkar (2001), is of the essence in making research beneficial to its consumers.

4.8.1 Average length of time spent on an article by Editors

With regard to the average length of time spent on articles, 4(29%) each of the respondents (editors) claimed they spent between one to three days or more than ten days working on an article sent in by authors. This is followed by 3(21%) of the respondents stating that they spend an average of four to six days editing an article. The rest of the respondents 1(7%) indicated that they spent between seven to nine days. About 2(14%) of the respondents however did not answer the question. This average length of time spent on articles as indicated by the editors is good for short publication lag of the journals. Indeed, Ware (2008) pointed out that an average time spent working on articles (submission to acceptance) by editors is 130 days. The length of the article coupled with the amount of corrections needed to be done will, among other factors, determine the length of time to be spent. Reduction in production lag should therefore be a duty by reviewers, editors and authors. So in as much as editors are fast on their work, reviewers must also respond quickly to their responsibilities while authors should effect corrections to their works in time to ensure

that deadlines are met so far as publication of the journals are concerned. See Figure 4.16 below for the results.

Fig. 4.16: Average time spent working on an article by editors (n=12)

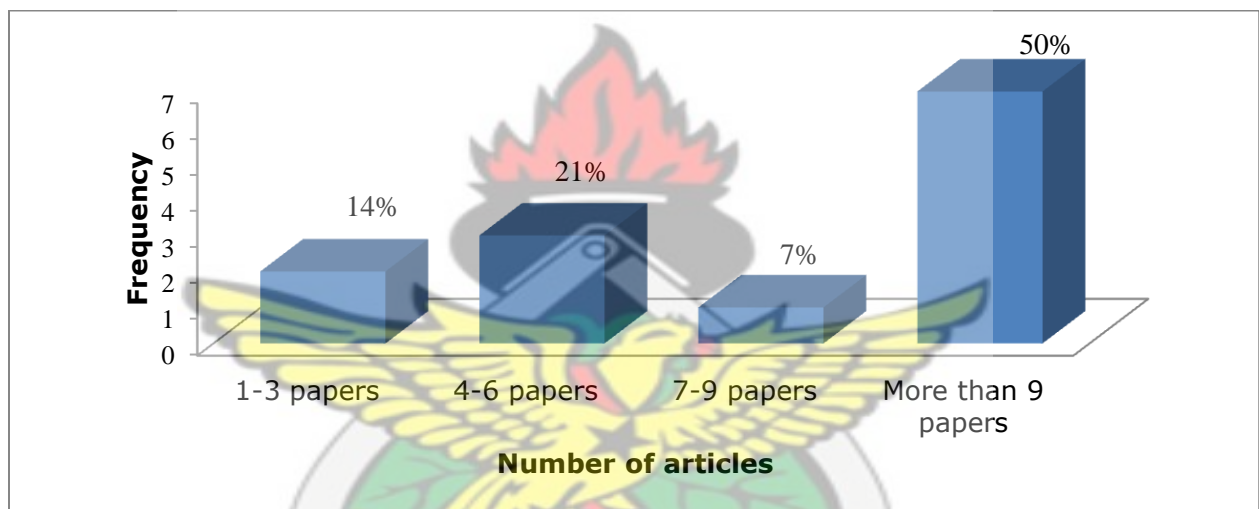


4.8.2 Average number of Papers edited per Editor per year

When asked to give an account of the average number of articles edited in a year, 7(50%) of the editors said that they edit more than nine (9) papers averagely per year. About 3(21%) of the editors also indicated that they edit between four to six papers averagely in a year followed by 2(14%) who edit one to three papers. While 1(7%) of the respondents states that he averagely spent a year to edit between seven to nine papers, another 1(7%) declined to comment on the question. Malone (2011) however says that expertise of an editor is measured by the number of papers he or she edits in a year. Ware (2008) is emphatic that reviewers or editors work on a total of eight (8) papers per annum. So, to

have about half of the respondents claiming they edit more than nine (9) papers in a year, presupposes that the editors are not overburdened, hence a high quality work is expected of them. A critical analysis of the contents of the sampled journals reveal an appreciable standard of work is being done by the editors though there is room for improvement.

Fig. 4.17: Average number of articles edited per year (n=14)



4.8.3 Challenges faced by Ghanaian Authors (Researchers)

Scholars contacted in the survey opined that there are a lot of difficulties or challenges one would have to surmount in order to undertake a study and perhaps have them published in Ghana. Among some of these challenges in their order of intensity as shown in Fig. 4.18 are: poor access to information 84(36%), inability to find a credible domestic journal in subject areas to publish in 53(23%), lack of funding support to

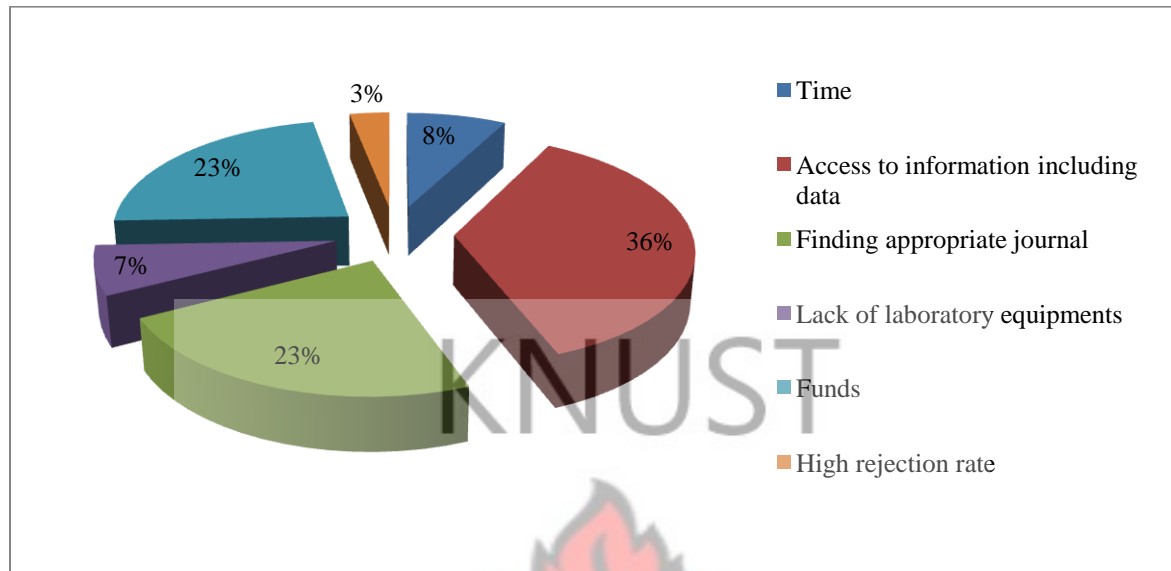
undertake research activities 53(36%), limited time to the researcher due to overburdened schedules 19(8%), lack of standard laboratories 16(7%) and high rejection rates of some journals 7(3%). These indeed are the challenges that other researchers have documented in their studies as being the limiting factors as far as research output on the African continent is concerned.

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It is apparent that the lingering hindrances to Ghana's, and to a large extent, Africa's success in research are these factors mentioned above. To get rid of these obstacles, institutions must update their stock of books in their libraries, revamp their laboratories with new and modern equipment and materials and begin to establish journals for their various disciplines. Donor agents, private bodies and organisations must seek answers to their problems by investing in research activities.

Most libraries in Ghana are not functioning properly and the few credible ones are located only in the major universities and most contain outdated materials.

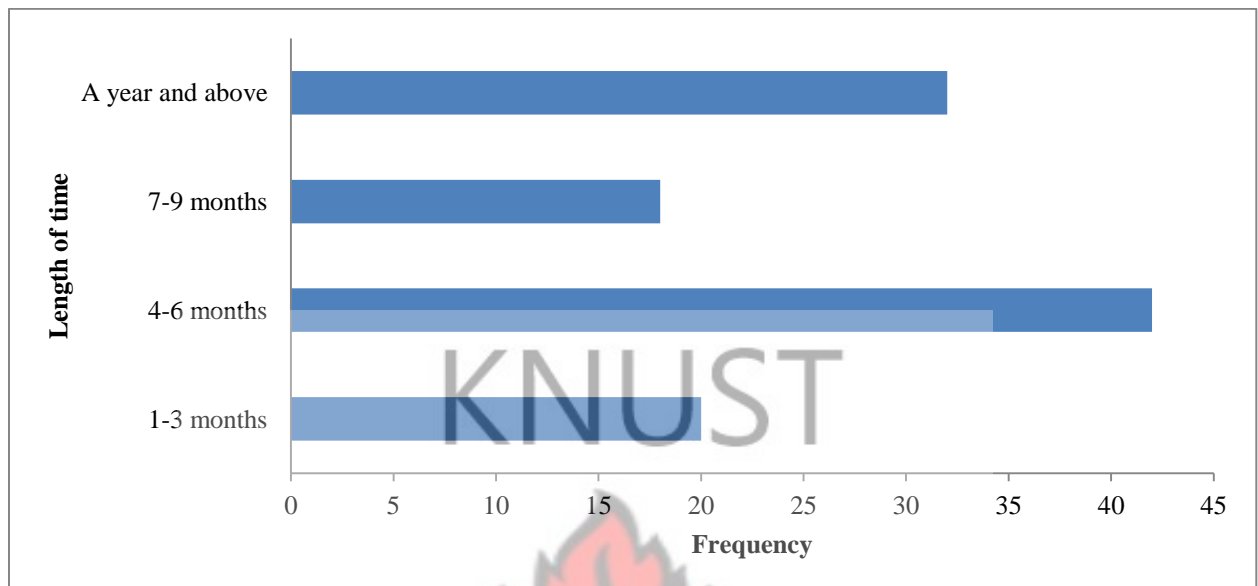
Fig. 4.18: Authors' challenges in researching and publication (n=232)



Reliable information for scholarly works available on the internet is not free and due to lack of financial support, most scholars are unable to access them. It is also worth mentioning that people feel reluctant to give out information even if it is for research purposes in Ghana either for fear of victimisation by their employers or they just do not see the relevance of the data to the researcher. Also, due to the low level of scholarly publications in Ghana, there are only few journals available as compared to the trend in other parts of the world where scholarship has grown to an appreciable level. This makes it difficult for most researchers in Ghana to find appropriate local journals for their research findings thereby resorting to foreign ones.

Again, time spent in undertaking a research contributes a great deal to the general production lag of a journal. The result in Figure 4.19 reveals that 88(38%) of the respondents indicated that they spend between four to six months to put together an article for publication in a journal. Sixty-seven 67(29%) of the editors also claimed they spend more than a year undertaking a study followed by 39(17%) who says they use a maximum of three months. The least recorded is 37(16%) of the respondents who indicated that they spend between seven to nine months to prepare articles for publications in journals. Thus the Ghanaian researchers spend on average a total of about seven and a half (7.5) months to come out with an article for publication. This indeed, is a cause for worry since most of the editors contacted indicated that their journals are published more than once in a year. The result therefore connotes that local contribution of research is not enough for Ghanaian journals to keep to production schedule, hence the heavy dependence on foreign authorship.

Fig. 4.19: Length of time for article preparation for journal publication (n=231)



On the part of editors, the following have been catalogued as the major challenges affecting scientific communication in Ghana:

- Late submission of manuscripts by authors
- Delays in the reviewing process
- Failure to resubmit corrected versions by authors for publication and delay by printers of the journals
- Inadequate reviewers and the difficulty in finding reviewers for journals
- Poor motivation
- Poor quality of manuscripts
- Unstable supply of electricity
- High cost of printing

4.9 ECONOMICS OF SCHOLARLY PUBLICATIONS IN GHANA

Having established that funding is one of the major issues when it comes to scientific publications in Ghana, the study further sought to find out the following from the editors:

- The major sources of funding for the journals
- The extent of profitability of journal publications in Ghana and
- The major motivational factors of undertaking scholarly publishing in Ghana.

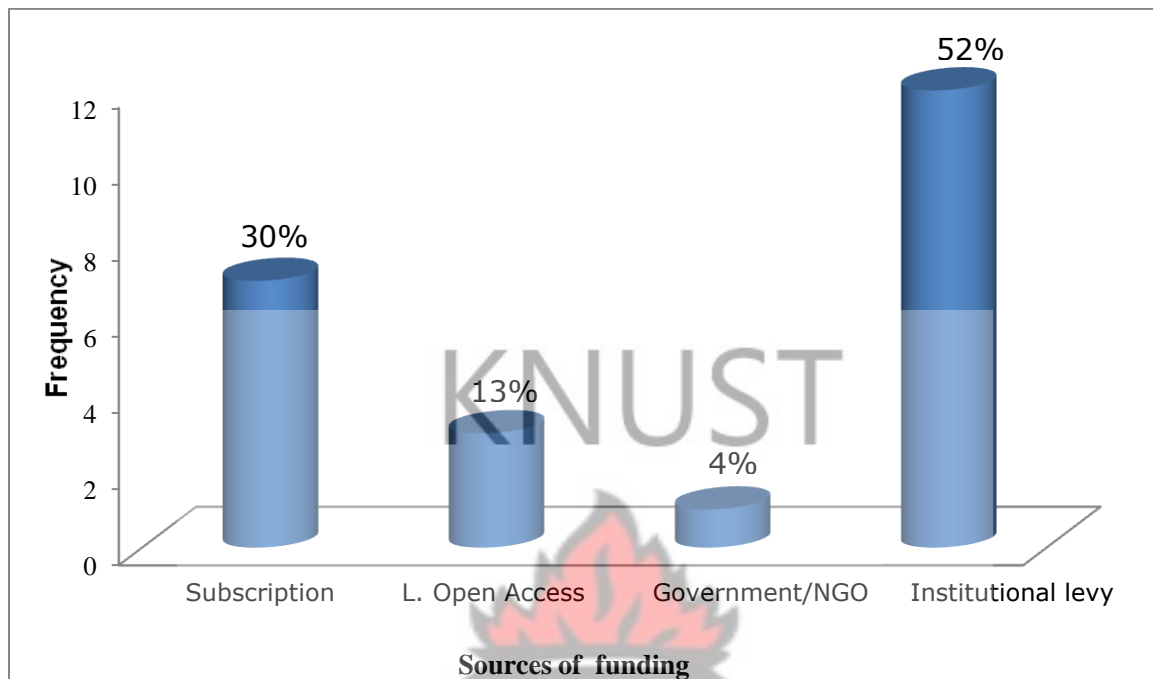
4.9.1 Sources of funding for the publication of journals

When asked about the source of funding for the publication and the general running of the journals in terms of editorial, print, reviewer and distribution costs, 7(52%) of the respondents mentioned their main source as institutional levy. Members in a particular institution to which the journal belong are levied and the funds realised are used for the publication. Other sources, according to the editors, include sponsorship by the academic institution to which the journals belong and members of professional associations or institutions who own the journals. From the result, it was observed that apart from the numerous challenges that authors need to surmount in order to undertake their research and publish

them, they also bear fundamentally the financial responsibilities. This tends to make research work in Ghana an undesirable task.

Other sources the editors claimed provide funding are subscriptions 4(30%), limited open access 2(14%) which provides free access to only abstracts while the contents of articles are sold; and grants from government and non-governmental organisations (NGOs) 1(4%). These results indicate the poor level of assistance and interest shown for research activities in Ghana by both the central government and corporate bodies authenticating the claim of Ofei (1997) that the publishing industry in Ghana lacks financial support by both government and financial institutions. This poor attitude in terms of finances, according to Bgoya 1992; Ware & Mabe 2009; Castells 1998 and Ondari-Okemwa 2007 results in less profitability of scientific publications in Africa. Figure 4.20 throws more light on the major sources of funding for the operations of scientific journals in Ghana.

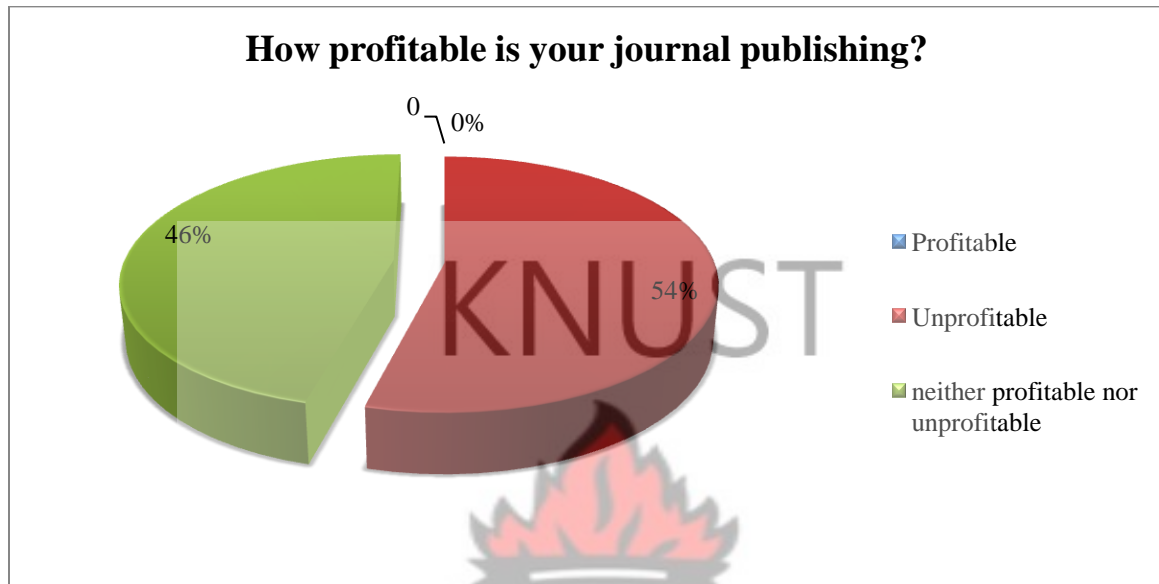
Fig. 4.20: Sources of funding for operation of journals (n=14)



4.9.2 Profitability of scientific journal publications in Ghana

Contrary to the indications of Outsell (2009) that scientific publishing is now a lucrative business, the situation is different in Ghana and perhaps other places in Africa. Most of the editors interviewed indicated that they in fact have deficits in running their journal in Ghana. For instance, 8(54%) of the editors interviewed stated that scientific publishing in Ghana is not a profitable venture to engage in. 6(46%) of the editors claimed they break even. None of the editors however could tell whether scientific publishing is a lucrative enterprise or not. Figure 4.21 portrays the assessment made by editors regarding the profitability of scholarly publications in Ghana.

Fig. 4.21: Assessment of profitability of scholarly publication in Ghana (n=14)



4.9.3 Major motivations for scholarly journal editors in Ghana

When asked what the motivation is for engaging in scientific publishing since it is not profitable, the editors indicated that they desire to contribute to the development of science in Ghana and beyond, to make available research works of scientists and to add to knowledge. Others pointed out that their publications provide the needed platforms for academics to publish their research results which assists in their promotion to higher positions and also, most importantly, they want to be part of the history marking the revolution of scientific communication in Ghana and Africa as a whole.

4.10 MARKETING, DISTRIBUTION AND VISIBILITY OF GHANAIAIAN JOURNALS

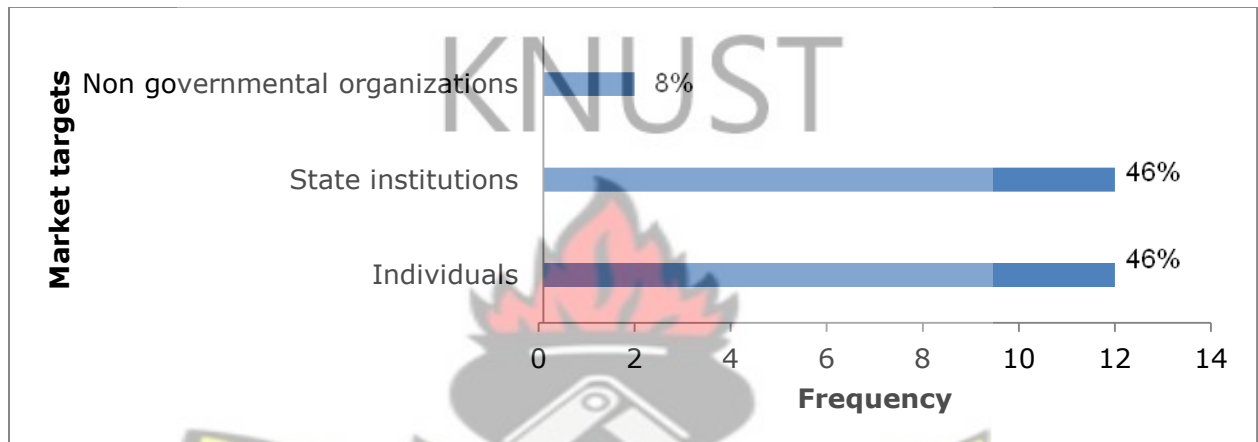
This portion of the analysis delves into the strategies adopted to get the journals to the targeted users. It also seeks to interrogate the extent to which Ghanaian scholarly journals are visible or exposed.

4.10.1 Audience for Ghanaian Journals

It is important to identify the main consumers of Ghanaian journals so that a credible assessment can be made on the strategies employed in getting the journals to them. When inquired, 6(46%) percent of the editors indicated that their journals are consumed mainly by state institutions, and 6(46%) said their journals are consumed by individuals. Only 1(8%) of the respondents mentioned that they target non-governmental organisations and industries. The results (Fig.4:22) however showed that both NGOs and industries (who according to Carey, (2007) are thought to rely heavily on research outputs), do not show much interest in the outcomes of research works in Ghana. It is essential that scholars in the country consider the needs of industries and NGOs operating in the country when undertaking their studies so that the results of their research become beneficial and properly utilised. The focus of research works carried out by scholars in the country it seems, is to a large extent,

geared towards career advancement or scholarly recognition rather than benefiting the industrial sector of the country as is the case in other developed nations.

Fig. 4:22: Market targets for journals (n=13)

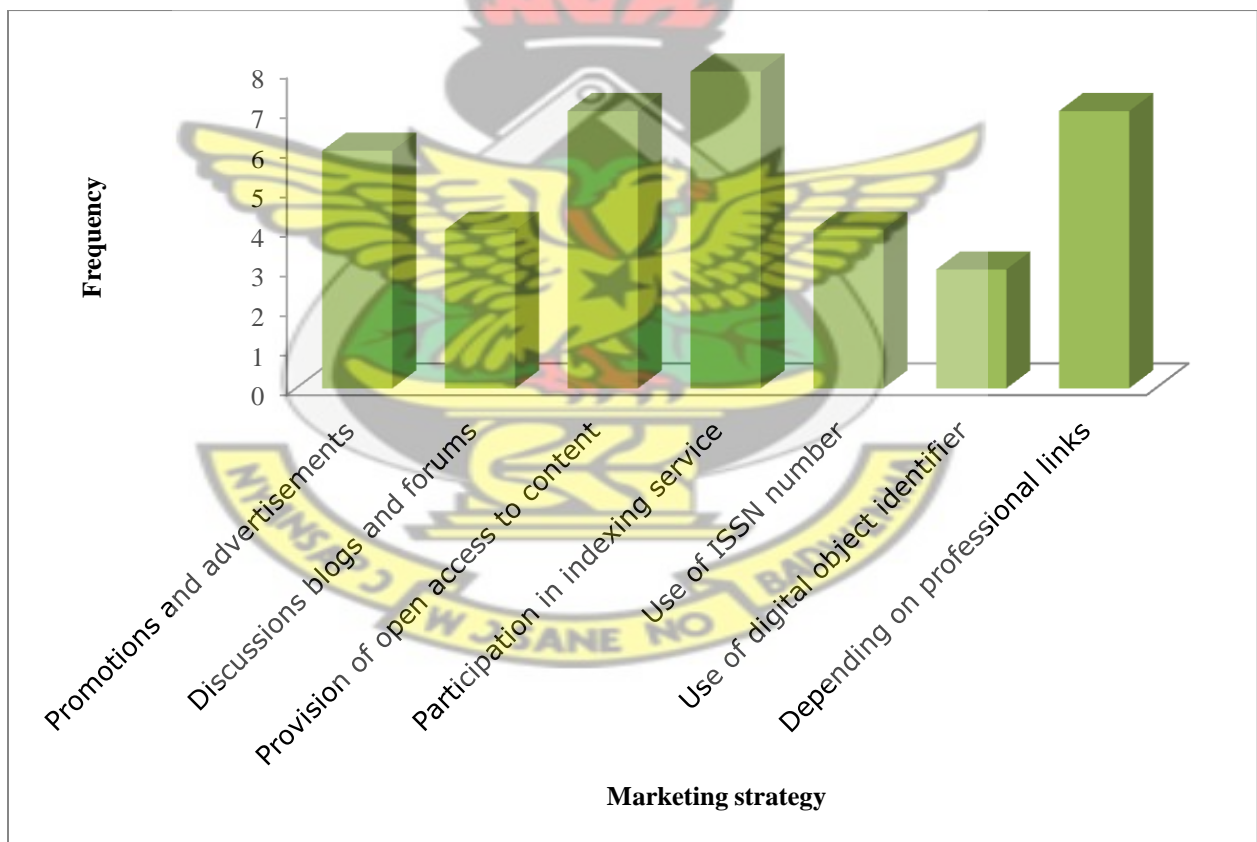


4.10.2 Marketing Strategies adopted for Ghanaian journals

The editors contacted indicated that their works go beyond overseeing the success of the scientific communication process to ensuring that the publications are circulated and shared among all those who require their services. The editors contacted mentioned that they rely on almost all the strategies identified by Stranack (2008) in marketing journals. These include promotion and advertisements, the use of professional links, discussion lists, blogs and forums, the Internet search engines and provision of open access, participating in indexing services, as well as obtaining an ISSN and DOI.

The predominant marketing strategies used, according to the editors, are participation in indexing services, provision of limited open access to contents of journals in the online domain, dependence on professional links and carrying out some promotions and advertisements. The least used strategies according to the editors contacted, include the use of digital object identifiers, the ISSN, discussion blogs and related forums.

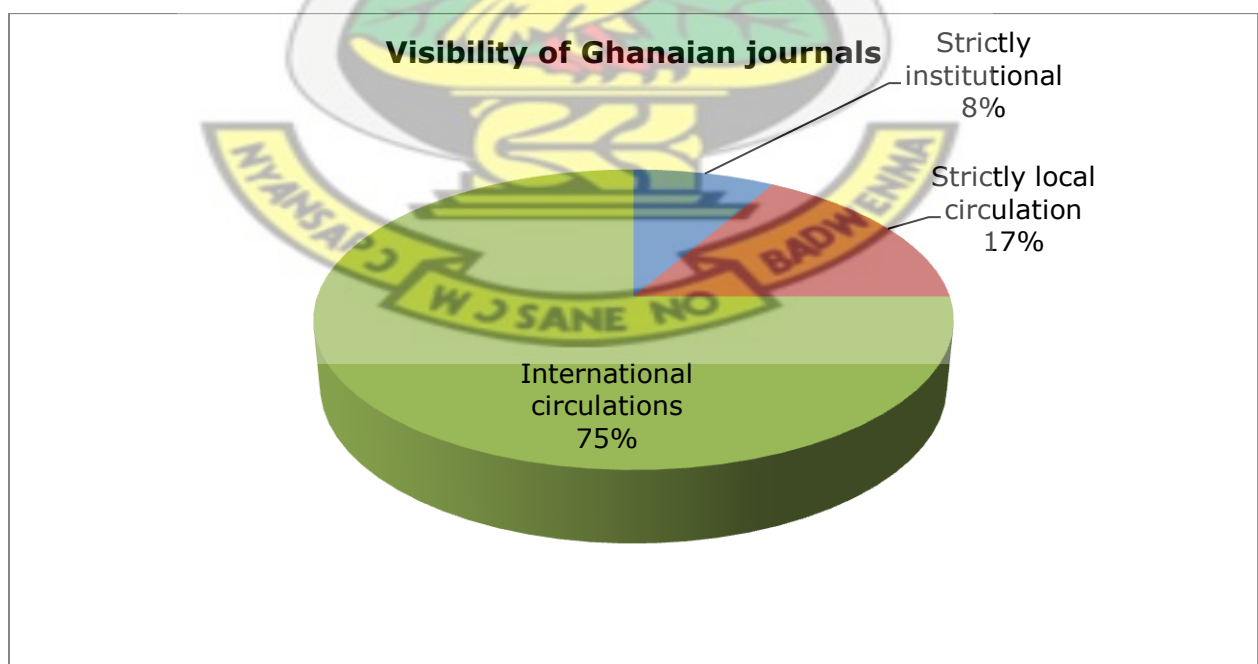
Fig. 4:23: Marketing strategies for journals (n=14)



4.10.3 Visibility of Ghanaian journals

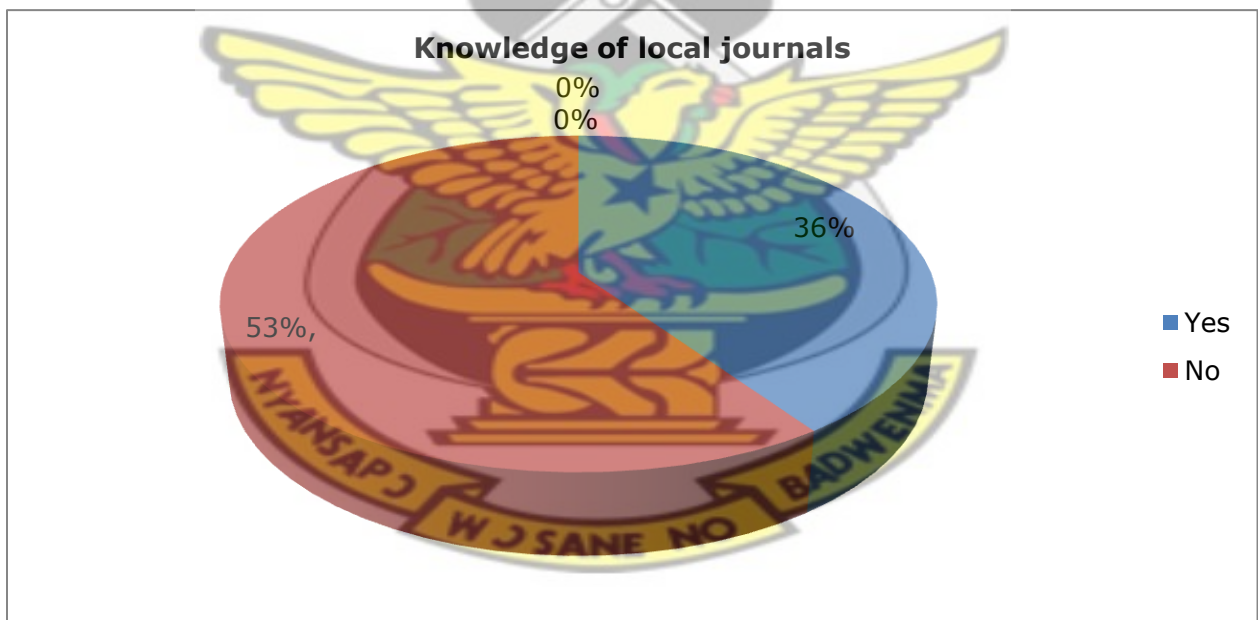
Unlike the assertion made by researchers that scholarly publications coming from African regions do not enjoy much visibility, this study found a contrary situation. For instance, it was found out that Ghanaian journals enjoy wide international visibility. Majority of the editors 11(75%) claimed that their journals have international circulations or visibility. It is only 2(17%) and 1(8%) of the editors who indicated that their journals are limited strictly to local and institutional circulations respectively. The wide international visibility of Ghanaian journals can be attributed to the dependence on Internet or online strategies of marketing by the editors and the publishers of the journals.

Fig. 4:24: Extent of exposure/visibility of Ghanaian journals (n=14)



It is however ironic that majority 123(53%) of Ghanaian scholars do not know about the existence of some Ghanaian published journals in their fields of study and hence cannot mention them. This is also an indication that editors might not be doing much as far as internal advertisements are concerned or perhaps Ghanaian scholars are more interested in foreign journals rather than local ones due to the high recognition they think foreign journals supposedly possess. See Fig.4:25.

Fig 4:25: Knowledge of local journals by Ghanaian authors (n=207)



4.11 QUALITY ASSESSMENT OF GHANAIAAN RESEARCH OUTPUT

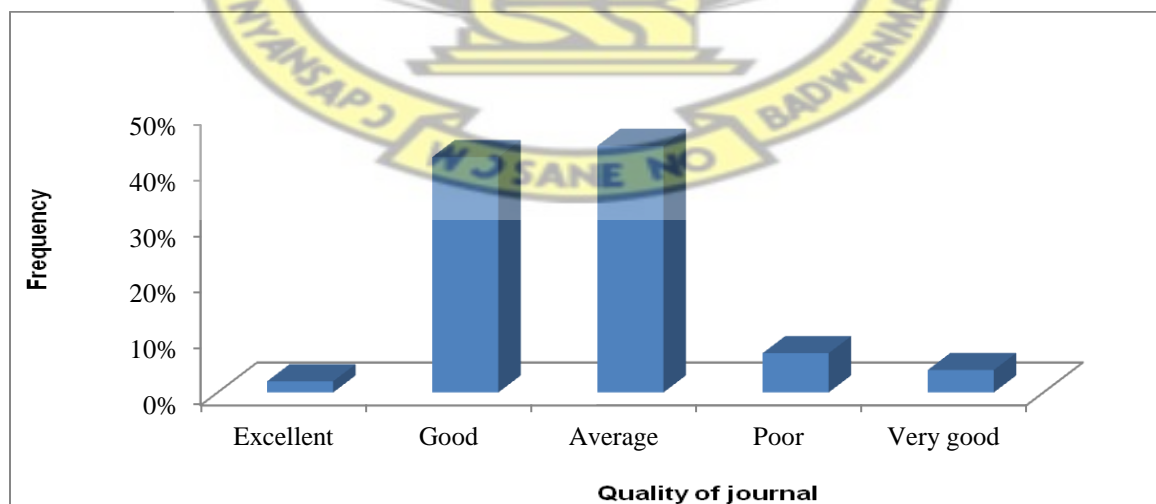
It is prudent that in establishing the strength of scholarly output through journal publications in Ghana, the perception of authors towards the

quality of research works in the country be looked at. Measures adopted by editors to ensure quality and strength of research works were also examined.

4.11.1 Assessment of Ghanaian research works by authors

It is important to evaluate how Ghanaian scholars perceive research works in Ghana in terms of quality and strength. When asked, majority of the respondents 102(44%) noted that research publications from Ghana are of average quality. This is closely followed by those who perceive research works from Ghana as good 97(42%). Only a few of the respondents 5(2%) see Ghanaian research works as excellent. On the other hand, 16(7%) and 9(4%) of the respondents think that Ghanaian research works in journals are poor and very poor respectively. Figure 4.26 throws more light on the assessments made by the respondents.

Fig. 4.26: Assessment of research publications in journals in Ghana (n=229)



Indeed, the assessment made on the contents of some of the sampled journals gives credence to the assertions so far made by researchers about the quality of Ghanaian journals. Table 4.8 gives the result of the assessments made on the content of the sampled journals.

Table 4.8: Results of content analysis

CONTENT ANALYSIS RESULT OF SAMPLED JOURNALS

No.	JOURNAL	COVER DESIGN	QUALITY OF EDITING	REFERENCING & OTHER SCIENTIFIC STANDARDS	TYPESETTING	QUALITY OF MATERIAL & PRINT	STRUCTURE OF PRESENTATION	FINISHING (Binding & Trimming)
1	GJAS	Good (needs to be given a more attractive look)	Very good	APA, Good standard even though not the latest edition.	Very good. (2 columns).	Average. More work needs to be done	Standard	Good but more needs to be done
2	JBR	Good	Very good	APA, acceptable standard	Very good. (1 column)	Very good	Standard	Very good
3	JGSA	Good	Very good	APA, acceptable standard	Very good (2 columns)	Average	Standard	Good
4	GLJ	Good	Very good	APA, Standard but poor usage	Very good (2 columns)	Very good	Average Standard, non-uniformed structure of presentation	Good
5	GJS	Good	Very	APA, acceptable	Very good (2 columns)	Very good	Standard	Very good

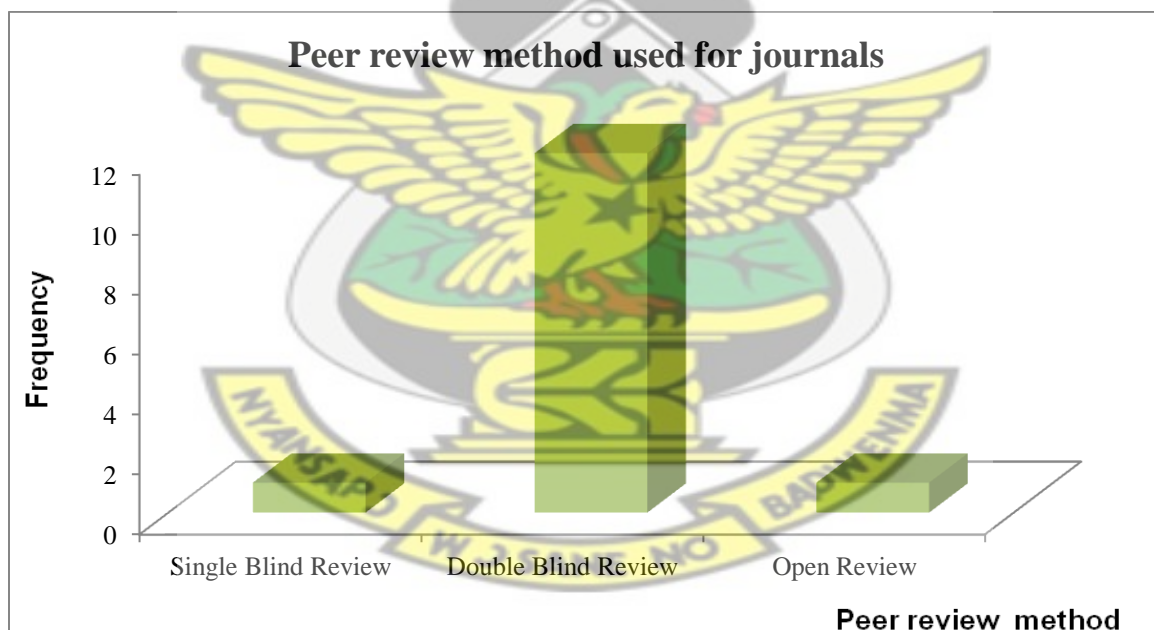
			good	standard	columns)			
6	AFSJG	Good	Good	APA, standard but poor usage	Good (2 columns)	Good	Standard	Good
7	WAJAE	Good	Very good	APA, acceptable standard	Very good (2 columns)	Good	Standard	Good
8	GJDS	Good	Very good	APA, acceptable usage	Very good (2 columns)	Good	Standard	Very good
9	JAST	Good	Very good	MLA, acceptable usage	Very good (2 columns)	Very good	Standard	Very good
10	JUST	Very good	Very good	APA, acceptable usage	Very good (2 columns)	Very good	Standard	Very good
11	RRIAS	Poor	Good	APA, acceptable usage	Good (1 column)	Good	Standard	Good
12	GMJ	Good	Very good	MLA, acceptable usage	Good (2 columns)	Very good	Standard	Very good

4.11.2 Measures put in place to ensure quality of research works

According to the editors, they depended more on double blind review with only few indicating their preference for single blind review and open review. The double blind review according to the editors, is one of the very effective means of ensuring quality of the scientific communication process. As pointed out by Kumar (2009) and Ware & Mabe (2009) in the literature review, the single blind review is the review type whereby the reviewer alone knows about the identity of the author but not the other

way round. For the double blind, neither the reviewer nor the author knows each other's identity. In open review however, both the reviewer and the authors get to know about each other's identity. Of the three however, Kelly (2011) noted that double blind review is the most effective for preventing conflict of interest and thus ensuring quality output. This therefore means that once the majority of Ghanaian editors indicated their preference for the double-blind review, there is little doubt about the quality of the research output in the journals being poor.

Fig. 4.27: peer review method adopted for journals publication (n=14)

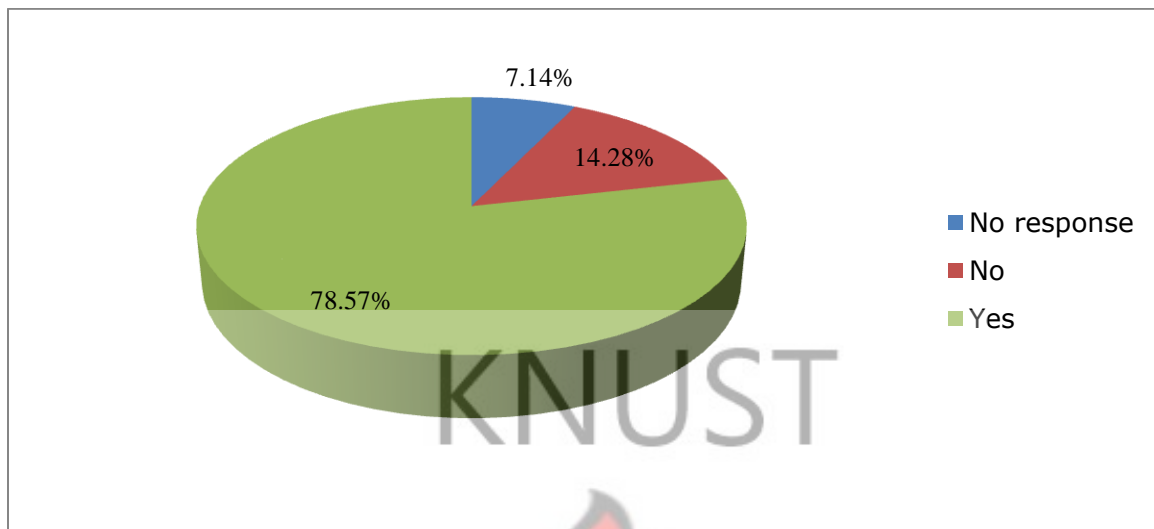


Again, referencing is one way that the editors indicated that they rely on to ensure quality of their scientific publications in Ghana. Angélil-Carter (2000) argued that referencing and acknowledgement help in asserting

and validating arguments raised by scholars in scientific communications (as cited in Neville, 2008, p. 2). In Ghana, it has been observed that most journals rely on two main forms of referencing — Modern Languages Association (MLA) and The American Psychological Association (APA). Though both the MLA and the APA are highly acceptable standards of referencing styles in scientific communication process, the Ghanaian editors contacted showed their strong adherence to the APA style perhaps due to its simplicity and effectiveness.

One vital element of ensuring quality of scientific publication is the presence of a clear house style (guidelines) for the authors to follow in their presentation. These guidelines will not only help in enhancing quality but also ensure that both the works of authors and editors are made easier. When asked whether they had a particular guideline (house style) which could be followed by authors in the presentation of articles to their respective journals, the editors gave the following responses: 11(79%) of the respondents said they had guidelines for their journals, 2(14%) said they did not have any particular guidelines while 1(7%) of the respondents did not answer the question.

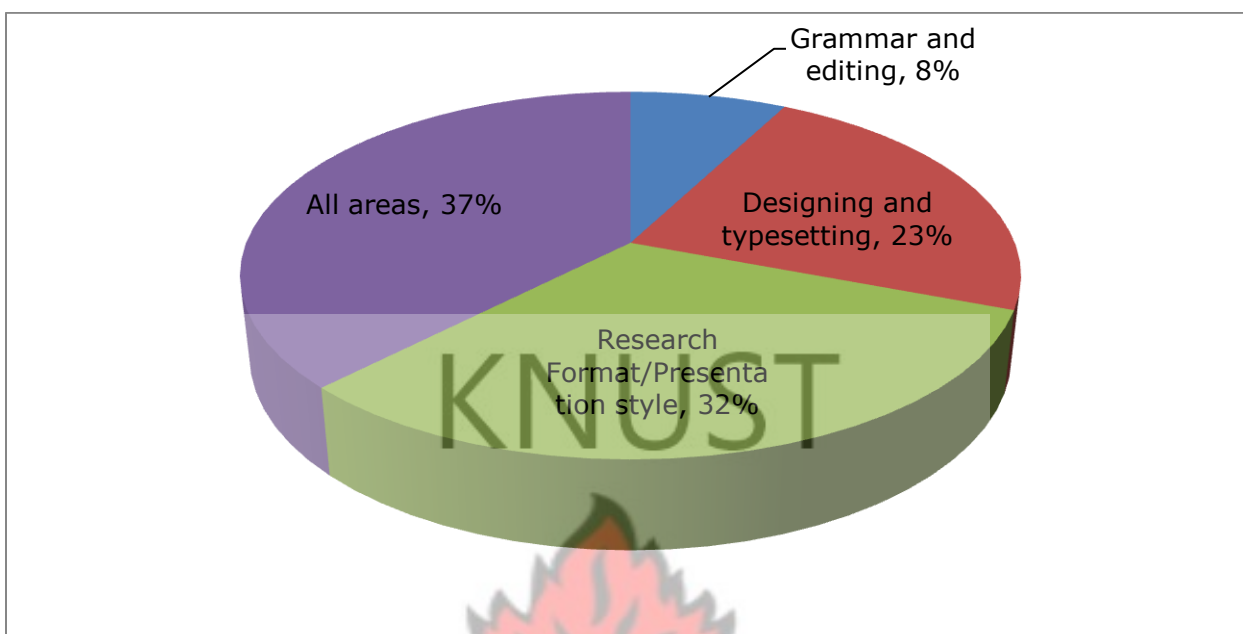
Fig. 4.28: Availability of guidelines (house style) for journals (n=13)



4.11.3 Assessment of areas of Ghanaian journals that need improvement

In assessing the quality of the research output in the Ghanaian journals, the study found out that certain thematic areas need to be improved or worked on. For instance, about 74(32%) of the respondents think that the style of presentation and the format of articles need a lot of attention. Again, 53(23%) of the respondents also recommended improvement in the area of designing and typesetting. While 19(8%) of the respondents think that grammar and editing need more attention, 86(37%) of the respondents feel that all the areas mentioned need to be given a lot of attention in order to ensure that journals from Ghana compete favourably with journals coming from any other place as far as quality is concerned.

Fig. 4.29: Recommendation for improvement of Ghanaian journals (n=232)



CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The principal objective of this final chapter of the study is to summarise the key findings, provide a befitting conclusion and give some useful recommendations. These, the researcher believes, will assist immensely in the final appreciation of the study.

5.2 SUMMARY OF FINDINGS

The purpose of this study was to assess the strength of scholarly communication through journal publications in Ghana. The study thus focused on major areas such as production, editorial, economic and marketing considerations of Ghanaian scholarly journals. In undertaking this study, the researcher relied on Ghanaian scholarly journal editors and scholars (researchers) from the major tertiary institutions in Ghana as the major study population using purposive sampling method and simple random methods respectively. Content analysis was carried out on the Ghanaian journals available on African Journals Online (AJOL), through random sampling. Questionnaires formed the primary data collection instrument for the study making the study more of quantitative than qualitative even though it was a combination of the two. The following key findings were made:

About 11(79%) of the editors of scholarly journals identified for the study are found in the universities with very few 3(21%) in specialised institutions like the CSIR. Though postgraduate students constitute the greater proportion of people who undertake research in Ghana, they also represent the least group of people who publish their findings in journals as compared to lecturers who anxiously publish their research findings due to major motivational factors to their advantage. Research interest in Ghana was also found to be more in the universities followed by polytechnics, specialised institutions and colleges in that order.

Significantly, Ghanaian scholars endorsed scholarly journals as a relevant tool towards the propagation of knowledge therefore forming the major source of information for their research works. They would also always prefer electronic journals at any given time over the printed journal. Sadly enough, only twenty percent (20%) of journals available to the Ghanaian scholar are of Ghanaian origin. Among several motivational factors, Ghanaian scholars indicated that they would undertake research and publish their findings in order to basically contribute to knowledge. They would also prefer to publish in a particular journal depending on the fact that such a journal enjoys high international visibility and acceptance and is also appropriate for the subject area. High circulation rate, prestige,

institutional legitimisation, availability in the online domain and shorter publication lags are other qualities the authors claimed would also inform their decision to publish in a specific journal. Internet, ahead of physical libraries and personal subscriptions forms the major source where Ghanaian scholars prefer to receive their journal articles for research data.

Again, there is no doubt about the credibility of the educational backgrounds and the experience of Ghanaian editors. For instance the findings indicate that the minimum educational background of these editors is a Master's degree with quite a good number also possessing a doctorate. On the average, the editors have six (6) years' work experience as far as scholarly editing is concerned. Both editors and reviewers are also selected based on experience, academic and professional attainments, educational backgrounds among others. Though journal editing is not a lucrative venture to engage in, the editors are both motivated and satisfied by the non-financial rewards that come along with their work.

It was also established in this study that more than fifty percent (50%) of Ghanaian journals are now in both the printed and electronic formats. It was also found that Ghanaian journals are more predominant in the printed format than in the electronic. This situation may be because of the fact that more challenges are encountered by the publishers in publishing

journals than the print ones. Though, in the printed domain editors and publishers encounter high costs of printing and hiring of specialists in Ghana, journal publication is principally left in the hands of academic presses who are usually financially inadequate. Poor grammar, scientific misconduct, improper referencing and methodological deficiencies are among the top challenges editors battle with, which in turn most often result in the rejection of the manuscripts.

Furthermore, it was found that an average of three to six days is spent editing articles contained in Ghanaian scholarly journals which are about fifteen (15) pages in length. Both scholars (researchers) and editors in Ghana encounter some problems in their quest to put out some research works. For instance, difficulty in accessing data, unavailability of journals in subject areas to publish in, lack of funding, overburdened academic schedules, ill-equipped laboratories, and high rejection rates of some journals, are top on the list of the challenges faced by the Ghanaian authors (researchers). On the part of the editors, late submission of manuscripts from both authors and reviewers, difficulty in finding reviewers for articles and high costs of printing coupled with unstable supply of electricity, constitute the main challenges. As a result of these pressing challenges, more time is spent (averagely 7.5 months) to undertake a study for publication in a scholarly journal.

In the face of the challenges mentioned by the editors, measures have been put in place to ensure quality of the research output in Ghana. The presence of credible house styles, strict adherence to the use of either the APA or MLA referencing styles and the dependence on double blind review method are the main structures used by the editors to ensure the good quality of the research works published in the Ghanaian journals.

Institutional levies from both academic institutions and members of professional institutions to which journals belong, constitute the major sources of funding for running scientific journals in Ghana. Although findings indicate that scholarly publication is not financially rewarding in Ghana, the editors claimed their main source of inspiration comes in non-financial forms.

Finally, with regard to marketing, distribution and visibility of Ghanaian journals, it was revealed that individuals and state institutions are the main consumers of Ghanaian journals. Participation in indexing services and provision of open access to contents of journals in the online environment (sometimes only abstracts) form the main marketing strategies adopted for the journals. Even though Ghanaian scholarly

journals enjoy wide international circulation and visibility, little is known of them internally.

5.3 CONCLUSIONS

It can be inferred from the findings that research interest in the universities is more dominant than at other levels of educational institutions in Ghana. This situation is attributable to the importance attached to research works by these levels of institutions in Ghana.

Students in tertiary institutions in Ghana do not have or enjoy enough motivation for publishing their research findings, and so not see the need to publish in journals.

The demands and consumption of electronic materials is fast gaining grounds in Ghana, hence majority of Ghanaian scholars are more comfortable with electronic data rather than print data. Contrary to the interest of these scholars, Ghanaian scholarly publishers are found to be concentrating more on the production of print journals rather than electronic.

There is not enough research with local content to satisfy authors' quest for information for further studies. Consequently, it is only 20% of

research works with local content that are available to Ghanaian authors through journals.

It is evident that Ghanaian scholars are consistently conscious of quality, prestige and integrity and thus would prefer to publish in journals that possess these qualities in order to enhance their image as scholars within academia.

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Journals published in Ghana are of appreciable quality. This is as a result of the rich experience and educational backgrounds of the editors and the reviewers.

It is extremely difficult and time consuming to undertake research and have them published in Ghana due to the lack of appropriate structures in place by all the stakeholders.

Finally, though state institutions are among the top beneficiaries of research in Ghana, the central government provides the least assistance for the development of scientific communication in Ghana.

5.4 RECOMMENDATIONS

In order to ensure that scholarly communication through journal publications in Ghana is further enhanced and strengthened, the following recommendations are made:

1. Publishers and editors of Ghanaian journals should endeavour to market the journals locally in order to broaden visibility as well increasing local participation.
2. Government and other stakeholders should put mechanisms in place to motivate scholars (especially postgraduate students) to publish their research findings.
3. Authorities of institutions and government should make it a point to provide Internet facilities at the various institutions of learning in Ghana to ease the difficulty in accessing information for research work.
4. Universities, polytechnics and other tertiary or even second-cycle institutions in Ghana must take up the challenge of hosting journals to help encourage and broaden scholarly communication in the country.

5. Editors and reviewers need to do a little more in the areas of designing, typesetting, referencing and methodological approaches in order to further improve the quality and the overall image of the journals. This undoubtedly calls for regular updates regarding new trends in scientific publishing.
6. Training in Information and Communication Technology (ICT) is required for Ghanaian scholarly journal editors in order to facilitate publication in the electronic media.
7. Government must show more commitment in terms of financial support to develop research uptake in Ghana. Likewise, corporate bodies should assist both financially and by releasing vital information to help scholarly works in Ghana.
8. Both private and public industries in the country should work closely with academia so that research interests can be directed at solving specific national problems.

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APPENDIX I:

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF ART AND SOCIAL SCIENCES

DEPARTMENT OF PUBLISHING STUDIES

QUESTIONNAIRE FOR JOURNAL **EDITORS**

This study examines the strength of scholarly communication in Ghana through journal publication. The researcher is a Master's student of the above institution and would be grateful if you could assist in the study by providing the necessary data as requested in this questionnaire. Assuredly, all information will be treated with utmost confidentiality.

Please tick ☒ the most suitable response.

Demographic Information

1. Age category

a. 25 -34 years ☐ b. 35-44 years ☐ c. 45-54 years ☐ d. 55-64 years ☐

2. Sex: Male ☐ Female ☐

3. Institution of work

4. How long have you been editing?

- a. 1 – 5 years ☐ b. 6 -10 years ☐ c. 11 – 15 years ☐ d. 16
– 20 years ☐ e. above 20 years ☐

Competence and experience

5. What is your current qualification?

- a. Bachelor's degree ☐ b. Master's degree ☐ c. Doctoral Degree ☐
d. Others, please state

6. What is your field of specialization?

- a. Humanities ☐ b. Sciences ☐ c. Engineering ☐
d. Technology ☐ e. Others ☐

7. Which level of tertiary education do you work for?

- a. University ☐ b. Polytechnic ☐ c. Others ☐

8. How often is the journal published in a year?

- a. Once ☐ b. Twice ☐ c. Thrice ☐ d. Quarterly ☐

9. Are you able to deliver on schedule?

- a. Yes ☐ b. No ☐

10. If No what accounts for this? Please state.

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11. Which institution is the journal you work for affiliated?

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Editorial and production concerns

12. On what basis were you selected to edit/review the journal?

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13. What is/are your job description(s)?

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14. What challenge(s) do you face in the course of your work as a journal editor?

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15. How long does it take you to edit an article for your journal?

a. 1 – 3 days ☐ b. 4 – 6 days ☐ c. 7 - 9 days ☐ d. More than 10
days ☐

16. Averagely, how many papers do you edit in a year for your journal?

a. 1 – 3 ☐ b. 4 – 6 ☐ c. 7 – 9 ☐ d. more than 9 ☐

17. What is the mode of publication for your journal?

a. electronic ☐ b. print ☐ c. Both ☐

18. Do you have any challenge on the chosen publication type?

a. Yes ☐ b. No ☐

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19. If you tick yes above, please state the challenge.

.....
.....

20. How many submissions do you receive per issue per year?

.....
.....

21. How many of these submissions from authors are published?

.....
.....

22. What reason(s) accounts **most** for not publishing some of these submissions?

a. Poor Grammar ☐ b. Scientific Misconducts ☐ c. Not following
Journal Writing Style ☐

d. Improper Referencing ☐ d. Methodological Deficiencies e.g. paper falls outside journal purpose and scope ☐

23. How are you rewarded or motivated for your work?

a. financially ☐ b. non financial incentives ☐ c. both financial and non financial incentives ☐

24. Are you satisfied with the reward or current incentive?

a. Yes ☐ b. No ☐

25. What is the rate of rejection of articles?

a. below 10% ☐ b. 10% – 30% ☐ c. 30% – 50% ☐ d. more than 50% ☐

26. What is/are the criteria for selecting the peer reviewers for your journal?

a. academic qualification e.g. MPhil/PhD ☐ b. Experience in peer reviewing ☐ c. Position e.g. senior lecturer ☐ d. Others; please specify.....

27. What kind of peer review is adopted for the journal?

a. Single blind review ☐ b. Double blind review ☐
c. Open review ☐ d. Other, Please indicate

.....

28. Do you have a particular '**house style**' of publication for your authors? a. Yes ☐ b. No ☐

Economic Concerns

29. How do you finance the publication and running of your journal in terms of editorial, print, reviewer, and distribution costs?

a. Through subscriptions ☐ b. Open Access ☐ c. Sponsorship either by governments or NGOs ☐ d. Others, please state

.....

30. Is the publication of scholarly publications profitable?

a. Yes ☐ b. No ☐

31. If the answer to the above is **No**, kindly state why you still engage in the publication of the journal

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Marketing and Distribution Concerns

32. Who are the main targets of your journal in terms of your marketing and distribution strategy? a. Individuals ☐ b. State institutions ☐
c. Non Governmental Organisations ☐
33. What is your main marketing strategy for the journal?
a. Promotions and advertisements ☐ b. Discussions blogs and forums ☐
c. Provision of Open Access to content ☐
d. Participation in indexing service ☐ e. The use of ISSN Number ☐
f. The use of digital object identifier ☐ g. Dependence on professional links ☐
34. To what extent is the journal visible or exposed?
a. Strictly institutional ☐ b. Strictly local (national circulation) ☐
c. International circulation ☐

APPENDIX II:

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF ART AND SOCIAL SCIENCES

DEPARTMENT OF PUBLISHING STUDIES

KNUST

APPENDIX 2:

QUESTIONNAIRE FOR JOURNAL ***AUTHORS (RESEARCHERS)***

This study *examines the current state of scholarly communication in Ghana through journal publication.* The researcher is a Master's student of the above institution and would be grateful if you could assist in the study by providing the necessary data as requested in this questionnaire. All identities would be held as confidentially as possible.

Please tick ☒ the most *suitable response.*

Demographic Information

1. Age category

- a. Below 20 years ☐ b. 21- 30 years ☐ c. 31 - 40 years ☐
d. Above 40 years ☐

2. What category of researcher could you be classified?

- a. Lecturer ☐ b. Student ☐ c. Other ☐

3. What kind of tertiary institution are you in?

- a. University ☐ b. Polytechnic ☐ c. Professional Institute ☐
d. Others ☐

4. What is the name of the institution?

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KNUST

Access and importance of journal and its usage

5. Which of these sources form the **main** source of information for your research?

- a. books ☐ b. journals ☐ c. Others ☐

6. What is the **main** source or origin of the journals you use for your research?

- a. Ghana ☐ b. Other African journals ☐ c. Others ☐

7. How do you get access to these journals?

- a. Through Libraries ☐ b. Personal subscription ☐
c. Online/Internet ☐ d. All ☐

8. How helpful have these journals been to your research?

- a. Very helpful ☐ b. Quite helpful ☐ c. Neither helpful nor
unhelpful ☐ d. Rarely Helpful ☐ e. Not helpful ☐

9. Where would you prefer to derive information for your research?

- a. Print Sources only ☐ b. electronic/online sources only ☐
c. Both print & electronic sources ☐

10. Have you ever published in a scholarly journal?

- a. Yes ☐ b. No ☐

11. How long does it take you to come out with an article for publication?

- a. 1 – 3 months ☐ b. 4 – 6 months ☐ c. 7 – 9 months ☐
d. A year and above ☐

12. What challenge(s) do you have undertaking a research for publication in a journal?

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13. What motivates you to publish in a journal?

- a. Career advancement ☐
b. Contribution to knowledge ☐
c. Financial reward ☐
d. Publishing for posterity ☐
e. Contribution to the public knowledge ☐
f. Protection of intellectual property ☐

14. What factor(s) will influence you in deciding which journal to publish in?

- a. Larger circulation ☐
- b. Prestige ☐
- c. High acceptance rate ☐
- d. International identity ☐
- e. Appropriateness to subject area ☐
- f. Short publication lag ☐
- g. Institutional legitimization ☐
- h. Online availability ☐

15. How would you rate research publications through journals in Ghana?

- a. Excellent ☐
- b. Good ☐
- c. Average ☐
- d. Poor ☐
- e. very poor ☐

16. What factor(s) contributes to your rating in question (15)?

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17. Which of these in your opinion requires improvement in Ghanaian

- journals?
- a. Grammar and editing ☐
 - b. Designing and typesetting ☐
 - c. Research methodology or presentation style ☐
 - d. All ☐

18. Do you know of any local journal in your field?

a. Yes ☐ b. No ☐

19. If yes kindly name it (them);

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