**LIBRARY e-RESOURCES AND SERVICES TO ENABLE POSTGRADUATE STUDIES AT THE REGIONAL MARITIME UNIVERSITY (RMU), GHANA**

Mini-dissertation

by

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**DECLARATION**

I declare that this mini-dissertation: 'Library e-resources and Services to enable Postgraduate Studies at the Regional Maritime University (RMU), Ghana', is my original work that has not been submitted in any Institution or University for a degree. All sources cited in this work have duly been acknowledged by way of references.

November, 2016

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NIKOI, Paul Ashaley                                             Date

This dissertation has been submitted with our approval as the Supervisors:

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# ABSTRACT

*The Regional Maritime University (RMU) Ghana, pays between $5,000 and $8,000 in annual subscription for e-resources with the Consortium of Academic and Research Libraries in Ghana (CARLIGH) to support postgraduate studies and lecturers. However, statistics from the library and library research rooms indicate very low use of the e-resources by postgraduate students and lecturers. This study is therefore set to address the problem of low patronage of the e-resources. The study aimed at finding what library e-resources and services could be provided by the RMU library to enable postgraduate studies. The main research tool that was used to collect data was a questionnaire with both closed and open-ended questions. The total population for this study was 25 postgraduate students and five lecturers. Thirty (30) copies of the questionnaire were distributed to postgraduate students and their lecturers at the department of ports and shipping administration with a response rate of 66.66%. Undergraduate students were excluded from this study. The study revealed that the RMU library has enough e-resources to support both academic and research work and this is known to the majority (75%) of the respondents who use them occasionally. The main reasons for the occasional use of the e-resources were lack of user-education, user-training and lack of off-campus access to fully put the resources to maximum use. Apart from the study suggesting an extensive user education and awareness creation initiative, it also recommends the rolling out of new user services to enhance usage of the e-resources.*

## DEDICATION

To:

Him that lives forever, thank you

# ACKNOWLEDGEMENTS

This is the time to say thank you…

Thank you to University of Pretoria for my selection to this programme. All the hard work of my lecturers is duly acknowledged.

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# LIST OF ABBREVIATIONS

| | |
|---|---|
| CARLIGH | Consortium of Academic and Research Libraries in Ghana |
| IMO | International Maritime Organisation |
| MINCONMAR | Ministerial Conference of West and Central African States on Maritime Transport |
| MOWCA | Maritime Organization of West and Central Africa |
| RMA | Regional Maritime Academy |
| RMU | Regional Maritime University |
| UG | University of Ghana |

## Chapter One: Introduction

### 1.1. Background

Though the cost of undertaking postgraduate studies is growing by the day, the population of postgraduate students in colleges and universities around the globe are equally increasing. The Regional Maritime University (RMU) has run its postgraduate programme in Ports and Shipping Administration since the year 2006 with a humble beginning of 20 postgraduate students. To support their interest and complement their effort of studying under trying conditions, the RMU library went to great lengths to make materials relevant for postgraduate studies available. Mindful of the ICT application in the 21$^{st}$ century library, materials for both postgraduate and undergraduate studies has been made available, not only in print format, but also online. Despite the painstaking efforts of the library to provide e-resources for postgraduate studies, user statistics at the library and library research rooms show that postgraduate students only partially patronise the library's rich resources for their postgraduate programme.

Since the advent of the internet, new modes of communicating scholarly and scientific literature have emerged. Scholarly journals which have remained the preferred medium for communicating scholarly and scientific literature are now available in digital form, thanks to electronic publishing and the internet (Nisha and Ali, 2013). Many textbooks, legal documents, newspaper sources, reports etc., are also available online. Increasingly, new knowledge is created, stored and disseminated in digital format across secured nodes over the internet. Many libraries now subscribe to e-resources to either complement or replace their physical collection (Okiki, 2012); this offers libraries a leeway with respect to shelving and storage, cost of maintaining print materials and the ability to reach a wider patron base (Quadri, 2012).

Studies show that 21st century academic library patrons have a preference for digital sources (Emezie and Nwaohiri, 2013). A number of factors account for this preference: around the clock access, fast and easy accessibility, multiple access, the convenience of accessing resources over remote nodes, keyword searching, ability to link to other pertinent resources as well as bookmark or sharing these resources (Quadri, 2012). A search of the literature indicates that access to e-journals, for instance, has increased significantly compared to when there was only the hardcopy medium, because it becomes easier to surf and search for new and relevant literature due to linking services made possible by this mode of communication (Nicholas and Huntington, 2006; González Bonorino, and Molteni, 2007). This has improved the quality of research, according to Mannan Khan and Ahmad (2009). In the case of eBooks, an added benefit like multimedia is also possible which enhances the readers' experience and learning process (Quadri, 2012).

The Regional Maritime University and its library, for that matter, have never undertaken any qualitative or quantitative studies involving postgraduate students to ascertain their awareness of all the e-resources in the library. As the total number of postgraduate students have steadily increased to 25 from the initial number of 20, the author is poised to know whether postgraduate students are aware of and make use of the e-resources the RMU library provides.

### 1.1.1. Regional Maritime University: Background

The Ghana Nautical College was established by the Government of the Republic of Ghana in 1958 to train sea-going personnel, primarily for the nautical fleet: The Black Star Line Limited.

In 1983, the Ghana Nautical College was regionalized by the Ministerial Conference of West and Central African States on Maritime Transport (MINCONMAR), now the Maritime Organization of West and Central Africa (MOWCA). The Ministerial Conference recognized that the building of human resource capacity for their various maritime industries lies in training and pulling of resources together, and sharing that common belief, MINCOMAR promulgated a convention thereby establishing the Regional Maritime Academy (RMA), Accra for the benefit of the Anglophone members of the MOWCA.

About twenty-five (25) years in existence, it was decided to upgrade the RMA from a diploma to a degree awarding institution. Consequently, the Regional Maritime University was launched on 25th October 2007 by His Excellency, John Agyanim Kuffour, the then president of the republic of Ghana.

Like the RMA, the RMU is founded by five (5) member countries of the MOWCA, namely, the Republics of Cameroon, The Gambia, Ghana, Liberia and Sierra Leone.

In pursuance of the objectives of the founding members, the University, from its inception, embarked on direct professional and vocational training to ensure a continuous supply of qualified manpower for the merchant and fishing fleets within the sub-region and beyond. The training was, however, narrowly focussed. To meet the challenges of changes that took place within the industry in the 90s, therefore, the professional courses were re-arranged into Higher Diploma based programmes followed by competency training.

With further professional developments and rapid changes in the business of shipping and its related industries over the past decade, there was a need to further improve. This led to the upgrading of a number of its programmes to the Bachelor Degree level.

The programmes have been designed to target the development of middle to higher-level manpower with the following objectives:

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- ❖ To provide comprehensive and liberal education and training to meet technological changes within the industry at all times
- ❖ To prepare seafarers to assume higher responsibilities with the industry, beyond the level of a ship's officer
- ❖ To develop capacity for conducting research and providing consultancy services in support of the maritime industry
- ❖ To equip personnel who man the maritime industry that supports international trade

### 1.1.2. Vision of RMU

'Within the next decade, the Regional Maritime University (RMU) will be known and recognized as the tertiary institution of first choice in advanced maritime education and training, research and consultancy in Africa and beyond' (Regional Maritime University, 2007).

### 1.1.3. Mission statement of RMU

'The Regional Maritime University (RMU) is a sub-regional tertiary institution that exists to enhance the development of the maritime transport sector and the fishing industry in member states through the maritime education of students, training of marine personnel, research and consultancy and promotion of maritime cooperation. The hallmarks of its operations are: meeting international standards, teamwork, discipline and professional integrity. (Regional Maritime University, 2007).

### 1.1.4. Postgraduate Programme

The University concentrated on the undergraduate programmes until 2006, when the MA in Ports and Shipping Administration was first run. The purpose for the postgraduate programme was to bridge the human resource capacity that was urgently needed in the top management positions in the Ghana Ports and Harbour Authority and in the Maritime Organisation of West and Central Africa (MOWCA).

### 1.2. Problem statement

The continuous cuts in library budgets and the rising cost of subscription to library resources have been well established in the extant LIS literature as key factors suffocating the function of academic libraries. What is more, the flexibility of internet search engines in comparison to library databases presents a real competition which is drawing users towers such platforms as Google (Ozoemelem, 2009:1). The implications of these issues are that, academic libraries must constantly demonstrate value especially in utilising their limited resources to develop effective, useful and exciting collection and services that will draw users into its space.

The RMU library pays between US$5,000 and US$8,000 in subscription for databases, annually. Patronage of these e-resources by postgraduate students is generally low. While subscribing to e-resources to complement the library's stock comes with a number of advantages like relative low cost,

convenience and improved service delivery, it is still expensive to acquire them, and so libraries must continually monitor and understand how they are used, the patrons' level of awareness and the impact they (are having) have on teaching, learning and research.

As the RMU library already provides access to some electronic resources, it may be worthwhile to understand what issues are contributing to this low patronage. In the context of this research, it is important to establish what services and e-resources the library can provide to change the attitude of RMU postgraduate students towards the use of the library e-resources.

## 1.3. Objective, central research question and sub questions

### 1.3.1. Objectives

The objectives for this study are:

- ❖ To establish what the level of awareness is (about e-resources) among postgraduate students at the RMU
- ❖ To establish whether the postgraduate students are aware of the available library services
- ❖ To gain an indication as to whether additional resources or services are required
- ❖ To identify what factors/barriers hinder postgraduate students from using the RMU e-resources and services
- ❖ To establish if it is possible to predict if the use of e-resources and library services impact on the success of research and academic work

### 1.3.2. Central research question

If the Regional Maritime University has run its postgraduate programme since 2006 and postgraduate students don't use the library's e-resources: **What e-resources and library services could be offered by the library to enable postgraduate students to put the library's e-resources and services to maximum use?**

### 1.3.3. Sub-questions

In finding the answer for the above question, other pertinent questions will be addressed which include:

- ❖ What is the essence of providing postgraduate students access to e-resources?
- ❖ What are the key library services that are provided to postgraduate students by academic libraries?
- ❖ What factors could be seen as barriers to using e-resources services – what hinders postgraduate students from using library services?
- ❖ How do e-resources and library services impact on research and academic work?

### 1.4. Scope and limitations

Literature search reveal there is no prior research on usage statistics of e-resources by postgraduate students in the RMU library system. This study is expected to fill this gap by contributing to literature as well as providing valuable guiding points for future subscriptions which will lead to better resources management and online service delivery. The study would be focussed on the postgraduate students of the RMU, Ghana.

### 1.5. Justification for the research /Rationale for the study

The RMU postgraduate programme is affiliated to the University of Ghana (UG) Graduate School. A recent focus group discussion by the marketing department and a selection of both past and continuing postgraduate students revealed that postgraduate students of the RMU have challenges to complete their dissertation for lack of relevant information. There is therefore the need to find out the level of awareness and use of the e-resources that have been made available by the library to wit, to justify the huge amount of subscription fees paid for electronic databases.

### 1.6. Overview of the literature

Tripathi and Jeevan (2013) reviewing literature propose that for libraries to provide services that best suits the user's needs, they must constantly monitor usage of e-resources and the users' attitude. Nisha and Ali (2013) surveyed 300 postgraduate and PhD students at IIT Delhi and Delhi University to examine the use of e-journals in the two institutions and report that users were largely aware of e-journals in their institution's library, though respondents in IIT Delhi appeared to be much more aware than their counterpart in Delhi University. A similar survey by Galyani Moghaddam and Talawar (2008) at the India Institute of Science reports an impressive 97.7% respondent awareness of e-journals in the library. An even more impressive awareness rate is reported by Chirra and Madhusudhan (2009) at Goa University where all doctorial research scholars that were surveyed claimed they were aware of e-journals in their library. It is safe to hypothesise that these high rates of awareness are an indication that libraries are making ardent efforts to market and create awareness about the availability of e-resources in their libraries. Awareness of e-resources is also vital for high usage as indicated by Ibrahim (2004) and Kaur and Verma (2009)

Literature search reveal that library users consult e-journals for a number of reasons. Most common usage is: for research purposes, current awareness, and to support teaching and learning (Kwafoa, Osman and Afful-Arthur, 2014; Nisha and Ali, 2013; Mannan Khan and Ahmed, 2009). It is instructive, however, to conclude that this pattern is obvious given that library patrons generally consults the library for reasons not too distinct from these.

## 1.7. Research Methodology

The process by which data was gathered to answer the research question of this research is described in detail in Chapter Three. The study examined what library e-resource and services could be offered by the RMU library to enable postgraduate studies. The main research tools that was used to collect data were both closed and open-ended questionnaires. The population for this study was 25 postgraduate students and five lecturers. Thirty (30) copies of questionnaire were distributed to postgraduate students and their lecturers at the department of ports and shipping administration with a response rate of 66.66%. Undergraduate students were excluded from this study.

## 1.8. Value of the study

Being the first time that this kind of research is being undertaken on postgraduate students and their lecturers at RMU, the researcher hopes to establish a benchmark for further studies of this nature, to point to library management the best practice of building an e-resource database and finally, to influence the management policy formulation direction.

## 1.9. Clarification of key terms

**e-Resource and Services:** For the purpose of this study, e-resources and services refer to the variety of electronic and digital sources of information available to the lecturers and students within an academic context (Nyamboga et al., 2014:15).

**Postgraduate:** Studies undertaken after a first degree (House (2010).

**N/A:** Stands for 'Not Answered' for this study.

## 1.10. Division of chapters

This study was divided into five (5) chapters.

Chapter One provides the introduction, research questions, problem statement, rational for the study, scope and limitation of the study.

Chapter Two (2) is the Literature review: background, definitions of e-resources and awareness. It also delves into the origins of the use of e-resources in the library, the advantages of electronic media over print media. Attention is also given to the importance of information literacy to the academic work of students.

Chapter Three (3) addresses the research methodology: population of the study area, sample size, sampling procedure, research design, validation of research instrument and data analysis.

Chapter Four (4) covers the interpretation of the results: introduction, background of respondents, as well as the interpretation of the questionnaire responses.

Chapter Five (5) provides the summary, conclusions and recommendations.

## 1.11. Conclusion

The RMU as an international tertiary institution is concerned with raising the human capital for the maritime industry in the sub-region. In line with this, the library of the university is well stocked with both print and e-resources to enable postgraduate students undertake their academic programmes. The university invests heavily in subscribing to e-books and e-journals to augment its physical materials. With the provision of all these resources, there is a perception that postgraduate students don't use the library's e-resources for their academic work and that this affects the completion of their dissertations.

The study set out to establish whether RMU postgraduate students are aware of and use the rich e-resources that the library has made available. The result from the study will be used by the library to improve their information and digital literacy services and to plan strategically to meet the information needs of the postgraduate students.

**Chapter Two: Literature Review**

## 2.1. Introduction

According to Thanuskodi (2012), postgraduate students form a majority of the users of a library's resources and services of any university for various reasons such as writing of term papers, gathering information for assignments, writing of seminar papers and other important research activities. Ismail, Abiddin and Hassan (2011) believe that postgraduate studies cannot be devoid of research, this being one of the most important components. In the opinion of Abubakar and Adetimirin (2015:1), 'research enables postgraduates to systematically investigate society's problems, proffer solutions to them and contribute to knowledge'. The Oxford Online Dictionary (2012) defines research as 'the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions. It involves a systematic process for recognising a need for information, acquiring and validating that information and deriving conclusions from it'. This means that postgraduate studies must be focussed on the inwards of society and uncover problem areas where they can collect data on interested subject areas, analyse and finally make some suggestions on how those problems can be solved.

Theses or dissertations are a required standard research work that postgraduates present to their departments in order to be awarded with degrees. To be able to complete their research work, postgraduates must make use of information resources either in print or electronics. According to Sharma (2009), there are types and forms of e-resources in university libraries such as: e-journals, e-data archives, e-manuscript, e-maps, e-books, e-magazines, e-thesis, WWW, e-newspapers, e-research reports, and e-bibliographic databases.

Nwalo (2003) purports that acquiring, organising and making needed information accessible to users on demand forms the primary reason why libraries are set up. This makes academic libraries in any given university have the responsibility to provide a range of resources that meet the needs of postgraduate research work. Moreover, postgraduates may need the information resources to write papers or to collaborate with researchers in other parts of the globe. Postgraduates must therefore be able to locate and access any e-resources that are provided by the library in their parent institution.

In defining e-resources, Ekwelem, Okafor and Ukwoma (2009) posit that they are information sources which are accessible electronically by means of computer-networked facilities like online catalogues in the library, through the internet, CD-ROM databases as well as the World Wide Web (WWW). It is worth noting that these e-resources can be digitised in-house or, better still, be subscribed to. When Conyers (2006) describes how important e-resources are, he submits that, beside the fact that e-resources can be retrieved very easily from university libraries, they satisfy users information needs as well. Abubakar and Adetimirin (p.2), add that '…this could be one of the reasons why many

university libraries in the United Kingdom are shifting preferences towards e-resources, which are found to be less expensive and more useful for easy access'. There is a shift in the collection development policies of many university libraries towards e-resources, and this is an indication of the important role of e-resources in information retrieval to support teaching, learning and research activities worldwide (Egberongbe, 2011).

The reason for the use of e-resources by postgraduates in any given university libraries could be supported with many arguments/ justifications. The most important reason is time saving. Panduranga and Kishore (2013) support this view with the argument that postgraduates are hard pressed for time to spend hours on end browsing printed materials and this makes them rely on e-resources to do their course work, teaching and research thereby maximizing their time. Brown, Found and McConnell (2007) purport that the time saved by postgraduates when they use e-resources impacts positively on their creative ability. In addition, Melo and Pires (2011) conducted a survey on postgraduates in Portugal on the time they save when they use e-resources in academic libraries. The essence was to measure the value of the time postgraduates saved by using e-resources. The results showed that averagely, doctorial students save 7.88 hours while master students save 3.55 on an average per month respectively. According to Sinha, Singha and Sinha (2011), other reasons why postgraduates use e-resources include the comprehensiveness of the information, its accuracy and the ease of accessibility. Furthermore, Khan, Khan and Bhatti (2011) add that postgraduate student's main purpose for using e-resources is for studying while Mathew and Sornam (2007) from Kerala Agricultural University, India, submits that e-resources can be accessed from different locations: with ease and in full text.

Abubakar and Adetimirin (p.3) submit that, 'E-resources have the potential for enhancing postgraduates' learning, as the resources provide postgraduates' with vast quantities of information in an easily accessible non-sequential format'. Because e-resource plays such a crucial role in research and learning, Abubakar and Adetimirin (p.3) posit that it is 'rapidly becoming one of the most important and widely discussed issues in the present education policy'. Ani and Ahiauzu (2008:505), cite Tsakonas and Papatheodorou (2006) that, 'the transition from print to electronic medium, apart from resulting in a growth of electronic information, has provided users with new tools and applications for information seeking and retrieval'.

Abubakar and Adetimirin (p.3) also raise a concerned question whether university libraries are obtaining value for all the monies they are investing in e-resources. Their concern has been taken on in literature to focus on the use of e-resources in university libraries. For instance, Egberongbe (2011) and Ozoemelem (2009) have both reported that university libraries in Nigeria are spending many millions of Naira to subscribe to e-resources which are not known to many users, or those who know about them underuse them. What the two researchers reveal supports the assumption of Abubakar and

Adetimirin (p.4) that it 'appears that postgraduates find it difficult to locate and use the e-resources for their scholarly work'. They suggest that the library must be responsible for the use of the e-resources 'to benefit its users in their daily academic pursuit'.

## 2.2. Post Graduate Education

Although House (2010:3) posits, 'there is no single definition of the term "postgraduate" …but could only be used to describe studies undertaken after a first degree', Effiong, Aakpege and Anthony (2012: 053) agree that 'Postgraduate education simply refers to studying and learning for degrees for which a first degree is generally a necessary requirement'. This shows that a clear distinction could be drawn between a first degree programme and a postgraduate programme as most postgraduate programmes (masters degree) are shorter in duration.

Effiong, Aakpege and Anthony (p. 054) categorize postgraduate studies into two main dimensions as either being by 'taught' or by 'research'. The being taught in a class or lecture room setting makes for the 'taught' type while the 'research' type does not involve the above.  In whichever way that postgraduate studies are presented, society places great expectation on students who pass through the postgraduate education, assuming that they have acquired '…full grasp of knowledge and can however recall their experiences via learning to solve real life situation' (Effiong, Aakpege and Anthony, 2012: 054). House (2010:5) could not have agreed the more, 'Students are expected to have shown originality in the application of knowledge and in problem-solving and demonstrated understanding of how the boundaries of knowledge are advanced through research'. This is what distinguishes postgraduate qualification from diplomas and certificates.

The purpose and expected outcomes of postgraduate programmes differ immensely. This is because the master's programme is aimed at extending 'students' depth of knowledge in a particular field, building on an area in which they already have expertise, usually gained at undergraduate level' (House, 2010: 5). On the other hand, certain programmes at postgraduate levels come as conversion courses offering opportunities to students who may or may not have previous knowledge from the undergraduate level but who want to broaden their academic prowess with research work. Yet, other graduate programmes are also aimed at building skills in the students to begin their independent research activities.

## 2.3. The African Context

In '*African Universities and the Challenge of Research Capacity Development*', Sawyerr (2004) posits that higher education was doing well in the 60's and 70's in Africa. This assertion is confirmed by Hayward (2010: 33), 'Its faculty members were especially productive and creative and teaching was given high priority, with tutorials and discussion sections at most universities'. Sadly, this success story did not live long, as Hayward (p. 33) identifies numerous problems that contributed to the sad

story to include: trade barriers, coups, authoritarianism, civil unrest, falling commodity prices etc. The World Bank who was a main supporter of higher education in Africa contributed to the sad story, as Brock-Utne (2003: 30) note, '…the World Bank argued that higher education in Africa was a luxury. Most African countries were, according to the World Bank, better off closing universities at home and training graduates overseas'. The above challenges to higher education in Africa had a negative effect which, according to Hayward (p. 33), resulted in 'budget cuts, salary freezes, staff reductions and the curtailment of recruitment'. This affected quality of higher education in Africa.

Postgraduate studies influence growth in national economics in various sectors, be it in business, industry, government and in the well-being of citizens (Hayward, p. 34) and this caused the number of graduate students to grow in the 90's. By 2009, the World Bank has identified about 23 regional postgraduate programmes in Sub-Saharan Africa. (Hayward, p. 34). Of the 2.4million students that were surveyed from 16 African countries in 2009, 169,000 of the said students from 14 countries were enrolled in postgraduate studies (World Bank, 2009: xxvi). Hayward (p.34) wrote, 'All 16 countries examined here have Masters programmes and 12 have PhD programmes'.

The role of postgraduate studies in African in terms of supporting economic development and improving on undergraduate studies has failed woefully with only few exceptions, according to Hayward (p. 35). This is in part due to political instability, apartheid, economic challenges, neglect from donor agencies, like the World Bank, and quite recently the high cost of information technology, among others. What is worse, many African governments have not prioritized graduate education in general. A suggestion on what will make African higher education to work again is provided by Sawyerr (p. 215):

> *What remains clear through all this is the crucial role that Africa's systems and institutions for knowledge generation, synthesis, adaptation and application have to play in ensuring the advancement of the national interest on all fronts, economic, social, cultural and political. Central to these knowledge systems are the universities and their research and advanced training programmes. To a greater degree than elsewhere, Africa's universities continue to provide the vast bulk of its research and train virtually all its researchers.*

## 2.4. Postgraduate Students need for a 21st Century Library

In the words of Raja, Ahmad and Sinha (2009:701), academic libraries are built in 'support of the mission of their parent institutions to generate knowledge, and people equipped with knowledge in order to serve the society and advance the well-being of mankind'. Similar idea was expressed by

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Macauley and McKnight (1998: 104), 'Libraries are an integral part of the academic mission of a university'.

This is because their presence enhances the reputation of the parent institution, in that they provide world-class access to information, services and resources. Jain (2013:133) adds that academic libraries have existed to support its academic community and no wonder their developments are always tied to the institution.

Jain (2013) posits that 'Owing to advancement of information and communication technologies (ICTs), academic libraries have radically transformed today (see table 1) and consequently academic librarians have new roles to fulfil the incessantly-changing needs of library customers and remain relevant in 21st century'. (p. 133). The change which ICT has occasioned in library operations has changed the old concept of book-oriented librarianship to that of user-centred librarianship, according to Jain (p.133). The 21$^{st}$ century library was born in the early 90's when Online Public Access Catalogues (OPAC) originated. This was followed by the CD-ROMs in the middle part of the 90's. By the end of the 1990's, the internet has become the main source of sharing information and reading of e-books. (Jain, 2013: 133-134). Nonthacumjane (2011) observes that since the internet was introduced to the information field, #libraries worldwide have been adjusting to the shift from the printed era to the digital era# (Jain, 2013: 134).

| In Traditional academic libraries | 21st Century academic libraries |
|---|---|
| Selection and acquisition of library information materials (books and journals) was from the publisher catalogues | Selection is based on users' demands and dealing with issues such as, journals licensing and publishers' big deal offers for open access journals. |
| Main collection included books and journals | Today there are institutional repositories, online databases, multi-media information resources |
| Librarians worked as collection specialists | Librarians work as faculty liaison |
| Management of information systems was limited to a four-walled physical library | In modern age, there are digital libraries, digital repositories and cloud information management system |
| Information model was scarcity and limited access of information | There is information explosion in both quantity and formats of information |

| | |
|---|---|
| Manual interlibrary loan system | Electronic interlibrary loan |
| High dependence on print resources | High dependence on e-resources and digital resources |
| Availability of services only in library opening hours | Most services are available 24/7 |
| #Use of card catalogues to retrieve information | Use of Online Public Access Catalogue (OPAC) to retrieve information |
| A traditional reference desk service | 24/7 online and virtual reference services |
| Traditional cataloguing | Resource Description and Access (RDA) |
| A library as a quiet reading place | Information/knowledge/digital commons to make learning common |
| Library users had easily identified information needs | Library users have diverse information needs |
| Use of library budget mostly to buy books | To buy e-resources including hardware and software resources |
| Librarian mediated searching | Web-based searching |
| Print journals | e-journal and open access journals |
| Preservation of mainly books, serials and grey literature | Digital curation |
| Traditional broacher | Media marketing |
| "Traditional library users, who had no other choice but to come to libraries" | "Diverse library users and assorted options to access information" |
| From MARC and circulation desk" | "To metadata and web information" |
| "From book keeping | To support education |
| Preservation of mainly books, serials and grey | Digital curation |

| | |
|---|---|
| literature | |
| Traditional broacher | Media marketing |
| Traditional library users, who had no other choice but to come to libraries | Diverse library users and assorted options to access information |
| From MARC and circulation desk | To metadata and web information |
| From book keeping | To support education |

**Table 1: Traditional versus 21st century academic libraries**

(Reproduced from Jain, 2013: 134-135)

From the table above, Jain (p. 135) observes that key changes have impacted '…selection/acquisition; cataloguing; archiving; reference desk; outreach programming; accessibility of resources; special collections; technology management'. Meanwhile, Murphy (2012) also observes that the proliferation of mobile devices (iPads, Smart phones and handheld devices) have radicalised the information service delivery and access.

The dynamic era (21st century) in which the library now operates according to Jain (2013), has been brought about by: 1. Quick advancement in ICT: This has affected every aspect of the human life be it agriculture, medicine, library and information communication, teaching, learning. Today, there is e-business, telemedicine and e-governance. 2. World-wide evolution in educational system: As Eaton (2010) succinctly puts it, there is a globalised approach to learning; education has become borderless and cross-border in nature; mobility of students and non-formal and formal learning environments driven by technology. 3. Constant change of customer needs and customer diversity: In the traditional library environment, the library patron had no option but to come to the library for information. This has however changed with the advent of technology where library patrons have become conversant with divers trends of accessing information. Jain (2013) quoting Matthews (2011), places library patron of the 21st century into three categories namely: Digital Fugitive, Digital Immigrant and Digital Native. The three different categories of library patron mean the 21st century Librarian has to 'satisfy all users' information needs according to their levels' Jain (p.137). 4. Emergence of Social Media: '...social media or web 2.0 is the use of digital media, including Internet and mobile, for collaborating to create user generated content and form self-organizing communities. Social media is designed to collaborate, exchange ideas and achieve commonly-shared goals. Examples of social media are blogs, forums, wikis, social networking sites, micro blogging sites, social bookmarking sites, social voting sites, social review sites, MySpace, LinkedIn and virtual worlds (HLWIKI International, 2013). These social media have also changed how the 21st century library disseminates information and re-defined

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the work environment for the librarian. 5. Changes in scholarly Communication: Scholarship in the 21st century library has evolved to include 'digital scholarship, institutional repositories and open access' (Jain, p.137) and Murphy (2012) advised libraries to partake or be left behind in the intellectual output dissemination.

How should the library then serve its patrons in the 21st century library? As common knowledge, the library patrons are made up of undergraduates, postgraduates, faculty, staff and researchers who all depend heavily on the library to accomplish their academic goals. This literature review will concentrate on postgraduate needs in the 21st century library.

Undergraduate students have for many years now been perceived as those who mostly need support in information literacy (Jankowska, Hertel and Young, 2006:61). Meanwhile, academic librarians have assumed that postgraduate students are sufficiently information literate, able to practise and communicate scholarly (Harkins, Rodrigues and Orlov, 2011:28; Streatfield, Allen and Wilson, 2010:231; Kong, Hunter and Lin, 2007:154; Machet, 2005:193). In recent literature, however, academic librarians have become aware of how unique, complex and how scattered the needs of postgraduate students are (Blanton-Kent *et al.*, 2010:1; Hoffmann *et al.*, 2008; Green and Macauley, 2007:317; Wainwright, 2005:452). This awareness in part is due to the knowledge by librarians that there are technical developments such as computations, simulations and sensing methods (Bracke, 2011:66), Interdisciplinary research that could involve unfamiliar disciplines (Newby, 2011:224), and what is more, collaborative research works, in which researchers have to depend on networks and its technologies (Brewerton, 2012:97).

The understanding from the previous paragraph has created the awareness that postgraduates must of necessity develop numerous skills (O'Grady and Beam, 2011:76; Streatfield, Allen and Wilson, p. 237; Rempel, 2008:157; Genoni, Merrick and Wilson, 2006:743). The evidence of specific positions in academic libraries that focus on research support can be variously advertised as: 'Research support librarian', 'Research support specialist', or 'Research liaison Manager' (Brewerton, 2012: 98; Du Bruyn, 2013:3) this lends credence to the fact that services specifically targeted at postgraduate researchers of the 21st century is not out of place.

The idea that academic librarians must more involved with the information needs of postgraduate students has been marginal (O'Grady and Beam, p.76; Streatfield, Allen and Wilson, p.230; Housewright and Schonfield, 2008:31; Rempel, p.163; Jankowska, Herter and Young, p. 60) and has had varying degrees of success (Hoffmann *et al.*, p.1). It must be noted, however, that if universities do not coordinate (Streatfield, Allen and Wilson, p. 235), it would be difficult for academic librarians to support the information needs of postgraduate students (Brewerton, p. 97). No wonder academic

librarians are failing to offer services that would address the needs of postgraduate students (Bracke, p. 72; Gomersall, 2007:301; Streatfield, Allen and Wilson, p. 230).

Du Bruyn (p.2) is worried that '…although there have been radical transformations in scholarly communication and practice in recent years, there is still an assumption among many, that researchers on postgraduate level are sufficiently information literate to deal with the new challenges'. This assumption he found as untrue after an observation during postgraduate induction programme at Vaal University of Technology in 2010. He says, '…majority of postgraduate researchers across all disciplines were unclear regarding many aspects relevant to scholarly research practices and were also lacking basic information literacy skills.' Du Bruyn's observation had been confirmed in previous studies (Harris, 2011:600; Marcus, Covert-Vail and Mandel, 2007:17) that '…postgraduate students often feel overwhelmed, anxious, underprepared, frustrated, and incapable of effectively keeping up with literature' (p.2). He therefore suggests that for postgraduate students to make it in the new 21st century academic library there should be an '…advanced information literacy program focusing on postgraduates in content' (p.2)

Du Bryun's suggestion confirms what other writers have mentioned in their literature. Among the suggestions offered to make postgraduate students more competent in the 21st century library to function more effectively include the knowledge of: citing of sources and the knowledge of what libraries have to offer (Streatfield, Allen and Wilson, p. 232); contents of repositories, publishing avenues, issues of copyright and open access, owning intellectual property and related issues, how to evaluate information, sharing of research results, research information and how to organize them (Streatfield, Allen and Wilson, p. 234; Wainwright, p. 452; Hooks and Corbett, 2005:246); framing of new research, data collection, sieving information and data, also the process to commercialise (Brewerton, p.104); process to review literature (Green, 2010:314; Rempel, p. 157; Gomersall, p. 302), how to search and scan information (O'Grady and Beam, p. 76; Booth and Tattersall, 2009; Gomersall, p. 303, Antwi-Nsiah *et al*., 2006); Software for managing bibliography (Harrison and Jones, 2007; Antwi-Nsiah *et al.,* 2006); working with other researchers (Thomas, 2011:43; Genoni, Merrick and Willson, p. 735); data management (Thomas, p. 43); funding and writing for support for grant (Genoni, Merrick and Willson, p. 744; Harrison and Hughes, 2001:11); issues regarding research ethics (Harrison and Hughes, p. 19); and also research methodologies (Rasul and Singh, 2010: 83; Harrison and Hughes, 2002:19).

From the above, it is clear that the information literacy support for postgraduates from the library must be multi-dimensional. Du Bryun (p. 5) acknowledges that to some extent the libraries are offering some of the above-mentioned information literacy support, but '…a well-developed overall strategy regarding the offering of support to postgraduate researchers is lacking in the literature'.

Macauley and McKnight (1998) focus their study on how the library could support off-campus postgraduate research students. They proposed a '…closer collaboration between librarians, postgraduate research students and their supervisors' (p. 95). According to Macauley and McKnight (1998:95) the librarian could assume the role of a co-supervisor who will ensure that a comprehensive and relevant literature review is carried out by postgraduate students. Also, the librarian could play a go-between role where they ensure that both postgraduate students and their supervisors are abreast with information resources pertaining to their research area. The reason behind this proposal is for the librarian to '…provide complementary expertise to assist the candidate and supervisors' (p. 100). In the spirit of this proposed partnership, the librarian would be called upon to play the role of an associate supervisor   for the period of the crucial literature review phase of the dissertation.

Concerned with the large number of mature aged postgraduate students who have professional experience but doing part-time studies and mostly by distance education, Macauley and McKnight (p. 97) suggest the 21st century library to 1. 'Provide reliable, cost-efficient access to information" in print and multi-media, be it locally or from a remote source.' 2. 'Provide information services that remove the barriers of distance and time.' This will take care of the needs of the postgraduate students on the distance module. 3. Provide '…navigation aid to locating digital information to supplement traditional in-house catalogues' this is more so when electronic information resources have increased and most postgraduate students are either on part-time or learning by distance modules and do not have the luxury to come and consult the library catalogue in-house. 4. 'Provide user-friendly desktop interfaces to e-resources'. This will ease the burden of the postgraduate students to master numerous search engines.

Barry (1997: 228) is also of the opinion that 'doctoral students need a portfolio of services, including one-to-one tutorials; instruction that transcends the 'how to use systems' approach and incorporates advanced skills training in how to optimize use and training in contexts related to academic subjects rather than generic training.' Macauley and McKnight (p. 102)

## 2.5. What e-resources are about

### 2.5.1. Introduction

'Over the last numerous years, a remarkable transformation has been noticed in collection development policies and practices' (Sharma, 2009), by the replacement of print medium with electronic medium. 'Libraries have transformed into digital and virtual libraries where books, journals and magazines have changed into e-books, e-journals and e-magazines' (Nyamboga et al, 2014:14). The change in policies to acquire more of e-resources over that of print versions is born out of the belief that 'the use of electronic library resources for academic purpose would improve academic

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efficiency and increase technological skills and reduce anxiety when conducting research and learning" according to (Nyamboga et al, 2014:14).

The new concept of the 'information era' has been brought about by the digitisation of information in the print media now known as electronic resource and is defined by Kenchakkanavar (2014:97) as 'a resource which requires computer access or any electronic product that delivers a collection of data, be it referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based, as a commercially available title that has been published with an aim to being marketed'. These e-resources could be available through the internet, CD ROM or on tape (the list is by no means exhaustive). E-resources have become more popular and useful because, according to Kenchakkanavar (p. 97) they have 'inherent capabilities for manipulation and searching… cheaper to acquiring... savings in storage and maintenance… and sometimes the only alternative'.

Of all the e-resources available in academic libraries, e-journals have been reported by Omotayo (2010), Thanuskodi (2012), Sharma (2009), as the most used. From the total population of 245 users of e-journals surveyed, Omotayo (2010) reported that 8.98% use e-journals daily, 37.35% use e-journals monthly, 41.63% use e-journals bi-monthly, 13.88% use e-journals occasionally.

### 2.5.2. Definitions

Bothmann (2010:2) citing AACR2 (2005 update) defines e-resources as: 'Material (data and/or program(s)) encoded for manipulation by a computerized device. This material may require the use of a peripheral directly connected to a computerized device (e.g., CD-ROM drive) or a connection to a computer network (e.g., the Internet).' The definition does not cover e-resources which do not make use of a computer, like music compact discs and videodiscs.

'E-resources' refer to those materials that require computer access, whether through a personal computer, a mainframe, or a handheld mobile device' (IFLA, 2012:3)    Access can be remotely through internet and locally.

'An "electronic resource" is defined as any work encoded and made available for access through the use of a computer. It includes electronic data available by (1) remote access and (2) direct access (fixed media). In other words: Remote access (e-resources) refers to the use of e-resources via computer networks. (AACR2, 2002 edition; glossary). Direct Access (e-resources) refers to the use of e-resources via carriers (e.g., discs/disks, cassettes, cartridges) designed to be inserted into a computerized device or its auxiliary equipment' (Library of Congress, 2008)

'E-resources or "e-resources" can be defined as the resources available on the internet which are a go down of data and information on different subjects and topics' (Mittal and Bala, 2013:1361)

The definitions provided above on e-resources, indicate that they are computer dependent and that retrieving information from any e-resource base can be done both remotely and locally.

### 2.5.3. The need for e-resources

The need or purpose to use e-resources provided by a library has been well represented in various studies conducted in academic institutions world over. From the many examples of literature reviewed on this subject matter, it is evidently clear that e-resources from libraries have empowered students to acquire information promptly and timely thereby eroding barriers and offering fairness of accessing knowledge or information irrespective of geographical location (Madhusudhan, 2008). Arguing further, he posits that by the use of e-resource and the internet, students overcome many of the time delays that are common with print media such as production, publication and delivery times. Kaur (2006) acknowledges that the use of electronic forms of material have superseded that of the print media because of their many advantages.

69.2% of respondents who took part in the study by Bar-IIan, Petritz and Wolman (2003) did say that they use electronic databases of journals mainly for teaching and research while 23.9% said they use it exclusively for research and 0.6% indicated they used it for teaching purposes only. Ray and Day (1998) indicate from their study of students that 83% were happy that their library e-resource database was easy to use and that it saved them a lot of time. Obaje and Camble (2008) also report that students mostly used the CD ROMs for their literature searches when it comes to writing of their dissertations and theses or for personal research. In terms of CD ROM usage, two-thirds of the students surveyed by Ray and Day (1998) mentioned that they would gladly wait to use the Compact Disk Read Only Memory (CD-ROM) should they find it busy, instead of using the print tool.

Omotayo (2010) reports that at Obafemi Awolowo University in Ile – Ife, Nigeria, academics mostly use e-resources to do their literature search for their professional growth. Doraswamy (2005) reveals in his study conducted at Punjab University that availability of e- reference databases; e-journals; e-magazines; e-newspaper; e-dictionary; e-book; internet and e-mails were of high demand in usage behaviour in terms of retrieving information and work ease.

In his study of the use of e-resources in Institutions of higher learning, Madhusudan (2008) reveals that 78% of all the respondents were of the opinion that the patronizing of the University Grants Commission Information network (UGC-Info net) and electronic journal had become indispensable to their research work. The study of Naqvi (2007) at Milia Islamia University library of the purpose of usage of e-resources at the library had 47% of respondents not being happy with the provision of the online services of the library with the reason that the available e-resources were not satisfactory because they lacked guidance to promote their usage.

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'E-resources such as e-journals are becoming a basic need for the students for the academic purposes at any time (Nyamboga et al, p.17) for which Navjyoti (2007)   remarked that the availability of quick publication on desktop has created the advantages that have attracted many research scholars. Kaur (2006) had also reported that e-resources could be used as a handy substitute for all the conventional resources only if the speed to access them is fast with provision to access all key e-journals made and above all, if 'more computer terminals are installed to provide access to e-resources (Nyamboga et al, p.17).

'E-resources are said to be capable of meeting the instant desire of users to the access of information' (Nyamboga et al, p.17) as expressed by Solis and Hampton (2009, p.81) that '…students appreciate course-specific web pages that provide access to library resources that relate directly to class assignments'.

'E-resources are said to be convenient to use, as users are able to access information from different places such as the library, internet cafes, and offices or at times from their homes without having to move any distance at any time of the day' (Dadzie, 2005). Agreeing with Dadzie's submission   are Ellis and Oldman (2005) who add that 'e-resources would ease access to holdings, save time and financial resources and would solve problems connected with a lack of space in research libraries'. Nyamboga et al (p.17) quoting Wilson (2003) also highlight the many advantages that could be derived from the use of e-resources by saying that '…e-resources offer a greater variety of learning experiences than those offered by text on paper; it enables instant feedback on their progress and facilitate students' ability to understand concepts more easily and clearly'.

### 2.5.4.  Types of e-resources

Writing on 'Types of e-resources and its utilities in Library', Kenchakkanavar (2014:100) provided a comprehensive list of the common e-resources that could be found in many academic libraries world over as shown in table 2 below.

| SI NO | Type of E-resources | Description |
|---|---|---|
| 1 | E-Books | E-books is the many formats competing for prime time, including Adobe PDF, Microsoft Reader, eReader, Mobipocket Reader, EPUB, Kindle and iPad |
| 2 | E-Journal | An e-journal is very important part of every library collection. E-journals are one application of information technology. |

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| 3 | E-Newspaper | An E-newspaper is also known as online newspaper or web newspaper that exists on the World Wide Web or internet. |
|---|---|---|
| 4 | E-Magazines | An E-Magazine is very important part of every library collection. E-Magazines are one application of information technology |
| 5 | Indexing and Abstracting Database | These are the reference sources which provide bibliographic information about journal including abstracts of the articles. |
| 6 | Full text database | Today's are either free or with charges. E-databases is an organized collection of information of a particular subject or multidisciplinary subject areas, information within e-databases can be searched and retrieved electronically. |
| 7 | Reference database | These are many Dictionaries, Almanacs, and Encyclopedias, which are available on internet in electronic format. |
| 8 | Statistical database | These databases contain the numerical data useful for the mass community. |
| 9 | Image collection | Due to adventure of e-images facility this type of databases is Developed |
| 10 | Multimedia products | These types of databases are included images, Video's, audios and text etc. |
| 11 | E-Thesis | These databases are contained with PhD thesis and Dissertation published through e-format. |
| 12 | E-Clipping | The main objective of e-clipping is retrospective search and comprehensive analysis of new items. |
| 13 | E-Patents | E-patents is the exclusive right granted by the government to make use of an invention for a specific period of time. |
| 14 | E-Standards | Written definition, limit rule, approved and monitored for complains |

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| | | by authoritative agency. |
|---|---|---|

**Table 2: Types of resources**

(Reproduced from Kenchakkanavar (2014:100)

### 2.5.5. The Impact of e-resources on Library and Information Service Provision

Tsakonas and Papatheodorou (2006:400) remark, 'The transition from print to electronic medium, apart from resulting in a growth of electronic information, has provided users with new tools and applications for information seeking and retrieval…'. This transition has not only affected users, but also library systems and librarians. According to Kenchakkanavar (p.102) 'The Internet e-resources is transforming the library system and as well the way in which we view information sources' because of the simplicity and the speed with which books, electronic publications, journals and other information sources can be purchased. Publishers have made their catalogues available such as 'Books in Print' and many other different forms of ordering through the internet.

'The development of information technology and the dissemination of Web environments have a dramatic effect on the user behaviours in information usage' (Kenchakkanavar, p.102) as workflows beginning with acquisitions right to user services that are involved with the life cycle of e-resources are different from the print resources because they are characterised by the physical object not being held. 'As libraries build ever-larger collections of e-resources, finding ways to manage them efficiently becomes a major challenge' (Kenchakkanavar, p.102), because there has been increase in citation databases, electronic journals and a rapid growth in full-text aggregation that are held by many libraries. Kenchakkanavar (p.102) believe that, 'managing these e-resources involves providing the library's user with convenient ways to find and access them and providing library staff with the tools to keep track of themæ.

Many library resources in recent years are being made available in e-books, databases and e-journal formats. 'Libraries are moving from print to e-resources either subscribing individually or through consortia because of its advantages over print resources' (Kenchakkanavar p.102). According to Kenchakkanavar (p.102) 'Recent studies show that users prefer e-journals than the print, and 'licensing e-resources has greatly increased in recent years'. This has made many libraries struggle 'to control information in paper files, library systems, separate databases stored on local computers or network' (Kenchakkanavar, p.102).

### 2.6. The factors/barriers that hinder postgraduate students from using e-resources services

Kenchakkanavar (p.103) identifies several issues that arise in the use of e-resource. He mentions licensing, Intellectual Property Rights (IPR), standards of metadata, low budget (restricting librarians from purchasing costly electronic resource), skilled manpower (to handle the e-resources collection

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among library staff) and lack of infrastructure (ICT components) as some of the key challenges that many libraries are confronted with.

Ismail and Zainab (2005:11) found that 54.3% of their respondents use e-books primarily for writing assignments/research projects, 30.9% use it for reference, 6.2% use it for leisure reading with 3.7% using it for browsing. This was when they conducted a survey among undergraduate students at University of Malaya in the faculty of Computer Science and Information Technology. Meanwhile Ozoemelem (2009) notes, '…there is a low level of skilfulness in the use of ICT among respondents' who happen to be postgraduate students in the Department of Library and Information Studies of the Delta State University, Abraka. This observation supports the suggestion by Dutton (1990) that there are greater skills required to maximise the use of e-resources than those required to search print sources. Ozoemelem (p.16) concludes that the postgraduate students of his study faced many issues in their use of e-resources, namely large mass of irrelevant information, the need to sieve the results from the search, delays in downloading, failure to find information, lack of search skill, power failures, not being able to access some e-resources and the challenge to navigate through e-resources. One of the key recommendation he made was for the university to establish ICT centres 'with well trained personnel where students can have free access to computers, the web and other electronic sources' (p.16).

Ansari and Zuberi (2010:4) found from their study that the majority of respondents, representing 78.5%, had little knowledge of e-resources, however, lack of training and network problems were the main reason for not using the e-resources. Again, 90% of academics that responded to the questionnaire believed 'e-resources are reliable; however, majority of the respondents consider only those e-resources are reliable which are produced by authentic organization or publisher' (p.5). Their recommendation included 'Training courses should be organized for the awareness and use of e-resources …The library should also purchase offline e-resources…Basic training in hardware and software such as MS Office, Internet searching, and use of e-resources should be included in the curriculum of each department' (p. 6). Likewise, Mukherjee and Kumar (2010) studied the 'users' requirement of online journals in general and to know the use of online journals that are available through UGC-Infonet e-journal consortium in particular' among the research scholars of the Banaras Hindu University, Varanasi, by means of a questionnaire survey with 100 research scholars of various departments. The study showed that 'there is a demand for more e-journal titles although a substantial number of users (61.90 percent) are satisfied with the existing model of UGC-Infonet Consortium'. They recommend a comprehensive training to be conducted for users on the availability and usability of the e-journal titles made available through the UGC-Infonet Consortium.

Ezeala and Yusuff (2011) studied the satisfaction levels of the resources and services of users that was provided by the library of Nigerian Agricultural Research Institute (NARI). The results show that a

total of 72% of respondents felt that the e-resources the library provided was either inadequate or very inadequate. 'Research officers in NARIs are not satisfied with e-resources in the libraries'. Buckland (1975) has noted, '…intellectual access to recorded information has quite properly been a major pre-occupation of librarians'. However, '…intellectual access needs to be accompanied by physical access if the documents are to be used to obtain information'. Based on the data obtained, Ezeala and Yusuff concluded that 'the agricultural research institute libraries in Nigeria are ineffective in their service provisions'. They recommended among other things a user performance evaluation approach be done annually 'in order to have a feed-back from the users on how well the library is meeting their information needs'.

Raghuram and Vatnal (2011) studied the effectiveness of UGC-INFONET Digital Library Consortium on users. Their focus was the users of the Social Science Faculty of the Goa University. Results from the study indicated that the majority of faculty members (58.3%) got to know about UGC-INFONET through orientation in the library, while another 43.7% learnt about it from their teachers and research guides. The majority (91.25%) 'wanted regular training programme to make an effective use of INFONET programme' while others suggested print versions of the e-journals to be added to the collection. On the whole, the majority of faculty members were satisfied with the existing internet facility in their library (p. 85). Some suggestions that were made at the end of the study included increase in the number of journals in the UGC-INFONET programme, more demonstration/user orientation on how online journal and databases searches are done and more print journals to be added to the e-journals as more than 75% of members were interested in the print versions. Nazir (2015) quoting Sinha et al. (2011) list a number of problems that e-Resource users faced to include: 'limited working hours, lack of adequate number of computers, less speed, lack of infrastructure facilities, frequently power failure, problem on downloading article and problem over searching'. The study of Ahmad, Basha and Fatima (2012) on the use of UGC-INFONET Consortia by research scholars at the university of Delhi revealed more challenges which included: 'Lack of systems speed, limited access to terminals, slow internet connectivity, insufficient time and training (on usage), difficulty in accessing full text, difficulty in finding relevant information, lack of sufficient e-journals, retrieval problems, poorly designed websites as well as difficulty to read from computer'.

Ahmed (2013) determined from his study that generally, faculty members were not satisfied with the universities' level of subscribed e-resources. Some of the reasons they alluded to were the limited number of titles, difficulty in accessing back issues, general difficulty in finding information; accessing from home was a problem as well as the limited number of computers, and the speed of downloading was also poor. According to Nazir (p. 6) '…these constraints do affect e-resources use in the public universities but he was quick to also acknowledge that 'these constraints are mainly related

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to the poor IT infrastructure and limited access to e-resources', which many times results in 'an unwillingness to use the resources regularly and consequently low satisfaction with such resources'.

## 2.7.    The key library services that are provided by academic libraries

To begin with, Parker (2012) mentions library research support services and indicates that academic libraries are changing from 'cosy libraries' where the traditional library plays the role of collection development and creating library spaces to 'scary libraries' where 'both our collection and our users are   increasingly offsite, and the role of the librarian is less and less familiar' (p.1)

In their study on 'Academic Librarians' Role in Maximizing Library Use in Ghana', Agyen-Gyasi, Lamptey and Frimpong (2010) wrote that 'Academic libraries are critical contributors to knowledge generation which serve a wide spectrum of knowledge seekers' (p.1). To do that, they provide access to essential knowledge that develops society by providing access to 'all relevant information irrespective of the heterogeneity of sources and format' (p.1). To say the above in few words, 'an academic library provides services which involve delivery to the user, training in information seeking skills and organising the resources in a way that users find helpful' (p.1).

Dollah and Sing (2006) wrote on '*Digital Reference Service in Academic Libraries*' and believed that 'Reference and information services have always been the main component of library services'. This is done by providing 'personalized assistance to library users in accessing suitable information resources to meet their needs'. They, however, distinguished between the traditional reference service when the librarian 'was to assist in the collection development and acquisition, cataloguing and classification, circulation, provision of reference services, and preservation, conservation and archiving', from when the library evolved into the digital library which agreed with Raghavan (2000); Burke (2003) and Tedd (2003).

The dividing line between traditional library services and the digital library service to some writers is blurred. Gerolimos and Konsta (2011) wrote on '*Services for Academic Libraries in the New Era*'. They compared their studies (Gerolimos and Konsta, 2009) on six library services that were offered in academic libraries and their acceptance which were: 'RSS, instant messaging, streaming media, weblogs, tags and social networks' with addition to other six services like 'Facebook, Twitter, web site interface for mobile devices, reference service via SMS, YouTube and browser toolbars'. Their intent was to determine whether these services 'have the anticipated impact on the strategic service plans of libraries'. They concluded That:

> *the terms that have been coined in recent years to describe the advent of some services and software on the World Wide Web, such as "Web 2.0", "social web", "participatory*

*Web" etc., are short-sighted and only describe a portion of what was already in place since the creation of the Web.*

Crawford (2006) also criticises the idea behind the use of the 2.0 suffix in library services when he reviewed the notion that form the basis of the change when he visited the question several years later (Crawford, 2009). He notes the significant but fallible movement in his 'Five years later: Library 2.0 and balance' work (Crawford, 2011a) and suggests a balance between the old and new services in his 'Five years later: Library 2.0 and balance (Cont.)' (Crawford, 2011b).

According to Joint (2010), librarians have tried to make technology to seem to have originated from the library. He has argued that the so called revolutionary nature of the web services has not revolutionised library services. Meanwhile, Breeding (2007) highlights the risk of limiting the uses of the web in the context of the library where only some tools are promoted. His argument is that many libraries have to catch up with the previous library services before moving on to the next generation of library services (Breeding, 2006).

Despite the reservations that have been expressed by the authors above on digital library services by academic libraries, '…academic libraries are the pillars on which research in universities is based, providing a wide range of resources and services' maintains Namuleme and Kanzira (2015:30). Their work on 'Research Support Services in Academic Libraries in Uganda: Challenges and Opportunities' highlighted some of the few library services that are provided by academic libraries in Uganda. According to them, 'Academic libraries support research by developing research collections and data repositories, and providing bibliometric analysis, data literacy training and research data management' (p.29) while Mwesigwa (2013) gives a report on how academic libraries have been engaged in outreach programmes targeted at making an informed citizenry in Uganda.

Borgman (2010) also observed that changes in political, technological, social and economic systems/ realities in tertiary education have equally changed the role of libraries from providing reader services to author services, also making the librarian's role    to change from supporting research to contributing to the research process. The changes in the dynamics of library work according to Kroll and Forsman (2010), Corrall (2012) have led to many libraries in the developing world    +-dopt to library practices that meet the needs on their communities, such as information literacy and repository management. Academic libraries are also providing services like Information technology services, research data management, managements of IRs according to Walker (2009). Kesselman and Watstein (2009) observe the new roles that librarians have begun to offer such as scholarly communication and information literacy instruction to satisfy the changing needs of their patrons.

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## 2.8. How e- resources and library services impact on research and academic work

The transformation in the format of information material was acknowledged by Singh (2013) thus: 'In the 21st century most of the library resources are being made available in electronic formats such as e-journals, e-books, e-databases' (p. 16) and this has occasioned many libraries to move from 'print to e-resources either subscribing individually or through consortia' (p.16). Tsakonas and Papatheodorou (2006) observe that 'The transition from print to electronic medium, apart from resulting in a growth of electronic information, has provided users with new tools and applications for information seeking and retrieval while Egberongbe (2011) points out that 'e-resources are invaluable research tools that complement the print-based resources in a traditional library setting'. The impact that these e-resources have had on research and academic work are enormous.

Dadzie (2005:290) wrote extensively on the impact and several benefits of e-resources to be 'invaluable research tools which complement print-based resources in any traditional library…provide access to information that might be restricted to the user because of geographical location or finance…provide access to currents information as these are often updated…provide additional extensive links to explore additional resources or related content'.

The work of Egberongbe (2011) reveals that 66% of lecturers consider e-resources as saving time, while 59.1% says e-resources are easy to use. Research Scholars prefer it because it is more useful to them and saves time as well as being more informative. He concludes that the teachers and research scholars depend heavily on e-resources for their desired and relevant information. Tahir, Mahmood and Shafique (2010:131) also confirm the time saving impact of e-resource when they report how 55% of the respondents indicate a decrease in the time they spend to get information because of e-resources. In presenting the findings of his work, Sigh (p.31) reports of 78.38% , being the majority stating how e-resources enhance their academic work efficiently, meanwhile, Nazir (p.2) confirms in his work that 'e-resources enable innovation in teaching and they increase discovery and creation of new fields of enquiry' while Egberongbe (2011) again concludes from his study that both lecturers and scholars acknowledged the usefulness and importance of e-resources to research and productivity', however, the study reveals that in terms of practical use of the e-resources, lecturers and research scholars are putting the e-resources to less use compared to the money invested in their acquisition.

Service quality and customer satisfaction in academic libraries was the research topic of Kiran (2010) when he wanted to find how library services impact on academic research work with his focus on the Malaysian University. Results from the study indicate that, although the academic staff rated the library services to be average, they were 'aware that the library has a positive impact on their teaching, learning and research' (p.270). Meanwhile, the academic staff appreciated the prompt service that the main library offered but rated 'request for interlibrary loan/document delivery' (p.270)

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as average. The reason is understandable '…due to the nature of obtaining the information from elsewhere' (p.270). One of the questions that Laitinen and Saarti (2014: 613) ask in their work 'Evidence based service change: remodelling the academic libraries for the post-digital era' is 'How have library services benefited your work, studies or other activities?'. It was established that, 'the share of those claiming that the library services had substantially benefited their work or studies increased from less than 50 % in 2008 to nearly 60 % in 2013' (p.613).

Given, Kelly and Wilson (2015:2) report that the landscape of research has shifted, and academic libraries are providing a whole range of services that support and guide researchers to document and report on their research activities. Corrall et al., (2013) and Tenopir et al., (2013) also report that those activities include academic research impact like tracking citation counts and journal impact factors. Meanwhile, Cox and Pinfield (2014); Kennan et al., (2014); Smith et al., (2013) all provide lists of some other library service activities like services associated with data management, use of datasets, research on metadata assignments plus other e-research activities which academic libraries are collaborating with university administrators to offer. Given, Kelly and Wilson (p.5) report some of the responses of the impact that the afore-mentioned services have had on a research fellow and an engineering professor respectively:

> *You can call up the librarians and they will determine your h-index for you. And they'll do your citation factors. The research office…itself doesn't really get so involved. But the library, did quite a bit of analysis around citations.*

and

> *I'd love to have my metrics for downloads of my papers that I've… and these are fairly standard kind of metrics in some way. I don't think I can get them and I'm now thinking I should talk to my research librarian and see if we can disseminate those, and so I hope they collect them.*

## 2.9. Summary of Chapter Two

The chapter reviewed literature on the key words: postgraduate education; e-resources; library services; and academic libraries of the research topic and found that:

- ❖ The term 'postgraduate' could not be defined with a single definition …but could only be used to describe studies taken after a first degree.
- ❖ Postgraduate education has gone through many challenges in Africa, but due to its contribution to national economic development, many have enrolled to study at that level since the 1990s.

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❖ The 21ˢᵗ century academic library provides better services to postgraduates than in the traditional academic library.

❖ Libraries have become more digital and virtual with books, journals and magazines becoming e-books, e-journals and e-magazines (known as e-resources). These are available via the Internet, where and when the end user needs them. As a result, librarians, should not expect patrons to come to the library building.

❖ The evolution from print to electronic medium has caused growth of electronic information which has provided users with new tools to seek and retrieve information thereby affecting not only users but library systems and librarians.

❖ The evolution of electronic means of accessing information has brought with it challenges such as: slow downloading speed, need to be skilful technologically, information overload, power crises, internet connectivity, finding relevant information, insufficient access to e-journals, user unfriendly databases, poorly designed websites and many more that are causing many users not wanting to patronize e-resources. On the other hand – speed of delivery, democratized access and the removal of barriers such as (physical location) geography, time and space make such a difference to information access so that librarians need to do everything possible to assist users in taking advantage of modern library collections.

❖ The evolution of e-resources has forever changed the services provided by the traditional library like circulation and reference services to data literacy training, bibliographic analysis, research data management, collecting and building data repositories, guiding researchers to document research activities – like tracking citations count and journal impact factor.

## Chapter Three: Research Methodology

### 3.1. Introduction

This chapter addresses the methodology that was applied to find solutions to the research questions. It therefore focusses on the research process, population of the study, sampling methods, the data collection methods and procedures, analysis of the data, ethical considerations that may arise from this study, as well as quality control mechanisms.

### 3.2. Research design and approach

The strategy or action plan that a researcher adopts to perform an empirical inquiry to solve a research question is what Pickard (2008:52:83) describes as a research design. Creswell (2009:3) defines research design as 'plans and procedures' that guide the research activities from broad assumptions to peculiar tools for collecting data, analysing data as well as interpreting data. Essentially, a research design could be seen as a systematic framework that could be used to describe how to conduct a scientific investigation. Creswell (2009:3) and Pickard (2008:83) purport that a number of reasons underlie the choice researchers makes for their research approach or design which may include the researchers' strategy of inquiry; the research question or problem they seek to answer and their paradigm preference or philosophy.

There are two broad approaches into which research design could be categorised, namely: Qualitative and Quantitative. A third approach known as the 'mixed methods' is also quite widely used, however, for the purpose of this study, the researcher will focus on the first two. Distinguishing between the two approaches is sometimes quite tricky, but thankfully, Kumar (2011) provides a clear distinction in table 3.1 below:

| Difference with respect to: | Quantitative research | Qualitative research |
| --- | --- | --- |
| Underpinning philosophy | Rationalism: 'That human beings achieve knowledge because of their capacity to reason' (Bernard 1994:2) | Empiricism: 'The only knowledge that human beings acquire is from sensory experiences' (Bernard 1994: 2) |
| Approach to enquiry: | Structured/rigid/predetermined methodology | Unstructured/flexible/open methodology |
| Main purpose of investigation: | To quantify extent of variation in a phenomenon, situation, issue, etc. | To describe variation in a phenomenon, situation, issue, etc. |

| Measurement of variables | Emphasis on some form of either measurement or classification of variables | Emphasis on description of variables |
|---|---|---|
| Sample size | Emphasis on greater sample size | Fewer cases |
| Focus of enquiry | Narrows focus in terms of extent of enquiry, but assembles required information from a greater number of respondents | Covers multiple issues but assembles required information from fewer respondents |
| Dominant research value | Reliability and objectivity (value-free) | Authenticity but does not claim to be value-free |
| Dominant research topic | Explains prevalence, incidence, extent, nature of issues, opinions and attitude; discovers regularities and formulates theories | Explores experiences, meanings, perceptions and feelings |
| Analysis of data | Subjects variables to frequency distributions, cross-tabulations or other statistical procedures | Subjects responses, narratives or observational data to identification of themes and describes these |
| Communication of findings | Organisation more analytical in nature, drawing inferences and conclusions and testing magnitude and strength of a relationship | Organisation more descriptive and narrative in nature |

**Table 3: Differences between qualitative and quantitative research**

Reproduced from Kumar (2011:20)

To Flick (2015:10-11), quantitative research must be based on a theory upon which a hypothesis will be based. This hypothesis can be tested empirically with collected data that involve a large number of respondents that would increase the chances of objectivity, reliability and validity of the study. On the other hand, Flick (p. 12) submits that qualitative research involves purposive selection of a few respondents because of their relevance to a researcher with fewer questions that solicit answers in the respondents' own words to give the researcher an in-debt and a comprehensive view of the case under study. Creswell (2013:45-48); Christensen, Johnson and Turner (2011:52); Flick (2015:12) believe new theories could be discovered from qualitative research as respondents provide subjective meanings to issues from their natural environments in which the research was conducted.

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Christensen, Johnson and Turner (p.29-30) and Creswell (p.3) summarize that quantitative research is involved with quantifying and explaining the way things work generally, with a large sample size being used in a study. Meanwhile, qualitative research involves narratives and interpreting what respondents have said based on their local context with only a small sample size.

For the purpose of this study, the qualitative approach was adopted, as it is best suited for this case study which is focussed on the postgraduate students and their lecturers with a total number of twenty-five (25) postgraduate students and 5 lecturers. The study adopted the qualitative approach because it sought to solicit the opinions and suggestions of the postgraduate students and their lecturers (of the RMU ports and shipping administration department) on what e-resource and library services could be offered to them to improve the usage of the e-resources the RMU library spends so much money to subscribe to.

### 3.3.    Research Method

The case study is one among the several strategies that could be adopted to open an enquiry into qualitative research.  It helps the researchers to obtain a comprehensive and in-depth knowledge about the research problem they wish to investigate, all-be-it within the particular case as the interpretivist worldview (which is the driving force of this study) is concerned with the individual context. (Pickard, 2008:13, 86).

Creswell (2013: 97); Pickard (2008:85) and Gerring (2007:17) have bemoaned the lack of a common definition for a case study in research methodology literature, though Christensen, Johnson and Turner, (2011:374) and Gerring (2007:20) have submitted that any detailed investigation into a phenomenon limited within a defined boundary is a case study research.

Yin (2009:21) acknowledges that to use a case study for any research purpose 'remains one of the most challenging of all social science endeavors' for the simple reason that 'your goal is to design good case studies and to collect, present, and analyze data fairly' (p.21). 'A case could be an individual, a group, a community, an instance, an episode, an event, a subgroup of a population, a town or a city. To be called a case study it is important to treat the total study population as one entity' (Kumar, p.126). Like Yin (2009) who presents a case study as an empirical investigation of a contemporary phenomenon in a real-life context, Kumar (p.126) is of the opinion that, 'the "case" you select becomes the basis of a thorough, holistic and in-depth exploration of the aspect(s) that you want to find out about'. It is an approach, according to Gilbert (2008: 36), 'in which a particular instance or a few carefully selected cases are studied intensively'.  Burns (1997: 364) submitted that 'to qualify as a case study, *it must be a bounded system,* an entity in itself. A case study should focus on a bounded subject/unit that is either very representative or extremely atypical' and 'is characterized by a very flexible and open-ended technique of data collection and analysis' added Grinnell (1981: 302).

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A case study approach has been selected for this study for two important reasons:

1. Kumar (p.126) submitted that in selecting a case 'you usually use purposive, judgemental or information-oriented sampling technique' which is at the base of this study. The University of Ghana which the Regional Maritime University (RMU) is affiliated to, in running its postgraduate programme raised the red flag about the abysmal performance of her postgraduate students. Management of the RMU tasked the marketing department to find out the needs of the postgraduates. The RMU marketing unit conducted a focus group discussion with selected postgraduate students from which discussion the marketing units reported that postgraduate students lacked relevant materials for their academic work. Meanwhile, the library through the CARLIGH initiative, pays huge monies in subscription fees for e-resources. Based on the information provided by the marketing unit, the researcher selected the postgraduate students as a case to know what their relevant information needs were and what library services could be provided for them to improve on their academic performance.

2. Kumar (p.126) again says a case study could be 'based upon the assumption that the case being studied is atypical of cases of a certain type and therefore a single case can provide insight into the events and situations prevalent in a group from where the case has been drawn'. It is the hope of the researcher that this case study with the postgraduate students would provide insight to hypothesize the general poor academic performance of the undergraduate student of the entire university from which the postgraduate students were drawn. The postgraduate students from the ports and shipping department were selected as a case because they are the only postgraduate students of the university (RMU). The researcher included the lecturers of the postgraduate students to the study to find out if they also patronize the e-resources the RMU library provides or otherwise.

### 3.4. Population and Sampling Method

The population of any research study, according to Punch (2009:358), is made up of a unit of analysis or the entire entity that researchers will apply their result to; it is the usually the large target group about whom the researcher would want to develop knowledge, yet, cannot study directly and therefore has to sample from. 'The *population* for a study is that group (usually of people) about whom we want to draw conclusions' (Babbie, 2013:115), but since it is almost never possible to study the entire population that researchers are interested in, a selection is made from them to be called a sample to represent the entire population. To Christensen, Johnson, and Turner (2011:150) and Pickard (2008:59, 60) the generalisation about whom inferences shall be made that is based on the findings of a study encompasses a population; and it is from the population that a sample is selected as it would be expensive and time consuming to engage all the targeted population in a study. A sample is a subset of the population (Sproull 2002:109).

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In the literature of research methodology, two broad sampling methods can be found which are probability and non-probability sampling, with other sources referring to them as random and non-random sampling.

Sampling by the probability method gives equal opportunity for each member in a population to be selected as a sample because the selection is randomly done. It is not only best suited for quantitative research due to the bigger sample size needed to generalize the findings, but has a lesser chance of bias as compared to the non-random method of sampling (Christensen, Johnson, and Turner, 2011:150; Pickard, 2008:61-65; Sproull, 2002:112-120).

On the other hand, the non-sampling method works best for qualitative research for the simple fact that qualitative investigations focus on understanding   a phenomenon in depth instead of studying many cases broadly (Creswell, 2013:100; Christensen, Johnson, and Turner, 2011:162; Leedy and Ormrod, 2010:145).

The target population for this study is the postgraduate students of the ports and shipping administration department of RMU and their lecturers. The current postgraduate students' number 25 and the total number of lecturers are five. The lecturers are all full-time lecturers of the RMU except for one who is a part-timer from the Ghana Institute of Management and Public Administration (GIMPA). The 25 postgraduate students are all evening school students who have their lectures from 4pm-8pm Monday to Friday.

The researcher did not sample from the targeted population for the study, as all the members of the targeted population were to be involved in the study.  Literature supports this approach, as Mugenda and Mugenda (2003:44) submit that when the targeted population for a study is so small, it is meaningless to select a sample. Morris (n.d.) expresses a similar opinion, that when the population size for any research is smaller than 300, it would be prudent to survey everyone in the population. For a population that is plus or minus 100, Leedy and Ormrod (2010:213) suggest that it would be futile to sample; survey the entire population.

### 3.5.   Data collection

Primary data, according to Mugenda and Mugenda (2003:12), is the information a researcher gathers from the field, that is, from respondents. To Gelo, Braakmann, and Benetka, (2008:275) primary data stand for the original data that are gathered from the field by a researcher through observation and interaction with the targeted population to be studied. The researcher used the primary data collection method because he works in the university from where his targeted respondents (postgraduate students and lecturers) meet five times a week, making it convenient and easy for the researcher to have access to his would-be respondents.    A semi-structured questionnaire was   used to collect the primary data.

Secondary data sources, as submitted by Kombo and Tromp (2006:100), are that data which have been collected by someone else, other than the researcher and without the researcher in mind. These secondary data sources could be from official documents, books or journal articles which have been reported or published in any media (Bhattacherjee, 2012:39; Gelo, Braakmann, and Benetka, 2008:275). As of necessity, primary data should be augmented with secondary sources as they provide the background information for the researcher to formulate his questionnaire and interview questions by paying attention to priority areas.

The use of both primary and secondary data sources helped the researcher build a pattern through triangulation. Creswell (2013:251); Christensen, Johnson, and Turner, (2011:53); Leedy and Ormrod, (2010) believe that triangulation helps researchers to use multiple methods and data sources to support evidence, draw parallels in data and better still, to deeply appreciate a phenomenon. Patton (2002:248) is also of the opinion that, apart from triangulation helping to corroborate findings, it also helps to test for consistency in data. Creswell (2013:251) concludes that triangulation is an effective way to check for the validity of the findings of a study.

The use of both data collection methods aligns well with the practice of qualitative case study research as evidenced in the literature of Creswell (2013); Christensen, Johnson, Turner (2011); Pickard (2008).

The method that was used to collect the primary data for this study is known as surveying: 'Asking participants about their opinion and behaviours through a short questionnaire' which, according to Driscoll (2011:154), is a survey, and the choice between a survey and an interview for a research depends to a large extent on what information the researcher wants to gather. Driscoll (p.154) advises, however, to use a survey '…if you want to learn about a general trend in people's opinions, experiences, and behaviour' because surveys are mostly very useful to gather small amount of information from a broader range of people to make a general claim. Thus, the researcher surveyed the postgraduates of the RMU to generalise the reason for the low patronage of the library's e-resources.

### 3.6. Data collection instruments
In conducting this study, the researcher used a questionnaire.

### 3.6.1. Questionnaire
The researcher depended heavily on the use of a questionnaire as the primary data collection instrument for the purpose of this study. A questionnaire is a set of questions that a researcher uses to elicit information from respondents in relation to their study (Kumar, 2011:145). If a researcher succeeds in using a questionnaire to gather data for a study, it depends to a large extent on the

respondents, as there is always an element of uncertainty in providing the correct information (Nassiuma 2000:16). The questionnaire must be designed in such a way that it addresses the hypothesis, research question or the objective of the study (Mugenda and Mugenda 2003:71), thus allowing the researcher to come up with relevant data to address the objectives of the study.

The use of a questionnaire helps the researcher to make use of pre-coded answers which helps to simplify the duty of analysis; it makes any personal interaction skills of the researcher unnecessary and reduces the face-to-face exchange between researcher and respondent to a minimum so that the presence of the researcher does not affect the responses of the respondent (Robson 2007:81). There are however some disadvantages with the use of questionnaires such as: low response rate; in-depth probing of topics becomes difficult; questions could be answered untruthfully by respondents; it calls for the researcher to be pedantic at all phases of the study and lastly, the quantitative data that is obtained from the statistical analysis could give a bloated impression of the findings.

This study used a questionnaire as it is cost effective, and besides it is a relatively quick way to obtain data from the targeted population. What is more, the targeted respondents were all workers with limited time to spare. A focus group discussion would mean a whole class hours be suspended which would be very inconvenient, besides, some may not contribute anything to the discussion whereas with individual questionnaire, every member's opinion would be sampled. The most important reason for the choice of questionnaire is to allow respondents to answer at their own convenience. Questionnaire is an effective, though non-experimental quantitative way of gathering data according to (Mbatha, n.d.:164). The questionnaire for this study contained open-ended (unstructured) as well as closed-ended (structured) questions. After piloting the questionnaire (see appendix 1) with four staff members, there was a need to make adjustments to the questionnaire. Question 4 was rephrased and divided into two (a and b) with the introduction of a new question 5 (also divided into an a and b) which increased the total number of the questionnaire from sixteen (16) to seventeen (17).

### 3.6.2. Secondary data sources

Secondary data sources in the form of print books, e-books, both print and e-journals as well as internet databases were examined in line with this case study. This was important because they provided the background to the study of e-resources and services that the RMU library could provide to its postgraduate students. Again, the use of secondary data sources was purely for supplemental purposes as they helped design the questionnaire as well as the interview guide. They were used to provide information on the best library services that could help put RMU's e-resources to maximum use by the postgraduate students and their lecturers.

### 3.7. Research Trustworthiness

Creswell (2009:190) submits that the use of 'validity' and 'reliability' in both qualitative and quantitative research does not connote the same meaning. The use of the words 'validity' and 'reliability' as criteria to establish value in qualitative research are criticised by interpretivist researchers to be the importation of positivist language which to them does not compare well with quality research (Creswell, 2013:246; Pickard, 2008:18). To this end, this study will use the items credibility, transferability, dependability, and confirmability as proposed by Creswell (2013:246-253) and Pickard (2008:18-21) to be best suited for qualitative research (case study).

### 3.7.1. Credibility

According to Creswell (2013:246), the interpretivist sees credibility as equivalent to internal validation as far as qualitative research is concerned, but with a focus that demonstrates persuasiveness gathered from the evidence of the enquiry. Among the common strategies that are used as criterion are lengthy engagements with research respondents, triangulation as well as respondent's validation (Creswell, p. 250-252; Pickard, p. 20). To make this study more credible, the researcher employed the triangulation of data collection strategy of sources as well as respondents' validation.

### 3.7.2. Transferability

Transferability criterion reflects external validation and to some extent the generalisation that is seen in quantitative research. In qualitative research, however, Pickard (p.20) posits that transferability is dependent on the empirical evidence of contextual closeness rather than on blanketing under-generalisation. To this end, the researcher provided a rich description of the context (Regional Maritime University) in Chapter One to give the relevant background information on the case study which was to provide the standard for transferability (Creswell, p. 252; Pickard, p. 20).

### 3.7.3. Dependability

Creswell (p. 252) and Pickard (p. 20) submit that because external auditors are used to appraise researchers' work, many qualitative researchers aspire for dependability rather than reliability since the former focuses on an accurate research process and the appropriate use of methods (Creswell, p. 246). Though the instrument and methods that were employed to collect data in this case study stood the chance of being biased, the researcher considered it the best method as per the context of the study: seeking to know why postgraduate students patronise the e-resources of the RMU library inadequately. Moreover, the researcher adopted internal strategies such as triangulation of data methods to mitigate the bias, but by no means through exposing confidential information or the privacy of respondents.

## 3.8. Analysis of data

To organise details of a case, categorise data, interpret instances, identify patterns and synthesise or generalise these are some of the practical steps that Leedy and Ormrod (2010) have observed could be involved in any typical case study where a qualitative analysis is undertaken. Importantly, in any single case (like that of RMU postgraduate student and their lecturers) that has multiple respondents, Christensen, Johnson and Turner (p. 376); Patton (p. 447) suggest that each respondent's response should be analysed intensively as an isolated case before comparing them to determine disparities or patterns.

Qualitative data analysis has been chosen for this study, especially thematic analysis (Flick, p.152) per the nature of data that were collected. The choice was best suited for the study, in the opinion of the researcher, because it allowed for the development of a thematic structure with the data collected. The thematic structure facilitated the researcher to compare participants' responses to ascertain the consensus or otherwise disagreement in areas such as awareness, use of e-resources and likely library services expected by postgraduates and their lecturers (Flick, p. 153).

The questionnaires were completed by hand but the researcher reconstructed the questions making use of Google Docs. The responses obtained from the questionnaire were encoded, making use of the Google Docs form. Results were analysed descriptively. In analysing the data collected from the questionnaires, the researcher grouped the responses from the participants into the major topics mentioned in the questionnaire by categorising them with colour coding along with annotations.

The next activity was to crosscheck the categories with individual questionnaires and identify patterns and commonalities in the grouped categories which were then regrouped and discussed under appropriate themes. During the content analysis process, the researcher focussed on the categories that were developed in the major topics, but modified and updated them as new, and when contrary aspects came up this helped to properly analyse the views of respondents of a particular interpretation.

## 3.9. Ethical consideration

In as much as social research involves human participants, it is important to conduct social research with ethical consideration. Christensen, Johnson and Turner (p. 96) and Flick (p. 216) submit that the aim of ethics in any research is to ensure researchers undertake their studies in a transparent manner not injurious to respondents by any means. It makes it necessary, therefore, for researchers to be mindful of the ramifications of their study. Christensen, Johnson and Turner (2011); Flick (2011); Pickard (2008) and Leedy and Ormrod, (2010) have all discussed some of the main ethical issues that need to be observed in social research.

In line with the above, and the general rule for conducting empirical studies with the University of Pretoria, the under-listed ethical considerations were met by the researcher as a required rule and regulation to write a mini-dissertation:

❖ Obtained ethical clearance from the Research Committee of Faculty of Engineering, Built Environment and Information Technology, University of Pretoria to collect data by the instrument of questionnaire.

❖ Requested and obtained permission from the Regional Maritime University to conduct research with the employees of the university and publish information about the university. (see appendix 3 and 4)

❖ The researcher also assured all respondents of their confidentiality regarding any information they disclosed to be used solely for this study.

❖ Respondents were allowed to willingly participate in the research after they had been briefed on the purpose of the study.

### 3.10. Summary of Chapter Three

The chapter was used to discuss the design of the research methodology in some detail. The research was designed as a qualitative case study using a questionnaire for data collection. The research focussed on the postgraduate students of the ports and shipping administration of the RMU. The purpose was to find solution to the research question of: What e-resources and Library Services could be offered by the RMU library to enable postgraduate students maximize the use of the library's e-resources? The next chapter (Chapter Four) presents the results of the collected data from respondents.

**Chapter Four: Study Results**

### 4.1. Introduction

This chapter presents and analyses the data that was gathered by using the data collection tool known as a questionnaire. Questionnaires, for this study, were distributed personally by the researcher to 30 respondents (25 postgraduate students and 5 postgraduate lecturers) during August 2016. Of the 30 respondents that accepted the questionnaire, 20 returned the questionnaires answered, giving a response rate of 66.66%.

The questionnaire was grouped into 5 sections: 1. Demographics. 2. Awareness and Usage of E-resources in the RMU Library. 3. Purpose of Use. 4. Library Services. 5. Closure. An analysis of the data is therefore presented based on these sections.

### 4.2. Demographics

### 4.2.1. Title of respondents

It is a common saying that the maritime industry that the Regional Maritime University belongs to, is dominated by males and this was depicted with 74% of the respondents (both staff and students) going by the title 'Mr.' Whether females are not interested in the maritime courses or there are other challenges they face is an issue for further studies. The fact that the majority of clients are male did not appear to have any influence over the way in which questions were answered.

### 4.2.2. Devices owned by Respondents

The researcher wanted to know with what devices the respondents access the internet in order to use the e-resources made available by CARLIGH to the RMU library. The dominant device owned by respondents stood out as 'laptop' with some respondents owning other devices as shown in figure 1. The researcher wanted to know if respondents were limited in the means by which they could access the RMU's e-resources. The results show seven of the 20 respondents own multiple devices and could connect to RMU's e-Resource when one device fails. Though the number of respondents with multiple devices is in the minority, the e-Resource administrators of the RMU library should take this into consideration when planning connectivity - to encourage continues access to the e-resources.
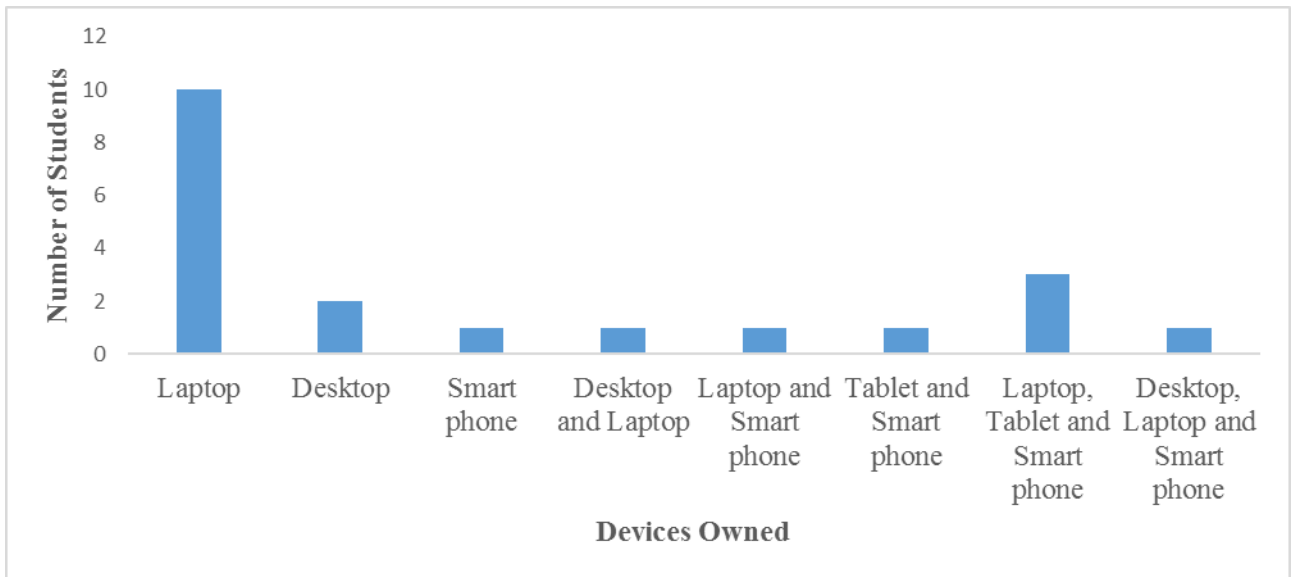
**Figure 1: Device ownership**

## 4.3. Awareness and Usage

To ascertain whether respondents were familiar with the resources that the RMU library subscribes to, the questionnaire asked the respondents to indicate with a 'Yes' or 'No' the question of 'how familiar are you with the following e-resources' and listed all the 11 resources that the RMU library pays for. The result clearly showed that Emerald and EBSCO Host were the resource that respondents were most familiar with. This was followed by Sage, Willey with Sage Research Methodology as well as Taylor and Francis having recording some sort of familiarity among respondents.

The result also showed that two of the resources (Credo Reference and Institute of Physics Journal) did not record a single respondent to be familiar with it. What is more, Cambridge University Journal and Project Muse also recorded a very low familiarity number of respondents.

Worryingly, there was a very high rate of N/A responses for all the resources that were listed as shown in 'Figure 4'. Comparatively, apart from Emerald and EBSCO Host which had more respondents indicating 'Yes' than 'No', the rest of the results in 'Figure 4' indicate that respondents were generally not familiar with the RMU Library e-resources as there were more 'No' than 'Yes'. The results reflect the familiarity of both postgraduate students and their lecturers.

'Figure 3' shows that 25% of both postgraduate students and their lectures did not use the library e-resources, for varying reasons including preference for print materials, use of resources from other institutions, lack of access from off-campus and lack of familiarity with e-resources among other reasons. The RMU Library staff should work on addressing the challenges that keep the 25% respondents away from utilizing the e-resources. For instance, the library could provide a printer in the library research room for those who prefer print versions to be able to print material they access.

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The library could interact with the respondents who use resources from other institutions to find out what resources they are and find a way to add it to their subscription list. The library should liaise with the IT department to provide an off-campus connectivity to serve the respondents who would have patronised the RMU's library resources had the opportunity been created through remote access. Some respondents indicated they did not use RMU resources because they were not familiar with them. This calls for a large-scale user education of postgraduate students and their lecturers by the library staff on the contents of the e-resources that the library subscribes to and pays heavily for.

If lecturers are not familiar with the resources they cannot recommend them to their students. Also, if the students are not familiar with the resources, the chances of using them to the maximum is questionable. It is therefore recommended that RMU's library staff, especially those in charge of e-resources embark on a sensitization programme such as orienting of postgraduate students on admission, with a user education training programme with a follow up each semester for both postgraduates and their lecturers.

### 4.3.1. Awareness of RMU e-resources
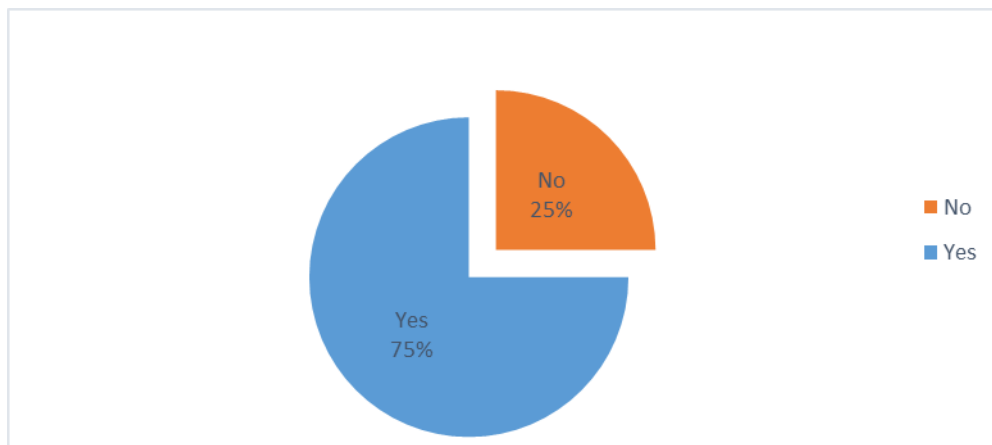


**Figure 2: Resource awareness**

Figures 2 and 3 show that the majority (75%) of respondents are aware of and utilize the e-resources available in the RMU. Reasons provided by the remaining 25% of respondents, who claim to be unaware of RMU e-resources, included inadequate marketing of the e-resources and lack of user education, preference for print materials, use of resources from other institutions, lack of access from off-campus and lack of familiarity with e-resources.

The results of figures 2 and 3 are quite surprising because although many of the respondents claim to be aware and use the RMU e-resources, statistics at the front desks of both the main library and the

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library research rooms indicate that usage of the e-resources by postgraduate students and their lecturers is very low. Subsequent responses from other questions may prove or confirm these results.

### 4.3.2. Usage of RMU e-resources
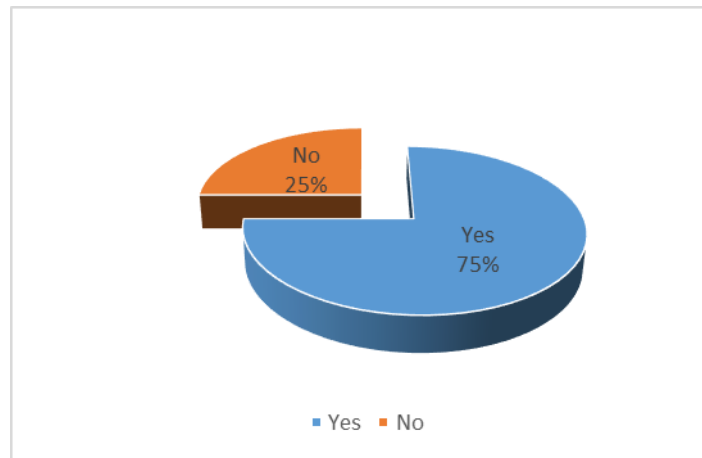


**Figure 3: Utilization of E-resources among respondents**

### 4.3.3. Familiarity with RMU e-resources

The students were asked to indicate what e-resources they were familiar with and how useful they found those resources. Figure 4 shows the RMU e-resource that are familiar to students.

The results showed that the majority of the respondents were very familiar with Emerald and EBSCO Host. There were a significant number of respondents that had good familiarity with Sage, Willey, Taylor and Francis as well as Sage Research Methodology. The results also show that there were many respondents who were not familiar with many of the resources that the RMU library subscribes to. Significant among the 'NO' category were Cambridge University Journal, Credo Reference and Institute of Physics Journal as well as Project Muse. The Results also showed that not a single respondent was familiar with two of the e-Resource sources such as Credo Reference and Institute of Physics Journal. What is More, it is clear from 'figure 4' that many respondents did not indicate whether they were familiar with the e-resources as shown in the N/A (Not Answered). Cambridge University Journal, Credo Reference, Institute of Physics Journal, Project Muse as well as World Bank e-Library were highest with the N/A tag.

A look at the graphic in figure 4 indicates that each of the resources is being underutilized. Only Emerald is used by almost 50% of the respondents. Again, the graphic gives an indication that respondents are each familiar with one or two resources but not with the entire spectrum of available resources. RMU library staff will have to educate respondents so that the resources are thoroughly checked for relevance, and that would be the very first step in trying to improve the patronage.

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### 4.3.4. Rating of RMU e-resources

The RMU library currently subscribes to 11 e-Resource databases through the Consortium of Academic and Research Libraries in Ghana (CARLIGH) with an annual subscription fee of between $5,000-$8,000. The subscription fee has been paid by the library for over 6 years. To find out if the e-resources that the RMU library invest heavily in for subscription are beneficial to respondents in their academic and research work, a questionnaire was design for respondents to indicate with a 'tick' if the resources was 'very useful', 'useful', 'not useful', or if respondents 'would like to use in the future'.

The question wanted the respondents to rate the e-Resource that are subscribed to by RMU library on a scale of 'very useful', 'useful', 'not useful' and 'I would like to use in future'. Results in 'figure 5' show that Emerald received the most of the 'very useful' tag which was followed by EBSCO Host and Willey. Emerald again received more respondents saying it was 'useful', which was followed by EBSCO Host and Taylor and Francis. Cambridge University Journal, Credo Reference, Institute of Physics Journal, Sage Research Methodology, Willey and World Bank e-Library all received the same number of respondent 'I would like to use it in future'. EBSCO Host, Emerald and Sage recorded the same number of 'I would like to use it in future'. There was a very high number of N/A for all the resources among respondents with Credo Reference, Institute of Physics Journal and Project Muse topping the list as indicated in 'figure 5'. The results again showed that Credo Reference, Institute of Physics Journal and Project Muse did not record any 'useful' tag. Significantly, no respondent rated any of the RMU resources as 'not useful'.

The results from 'figure 5' gave several indications. Emerald, EBSCO Host and Willey received the most 'very useful' ticks while Emerald, EBSCO Host as well as Taylor and Francis received the most 'useful' ticks from respondents. This indicated that 4 databases: Taylor and Francis, Emerald, Willey and EBSCO Host are the most popular databases among the respondents. RMU Library staff must ensure they encourage their usage among respondents to get value for money.

On the other hand, result from 'figure 5' showed that the majority of respondents indicated their willingness to use as many as 6 databases: Cambridge University Journal, Credo Reference, Institute of Physics Journal, Sage Research Methodology Willey and World Bank e-Library with high number of ticks. This outcome could have two meanings: 1. Respondents were not familiar with the databases and therefore if they were introduced to them, then they would use them in the future. 2. Respondents may be familiar with the databases but the databases do not have a user friendly interface, so when there is user education, respondents would feel comfortable to use them. Whichever case is the real reason for the high score of 'I would like to use in future', the library staff should find out from respondents and address the issue with user education.

Significant observation from 'figure 5' is the high number of ticks for almost all the databases with 'N/A' indicating that respondents gave no answer/rating for particular databases. This is worrying because it would be difficult to determine the real usefulness or otherwise of the subscribed databases and whether the University is getting value for money. Many blank spaces on the questionnaire could indicate respondents did selective filing of the questionnaire, or the questions were too many. In either case, it is recommended that issues be made clearer to respondents by the researcher the next time studies are made with the same respondents or a similar group of people.

One other issue observed from 'figure 5' is that there was only one respondent who ticked 'not useful' for the Sage database. This is encouraging because though there is a minimum use of the database, the majority of respondents did no rate any of the e-resources subscribed by the RMU Library as 'not useful'. This means that with more user education, the resources made available by the library would see maximum patronage.
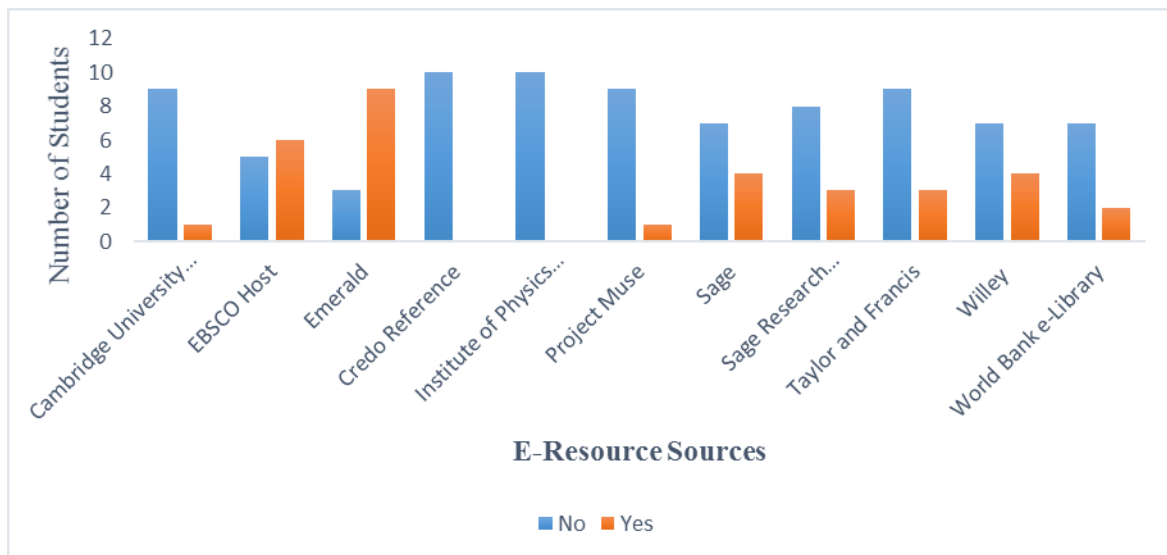


**Figure 4: Resource familiarity**

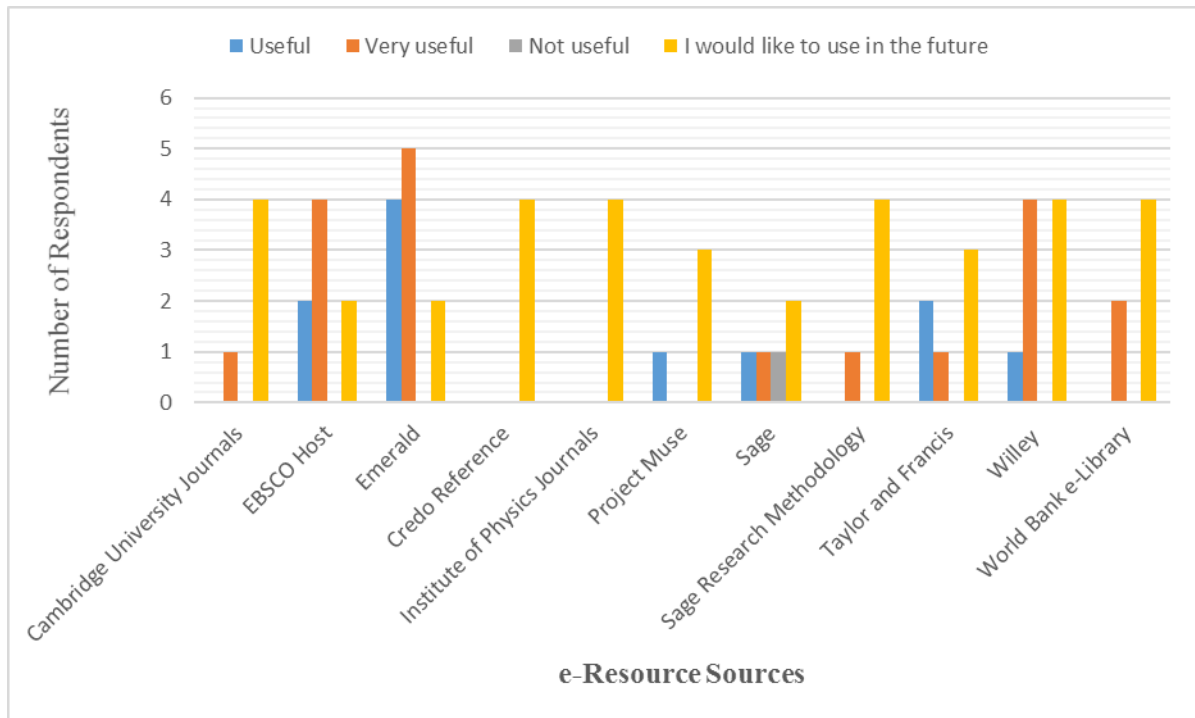Note: The graph does not show results for N/A.

**Figure 5: Usefulness of resources**

Note: The graph does not show results for N/A.
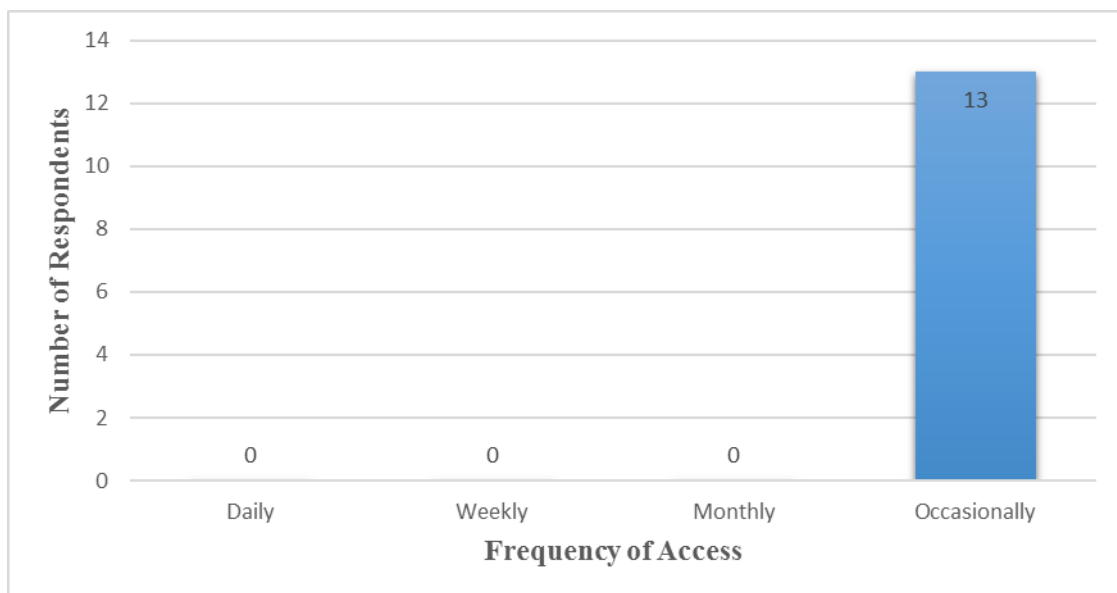


**Figure 6: Frequency of access**

### 4.3.5. Frequency of accessing RMU e-resources

From the awareness and usage of the RMU e-resources, the researcher wanted to know the frequency of accessing RMU e-Resource by respondents. A bar graph was drawn to depict the responses given

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by respondents. The bar graph shows that out of the 20 respondents, 13 accessed the resources occasionally, 0 accessed it daily, 0 accessed it weekly and 0 accessed it monthly. There were 7 respondents who did not answer the question.

The question gave the options of 'daily', 'weekly', 'monthly' and 'occasionally' for respondents to tick as applicable, but interestingly, all the respondents who answered the question say they use the RMU resources on occasional bases. The result from 'figure 6' makes for an interesting discussion. In 'figure 2', results showed that 75% of respondents were aware of RMU e-resources while 25% said they were not aware of the resources. In 'figure 3', all the 75% of respondents who were aware of the resources claim they use it, with 25% not using it. However, when asked how frequently do they use the resources, all respondents ticked 'occasionally'. The results from 'figure 6' support the hypothesis of the researcher in the proposal that patronage of the e-Resource by postgraduate students is generally low.

The majority (13) of users using the resources only occasionally indicate that respondents were not enthused about the resources that the RMU library spends so much money to subscribe to. The results in 'figure 6' also speak to the results in 'figure 2' and 'figure 3' that although there are many respondents who are aware and claim to use the RMU resources, their usage is not as frequent as the researcher expected. The results also confirm the popular saying that awareness is not the same as usage. Although the 7 respondents who did not answer the question is in the minority, as compared to the 13 respondents, it should give a cause for concern when you have almost half of your respondents not answering a question, especially when they only have to tick an option. The researcher is uncertain why such a high number of N/A was recorded. It could be as a result of the study being the first of its kind to be conducted among the respondents or the respondents just did not see the need for the study. The researcher is of the opinion that a further study should be conducted on why many respondents refrained from answering the questions and further investigate why usage was only 'occasionally'.

## 4.4. Purpose of Use
### 4.4.1. To what use respondents put RMU e-resources
The section was focussed on the purpose for using RMU e-resources. Six categories of reasons for use were created: (1) Research and study; (2) current awareness/update of knowledge; (3) preparing assignments and presentations; (4) recreation; (5) publishing articles and (6) finding relevant information in areas of specialization. Respondents were limited to these categories of use because the RMU, being an academic institution and because research is part of postgraduate level, the researcher thought focus should be paid given to the academic use of resources rather than general use, hence a closed-ended question was used and room was not made for other purpose of use. Respondents were asked to tick all options that applied by using a scale indicating 'most'. 'often', 'occasionally' 'and

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least'. The results in 'figure 7' show that, for 'Research and Study' the number of respondents that use it 'most' and 'occasionally' were the same while those who use it 'often' and 'somewhat' were the same.

A summary of the results shows that the purpose of using the resources were varied among respondents, as all the six-categories received attention. However, the problem of the high rate of N/A in 'figure 7' cast a doubt on the true results of the question. In 'figure 7', the researcher observed that for each category of reason for the use of RMU resources, the number of N/As was noticeable. For instance, the fourth-category of 'Recreation' had as many as 12 N/A as compared to a total of 7 responses for 'most', 'often', 'occasionally', 'somewhat' and 'least'. And to think they were the same for all the categories makes the researcher inclined to think the respondents did not have enough time to fill the questionnaire or did not take the research seriously. The researcher recommends ample time be given to respondents and research objectives explained very well to them in future studies.
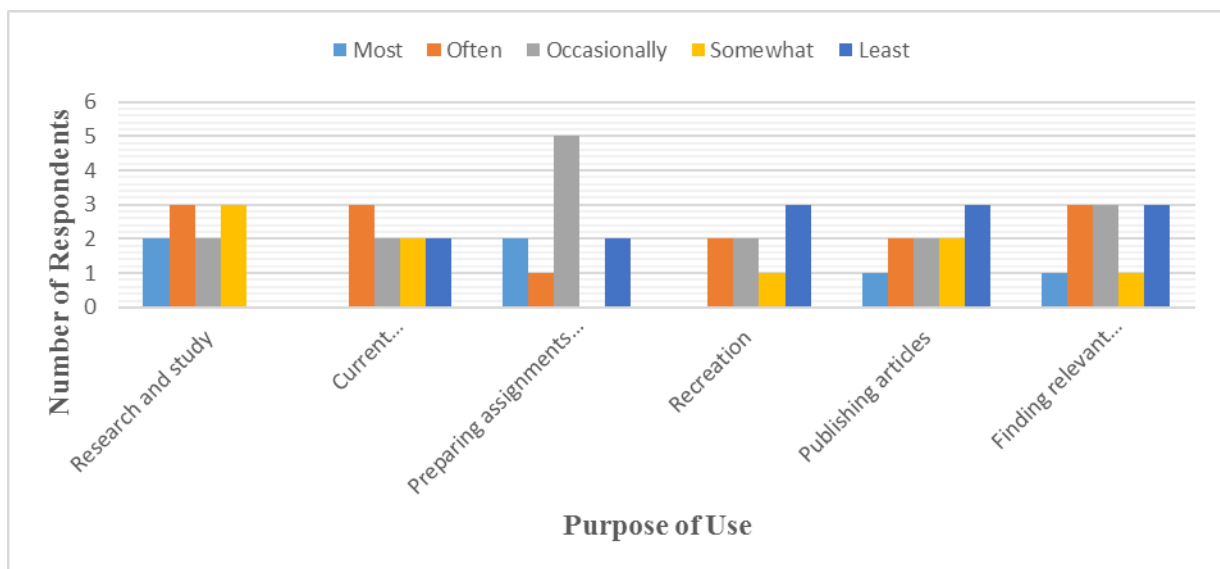


**Figure 7: Use of e-Resources**

Note: The graph does not show results for N/A

In each instance the indication that products were not used at all is more than those who indicated that they did use the resources. The results for 'Current awareness/update of knowledge' showed that there were an equal number of respondents for 'occasionally', 'somewhat' and 'least' but those for 'often' were slightly higher, but 'most' was not indicated at all. The result for 'Preparing assignment' showed that respondents who used it 'most' and 'least' were the same, however, there were more respondents who use it 'occasionally' than 'often'. For 'Recreation', 'least' ranked the highest as compared with those who use it 'most' and 'occasionally'. Results for 'Publishing articles' showed equal number of respondents for 'often', 'occasionally', and 'somewhat' with less 'most' and more 'least'. The last result in 'figure 7' showed that for 'finding relevant information in area of specialization', 'often',

'occasionally' and 'least' had the same number of responses. Again, 'most' and 'somewhat' had the same number of responses.

### 4.4.2. Where Respondents access RMU e-resources

Following the question on what use the respondents put RMU resources to, the researcher asked where respondents accessed the resources. This question was posed because there are designated areas like the library and the library research room which have cable connected internet connectivity as well as wireless connectivity on campus. The researcher by this question wanted to establish if the respondents visit the library and its research room or prefer to use the wireless connection to access the RMU resources. Respondents were to tick all options that applied to them whether they accessed the resources from 'Within the University campus', from 'Within the RMU Library premises', 'At the RMU Research room', or 'At home'. The 'Any other' option was also provided to respondents to give other details.

A summary of the results in 'figure 8' indicate that the majority (30%) of the respondents accessed the RMU resources within the university campus, and this means the majority of the respondents used more of the wireless connections than the cable connections. This means respondents will patronise the RMU databases more from off campus, should that provision be made by the library. Currently, respondents can only access the RMU databases when they are on-campus. This result could also explain why there is low patronage of the subscribed e-resources as respondents prefer to access the resources at their convenience and not within confined wall (library or the research room). The preference of wireless connectivity is a wake-up call for the RMU library to change its modus operandi by reducing the traditional way of running the library to a more 21st century way of providing access to patrons. Failure to do this may cause the RMU library to lose its patrons.

The issue of high N/A percentage came up again. A total of 25% of respondents did not answer this part of the question which would have given a clearer picture and strengthen the argument.

'Figure 8' below represents the results of the question 'Where do you usually access RMU's e-resources?'. The results show that 20% of the respondents access the resources from the research room while 5% access within the RMU library premises. Another 30% access the resources within the university campus with other 5% doing it from home. There were 15% who accessed from all the three centres. 25% of respondents did not answer this question.
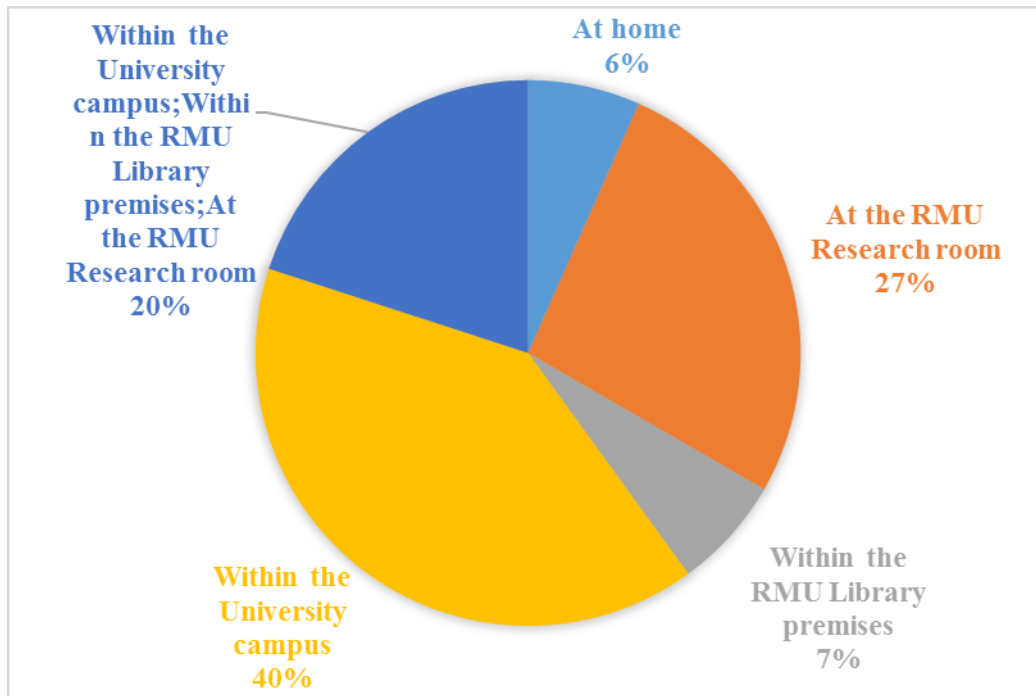
**Figure 8: Where respondents access e-Resources**

Note: The graph does not show results for N/A

### 4.4.3. How respondents access RMU e-resources

The question that was posed was on how respondents accessed resources at RMU. Results from the question (figure 9) below, indicate that 65% of respondents' access and retrieve information personally. 5% have library staff assisting them, while another 5% do that personally or have library staff assisting them or have assigned research assistants to do it for them. 25% of respondents did not answer the question.

To determine the skills of respondents in information retrieval, the questionnaire sought to know 'how' respondents access RMU's e-resources. A close-ended question was used to restrict respondent to 3 main options: 'I personally search and retrieve information'; 'Library staff assist me to search for relevant information' and 'I assign research assistants to search'. Respondents were allowed to tick all options that applied to them and the result is shown 'figure 9'. 65% of the respondents could search and retrieve information by themselves, indicating that most of the respondents were somehow information literate. This also means that if the right atmosphere and resources are provided by the RMU library to its respondents, they could make maximum use of the resources. Another argument could be raised that because the majority of respondents could access information and retrieve it on their own, providing an off- campus access could increase the level of patronage, because respondents can then access the resources in the comfort of their homes.

The result provides a strong case for off-campus access provision to respondents as the majority of them work, have a family and attend classes in the evening when the library research room is closed. Which one would be better? … To limit access to only the campus and risk paying high subscription fees with low patronage or provide off campus access and increase patronage of the e-Resource? The researcher would recommend the latter. The issue of high N/As is again recorded here.
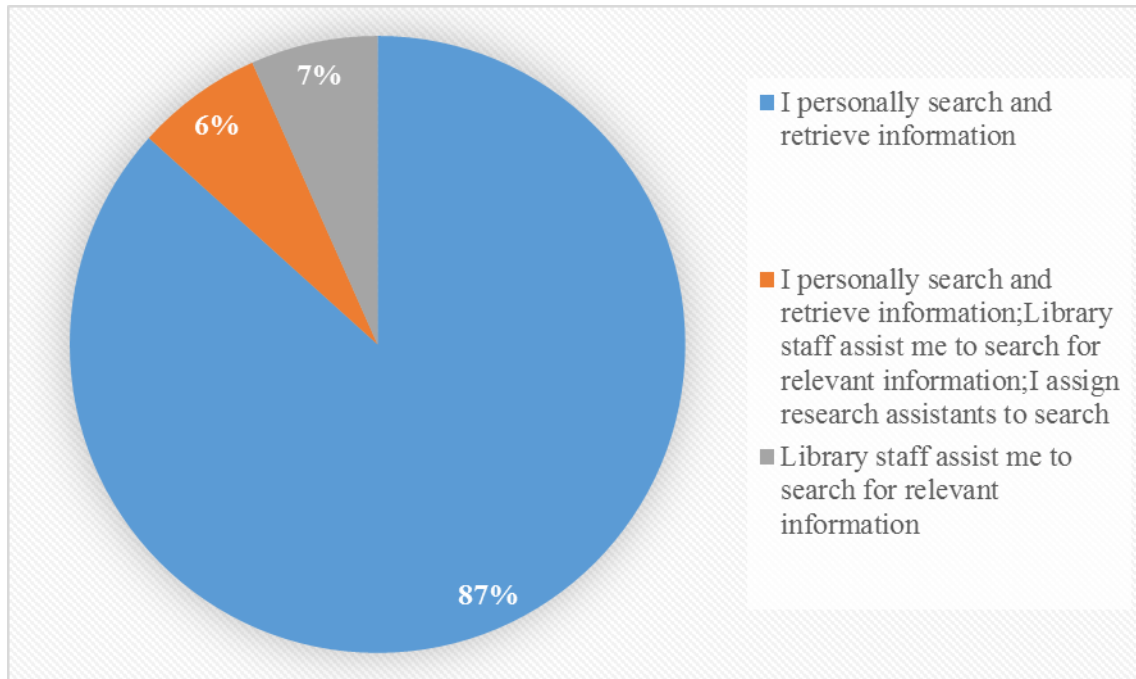


**Figure 9: How respondents access e-Resources**

The graph does not show results for N/A

### 4.4.4. Impact of RMU e-resources on Respondents

'Figure 10' below, was produced from the question 'How has RMU's e-resources impacted your educational, professional and research work?' Results showed that the majority of respondents had experienced improvement in their professional competence, while others had got access to a wider range of information. There are few respondents that could access current information and yet, others got fast access to information. Quite a few could also expedite the research process. A good number of the respondents did not answer the question.
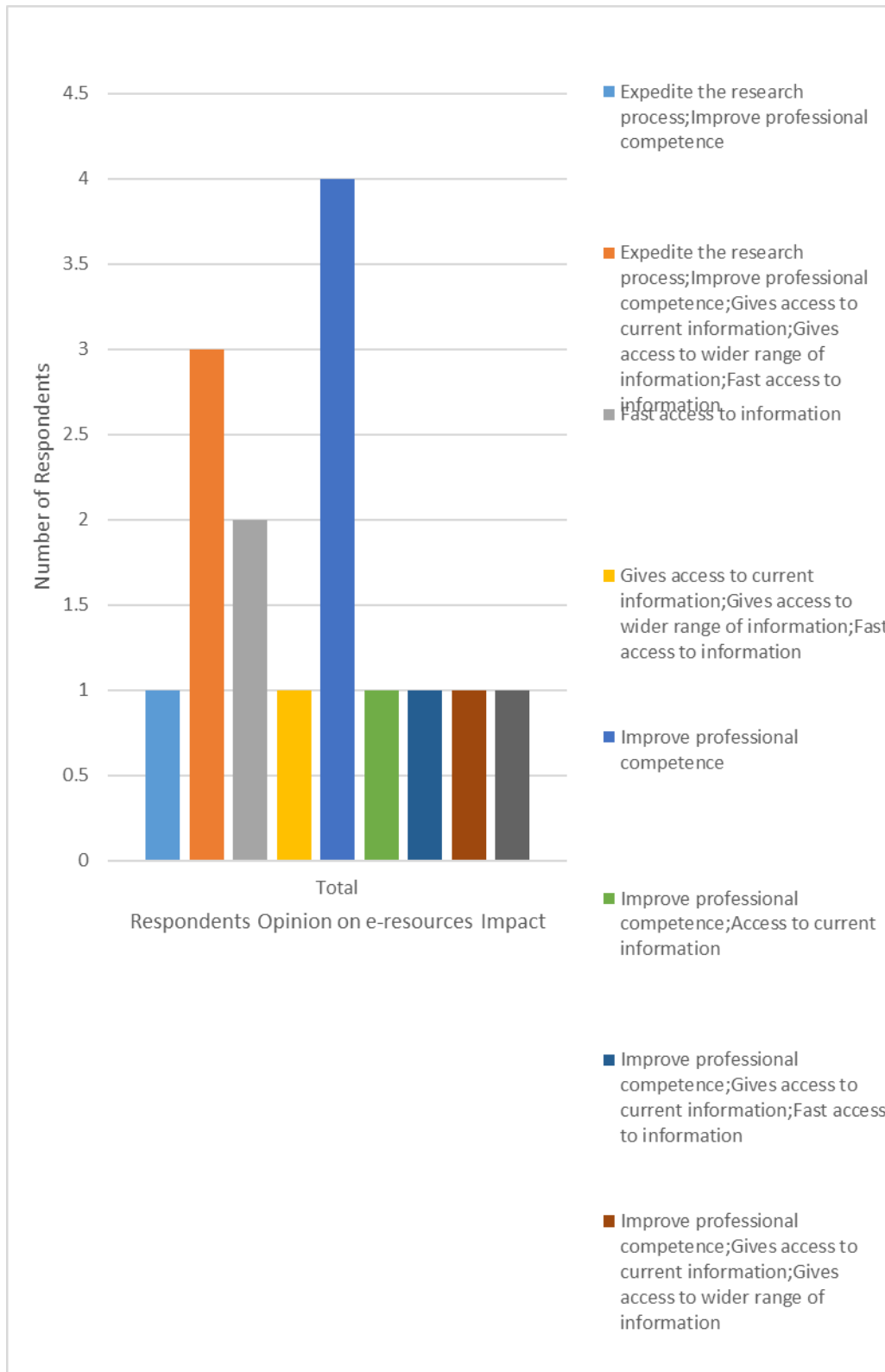
**Figure 10: Impact of e-Resources on educational, professional and research work**

Note: The graph does not show results for N/A

To ascertain the influence of the RMU resources on the respondents, the questionnaire attempted to establish an answer to how the RMU e-resources have impacted the respondents in their education, profession and research work. Respondents were limited to 5 options to tick all that were applicable. The options included: 'Expedites the research process'; 'Improves professional competence'; 'Gives access to current information'; 'Gives access to wider range of information' and 'Provides fast access to information'.

The questionnaire sought to survey the impact in the 3 areas (education, profession and research work), because the respondents engaged in graduate education at the RMU are all professionals working in the fields of expertise but have engaged themselves with research work at the postgraduate level.

The results as showed in 'figure 10' clearly indicate that the RMU resources have impacted the professional competence of the respondents to a great extent. This means that although the RMU resources were provided to respondents primarily to aid in their academic work, the results indicate that respondents have benefited more from the resources as far as their professional careers are concerned.

Another significant part of the results indicate that a high number of respondent have been impacted by all the 5 options provided. This indicates that those respondents who use the RMU resources are getting more than the primary intended purpose. To this end, the RMU library staff must put all measures in place to expand the user base of the resources.

The third highest number of respondents as showed in 'figure 10' indicated they had been impacted by the 'fast access to information'. This result could be interpreted to mean that the RMU library has fast internet connectivity and that accessing information on the network is fast or the databases have a friendly interface that makes searching for information simple and fast. Whatever the right reason may be, the library staff must ensure they keep that standard and improve upon it.

The issue of high record of N/As came up again from the result in 'figure 10', as there were more respondents who did not answer the question.

### 4.4.5. Challenges in accessing RMU e-Resource

The question that produced 'figure 11' below was what challenges respondents faced when accessing the RMU e-Resource. 'Unreliable internet' ranked first, followed by 'preferred source was unavailable'. 'Slow downloading of articles' and 'I cannot access the e-resources from home' was also followed by 'unreliable power supply'. The least problem faced by respondents were 'limited access to computers' and 'password requested'. One respondent specified other reasons.

Challenges are part of every human endeavour, therefore the researcher wanted to know which ones the respondents faced in accessing the resources of the RMU library. A list of possible challenges in accessing the library's resources were provided in a close-ended questionnaire for respondents to tick as many as applied. The results are shown in 'figure 11'. Ranking highest was 'unreliable internet'. Most respondents ticked the unreliability of the internet as being the major challenge when using the RMU resources. This could prove why the patronage of the resource is low. Unreliability could here mean that the connection to the internet could disconnect at any time thereby discouraging respondents from enjoying the use of the facility. Again, it could mean that the connection is very slow and therefore respondents spend so much time when accessing resources. Most of the respondents are workers who are studying on a part time basis and therefore time is of utmost importance to them. The library should lead the crusade to improve the internet facilities such as upgrading of facilities, engaging the hands of better service providers and following a strict maintenance schedule to improve the internet connectivity.

'Preferred source was unavailable' ranked second as a major challenge that respondents faced in accessing the RMU resources. This strengthens the reason why respondents underuse the library's resources. Most of the respondents indicated that their preferred e-Resource source was not made available by the library, hence they are not consulting the resources the library has provided.  This means the library either did not contact the faculties to give their inputs when the e-Resource was being subscribed to, or, because the library belongs to a consortium, it was just paying for what the consortium provided. The results, however, indicate that respondents are not using the resources that the library provides because they do not find their preferred e-Resource sources. The library management must therefore consider taking the input of the faculties (where the postgraduate lecturers are) into consideration so that the resources paid for can serve the real needs of the library patrons.

'Slow downloading of article' and respondents not being able to access the internet from off-campus ranked third from the result in 'figure 11'. This is obvious a disincentive to using any internet facility. Postgraduate education depends largely on research and involves a lot of reading and downloading of articles. Because internet addresses change a lot, there is the need to keep a copy of the article and materials one accesses from the internet. This means downloading a lot for postgraduate work. But when it takes forever for any downloading to be effected, users become discouraged from continuing the use the facility. It is recommended that the library liaise with the IT department to increase the bandwidth to improve the connection speed. Again, the library could team up with the IT department to embark on user education of bandwidth management as it is not always the case of increasing the bandwidth that solves the slow connectivity problem, but also managing the existing bandwidth well. Off-campus access limitation is a major cause for the low patronage of the RMU resources by

respondents, as 'figure 8' showed that respondents did not like to access the internet from the library premises and the library academic research rooms, but rather preferred to access the resources within the university campus using their mobile devices (laptops) as indicated in 'figure 1'. Again, results showed in 'figure 9' indicate that the majority of the respondents could access the resources by themselves with or without help from library staff. This shows that an off-campus access would be of much help to respondents which would ultimately push the usage of the resources to the maximum. What is more, the majority of the respondents spend most of their time off-campus and only come to the university campus for classes. Providing an off-campus access would enable respondents to access the library's e-resources at their convenience using their own internet service. This could help address the problem of slow downloading of articles and an unreliable internet, as respondents would find a better network to work with on their own.

Other challenges that was faced, as indicated by respondents, was the opening times of the library research room as not being suitable and again the lack of absolute privacy at the research room. The library research room opens from 9am -4pm, Monday to Friday.   The respondents were postgraduate students and attend classes from 4pm-8pm, thus making the operating times of the library research room unsuitable. The library research room is an open space with a single door for both entry and exit that is shared by both undergraduate and postgraduate students. It is recommended that the library makes provision for a separate postgraduate research room to attract them to use the library resources. Meanwhile, more staff hands should be engaged so that the closing time of the research room could be extended to 10pm. Better still, a shift system could be run by the existing library staff to make the research room operational till 10pm. Best of all would be for the library staff to push for the off-campus access for respondents.
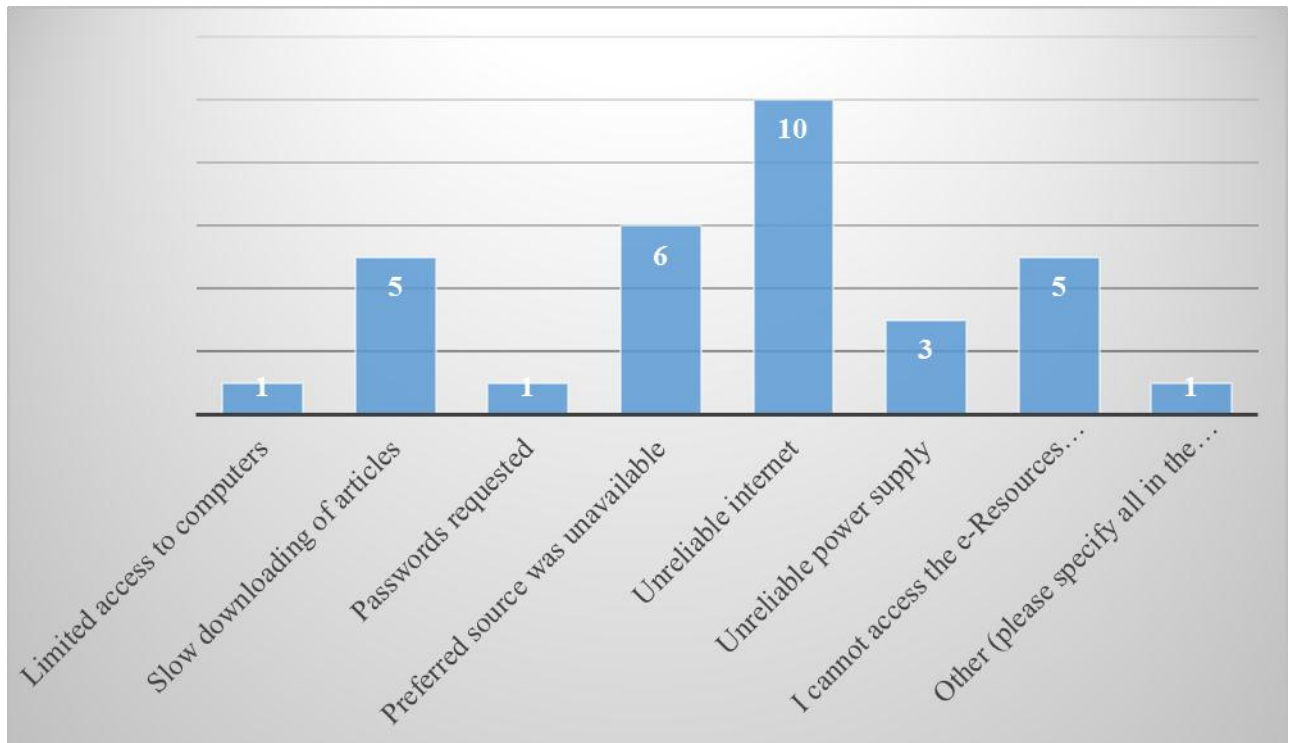
**Figure 11: Perceived challenges in accessing e-Resources**

For the first time, all respondents answered the question on the challenges that they faced and there was no N/A recorded in 'figure 11'. This means respondents were very much interested in voicing the problems they faced in anticipation of getting solutions to those challenges. This should encourage library staff to address the problems to increase the usage of RMU resources

### 4.4.6. Respondents stand on RMU e-resources

The results shown in 'figure 12' below indicate the opinion of respondents on various statements on the RMU e-resources in a close-ended question. The majority agreed that 'It is easy to use e-resources' but disagree 'there is enough training on the use of e-resources'. Again, the majority agreed that 'current resources are enough to support academic and research work', but strongly disagree with 'I can access RMU's library e-resources off campus'. Furthermore, the majority agree with 'I prefer e-resources over the printed versions of journals' but disagree with 'there are enough computers at the library research room for me to access e-resources'.

To sample the opinion of respondents on the RMU library and its resources, closed-ended statements were made and respondents were to select from 'strongly Agree'; 'Agree'; 'Neutral'; 'Disagree' and 'Strongly Disagree' with a tick as appropriate. The statement followed the challenges that were faced by the respondents to throw more light on how respondents feel about the RMU resources.

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The majority of respondents agreed to the statement that it is easy to use the e-resources. This agreement supports the fact that should the respondents be left on their own, they would not have any problem to access and use the RMU resources. This agreement also supports the fact that when an off-campus access is provided to respondents, they would have no challenge using the resource at home or at the office conveniently. What is more, user friendliness of any database leads to more patronage which would mean that the current low patronage that the resources are put to may be reversed.

There was high agreement among respondents that current e-Resource are enough to support academic and research work as a postgraduate. This means that the RMU library has invested in enough resources to support postgraduate academic work. What is lacking however is that, access to the resources is limited only to campus usage, whereas the majority of the intended users are off campus. This is a critical issue that the library staff must, as a case of emergency, resolve if they would want to see any increase in patronage.

Preference of e-resources over printed versions of journals by many respondents is a reflection of the 21$^{st}$ century library users who are digitally inclined. This agreement proves that the library's decision to spend so much ($5000-$8000) in subscription is not out of place. What the library must do to get value for money is to give more access to postgraduate students to access the resources from off-campus as the benefits of using e-resources far outweigh that of print versions of journals. That having been said, does not mean the minority who prefer print versions must be ignored completely, as the library exists to serve the interest of all its patrons.

Another key observation from 'figure 12' is the high agreement among respondents that the library is doing enough to create awareness about e-resources. This is a plus to the library staff but there is room for improvement as making respondents aware of the resources and respondents using the resources are two different hallmarks. If the majority of respondents are aware of the resources but do not have access to use them, then the work of the library staff has not been done.

There was high disagreement by respondents that there is enough training on the use of e-resources. This supports the earlier assertion made, that the library staff is only creating awareness of the resources but is not training the respondents to use them. Although respondents' being aware of RMU resources is laudable idea, it is in their using them that makes for the value of the resources. Training respondents in the use of the resources could be in the form of a workshop, one-on-one demonstration, written instruction or …as the majority of respondents in 'figure 9' said: they personally search and retrieve information, however, they agree in 'figure 12' that they don't have enough training to do so effectively. The library staff must take advantage of the information and embark on massive user education (with a focus on postgraduates and their lecturers) to attract more patrons to the RMU e-resources.

Although the number of respondents who strongly agree that they have access to reliable power supply to use e-resources were few, it proves that the majority of the respondents do not spend much time on campus because they only come for lectures in the evening and are gone. It would not be surprising that most of the respondents who 'strongly agree' to have reliable power supply were the lecturers who spend most of their time on campus.

The divided opinion on whether to 'disagree' or 'strongly disagree' on being able to access RMU's library e-Resource off campus is only a matter of semantics but it proves the inability of respondents accessing the resources off-campus.
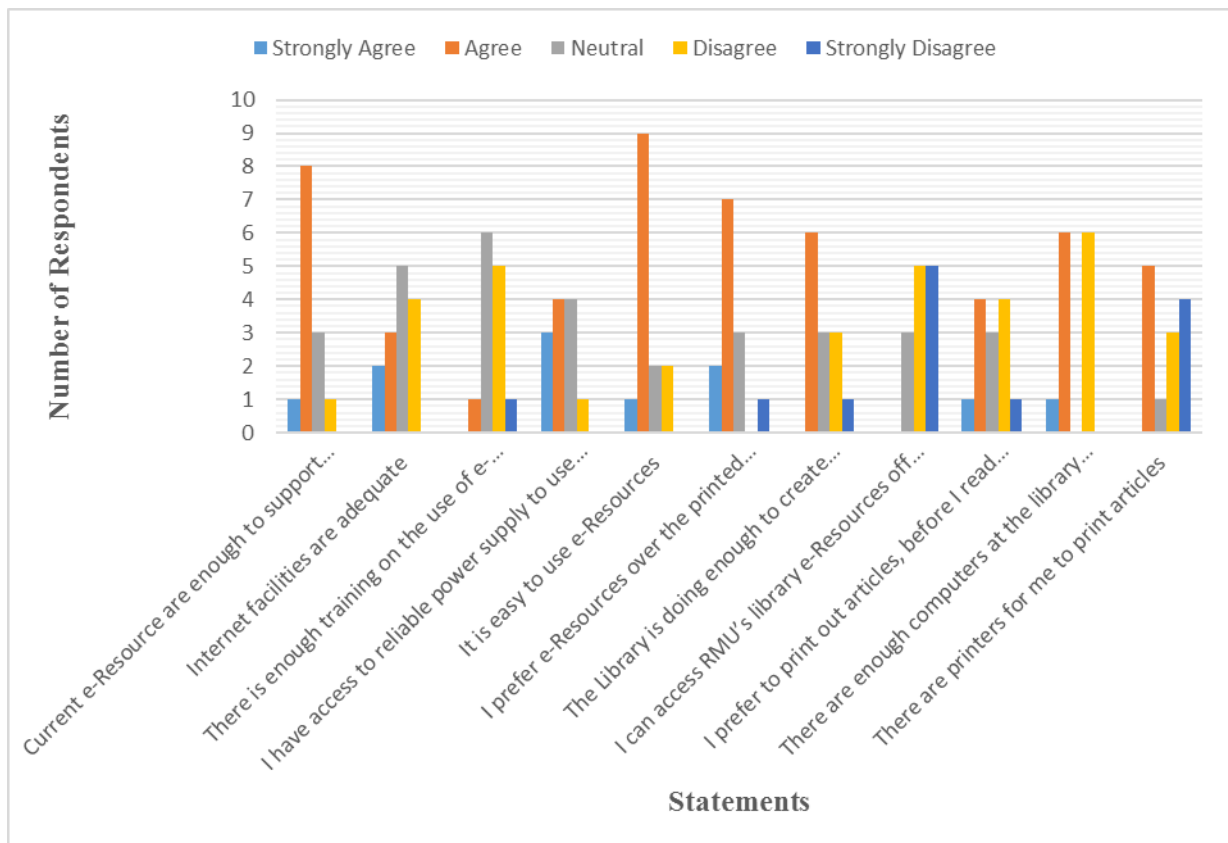


**Figure 12: Opinions regarding RMU e-resources**

Note: The graph does not show results for N/A

In 'Figure 12' above, respondent's opinion was divided on whether the computers in the research room were enough, and respondents were also divided over the preference of printing materials before reading. The degree of disagreement was also divided over whether RMU's library resources could be accessed off-campus. Another divided opinion was on whether the library was doing enough to create awareness about e-resources. There were significant N/As recorded for all the statements.
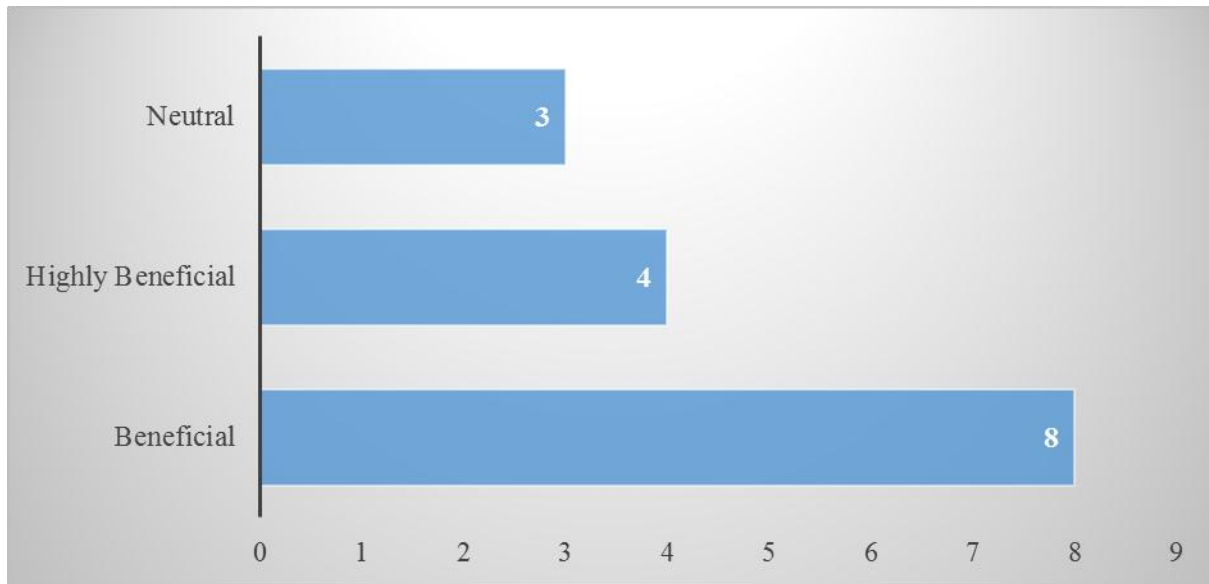
**Figure 13: Appraisal of e-resources**

Note: The graph does not show the results for N/A

### 4.4.7.    Appraisal of RMU library e-resources

The overall appraisal of the RMU library e-resources is depicted in 'figure 13'above. The results show that the majority of the respondents appraised the library's resources to be 'beneficial' followed by 'highly beneficial'. A few remained 'neutral' while others did not answer.

To know whether the RMU library resources were serving their intended purpose, a close-ended question was set to appraise its performance. Respondents were asked to tick an option of 'Highly Beneficial'; 'Beneficial'; 'Neutral' and 'Irrelevant'.  The results in 'figure 13'showed the majority of respondents rating the RMU library resources as 'Beneficial'. This result supports the previous majority agreement of respondents that current e-resources are enough to support academic and research work of a postgraduate. It means the resources were enough and beneficial to support academic work, the only challenge was the lack of access outside the library premises and in the library research room. It could be argued, therefore, that if there are enough resources which are beneficial, then provision of access to these resources at any time would increase its patronage.

There were a significant number of respondents (figure 13) who also rated the RMU library resources as 'highly beneficial'. This strengthens the point mentioned above that an increased access off the designated access areas would increase patronage. The combination of those who responded positively (highly beneficial and beneficial) far outweighs the number of respondents who did not express their opinion (neutral) and those who did not answer the question (N/A) at all. Significantly, not a single respondent rated the RMU library resources as 'irrelevant'. This also buttresses the agreement in 'figure 12', that the resources support academic and research work.
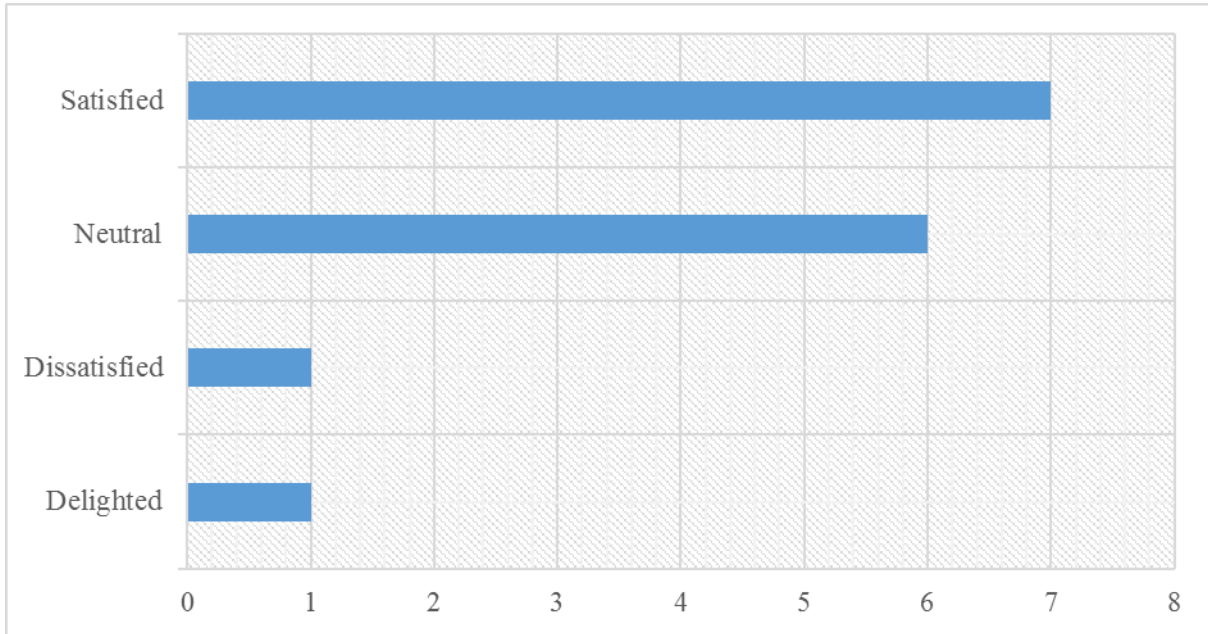
**Figure 14: Satisfaction rating library e-resources**

Note: The graph does not show the results of N/A

### 4.4.8. Respondents Satisfaction with RMU Library e-resources

Respondents' satisfaction with RMU library e-resources is depicted in 'figure 14' above. Results show that the majority were 'satisfied'. Many respondents remained 'neutral' with a high number of respondents not answering. The number of respondents that were 'dissatisfied' were the same as those that were 'delighted'.

There was the need to ascertain the overall perception of respondents of the RMU library's resources. With a close--ended question, respondents were to tick an option of 'delighted'; 'satisfied'; 'neutral'; and 'dissatisfied' to indicate their level of satisfaction with RMU library resources. The result is captured in 'figure 14'. The majority of the respondents indicated they were 'satisfied'. This result confirmed what the majority said in 'figure 13' that the RMU library resources were 'beneficial', which also proved why the majority 'agreed' in 'figure 12' that it was easy to use the e-resources.

An observation from 'figure 14' showed there was a large number of respondents who remained 'neutral' and who did not tick any of the options at all. There is cause to worry as the their opinions would have helped to truly confirm whether the majority of respondents were satisfied with the RMU library resources.

### 4.5. Library Services

### 4.5.1. Familiarity with RMU Intended Library Service

'Table 1' below is the results from asking respondents if they were familiar with services the RMU library intended to introduce. From the list of library services that were provided, the majority (55%) of respondents were familiar with 'Literature searches' followed by 45% of respondents being familiar with 'training in the use of retrieval systems'. 'Online Catalogue' and 'Electronic Document Delivery' both received 35% familiarity while 'Current Awareness Service' and 'Information retrieval on your behalf' shared 15% familiarity each. Again, 'Inter-Library Loans' and 'Alerting Services' each received 20% familiarity. 'Mobile Library Service' also had 25% of familiarity.

| RMU Library Services | YES | | NO | |
|---|---|---|---|---|
| | Frequency | Percent | Frequency | Percent |
| Training in the use of retrieval systems | 9 | 45 | 10 | 50 |
| Inter-Library Loans | 4 | 20 | 14 | 70 |
| Literature searches | 11 | 55 | 7 | 35 |
| Current Awareness Service | 3 | 15 | 13 | 65 |
| Online Catalogue | 7 | 35 | 10 | 50 |
| Mobile Library Service | 5 | 25 | 12 | 60 |
| Alerting services | 4 | 20 | 12 | 60 |
| Electronic Document delivery | 7 | 35 | 9 | 45 |
| Information retrieval on your behalf | 3 | 15 | 11 | 55 |

**Table 4: Familiarity with RMU Library services**

Note: The table does not show the results of N/A

By contrast, he majority (70%) of respondents said they were unfamiliar with 'Inter-Library Loan' followed by 65% of respondents indicating they were unfamiliar with 'Current Awareness Service'

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while 'Mobile Library Service' and 'Alerting Services' had 60% unfamiliarity among respondents. 'Training in the use of retrieval systems' and 'Online Catalogue' each had 50% unfamiliarity among respondents while 'Information retrieval on your behalf' stood at 55% unfamiliarity with respondents. 'Electronic Document Delivery' recorded 45% unfamiliarity and 'Literature Searches' which recorded the highest familiarity had the lowest unfamiliarity with 35% among respondents. The third section of the questionnaire was centred on Library Services. The importance of this section to the researcher was to establish which library services, when offered, would enhance postgraduate education at the RMU. These were services which were not currently being offered by the RMU library but which the researcher believe would enable postgraduate studies greatly.

The questionnaire listed nine possible library services which are offered by major libraries; and with 'yes' and 'no' options, respondents were to indicate with a tick how familiar they were with those library services. The results were showed in 'table 1'. Again, on the same questionnaire, respondents were to indicate with a tick whether the proposed library service would be 'very useful', 'useful', 'not useful' or 'would like to use in future'. The results were showed in 'table 2'.

By a majority of 55%, respondents indicated they were familiar with 'Literature searches' as a library service with a combined 40% also indicating it is 'very useful' and 'useful'. Another 30% expressed the willingness to use the service in the future. These results indicate that the majority of respondents were positive with 'literature searches' as a library service. This is a positive indication that when such a service is rolled out, the majority of respondents would patronise it, thereby increasing the usage of the RMU resources.

Results from 'table 1' indicate that there were more respondents who were not familiar with most of the library services that the RMU library intended to introduce. This means the RMU library staff would have to embark on massive user education before the introduction of the said library services. The education could start with creating the interest/awareness of the postgraduates by publishing it on the library's webpage, RMU's noticeboards, in the library guide, during orientation of new postgraduate students, On RMU staff what's app page, or with a lecture in one of the postgraduate student's class sessions.

With the high rates of unfamiliarity of the services that were listed in 'table 1' among respondents, it is recommended that the library staff should hasten slowly by not introducing the whole 9 library services at a go as it's a new concept to be introduced. It is recommended that the said services should be introduced in phases. For instance, 'training in the use of retrieval systems' had 45% familiarity among respondents with 'Online Catalogue' and 'Electronic Document Delivery' receiving 35% familiarity respectively. Besides starting with 'Literature Searches', which had 55% familiarity among respondents, the RMU library staff could introduce the four services mentioned above to test the

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response levels of the respondents before adding the rest gradually. It could be observed from 'table 2' that the same four services mentioned above received the highest percentages of 'Usefulness' from respondents.

The majority (50%) of respondents expressed their interest in the use of 'Inter-library loan' in the future and this is quite significant. The special nature of the university (maritime) makes it unique among the universities in the country. This means that failure for the RMU library to provide course materials will affect academic work. This may be the reason why many respondents were interested in the library intending to introduce the inter-library loans service so they could use the RMU library to access academic materials from other sources.

Significant observation from 'table 2' was the number of respondents who expressed interest to use the proposed library services in the future (when introduced). Although the percentages were not that high (above 50%) it is significant to the researcher that respondents expressed interest in all the proposed library services. Part of the reasons for the low percentages for the 'would like to use in future' may be from the number of percentages for the N/A's.

Another significant observation from 'table 2' was all proposed library services received 0% for 'not useful'. This means though the respondents were not fully familiar with the proposed services, they believed the services may help them one way or the other and none could be useless.

It could be concluded from 'table 1' and 'table two' that as there were reasonable high numbers for 'no' familiarity, there were equal high numbers for 'I would want to use in future'. This is an indication that the respondents, though were not very familiar with all the proposed library services, has the willingness to use them when introduced by the RMU library staff. It could be argued from the above that had the RMU library provided off-campus access, respondents would have put the RMU library resources into very good use.

### 4.5.2. Usefulness of possible RMU Library Service

'Table 2' below was produced when respondents were asked to evaluate the usefulness of a proposed library services. The data show that respondents evaluated 'training in the use of retrieval' with: 3 (15%) very useful, 5 (25%) useful, 0 (0%) not useful, 5 (25%) I would want to use in future and 7 (35%) N/A. For Inter-Library Loans: 1 (5%) very useful, 2 (10%) useful, 0 (0%) not useful, 10 (50%) I would want to use in future and 7 (35%) N/A. For Literature Searches: 4 (20%) very useful, 4 (20%) useful, 0 (0%) not useful, 6 (30%) I would want to use in future and 6 (30%) N/A.

| RMU Library Services | Very useful | | Useful | | Not useful | | I would like to use in future | |
|---|---|---|---|---|---|---|---|---|
| | Frequency | % | Frequency | % | Frequency | % | Frequency | % |
| Training in the use of retrieval systems | 3 | 15 | 5 | 25 | 0 | 0 | 5 | 25 |
| Inter-Library Loans | 1 | 5 | 2 | 10 | 0 | 0 | 10 | 50 |
| Literature searches | 4 | 20 | 4 | 20 | 0 | 0 | 6 | 30 |
| Current Awareness Service | 0 | 0 | 2 | 10 | 0 | 0 | 8 | 40 |
| Online Catalogue | 2 | 10 | 4 | 20 | 0 | 0 | 6 | 30 |
| Mobile Library Service | 0 | 0 | 3 | 15 | 0 | 0 | 9 | 45 |
| Alerting services | 0 | 0 | 3 | 15 | 0 | 0 | 7 | 35 |
| Electronic Document delivery | 2 | 10 | 4 | 20 | 0 | 0 | 7 | 35 |
| Information retrieval on your behalf | 0 | 0 | 3 | 15 | 0 | 0 | 6 | 30 |

**Table 5: Usefulness of possible RMU Library Service**

Note: The table does not show the results of N/A

For Current Awareness Service: 0 (0%) very useful, 2 (10%) useful, 0 (0%) not useful, 8 (40%) I would want to use in future and 10 (50%) N/A. For Online Catalogue: 2 (10%) very useful, 4 (20%) useful, 0 (0%) not useful, 6 (30%) I would want to use in future and 8 (40%) N/A. For Mobile Library Service: 0 (0%) very useful, 3 (15%) useful, 0 (0%) not useful, 9 (45%) I would want to use in future and 8 (40%) N/A. For Alerting Service: 0 (0%) very useful, 3 (15%) useful, 0 (0%) not useful, 7 (35%) I would want to use in future and 10 (50%) N/A. For Electronic Document Delivery: 2 (10%) very useful, 4 (20%) useful, 0 (0%) not useful, 7 (35%) I would want to use in future and 7 (35%) N/A. Finally, for information retrieval on your behalf, respondents evaluated with: 0 (0%) very useful, 3 (15%) useful, 0 (0%) not useful, 6 (30%) I would want to use in future and 11 (55%) N/A.

**4.6. Closure**

**4.6.1. Suggestions from respondents**

At the end of the questionnaire, respondents were asked to give suggestions that would lead to the betterment of their library experience with an open-ended question. The reason for asking the question was to give opportunity to the respondents to openly bring out their views that would enhance the RMU library. Out of the 20 respondents who returned their questionnaires, 14 gave suggestions while six did not give any suggestion which was indicated with N/A in table 3. Many of the suggestions were centered on creating awareness, user education and user training. However, other respondents suggested more computers and fast internet connection, the broadening of the RMU resources to cover other areas other than the maritime courses. Furthermore, a respondent suggested a database (libramar.net) while another suggested the enhancement of technology to access RMU resources 'without necessarily going to the research lab'.

Creating awareness as suggested by respondents could be seen from two perspectives: 1. For the 25% of respondents who were not aware in 'figure 2' to get the recognition that RMU has something called e-resources and come to use them. 2. For the other 75% of the respondents who said they were aware in 'figure 2' to know when new additions are made to the RMU resources in terms of new subscriptions. In whichever way, the creating of awareness is interpreted, the RMU library staff has a responsibility to make the e-resources they subscribe to known to all users and potential users of the library. This makes the second suggestion of 'user education' by the respondents very meaningful.

Respondents suggested again that the RMU library provide user education to the library's resources. This user education could mean teaching library users all about the databases: what they contain and what could be obtained from them; what potential and what limitations could be expected; what could be accessed and what are off-limits. It is important for the library staff to do this because the resource would have been evaluated and passed as beneficial for academic purpose before subscribing to them. This brings us to the third suggestion on user training.

From user education, the majority of the respondents suggested a form of 'user training' by library staff for library patrons on the RMU e-resources. User training could involve workshops where patrons would be introduced to practical skills of searching and retrieving information from the RMU e-Resource databases. The library should have a good resource person to be dedicated to undertaking such a training programme for patrons.

Besides the above suggestions that majority of the respondents made, other respondents added a suggestion of the library providing more computers and fast internet connection. This was in line with the challenge of slow downloading of articles and unreliable internet faced by respondents as shown in 'figure 11'.

Again, other respondents added suggestions like the RMU library broadening the resources to cover areas other than maritime. This was because respondents did not only used the resources for academic and research works but also to improve their professional competence as shown in 'figure 10'. This means the RMU library staff must look beyond the academic and research work in the provision of the library resources as respondents use them for other purpose than course work.

Yet another respondent suggested a database (librarmar.net) to improve their library experience. This suggestion means respondents were aware of and used other resources that were not included in the RMU library's e-resources (preferred source was unavailable) as shown in 'figure 11'. This suggestion indicated that respondents were knowledgeable enough to know what resources could serve their academic needs and their opinion must be sought when it comes to choosing databases for postgraduate research work. The fact that RMU belongs to a consortium does not mean it should pay for any database the consortium provides even if it does not serve the interest of its patrons.

In another vein, respondents suggested the enhancement of technology so access could be obtained to RMU resources 'without necessarily going to the research lab'. This issue came up strongly in the challenges respondents face as shown in figure11, 'I cannot access the e-resources from home'. Again, when respondents were asked to indicate their agreement or otherwise of various statements on the RMU e-resources, 'I can access RMU's library e-resources off campus' received most of the 'strongly disagree'. This had been a major factor in many not patronising the RMU e-Resource as there was limitation to where the resource could be accessed and that had not favoured the respondents, the majority of whom do not have the time to visit the designated places (the library premises or the research lab) to access the resources. This none off-campus access as a dis-incentive to respondents should be addressed with all seriousness by the RMU library to increase patronage of the RMU e-resources.

### 4.6.2. Respondents Suggestions to Improve RMU Library Services

The results in 'table 3' below contain detail suggestions offered by respondents to improve RMU library Services. 14 respondents gave suggestions to improve RMU library services while 6 gave no suggestions, which is indicated with N/A. The majority of the suggestions centred on 1. Creating of awareness. 2. User education and 3. User Training. Meanwhile, other respondents suggested more computers and fast internet connection, with another respondent suggesting a database (libramar.net). Again, a respondent made a suggestion to broaden the resources to cover areas other than maritime material while another suggested enhancement of the technology so that access to the RMU resources could be obtained 'without necessarily going to the research lab'.

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| Respondent | Suggestions |
|---|---|
| 1 | a. The library should procure the hard copies of the various e-books for student access to minimize cost to students.<br>b. Library staff should also educate and train students on the e-resources and its use so students can take advantage of. |
| 2 | N/A |
| 3 | N/A |
| 4 | More education and awareness of current facilities |
| 5 | a. Awareness on Library e-Resource to be created. b. Training of students and staff on the importance of the service.<br>c. Encouraging students to use the e-library more. |
| 6 | N/A |
| 7 | a. The RMU library should train students in the use of e-resources.<br>b. The database for the e-resources should be broadened to accommodate the various fields of study and not only limited to the maritime area. |
| 8 | There should be proper education on the RMU e-Resource for everyone on campus to be aware of and to use |
| 9 | The student should be educated about the e-resources and the kind of e-resource that suit their field of studies |
| 10 | a. There should be enough training sessions on e-resources b. Create more awareness of the e-resource facility |
| 11 | The library department should organise training on the use of the e-Resource for both the postgraduate student and staff of the Regional Maritime University (RMU) Ghana |
| 12 | Resources from libramar.net will be appropriate for postgraduate research work |
| 13 | Organise a workshop clinic for interested RMU staff at a time convenient for them to avert their low patronage due to their official RMU activities |
| 14 | a. To make known to the RMU community the e-resources available at the library.<br>b. Visitation to enlighten students on the various e-resources available per programme and modules too. |
| 15 | a. Application of section 4 "Library Services" b. Library space not proportionate to increase in students/lectures population |
| 16 | N/A |
| 17 | The library needs to be equipped with computers and fast internet facilities to improve academic research work |
| 18 | N/A |
| 19 | Creating the awareness and training on usage will be appropriate. Furthermore, |

| | |
|---|---|
| | enhancing the technology so that the RMU e-library had to be accessed without necessarily going to the research lab. i.e. staff should be able to sit in their offices and access the e-library from their personal computers and laptops |
| 20 | N/A |

**Table 6: Suggestions for Further Improvement of RMU Library Service Experience**

### 4.7. Summary

The study introduced the RMU and focussed on the postgraduate students and lecturers of the Ports and Shipping Administration Department. It was revealed that no studies have been done on postgraduate students and lecturers of the University. The study is therefore set to add to knowledge on the postgraduate programme that has been run since 2006. Contextual to its setting, RMU postgraduate students were introduced as a case study for this research.

The chapter presented the results collected using questionnaire with both closed and open ended questions. The study aimed at finding library e-resources and services to enable postgraduate studies at RMU.

The results showed that:

❖ From an observational point of view, and user statistics from both library and research room, postgraduate students had not been patronising the e-resources that the RMU library subscribes with CARLIGH. With that knowledge in mind, the research as presented in this study show that the RMU postgraduate programme need to be looked at again if it is to achieve the purpose for which it was intended.

❖ The majority (75%) of respondents were aware of the library's e-resources and use them

❖ The minority who were not aware did not use them and cited reasons such as inadequate marketing of the e-resources and lack of user education of the e-resources

❖ Respondents were familiar with some of the databases of the e-resources which they described as useful. Those they were not familiar with received N/A responses.

❖ The RMU library have enough to support academic and research work, however, majority of respondents accessed the RMU library e-resources only occasionally for preparing assignments and presentations.

❖ It is easy to use the RMU e-resources as the majority of respondents personally access and retrieve information. Nevertheless, there was the call for user education and training from respondents.

❖ Respondents preferred to access information from outside the designated places (library premises and library research room) for the obvious reason of the limited time they spend on campus.

- ❖ The study revealed four main challenges that respondents faced when using the RMU library e-resources which were: unreliable internet; slow downloading of articles; unavailability of preferred data source as well as not getting access from home.

- ❖ Though most of the intended library services were unfamiliar to respondents, they were willing to use them in future.

- ❖ Sixteen (16) out of the 20 respondents gave various suggestions to improve their library experience.

## Chapter Five: Conclusion and Recommendations

### 5.1. Introduction

This chapter discusses the results presented in Chapter Four. The conclusion is the summary of the major findings of Chapter Four which will then be followed by recommendations based on the findings in the previous chapter.

### 5.2. Research objectives and questions

#### 5.2.1. Main research objective

The main objective of the study was to establish what e-resources and library services could be offered by the library to enable postgraduate students to (a) put the library's e-resources to maximum use and (b) ensure academic success. This objective was met. Refer to section 4.5.1. From the suggestions put forward by the respondents, it is possible to say that this study was undertaken at the right time to point the RMU library staff to the remedies to put in place to ensure the effective utilisation of its subscribed e-resources. Whether these suggestions will lead to the improvement of academic success is subject to time.

#### 5.2.2. Other objectives

1. To establish what the level of awareness is (about e-resources) among postgraduates at the RMU. This objective was met (see section 4.2). The level of awareness is higher than expected as indicated by a majority 75%. What is worrying about the result, however, is the fact that though 75% of the respondents also claim they use the e-resource, 'figure 6' of the results showed that 65% only us it 'occasionally'. This calls for a further study to establish why respondents only use the resources occasionally.

2. To establish if the postgraduate students are aware of the available library services. This objective was met (see section 4.4). Though there were few of the library services that the respondents were aware of, there were higher rates of unawareness of the library services among respondents. This is proved in the higher rates of respondents who would like to use the library services in the future as in table 5. RMU library stands a better chance of getting respondents to use the services when they offer them because many are willing to patronise them, especially the inter-library loans service with 50% respondents willing to use it when available.

3. To gain an indication as to whether additional resources or services are required. The former was met; the latter was not met. (see section 4.3.6 for the former). Respondents indicated that there was no need of additional resources to be added to the subscription list as the RMU library has enough to support academic and research work, nevertheless, a respondent

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suggested a database (librarmar.net) for RMU library to consider. The latter, on additional services required, was not achieved (see section 4.5.2). Among the many suggestions that respondents gave to improve on their library experiences, none touched on suggesting any new library service to be delivered by the RMU library. Reasons could be because they are not familiar with library services or because respondents do not frequent the library, so they do not know what to expect.

4. To identify what factors/barriers hinder postgraduate students from using the RMU e-resources and services, the former was met (see section 4.3.5), but the latter was not (see section 4.4). Among the many factors that could put respondents off from using the RMU e-resources are: unreliable internet, when preferred source of information is not available, slow downloading of articles and when they cannot access resources from off campus. When these barriers are addressed, there is the probability that patronage of the RMU library e-resources would be boosted. There is no clear-cut question in the study to address the factors that would make respondents not to use the RMU library services. This could be due to the researcher's intent of surveying respondents to understand whether they know anything about library services, or an oversight which the piloting of the questionnaire did not bring up. This did not affect the results of the study in anyway.

5. To establish if it is possible to predict if the use of e-resources and library services impact on the success of research and academic work; this was not met. There is no direct connection in the study to show that respondents use of RMU e-resources and library services had any impact on their academic and research work. The impact that the study revealed is that the RMU resources have improved the professional competence of respondents (see section 4.3.4). It was however, established in section 4.2.1 and 4.2.2 that the majority (75%) of the respondents are aware and use the RMU library resources, 65% (13) of the respondents use the resources occasionally (see figure 6), 87% could personally search and retrieve information (see section 4.3.3), and use it for various purpose (see section 4.3.1).

### 5.2.3. Main research questions

What e-resources and library services could be offered by the library to enable postgraduate students put the library's e-resources and services to maximum use? From the results (see sections 4.2 and 4.3.6 and 4.3.7) it is possible to say that the majority of respondents are aware that the RMU library has e-resource sources. The RMU library has enough resources to support the academic and research work of the respondents; the databases are user friendly and respondents are satisfied with the e-resources over the print versions of the journals appraising them beneficial. However, respondents lack training to put the resources to maximum use; cannot access the resources off-campus and those

who even go to both the library and the research rooms face the problem of inadequate computers to work with.

The RMU library should unsure (by providing adequate user training and education through awareness creation) that its patrons are adequately equipped with skills that would enhance their maximum use of the resources. What is more, they should improve their internet facilities to enable off-campus access by respondents to personally access and retrieve information with or without help from library assistants so as to make use of the RMU resource at their convenience. The RMU should also provide adequate computers in both library and library research rooms to attract respondents who make the time to use the said places.

### 5.2.4. Other questions

1. What is the essence of providing postgraduate students with access to e-resources?

   Many studies on the essence of providing postgraduate students access to e-resources has been recorded in the literature. Kaur (2006) writes that is has impeccable advantages (see chapter two section 2.5.3). Madhusudhan (2008) adds that it empowers students to acquire information promptly and timely (see chapter two section 2.5.3). Ray and Day (1998) indicate that it saves them a lot of time (see chapter two section 2.5.3). Dadzie (2005) points to the versatility of e-resources by saying it could be accessed from library, internet cafes, offices and homes without moving any distance during the day (see chapter two section 2.5.3). Madhusudhan (2008) argues that it helps to overcome the time delays common with print media (see Chapter Two section 2.5.3).

2. What are the key library services that are provided to postgraduate students by academic libraries? From reviewing literature in Chapter Two, Parker (2012) indicates that library services could be divided into two. 1. 'Cosy library' where traditional library played the role of collection development and creating library spaces. 2. 'scary library' where both collection and users are offsite, making the work of the librarian less familiar (see Chapter Two section 2.7). Agyen-Gyasi, Lamptey and Frimpong (2010) mention that academic librarians contribute to knowledge generation when they serve knowledge seekers with information from varied sources and format (see Chapter Two section 2.7). Dollah and Sing (2006) speak about reference and information services in the form of personalized assistance to library users (see Chapter Two section 2.7). They however distinguish between traditional academic library services such as 'collection development and acquisition, cataloguing and classification, circulation, provision of reference services, and preservation, conservation and archiving' from what Raghavan (2000); Burke (2003) and Tedd (2003) call digital library services which according to Gerolimos and Konsta, (2009, 2011) include: 'RSS, instant messaging, streaming media, weblogs, tags and social networks' and 'Facebook, Twitter, web

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site interfaces for mobile devices, reference service via SMS, YouTube and browser toolbars' (see Chapter Two page 22) Moreover, Namuleme and Kanzira (2015) identify such services as 'providing bibliometric analysis, data literacy training and research data management' (See Chapter Two section 2.7).

3. What factors could be seen as barriers from using e-resources services – what hinders postgraduate students from using library services? Literature reports a number of factors that hinder postgraduate students from using e-resources. Ozoemelem (2009) mentions a large mass of irrelevant information; delays in downloading, failure to find information, lack of search skill, power failures, not being able to access some e-resources and the challenge to navigate through e-resources (see Chapter Two section 2.6). Again, Ansari and Zuberi (2010) record lack of knowledge of e-resources, lack of training and network problems (see Chapter Two section 2.6). Moreover, Raghuram and Vatnal (2011) identify lack of demonstration/user orientation on how online journal and databases searches are done (see Chapter Two section 2.6). Furthermore, Nazir (2015) reports 'limited working hours, lack of adequate number of computers, less speed, lack of infrastructure facilities, frequently power failure, problem on downloading article and problem over searching' (see Chapter Two section 2.6). Also, Ahmed (2013) identifies the limited number of titles, difficulty in accessing back issues, general difficulty in finding information, inability to access resources from home and poor downloading speed (see Chapter Two section 2.6). The research confirmed that the majority of these reasons were also identified by the respondents as reasons for non-use (see figure 11).

4. How do e-resources and library services impact on research and academic work? The impact of e-resources on academic and research work is well represented in literature. Dadzie (2005) reports e-resources to be an 'invaluable research tools which complement print-based resources in any traditional library…provide access to information that might be restricted to the user because of geographical location or finance…provide access to currents information as these are often updated…provide additional extensive links to explore additional resources or related content' (see Chapter section 2.8 page 24). Egberongbe (2011) identifies ease of use, time saving as well as being informative (see Chapter Two section 2.8). Meanwhile, Singh (2013) reports of its efficiency (see Chapter Two section 2.8) and Nazir (2015) confirms, '…e-resources enable innovation in teaching and they increase discovery and creation of new fields of enquiry' (see Chapter Two section 2.8). According to Kiran (2010), patrons in the University of Malaysia were 'aware that the library has a positive impact on their teaching, learning and research' although they complained about interlibrary loan/document delivery (see Chapter Two section 2.8). Meanwhile, Laitinen and Saarti (2014) established that 'the share of those claiming that the library services had substantially benefited their work or studies increased from less than 50 % in 2008 to nearly 60 % in 2013' (see Chapter Two section 2.8). Given, Kelly and Wilson (2015) report of the shift in the

research landscape and how academic libraries are providing a whole range of services that support and guide researchers to document and report on their research activities see Chapter Two section 2.8). Corrall et al., (2013) and Tenopir et al., (2013) also report that those activities, included academic research, impact like tracking citation count and journal impact factors (see Chapter Two section 2.8). The impact of the new academic libraries' services on a research fellow and an engineering professor were reported by Given, Kelly and Wilson (2015) respectively:

*You can call up the librarian and they will determine your h-index for you. And they'll do your citation factors. The research office…itself doesn't really get so involved. But the library, did quite a bit of analysis around citations'*

and

*I'd love to have my metrics for downloads of my papers that I've… and these are fairly standard kind of metrics in some way. I don't think I can get them and I'm now thinking I should talk to my research librarian and see if we can disseminate those, and so I hope they collect them.* (see Chapter Two page 25)

## 5.3. Summary of findings

Below is a summary of the most important findings (reported in Chapter Four) from the study to establish the library e-resources and services situation at the RMU after interacting with postgraduate students and lecturers.

### 5.3.1. Demographics

The study revealed that the majority of the respondents (see Chapter Four section 4.2.1) go by the title 'Mr.' which strengthens a common belief that the maritime industry is male dominated with females not being keen in the maritime profession. The reason for this bias was not investigated in this study, but could be considered for further studies. The demographics also revealed that the majority of the respondents (see Chapter Four section 4.2.2) own laptops as a common device but a number of the respondents also own multiple devices. The reason for multiplicity of devices by respondents could be attributed to the power crisis the nation faced at the time the study was undertaken.

### 5.3.2. Awareness and Usage

With regards to awareness of the RMU library e-resources, it is possible to report that the majority (75%) of the respondents (see Chapter Four. Section 4.2.1) indicated they were aware of the e-resources. However, 25 % of the respondents indicated they were not aware of their existence. Some of the common reason respondents gave for not being aware of the e-resources included inadequate marketing of the e-resources and lack of user education of the e-resources. The 25% of the

respondents may never have passed by the library or the library research room to use the facilities    or may be part of the few library patrons who want every instruction online.

As for usage of the RMU e-resources, the majority of the respondents who indicated their awareness also indicated their usage of the e-resources (see Chapter Four section 4.2.2). Again, the 25% of respondents who indicated they were not aware were the same percentage of respondents who did not use the RMU e-Resources with reasons which included preference for print materials, use of resources from other institutions, lack of access from off-campus and lack of familiarity with e-resources among other reasons.

Familiarity encourages usage; therefore, respondents were able to indicate how familiar they were with particular e-resource database and indicate its usefulness. Most respondents indicated they were familiar with Emerald, followed by EBSCO Host. Sage and Willey had the same number of familiarity among respondents as Sage Research Methodology and Taylor and Francis also shared the same number of familiarity among respondents. The number of respondents that were familiar with World Bank e-Library database was slightly above the number of respondents who were familiar with Project Muse and Cambridge University Journals databases (see Chapter Four figure 4). No respondent indicated he were familiar with Credo Reference and Institute of Physics Journals databases. This could be attributed to lack of user education and marketing of the e-resources as indicated by few respondents who were unaware and therefore did not use the e-resources. In terms of how useful the RMU e-Resource are to respondents, Emerald was still rated as being very useful by the majority of the respondents. This was followed by Willey and EBSCO Host with Cambridge University Journals, Sage, Sage Research Methodology as well as Taylor and Francis receiving the same number of respondents rating them as useful (see Chapter Four figure 5).

It is worth mentioning that many respondents expressed a desire to familiarise themselves with the resources by indicating their willingness to use the resources in the future. Particularly Cambridge University Journals, Credo Reference, Institute of Physics Journal, Sage Research Methodology, Willey as well as world Bank e-Library databases (see Chapter Four figure 5) were flagged. This willingness could only be further enhanced when RMU staff have marketed the resources and intensified user education on the resources.

Although the majority of respondents indicated they were aware and use the RMU e-resources, it turned out that they only use the RMU resources occasionally (see Chapter Four figure 6). There was even a 10% loss in the number of respondent who claimed they use the resources in 'figure 3' and the number of respondents who claimed they access the resources in 'figure 6'. The reason for the difference is that more respondents did not answer the question on the frequency of accessing the resources. Respondents were given four options (daily, weekly, monthly and occasionally) to indicate

the frequency of accessing the RMU library e-Resource. All the respondents that answered the question indicated they access the RMU library resources occasionally. This makes for an interesting future study to find out why a high number of respondents are aware of the resources but they use the RMU library resources albeit, 'occasionally'.

### 5.3.3. Purpose of use

The purpose of use was the third section of the study. Purpose drives interest and in general, the results showed that the purpose of using RMU library resources varied among respondents.

Overall, the study exposed that finding relevant information in an area of specialisation, publishing articles and recreation were the least acknowledged reasons why respondents use the RMU resources. It was revealed that preparing assignments and presentation were the main purpose for which respondents occasionally use RMU resources.  What is more, research and study, current awareness/update of knowledge are often the purpose that motivate respondents to use RMU library resources (see Chapter Four figure 7).

The general indication of where respondents could access the RMU library resources was that respondents preferred to access the resources from outside the two designated places such as the library premises and the library research rooms. Rather the majority of respondents accessed the RMU resources anywhere on campus. This could be attributed to the fact that many of the respondents did not find time and space to visit the library and the research rooms due to the fact that they were part time student in employment, and the schedule of their lectures were in late afternoon till late evenings. They spend most of their time outside the university campus and only come around to attend lectures (see Chapter Four figure 8).

Results from the respondents who could access the RMU library resources anywhere on campus proved that they do so by themselves with little or no assistance from any library staff. Part of the reason could be because they were familiar with the databases they consulted like Emerald, EBSCO Host and Willey as they indicated in 'figure 5'. This means that had the RMU library staff embarked on user education and marketed the RMU library resources well, patrons would have used the resources more (see Chapter Four figure 9).

The results from a question on the impact the RMU library resources have on the educational, professional and research work of the respondents showed that the majority have had improvement in their professional competence. We see from this result that although the RMU library resources were provided for academic purposes, respondents found other ways of using the resources such as improving on their competence professionally. This means that those who use the resources could benefit from these in other ways than for academic purposes. This is the more reason why the library

should market and train patrons to use the resources (see Chapter Four figure 10). There were however, also several challenges reported.

Many challenges were encountered by respondents as revealed from the results. Unreliable internet proved to be the worst followed by the unavailability of preferred sources. Two further important challenges revealed were slow downloading of articles and not getting access to resources from home (see Chapter Four figure 11).  If these challenges were addressed, many patrons indicated that they would use the RMU resources.

The general opinion of respondents was that RMU resources were easy to use. This could be the reason why many respondents could personally search and retrieve information (see Chapter Four figure 9). Another common opinion held by respondents was that the RMU library resources were enough to support the academic and research work of postgraduates. This means respondents should not lack in materials for performing well academically. Another common opinion that was revealed from the results was the preference of e-resources over printed versions of journals by respondents. This is a clear proof of a 21st century library patron whose opinion should be factored in building library collection.

A majority of the respondents appraised the RMU resources to be 'beneficial' and not 'highly beneficial' as shown from the results (see Chapter Four figure 13). The results indicate that there is room for improvement which could be in terms of user education and providing training on the best way of using the resources.

Suggestions from the results revealed that the majority of respondents were satisfied with the RMU resources, but quite a high number of respondents also remained neutral with others not answering at all (see Chapter Four figure 14). The results could not be interpreted as true reflection of the feeling of respondents towards the RMU resources because the number of respondents that were satisfied and those who remain neutral as well was those who did not respond to the question at all were too close to call. However, the number of respondents who were delighted and those who were dissatisfied were also insignificant to be considered.

### 5.3.4.  Library Services
Some library services the RMU staff intended to provide were put to respondents to solicit their knowledge/familiarity before it was rolled out. Those services when rolled out would trigger the interest of patrons to use the library's resources the more.

The results revealed that a majority of the respondents were familiar with Literature Searches which was followed by Training in the Use of Retrieval Systems. The results also revealed that Inter-library loan was not known to the majority of the respondents which was followed by Current Awareness

Service. Generally, there were more respondents who were not familiar with the intended services than there were those who were familiar with the services (see Chapter Four table 1).

Following from 'table 1', results from 'table 2' revealed that the majority of the respondents rated Literature Searches as 'very useful' and also to be followed by Training in the Use of Retrieval Systems. However, the number of respondents that claimed they were familiar with both Literature Searches and Training in the Use of Retrieval Systems reduced significantly. There were higher number of respondents who rated the intended services to be useful than very useful, nevertheless, many respondents expressed their desire to use the services in the future. This is an indication that when the services are introduced, patrons of the library will participate fully. One worrying point was that the number of respondents who did not answer the question was too high. Reasons could be because it was new to them and they wanted to adopt the wait-and-see attitude or, they did not want to comment on the unknown to give any false impression.

### 5.3.5. Suggestions for improvement

The final part of the research was to solicit suggestions from respondents to better their library experience.

Out of the twenty (20) respondents that participated in the research, only six did not give any suggestions to improve the RMU library. The suggestions that the majority of the 14 respondents gave could be grouped into two categories: 1. Awareness creation and 2. User education and training.

Other suggestions relate to more computers and fast internet connection, with another respondent suggesting a database (libramar.net). One respondent made a suggestion to broaden the resources to cover areas other than maritime while another suggested enhancement of the technology so that access to the RMU resources could be obtained 'without necessarily going to the research lab'. Most of these suggestions were based on the inadequacies in the system that respondents encountered when accessing the RMU e-resources. These aspects are all discussed in the next section.

### 5.4. Recommendations

Upon the findings of the study, if RMU would want to increase the number of patrons to its e-resources as expressed in Chapter One, then the following recommendation would come handy. The recommendations are based on the study results and the direct suggestions made by respondents (see Chapter Four section 4.4.3) among others.

### 5.4.1. Creating awareness

It is recommended that RMU library staff embark on an extensive user awareness campaign to draw the attention of those who are not aware, as well as to update those who are aware of new developments of the resources the library has. It should be a matter of creating a policy to make it

compulsory for staff, with a time-table on when to do what. Three times a semester: beginning of semester, mid-semester and semester ending are suggested.

Results from Chapter Four section 4.4.1 (table 1) revealed that a majority of the respondents were not familiar with the library's intended new services. Care must therefore be taken to roll out the services. It would be recommended the library staff do a further survey because apart from many respondents answering 'NO' to familiarity of the intended services, there was a significant number of N/As as well. This puts the library in an awkward position to proceed with the introduction of the new services. If the library, however, would want to go ahead with the intended new services, then it is recommended that it is done in phases. Phase one should be awareness creation among patrons of the intended new services. Phase two should be piloting with some of the services to see how patrons respond to them. Phase three should be starting with the more familiar ones such as 'Literature searches'; 'Training in the use of retrieval systems' and 'Electronic Document Delivery' to the least familiar ones like 'Inter-Library Loans'; 'Current Awareness Service' and Alerting Services.

### 5.4.2. User education and training

A majority of respondents agreed (see Chapter Four figure 12) that the RMU library has enough resources to support academic and research work, however, they suggested user education and training (see Chapter Four section 4.4.3) on how to use the resources. The library should therefore organise regular workshops (at least twice a semester) to educate patrons.

### 5.4.3. Investigate non-use

Study results revealed that 25% or respondents (see Chapter Four section 4.2.2) did not use the RMU resources. It is recommended that a small library committee be formed to investigate why some library patrons do not use the library resources and make recommendations to get those patrons to patronise the resources. A time line should be set for the committee to submit their report.

### 5.4.4. Changes to the research

The number of N/As that was recorded in this study was very high. It is recommended that in future studies, respondents be educated on the importance of each question's contribution to the entire study to minimise the number of N/As. Better still, respondents for future studies should be allowed more time to complete the questionnaire or the questionnaire should be shortened. This study had a time limitation and therefore respondents most probably were feeling rushed when completing the questionnaire.

### 5.4.5. Further investigation

Seventy-five percent (75%) of respondents (see Chapter F section 4.2.1) claimed they were aware of RMU library resources and again 75% (see Chapter Four section 4.2.2) claimed they use RMU library

resources. However, 65% (see Chapter Four section 4.2.5) of the respondents said they only use the resources 'occasionally'. Meanwhile, 35% (see figure 6) of respondents did not answer the question. A further study is recommended to investigate why all the respondents who answered the question only use the RMU library resource occasionally.

### 5.4.6. Making provision for mobility / remote access

It was evident from 'figure 8' (see Chapter Four section 4.3.2) that the majority of respondents accessed the RMU library resources not from the designated places (library premises and library research room) for obvious reasons. Most of the respondents spend the largest portion of their day outside the RMU campus and therefore have limited time to visit the designated access points. It would be recommended that access to RMU resources be made available to patrons outside the university premises to allow maximum usage of their rich collection, since the majority of respondents could personally access and retrieve information (see Chapter Four section 4.3.3). What is more, it was established in Chapter Four section 4.2.2 that respondents had multiple devises to access the resources anywhere at any time. It would therefore be relatively easy to have a very big impact by making a small change.

### 5.4.7. Infrastructural changes and communication with clients

Key challenges that respondents encountered when accessing the RMU library resources included: unreliable internet, the preferred source was not available, slow downloading of articles. It is recommended that the library is allocated a separate server to serve its patrons. This would reduce the number of users on the same server and boost the speed for downloading. The cable that would connect the library separate server room to the main library and the library research room should be fibre optic to reduce the noise in transmitting data and improve the reliability of connectivity.

Since the library cannot know all the needs of its patrons, the library's website/ interface should have a link with the caption 'suggest to the librarian'. This will provide the opportunity to library patrons to suggest titles, databases, sources to the librarian to factor in acquisition. Again, social media tools like Facebook and WhatsApp could be handy to create the platform where library staff and patrons can interact with patrons providing feedback on library services and library staff updating patrons on new additions to library stock.

### 5.5. Suggestion for further study

This study was limited to the postgraduate students of the RMU and some lecturers of the post and shipping administration department. The study could be undertaken among undergraduate students of the ports and shipping administration for a comparative study.

A further follow-up study could be conducted once some changes have been made at the RMU Library – to measure the impact of changes.

## 5.6. Summary of Chapter Five

On the whole, this chapter summarised the results, conclusions that were based on the results and recommendations for RMU library. The study was successful in identifying library e-resources and services that should enable postgraduate studies at the RMU, an academic maritime university that serves five countries namely: Cameroon, the Gambia, Ghana, Liberia and Sierra Leone. The study also contributes to postgraduate education in Africa, and particularly in Ghana.

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## APPENDIX 1: QUESTIONNAIRE BEFORE PILOTING

## QUESTIONNAIRE

## LIBRARY e-resources AND SERVICES TO ENABLE POSTGRADUATE STUDIES AT THE REGIONAL MARITIME UNIVERSITY (RMU) GHANA.

Dear Respondent,

This survey is designed to assess the state of awareness and use of library products (example: e-resources) and services (example: training in the use of e-resources) available to postgraduate students of the RMU. The responses of the study will contribute towards the design of relevant services that will enable you as well as future RMU postgraduate students and staff. It will also provide valuable pointers to better manage the library's e-resources. Lastly, the research is part of a Masters study through the University of Pretoria, South Africa. The results will be reported in the dissertation and a peer reviewed article may follow.

Your responses remain voluntary, but please consider the objectives mentioned above before you decline to answer.

It is optional to complete questions 1-3. Personal details are requested in case it is necessary to contact you for clarification. Where these details are provided, the researcher wishes to assure you that such details will not be reported or directly associated with responses given. This questionnaire will be treated with the strictest confidentiality. All results will be anonymised before use.

Researcher: Paul Ashaley Nikoi (paul.nikoi@rmu.edu.gh/bawa4me@gmail.com, 0573-897949)

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**Section 1: Background**

1. Your name [Optional]:          …………………………………………………………………….
2. Title: [Optional:]    (example Mr. / Ms. / Dr. / Prof.) …………………………………………
3. Which of the following devices do you have? [*Please tick all those applicable*]


    [] Personal **Computer (Desktop)**          [] **Laptop**          [] **Tablet**          [] **Smart Phone**


**Section 2: Awareness of E-resources in the RMU Library**
    (*for the purpose of this study e-resources includes e-journal articles, e-books and other documents in digital format and accessible through subscribed databases of the RMU library).*
    *Indicate N/A if you do not use e-resources.*

4. Please indicate which e-Resource you find most useful

………………………………………………………………………

5. Which of the following e-resource sources are you familiar with and how useful is it to you? [*Please tick applicable ones and comment*]

| E-journal Database | Familiar? | How useful is the e-Resource? | | | | |
|---|---|---|---|---|---|---|
| | Yes / No | Very useful | Useful | Not useful | I do not use e-resources | I would like to use in future |
| Cambridge University Journals | | | | | | |
| EBSCO host | | | | | | |
| Emerald | | | | | | |
| Credo Reference | | | | | | |
| Institute of Physics Journals | | | | | | |
| Project Muse | | | | | | |
| Sage | | | | | | |
| Sage Research Methodology | | | | | | |
| Taylor and Francis | | | | | | |
| Wiley | | | | | | |
| World bank e-library | | | | | | |

**Other [please provide detail]:**

………………………………………………………………………………………………………………………
………………………………………………………………………………………………………………………
………………………………………………………………………………………………………………………
………………………………………………………………………………………………………………………
………………………………………………………………………………………………………………………
……………………………………………

6. How often do you access RMU's e-resources/e-journal, e-books?

    [] **Daily**      [] **2/3 times per Week**   [] **Monthly**       [] **occasionally**

    [] **I do not use the e-resources**

**Section 3: Purpose of use**

7. For what purpose do you use RMU's e-resources- available from the RMU Library?

| Purpose of Use | Most | Often | Occasionally | Somewhat | Least |
|---|---|---|---|---|---|
| I do not use e-resources | | | | | |
| Research and study | | | | | |
| Current awareness/update of knowledge | | | | | |
| Preparing assignments and presentations | | | | | |
| Recreation | | | | | |
| Publishing articles | | | | | |
| Finding relevant information in area of specialization | | | | | |

8. Where do you usually access e-resources?
    [*Please tick all options that apply*]

| Within the University campus | |
|---|---|
| Within the RMU Library premises | |
| At the RMU Research room | |
| At home | |
| Any other (please provide details below) | |
| | |

9. How do you access e-resources?
     [*Please tick all options that apply*]

| | |
|---|---|
| I personally search and retrieve information | |
| Library staff assist me to search for relevant information | |
| I assign research assistants to search | |

1o. In your opinion, how has e-resources impacted your educational, professional and research work?
   [*Please tick all options that apply*]

| | |
|---|---|
| Expedites the research process | |
| Improves professional competence | |
| Gives access to current information | |
| Gives access to wider range of information | |
| Provides fast access to information | |

11. What problems do you experience when trying to access RMU's e-resources collection?
   [*Please tick all options that apply*]

| **Possible problems** | |
|---|---|
| I do not use e-resources | |
| Limited access to computers | |
| Slow downloading of articles | |
| Lack of training/guidance | |
| Lack of technical knowledge | |
| Passwords requested | |
| Unfamiliar to e-Resource | |
| Non-availability of a particular issue for my information need. | |
| Preferred source was unavailable | |
| Unreliable internet | |
| Unreliable power supply | |
| I am not computer literate | |
| I cannot access the e-resources from home | |
| I was not aware we had access to e-resources | |
| Other (please specify all in the block below: | |
| | |

12. Please indicate your level of agreement with the following statements regarding e-resources. (An e-Resource is any source of information (for example an article or a book) that can be accessed in electronic format – either by computer, a tablet or a smart phone.)

| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| Current e-Resource are enough to support academic and research work as a postgraduate | | | | | |
| Internet facilities are adequate | | | | | |
| There is enough training on the use of e-resources | | | | | |
| I have access to reliable power supply to use e-resources | | | | | |
| It is easy to use e-resources | | | | | |
| I prefer e-resources over the printed versions of journals | | | | | |
| The Library is doing enough to create awareness about e-resources | | | | | |
| I can access RMU's library e-resources off campus | | | | | |
| I prefer to print out articles, before I read them | | | | | |
| There are enough computers at the library research room for me to access e-resources | | | | | |
| There are printers for me to print articles | | | | | |

13. What is your opinion towards e-resources of the RMU library?
[*Please tick only one option*]

 [] **Highly Beneficial**  [] **Beneficial**  [] **Neutral**  [] **Irrelevant**

14. Please indicate your level of satisfaction with the e-resource service of the RMU's Library
 [*Please tick only one option*]

 [] **Delighted**  [] **Satisfied**  [] **Neutral**  [] **Dissatisfied**

**Section 4: Library Services**

15. Please indicate your familiarity with the services listed below and then evaluate the usefulness of the service

| Possible library services | Familiar? | How useful is the e-Resource? | | | | |
|---|---|---|---|---|---|---|
| | Yes / No | Very useful | Useful | Not useful | I do not use e-resources | I would like to use in future |
| Training in the use of retrieval systems | | | | | | |
| Inter-Library Loans | | | | | | |
| Literature searches | | | | | | |
| Current Awareness Service | | | | | | |
| Online Catalogue | | | | | | |
| Mobile Library Service | | | | | | |
| Alerting services | | | | | | |
| Electronic Document delivery | | | | | | |
| Information retrieval on your behalf | | | | | | |
| | | | | | | |

**Section 6: Closure**

16. What could we do to further enhance your library use experience?

You may use the back of this page if you need more writing space.

**Thank you very much Sir/Madam for your time.**

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**APPENDIX 2: QUESTIONNAIRE AFTER PILOTING**

**QUESTIONNAIRE**

<u>**LIBRARY e-resources AND SERVICES TO ENABLE POSTGRADUATE STUDIES AT THE REGIONAL MARITIME UNIVERSITY (RMU) GHANA.**</u>

Dear Respondent,

This survey is designed to assess the state of awareness and use of library products (example: e-resources) and services (example: training in the use of e-resources) available to postgraduate students of the RMU. The responses of the study will contribute towards the design of relevant services that will enable you as well as future RMU postgraduate students and staff. It will also provide valuable pointers to better manage the library's e-resources. Lastly, the research is part of a Masters study through the University of Pretoria, South Africa. The results will be reported in the dissertation and a peer reviewed article may follow.

Your responses remain voluntary, but please consider the objectives mentioned above before you decline to answer.

It is optional to complete questions 1&2. Personal details are requested in case it is necessary to contact you for clarification. Where these details are provided, the researcher wishes to assure you that such details will not be reported or directly associated with responses given.  This questionnaire will be treated with the strictest confidentiality. All results will be anonymised before use.

Researcher: Paul Ashaley Nikoi (paul.nikoi@rmu.edu.gh/bawa4me@gmail.com, 0573-897949)

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**SECTION 1: BACKGROUND**

1.  Your name [Optional]:	……………………………………………………………….

2.  Title: [Optional:]	(example Mr. / Ms. / Dr. / Prof.) …………………………………………

3.  Which of the following devices do you have? [***Please tick all those applicable***]

[  ]  Personal Computer (Desktop)	[ ] Laptop	[ ] Tablet	[ ] Smart Phone

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**SECTION 2: AWARENESS AND USAGE OF E-RESOURCES IN THE RMU LIBRARY**

(*for the purpose of this study e-resources includes e-journal articles, e-books and other documents in digital format and accessible through subscribed databases of the RMU library*).

4.  (a) Are you aware of RMU's e-Resource?

    [ ] Yes    [ ] No

 If NO, please go to Question 4b, if yes please proceed go question 5a

4b. Why are you not aware of RMU's e-resources? **[Please tick all those applicable]** and proceed to section 4 (Library services questions).

[ ] Inadequate marketing of the e-resources

[ ] I don't visit the library

[ ] There is no user education

[ ] I am not interested

Others (please specify) …………………………………………………………………………………

5a. Do you use RMU's e-resources?

    [ ] Yes        [ ] No

If Yes, proceed to question 6.

5b. If NO, why don't you use RMU's e-resources? [Please tick all those applicable] and proceed to section 4 (Library services questions).

[ ] Lack training

[ ] Lack of computer literacy skills

[ ] Prefer print materials

[ ] I use resources from other institutions

[ ] They do not meet my subject needs

[ ] Unfamiliar to e-resources

[ ] Cannot be accessed off-campus

[ ] others (Please specify)……………………………………………………..

6.   Which of the following e-Resource sources are you familiar with and how useful is it to you?
     [*Please write either 'Yes' or 'No' then tick applicable ones*]

| E-journal Database | Familiar? | | | | |
|---|---|---|---|---|---|
| | Yes / No | Very useful | Useful | Not useful | I would like to use in future |
| Cambridge University Journals | | | | | |
| EBSCO host | | | | | |
| Emerald | | | | | |
| Credo Reference | | | | | |
| Institute of Physics Journals | | | | | |
| Project Muse | | | | | |
| Sage | | | | | |
| Sage Research Methodology | | | | | |
| Taylor and Francis | | | | | |
| Wiley | | | | | |
| World bank e-library | | | | | |

Other [please provide detail]:

………………………………………………………………………………………………………

………………………………………………………………………………………………………

7.   How often do you access RMU's e-resources/e-journal, e-books?

     [  ] **Daily**   [  ] **Weekly**   [  ] **Monthly**   [  ] **occasionally**

**SECTION 3: PURPOSE OF USE**

8.   For what purpose do you use RMU's e-resources- available from the RMU Library?

| Purpose of Use | Most | Often | Occasionally | Somewhat | Least |
|---|---|---|---|---|---|
| Research and study | | | | | |
| Current awareness/update of | | | | | |

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| knowledge | | | | | |
|---|---|---|---|---|---|
| Preparing assignments and presentations | | | | | |
| Recreation | | | | | |
| Publishing articles | | | | | |
| Finding relevant information in area of specialization | | | | | |

9. Where do you usually access RMU's e-resources?

[*Please tick all options that apply*]

| Within the University campus | |
|---|---|
| Within the RMU Library premises | |
| At the RMU Research room | |
| At home | |
| Any other (please provide details below) | |
| | |

10. How do you access RMU's e-resources? [*Please tick all options that apply*]

| I personally search and retrieve information | |
|---|---|
| Library staff assist me to search for relevant information | |
| I assign research assistants to search | |

11. In your opinion how has RMU's e-resources impacted your educational, professional and research work? [*Please tick all options that apply*]

| Expedites the research process | |
|---|---|
| Improves professional competence | |
| Gives access to current information | |
| Gives access to wider range of information | |
| Provides fast access to information | |

12. What problems do you experience when trying to access RMU's e-resources collection? [*Please tick all options that apply*]

| Possible problems | |
|---|---|
| Limited access to computers | |
| Slow downloading of articles | |
| Lack of training/guidance | |
| Lack of technical knowledge | |
| Passwords requested | |
| Unfamiliar to e-Resource | |
| Non-availability of a particular issue for my information need. | |
| Preferred source was unavailable | |
| Unreliable internet | |
| Unreliable power supply | |
| I am not computer literate | |
| I cannot access the e-resources from home | |
| Other (please specify all in the block below: | |
| | |

13. Please indicate your level of agreement with the following statements regarding e-resources.
[*Please tick applicable ones*]

| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| Current e-Resource are enough to support academic and research work as a postgraduate | | | | | |
| Internet facilities are adequate | | | | | |
| There is enough training on the use of e-resources | | | | | |
| I have access to reliable power supply to use e-resources | | | | | |
| It is easy to use e-resources | | | | | |
| I prefer e-resources over the printed | | | | | |

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| | | | | | |
|---|---|---|---|---|---|
| versions of journals | | | | | |
| The Library is doing enough to create awareness about e-resources | | | | | |
| I can access RMU's library e-resources off campus | | | | | |
| I prefer to print out articles, before I read them | | | | | |
| There are enough computers at the library research room for me to access e-resources | | | | | |
| There are printers for me to print articles | | | | | |

14. What is your opinion towards e-resources of the RMU library?
[*Please tick only one option*]

[ ] **Highly Beneficial**      [ ] **Beneficial**      [ ] **Neutral**      [ ] **Irrelevant**

15. Please indicate your level of satisfaction with the e-resource service of the RMU's Library
[*Please tick only one option*]

[ ] **Delighted**      [ ] **Satisfied**      [ ] **Neutral**      [ ] **Dissatisfied**

**SECTION 4: LIBRARY SERVICES**

16. Please indicate your familiarity with the services listed below and then evaluate the usefulness of the service [*Please write either 'Yes' or 'No' then tick applicable ones*]

| Possible library services | Familiar? Yes / No | Very useful | Useful | Not useful | I would like to use in future |
|---|---|---|---|---|---|
| Training in the use of retrieval systems | | | | | |
| Inter-Library Loans | | | | | |

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| Literature searches | | | | | |
| --- | --- | --- | --- | --- | --- |
| Current Awareness Service | | | | | |
| Online Catalogue | | | | | |
| Mobile Library Service | | | | | |
| Alerting services | | | | | |
| Electronic Document delivery | | | | | |
| Information retrieval on your behalf | | | | | |

**SECTION 5: CLOSURE**

17. What could we do to further enhance your library use experience?

|  |
| --- |
|  |

You may use the back of this page if you need more writing space.

**Thank you very much Sir/Madam for your time.**

**APPENDIX 3: Application for Clearance to Undertake Research Project**

12<sup>th</sup> July, 2016

University Registrar

Regional Maritime University

Accra.


Dear Sir,

<u>APPLICATION FOR CLEARANCE TO UNDERTAKE RESEARCH PROJECT</u>

I Paul Ashaley Nikoi, staff of the Library Unit wish to seek for clearance from Regional Maritime University to undertake my project work with the postgraduate students and lecturers of Ports and Shipping Administration Department.

This clearance from the university is a requirement from the ethics committee of University of Pretoria where am pursuing a Masters programme.

Pleases find attached details of the particulars.

Thank you.

Yours faithfully,

Paul Ashaley Nikoi

**Member States:**
Cameroon, The Gambia,
Ghana, Liberia,
Sierra Leone

I.S.O. 9001: 2008
*Certified*

## Regional Maritime University
### A C C R A , G H A N A

Post Office Box GP 1115, Accra, Ghana Tel: (+233 302) 712775 / 712343 / 718225. Fax: (+233 302) 712047. Registrar Tel/Fax: (+233 302) 714070

MY REF:      RMU30/05(1263)            18TH JULY, 20146

YOUR REF:

### TO WHOM IT MAY CONCERN

I Baboucarr Njie as delegated authority of Regional Maritime University hereby give permission to the primary researcher Paul Ashaley Nikoi of the School of IT Faculty of Engineering Built Environment and Information Technology at the University of Pretoria the following:

1. To engage (survey/interview) with the employees of the above mentioned company. I have reviewed the questionnaire / interview questions given to me by the researcher. I hereby give my approval for using the questionnaire / interview questions by the researcher.

2. To collect and publish information about the above mentioned company that is publicly not available for the research project titled: **LIBRARY E-RESOURCES AND SERVICES TO ENABLE POST GRADUATE STUDIES AT REGIONAL MARITIME UNIVERSITY (RMU), GHANA.**

This authorization is based on a mutual understanding that the above mentioned company's name can be revealed in his project.

The information provided by the employees or any other means (such as company's archived documents or reports) of the above mentioned company is purely for academic purposes and cannot be used for any other purpose.

Regards,

Signature: -------------------------           Date: 18th / 7 / 16

DR. BABOUCARR NJIE

UNIVERSITY REGISTRAR

university.registrar@rmu.edu.gh +233-302-717707

Email: registrar@rmu.edu.gh      Website: www.rmu.edu.gh
Incase of reply the number and date of this letter should be quoted.