

ABSTRACT ON

**RESEARCH OUTPUT OF THE FACULTY MEMBERS OF THE SCHOOL OF
ECONOMICS, MANAGEMENT AND INFORMATION SCIENCE, MIZORAM
UNIVERSITY**

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Introduction

It is generally accepted at international level that a university capacity to generate new knowledge is of vital importance to its economic growth and living standards. The generation and transmission of knowledge through research has long been recognized as an essential requirement for a university's long-term growth and competitiveness as well as creating a capacity to solve social problems (World Bank, 1998; United Kingdom, 1997; Kemp, 1999a; Kemp, 1999b). Today the universities play an important role in both the generation and dissemination of research. There has been increasing interest among researchers and policymakers in the notion of research productivity. Research output is one of the major measures of university's academic performance and a core indicator for calculations of university ranking. A number of studies have tried to compare research productivity across countries or academic disciplines and to explore the main factors that enhance the research productivity of faculty members. Research is becoming vital and necessary part of modern university education that universities are considered as modern entrepreneur engine and generation of knowledge through research.

According to Rashid (2001), "research is conscious efforts to collect, verify, and analyze information. Research can be understood as having two broad components, namely, knowledge creation and knowledge distribution". Research is required for the improvement of general knowledge, research enable the academicians to understand and analyze themselves, also enables the academicians to fully understand their discipline which is imperative for the effective learning. Research provides a good platform for reaching the faculty members to become successful academicians. This is because research develops academic knowledge and reinforces the skills needed for effective knowledge transfer. It also inspires academics towards hard working, filling the gaps of previous research and creates an opportunity for further research.

Research output enable academics to earn recognition in academic circle locally and internationally. In higher education, research output often served as a major role in attaining success in academics circles as it is related to promotion, tenure and salary. One of the strategies for determining research productivity is to access the quantity of publication which researcher communicated with primary or other sources. Research productivity and research activities are interrelated. Research involves collecting and analyzing the data. Research productivity is the extent to which faculty engage in their own research and publish scientific articles in referred journals, conference proceedings, writing a book chapter, gathering and analyzing original evidence, working with postgraduate students on dissertations and class projects, obtaining research grants, carrying out editorial duties, obtaining patents and licenses, writing monographs, developing experimental designs, producing works of an artistic or a creative nature engaging in public debates and commentaries (Creswell, 1986).

Significance of the Study

The aim of the study was to provide information that assists in the design, development and formulation of institutional research policies in the changing global situation, and in particular to highlight those factors that should be emphasized in order to further encourage academic staffs to increase their research output. It was anticipated that investigation will provide new perspectives on the issue. Such information is vital to this study for improving higher education research output. To most effectively achieve this aim, the various obstacles to increasing the output for faculty members have been identified in their own terms. This study had been designed to address these issues, and solicits information directly from the faculty members regarding their perceptions of reasons for non-participation in research output, and invited suggestions about the ways to overcome these obstacles. The findings of this study will provide benefits to the studied departments and university. Further, present study helps to show the current trend of research output of faculty members as well as display the various forms of research output. The research output status will help the faculty members to assess themselves for further improvement upon research output.

Scope of the Study

The present study was confined to School of Economics, Management and Information Science (SEMIS) faculty members of Mizoram University, Aizawl. The number of academic departments covered under study is given in Table 1. There are 30 faculty members belongs to 5 Departments under School of Economics Management and Information Science. Further faculty members research output has been measured for last 5 years from July, 2012 – June, 2017 academic years.

Table 1: List of Faculty Members – Department wise

SN	Name of Department	Professor	Associate Professor	Assistant Professor	Total
1.	Commerce	3	0	3	6
2.	Economics	1	1	2	4
3.	Library and Information Science	3	0	4	7
4.	Management	2	0	7	9
5.	Mass Communication	0	0	4	4
Total		09	01	20	30

(Source: Mizoram University Website)

Statement of the Problem

Although there is clear evidence that administrators at many institutions together with academic staff realize the importance of research within the university structure, there is still an unacceptably low level of research output. Why some faculties produce research year after year while others do not conduct any research is a ‘puzzle’ (Creswell, 1985). The current climate in higher education threatens the university’s ability to sustain the conditions that support research achievements. Increased demands on government funding, a deteriorating physical infrastructure, increased pressure on undergraduate and postgraduate programs have raised concerns about the continued capacity of universities to maintain teaching, research output and service to the state. Higher Education needs to be taken to the next level by motivating the new generation faculty members to raise their levels of output in terms of innovation in research. In the connected world of the knowledge era, forging meaningful linkages between academics towards raising the overall quality in research is the need of the hour. This prompts to undertake as research problem to find out the research output of SEMIS faculty members of Mizoram University.

Objectives of the Study

The objectives of the present study are to:

- a) Find out the trend & growth of research output of faculty members.
- b) Find out the forms of research output of the faculty members.
- c) Examine the socio-demographic characteristics of faculty members.
- d) Find out the constraints to faculty members on their research activities.

Research Methodology

The present study was designed to investigate the research output of SEMIS faculty members of Mizoram University. The total population for the study was 30 faculty members belong to departments under SEMIS. The survey method (through questionnaire) of research has been found appropriate to undertake the present study. The structured questionnaire has been distributed to every faculty members of the School covered under study and collected the filled in questionnaires. The questionnaire data has been recorded in MS-Excel and analyzed using SPSS for the purpose.

Research Findings

The study was designed to find out the faculty research productivity of School of Economics Management and Information Science. Following are the findings drawn from the analysis:

- 1) Out of total (30 faculty members in School), 85.71% faculty members responded to the questionnaire distributed to them. The highest response rate (100%) came from Department of Library and Information Science as well as Department of Management.
- 2) There were 75% male and 25% female respondents. Majority (50%) of the respondents belongs to 31-40 age group which shows that majority of the faculty members of School of Economics Management and Information Science are younger in age. Interestingly, all the female faculty members were young and they all were belongs to 31-40 age group only.
- 3) Majority (66.67%) of faculty members belong to Assistant Professor Category and 33.33% belongs to Professor while no Associate Professor category related records have been recorded. None of the Assistant Professor is more than 50 years of age while none of the Professor is less than 40 years of age.
- 4) Majority (95.83%) of the faculty members had Ph. D. as the highest qualification and 4.17% faculty members had a Master degree qualification.
- 5) There were 37.5% faculties had experience of 6-10 years in their carrier while 25% faculties had the teaching experience of 11-15 years. Majority of them belongs to Assistant Professor. Majority of the Professor has teaching experience of 11-20 years of experience in the School.
- 6) There were 54.17% faculties had publication range of 1-20 during last five academic years i.e. July 2012 - June 2017 and most of them belongs to Assistant Professor Category. Out of total Assistant Professor, 37.5% had publication range from 1-10; whereas in Professor Category, 37.5% had publication range from 11-20 and more than 30 publications.
- 7) Out of the 24 faculty members who responded the questionnaire, more than 62.5% had teaching experience of 6-15 years.
- 8) Majority (87.5%) of faculty members preferred to publish their research output in the form of Journal article followed by Book Chapter.
- 9) Result indicates that two authorship pattern (64.76%) is the most prevalent among the faculty members followed by single authorship pattern (30.71%) and three authorship patterns.
- 10) As per year wise analysis of authorship pattern, majority of publications were published as two authorship patterns in each academic year.

- 11) Department of Library and Information Science (48) had the highest number of productive journals followed by Department of Management (46) and Department of Commerce (32).
- 12) There were 84.62% research publications which had been published in the Journal without Impact Factors (IF) while 15.06% of publications were published in Journals having Impact Factor (IF) between 1-5.
- 13) Approximately 81% publications are without any citations while 18.8% publications had citations range of 1-25 as per Google Scholar. Higher citations range has not been observed for many publications during the study period.
- 14) Based on Scopus database, there were 81.25% publications having citations range between 1-25 where as 18.75% publications without any citations.
- 15) Out of 24 respondents, only 45.83% faculty members had *h*-index and *i-10* index value.
- 16) The total number of awarded M. Phil and Ph. D. dissertation were more than dissertation submitted during the period.
- 17) In case of major and minor research projects, few faculty members have completed their minor and major research projects. Interestingly, no faculty records were found for ongoing minor and major research projects during the period.
- 18) There are 45.84% faculties who do not feel any difficulty in locating appropriate information from the library and 45.83% faculty members are agree that library location is isolated from their workplace.
- 19) More than 36% faculty members disagree about lack of physical infrastructure at their department while 33.33% faculties are disagree and not facing any problems in Internet connectivity.
- 20) There are 29.17% faculty members who agree that lack of financial support is the main cause of their research activities. Whereas 29.17% faculty members disagree that lack of research projects/ financial support from funding agency is the main cause of research activities.
- 21) Majority (66.66%) of faculty members are disagree that lack of personal interest causes problems in their research activities.

Chapterisation

The present study has been divided into the following chapters:

Chapter 1 “Introduction” gives basic information related to the dissertation topic like literature review, scope of the study, statement of the problem, objectives of the study, and research methodology.

Chapter 2 “Mizoram University: An Overview” highlights about Mizoram University, Schools and Departments under Mizoram University.

Chapter 3 “Research Output: Concepts” highlights the measurement of research output; models of faculty research output; and individual, institutional as well as leadership characteristics that facilitate the research output.

Chapter 4 “Data Analysis and Findings” highlights the data collected and processed in the forms of tables and graphs as well as its related findings.

Chapter 5 “Conclusion and Suggestions” presents the objective based conclusions of the study and suggestions for the improvement of research output.

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By

R. LALRINDIKA

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE

Dissertation submitted in partial fulfillment of the requirement for the Degree of Master of
Philosophy in Library and Information Science of Mizoram University, Aizawl

MIZORAM UNIVERSITY
July, 2019

DECLARATION

I, **R. Lalrindika** hereby declare that the subject matter of this thesis is the record of the work done by me, the contents of this thesis did not form basis of the award of any previous degree to me or to do the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/Institute.

This is being submitted to the Mizoram University for the degree of **Master of Philosophy** in the **Department of Library and Information Science**.

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Research Scholar

(Prof. S.N. Singh)
Head of Department

(Dr. Akhandanand Shukla)
Supervisor

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CERTIFICATE

This is to certify that the dissertation entitled “Research Output of the Faculty Members of the School of Economics Management and Information Science, Mizoram University” submitted by R. Lalrindika for the award of Master of Philosophy in Library and Information Science is carried out under my supervision and incorporates the students bona-fide research and this has not been submitted for award of any degree in this or any other university or institute of learning.

Place: Aizawl

Date:

(Dr. Akhandanand Shukla)
Supervisor

ACKNOWLEDGEMENT

My heartiest gratitude goes to the Almighty God for giving me a good health and an opportunity to do this dissertation successfully.

I would like to acknowledge my deep sense of gratitude and heartfelt thanks to my supervisor **Dr. Akhandanand Shukla** for his kind guidance, intellectual contribution, qualitative suggestions and untiring efforts in the preparation and successful completion of this dissertation work.

I am also deeply grateful to all the SEMIS faculties who have greatly supported me and helped me in my research work with much patience and informative replies to my questionnaires and queries.

It is my duty to express thanks to all the faculty and staff members of the department of Library and Information Science for their kindness and helping me in every way possible for the completion of this work.

Last but not the least; I sincerely thank my parents Mr. **R. Lalliansanga** and Mrs. **Vanbeiseii** for providing me the best effort they can, so that I can finish my work.

Place: Tanhril, Aizawl

(R. LALRINDIKA)

Date:

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LIST OF ABBREVIATIONS AND ACRONYMS

Abbreviation	Description
B. Arch.	Bachelor of Architecture
CC	Collaboration Coefficient
CD	Compact Disc
CD-ROM	Compact Disk - Read Only Memory
DVD	Digital Video Disc
IF	Impact Factor
IMBA	Integrated Master of Business Administration
INFLIBNET	Information and Library Network
ISBN	International Standard Book
MBA	Master of Business Administration
MZU	Mizoram University
NEHU	North Eastern Hills University
OPAC	Online Public Access Catalogue
PDF	Portable Document Format
PG	Post Graduate
Ph. D	Doctor of Philosophy
SES&NRM	School of Earth Science and Natural Resources Management
SFAA&FT	School of Fine Arts, Architecture & Fashion Technology
SET	School of Engineering and Technology

SEMIS	School of Economics Management and Information Science
SEH	School of Education and Humanities
SLS	School of Life Sciences
SPS	School of Physical Sciences
SSS	School of Social Sciences
UG	Under Graduate
UGC	University Grants Commission
USB	Universal Serial Bus

CHAPTER 1

INTRODUCTION

1.1 Introduction

Knowledge is considered as power. The person who has power of knowledge will rule in the world. The knowledge is created through continuous research in the field of specific domain. “It is generally accepted at international level that a university capacity to generate new knowledge is of vital importance to its economic growth and living standards. The generation and transmission of knowledge through research has long been recognized as an essential requirement for a university’s long-term growth and competitiveness as well as creating a capacity to solve social problems” (World Bank, 1998; United Kingdom, 1997; Kemp, 1999a; Kemp, 1999b). Today the universities play an important role in both the generation and dissemination of research. There has been increasing interest among researchers and policymakers in the notion of research productivity. Research output is one of the major measures of university’s academic performance and a core indicator for calculations of university ranking. A number of studies have tried to compare research productivity across countries or academic disciplines and to explore the main factors that enhance the research productivity of faculty members. Research is becoming vital and necessary part of modern university education that universities are considered as modern entrepreneur engine and generation of knowledge through research.

According to Rashid (2001), “research is conscious efforts to collect, verify, and analyze information. Research can be understood as having two broad components, namely, knowledge creation and knowledge distribution”. Research is required for the improvement of general knowledge, research enable the academicians to understand and analyze themselves, also enables the academicians to fully understand their discipline which is imperative for the effective learning. Research provides a good platform for reaching the faculty members to become successful academicians. This is because research develops academic knowledge and reinforces the skills needed for effective knowledge transfer. It also inspires academics towards hard working, filling the gaps of previous research and creates an opportunity for further research.

Research output enable academics to earn recognition in academic circle locally and internationally. In higher education, research output often served as a major role in attaining success in academics circles as it is related to promotion, tenure and salary. One of the strategies for determining research productivity is to access the quantity of publication which researcher communicated with primary or other sources. Research productivity and research activities are interrelated. Research involves collecting and analyzing the data. Research productivity is the extent to which faculty engage in their own research and publish scientific articles in referred journals, conference proceedings, writing a book chapter, gathering and analyzing original evidence, working with postgraduate students on dissertations and class projects, obtaining research grants, carrying out editorial duties, obtaining patents and licenses, writing monographs,

developing experimental designs, producing works of an artistic or a creative nature engaging in public debates and commentaries (Creswell, 1986).

Numerous studies on faculty research output identify a consistent set of facilitating characteristics that have an impact on faculty research output. A few authors have grouped these characteristics into clusters or models to understand the major factors that affect research output and to begin to identify a model that explains faculty research output. Finkelstein (1984) suggested that seven critical variables predict faculty publication rates: faculty researchers having a research orientation, the highest terminal degree within a field, early publication habits, previous publication activity, communication with disciplinary colleagues, subscriptions to a large number of journals, and sufficient time allocated to research. Finkelstein's early model of research output is useful because it provides an initial picture of the attributes of a successful researcher at the individual faculty level. However, Finkelstein's model does not clearly articulate the institutional factors that affect faculty research output. Teodorescu (2000) proposed an international model of faculty research publication output. Teodorescu's model asserted that individual achievement variables and institutional characteristic variables would predict faculty research output across national boundaries. In a test of this model across ten nations, Teodorescu found that, although correlates of faculty research output varied across national boundaries, faculty involvement in disciplinary affiliations (such as membership in professional societies and attendance at professional conferences) was significantly related to research output across all countries.

1.2 Significance of the Study

The aim of the study was to provide information that assists in the design, development and formulation of institutional research policies in the changing global situation, and in particular to highlight those factors that should be emphasized in order to further encourage academic staffs to increase their research output. It was anticipated that investigation will provide new perspectives on the issue. Such information is vital to this study for improving higher education research output. To most effectively achieve this aim, the various obstacles to increasing the output for faculty members have been identified in their own terms. This study had been designed to address these issues, and solicits information directly from the faculty members regarding their perceptions of reasons for non-participation in research output, and invited suggestions about the ways to overcome these obstacles. The findings of this study will provide benefits to the studied departments and university. Further, present study helps to show the current trend of research output of faculty members as well as display the various forms of research output. The research output status will help the faculty members to assess themselves for further improvement upon research output.

1.3 Scope of the Study

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Table 1: Departments under SEMIS, Mizoram University

SN	Departments	School of Study
1.	Commerce	School of Economics Management and Information Sciences (SEMIS)
2.	Economics	
3.	Library and Information Science	
4.	Management	
5.	Mass Communication	

At present there are 30 faculty members covered under SEMIS, out of which there are 9 Professors, 1 Associate Professors, and 20 Assistant Professors (see Table 2).

Table 2: List of Faculty Members – Department wise

SN	Name of Department	Professor	Associate Professor	Assistant Professor	Total
1.	Commerce	3	0	3	6
2.	Economics	1	1	2	4
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4.	Management	2	0	7	9
5.	Mass Communication	0	0	4	4
Total		09	01	20	30

(Source: Mizoram University Website)

1.4 Review of Literature

Feyera et al. (2017) examined the publication productivity of 120 faculty members of Jigjiga University, Ethiopia. Study evidenced low publication productivity among faculty members of Jigjiga University, faculties belong to Natural Sciences and Life Sciences were more productive than Social Sciences. Fawzi & Al-Hattami (2017) investigated the research productivity of faculty members of Bahrain Teacher’s College (BTC) and identified their problems and difficulties faced during publishing a scientific research.

Study concluded that faculty members have the competence for publishing the research but needs more time to focus on research. Alam & Shukla (2016) analyzed the publication productivity of Solar Physics in India during the period of 1960-2004 and found a total of 2066 research papers having 22254 citations. The average number of publication per year was 48 and the average number of citations per publication was 10.77. Solar Physics related research articles appeared in 92 journals and found that Indian Institute of Astrophysics, Bangalore is the most productive institution in terms of research contributions. Azmi (2016) analyzed research output of Geology department of Delhi University using Scopus database over 15 years (2001 - 2015) and found 337 publications contributed by faculty members. The study revealed that the maximum numbers of publications were published during 2012-2015 (46%) and journal articles were the most preferred publication type (82%). The Journal of Geological Society of India was the most preferred journal for article publications (24%).

Jeyshankar & Vellaichamy (2016) analyzed the research productivity on Information Technology in India during the period 2001 – 2015 using Scopus database. There were total 43043 records obtained and the highest publications were contributed in 2015 (8445, 20%). The highest relative growth rate was in the year 2011 i.e. 7.64 while doubling time was the lowest in year 2011 i.e. 0.09. Similarly, the lowest relative growth rate was in the year 2015 i.e. 0.22 and doubling time was the highest in the same year i.e. 3.17. The majority of publications were two- authored. The degree of collaboration varies from 0.71 to 0.95 over the period under study. International Journal of Applied Engineering Research was ranked 1st with 1539 (3.58%) number of publications. The study depicts that in the subject-wise distribution, majority (28093, 65.27%) of papers were published in the Computer Science background. Ramiah (2016) investigated the publication growth of Nuclear Physics from Web of Science database and found a total of 32286 publications during the period 2004-2013. In his study, he observed that Conference Proceeding was the preferred form of publications (17275, 53.51%). The highest publications were in the year 2012 (5407) while the lowest publications were in the year 2004 (1678). The highest value of Collaboration Coefficient (CC) was recorded 0.62 in 2008. The study revealed that 93% of contributions were multi-authored and USA ranked 1st in the list of highly productive countries (10734, 33.25%). “Physics and Astronomy” was the most preferred subject (23413, 72.53%) while Istituto Nazionale Di Fisica Nucleare, Italy was the most productive institution (1212) among the world institutions. Velmurugan & Radhakrishnan (2016) analyzed research output on Journal of Information Literacy. The data was retrieved from the journal website during 2008-2012. There were total 61 articles in the study. It was observed that the highest publications were in the year 2014 (14, 22.96%) and the lowest publications were in the year 2011 (10, 16.39%). The authors observed that the relative growth rates (RGR) decreased from 2009 (0.65) to 2012 (0.26) in the span of 4 years. The study revealed the degree of collaboration in this journal ranged

from 0.23 to 0.47. The highest numbers of papers were published as single-authored (32, 52.46%) and found that the average authors per paper (AAPP) were 1.80 and the productivity per author (PPA) was 0.55.

Joshi et al. (2015) analyzed the research output for literature related to Stellar Physics from Web of Science Core Collection database for the period 1988-2013 in the English language and found 2738 articles from 188 journals. The highest number of articles (254, 9.28%) pertained to the year 2013. The study found Astrophysical Journal as the most productive journal (895). Study analyses Bradford's Law of Scattering and observed that the percentage of error was very high and hence the data of Stellar Physics literature did not fit with Bradford's Law of Scattering. The Leimkuhler model was also applied to verify Bradford's Law of Scattering. Okonedo et al. (2015) examined the correlation analysis of demographic factors, self-concept and research productivity of librarians in public universities in South-West, Nigeria and found that librarians' level of self-concept is high with higher research productivity, significant relationship between self-concept and research productivity, and job tenure was found significant with research productivity among the demographic factors. Aswathy and Gopikuttan (2014) analyzed research output in Spacecraft Propulsion during 1999 to 2012 using Web of Science data. The year-wise distribution in the area of spacecraft propulsion research was evident that the maximum number of articles was contributed in 2011 and minimum number in 2000. The research article contribution in the area of propulsion research is increasing year by year. In 1999, the articles covered in Science Citation Index were 165 while in 2012 it has increased to 330 articles. Goswami and Hazarika (2014) analyzed research publication trends of the scientists of Tezpur University using Web of Science (WoS). From the distribution of 847 items by publication year shows that the rising publication trends with exception in 1999, 2004 and 2009. The average output of the organization was 60 publications per year, and the peak was 200 items in 2012 and the minimum was 4 items in the year 1999.

Maharana & Das (2014) evaluated Library and Information Science research by Indian researchers from Social Science Citation Index (SSCI) during the period of 1999-2013 and found 140 publications by Indian authors. The most of the publications were journal articles (125, 89%), Indian researchers preferred to publish as two authored papers (57, 41%) closely followed by single authored (51, 36%) papers, the most productive Indian researcher was found to be M. P. Satija, and the degree of collaboration was 0.64. Nagarkar (2014) examined the publication made by the faculty members of the Department of Chemistry at the University of Pune from the Web of Science for the period of 14 years (1999-2012). The study highlighted that 30 faculty members had published 811 papers in 258 journals. The highest publications were in the year 2012 (96, 12%) and the lowest publications were in the year 2000 (2%). The Journal of Physical Chemistry A was the most preferred journal (41, 17%). Physical Chemistry was the

avored area of research by the researcher (196, 24%). The authorship pattern indicated that the highest numbers of papers were written by 4 authors in collaboration.

Singh (2013) analyzed the scholarly Physics output of Central Universities of Uttar Pradesh and Delhi from Web of Science (2006-2010). The study covered a total of 1936 publications from Central Universities namely University of Delhi (UOD), Banaras Hindu University (BHU), University of Allahabad (UOA), Aligarh Muslim University (AMU) and Jawaharlal Nehru University (JNU) in the field of Physics and found that the research output of Indian Central Universities indicated a continuous growing trend. UOD has topped in the rank list followed by BHU and UOA etc. The study observed that Indian author of Central Universities prefer to publish their papers in foreign journals. Webber (2013) analyzed the data of National Survey of Postsecondary Faculty (NSOPF: 2004) which covers approximately 30000 faculties from 1000 U.S. institutions. He examined the research productivity of Science and Engineering by the foreign-born faculty and compared with the U.S. born faculty. Study found that foreign-born-faculties employment is growing in U.S. Post Secondary institutions and also found that 'foreign-born scientists' were more productive than U.S. peers. Okiki (2013) analyzed research productivity of teaching faculty members in Nigerian Federal universities and find out high research productivity in journal publications, technical reports, conference papers, working papers as well as occasional papers and their research productivity was lower in the publishing of textbooks, book chapters, monographs, patents, and certified inventions. Study observed financial constraint and slow Internet connectivity as major inhibitors to their research.

Jung (2012) examined the research productivity of faculty in Hong Kong academics and explored the individual and institutional factors that contributed to the productivity and compared the determinants across academic disciplines. Study reveals that male Professors tend to publish more books or articles than female Professors, number of publications of doctoral degree holders is higher than that of non-holders, research productivity of Professors who have high post-doctoral experience was higher than those who do not have, senior academicians likes to be more productive than junior academicians, academicians in hard disciplines publish more journal articles than those in soft disciplines. Jeysankar et al. (2011) studied the research output of Central Electro Chemical Research Institute and 1282 research were found during the study period of 2000-2009. The study found the highest research output in 2009 whereas the lowest was in 2003. Nandi & Bandyopadhyay (2011) analyzed the research productivity of Mathematics department in Burdwan University during the period of 1960-2000 and found 73 theses were submitted in the department. The highest number of theses submitted during the period of 1986-1990 (15 theses) while growth of publication was the highest during the period of 1991-95 (71 research articles). Jain and Gupta (2011)

studied the research productivity of Indian scientists contributing to world Soybean Research for the period 1989-2008 from International Crop CD database. They concluded that Indian scientists, contributing to world Soybean research have higher publication share. India obtained 2nd rank in world publications on Soybean research after USA with 13.64% share in the world. Vasishta (2011) investigated the contribution and impact of research output of PEC University of Technology from Scopus during 1996-2009. She concluded that all 177 research papers were published during 14 years by the nine departments showing an average growth rate of 131.85%. Growth in the academic research output is seen after the PEC has attained a deemed university status.

Okafor and Dike (2010) analyzed the research output of Science and Engineering faculties of Federal Government owned universities in Nigeria. Their study reveals that 30.6% of the academics published between 0-4 journals articles, only 2.7% of them published 30 or more journal articles during the period and as many as 42.1% did not have any article in overseas journals. Sarala (2009) analyzed the scientific productivity of faculty members of Kerala Agricultural University. The data gathered from national & international databases, annual reports, and through the questionnaires. The period for the study were from 1998 to 2008 (11 years), and a total of 2506 publications were taken as the baseline data. It was observed that in Agricultural science, contributions as conference papers formed the main vehicle for information transfer. This study also revealed the fact that the trend was towards multi-authorship. The findings indicated that the intensity with which authors were involved in the scientific activity, measured in terms of publications, was not distributed in a Lotka's pattern. The researcher concluded that the most prolific authors identified in this study were holding important positions in the University. Wichian et al. (2009) analyzed the factors affecting research productivity of 300 faculty members of 16 governmental universities and found that the average research productivity of faculty was 0.04 research papers per year whereas researcher-ship and research competence were high in average and institution support for research work is moderate.

Kumbar et al. (2008) investigated the growth and contribution of 132 science faculty members of University of Mysore based on 1518 research contributions during 1996-2006. Study reveals the progress of University of Mysore in terms of quality of research and found that average citations per paper have risen from 1.15 in 1996 to 2.62 in 2003 whereas international collaborative research activity is still very low. Sevukan et al. (2007) evaluated the research output of faculty members of Plant Science from 20 Central Universities of India during 1997-2006 using ISI Science Citation Index - Expanded. The study test the regularity of publication using Lotka's Law and observed that 11 Central Universities had grown steadily during the study period and further study reveals that faculties of Banaras Hindu University had the highest research output in Plant Science. Usang et al. (2007) analyzed the academic staff research productivity at

Universities in South Zone of Nigeria and revealed that male and female academic staff differed significantly in their research productivity, married and single academic staff differed significantly in their research productivity and there is a significant influence of areas of specialization on academic staff research productivity. Yazit & Zainab (2007) measured research output of Malaysian Library and Information Science and covered the publications produced from 1965 to 2005 by Malaysian authors published in Malaysia as well as abroad. The data were collected from seven online databases and well-established library Online Public Access Catalog (OPAC) which were expected to hold current Library and Information Science publications. The results indicated that Malaysian LIS authors preferred to publish in journals. The study revealed that a total of 506 authors contributed 1,045 publications. Management of Library and Information Services were preferred subject area of research. The multi-authored work was gradually increasing each year even though single-authored still dominate the authorship pattern.

Mahapatra & Jena (2006) studied the growth of science research literature in Odisha (Orissa) during 1985-2004 and observed 875 published research papers from different journals. Study reveals that collaborative research was more, Agricultural Science related research contributions were more compared to the other subjects, and majority of the research contributions were published in Indian journals compared to foreign journals. Harzing (2005) investigated the publication pattern of Australian academics in Economics and Business and found that Australian academics have a lower tendency to publish in top journals and discussed seven possible explanations for high volume and low impact pattern by Australian research in Economics and Business. Abbott & Doucouliagos (2003) investigated the research output of 35 Australian universities during the period of 1995 to 2000 to explore the link between research output, labour and research inputs and some of the key characteristics of Australian universities and found that research income, academic staff and post-graduates are all positively associated with the research output.

Research Gap

From the above literature review, it has been observed that there are number of scientometric studies conducted to assess the research output of various departments, institutions, universities and faculty members individually. In the case of Mizoram University, no scientometric study has been conducted so far in the area of School of Economics, Management and Information Science (SEMIS) faculty members. So, the present study is an attempt to fill up the gap by investigating the research output of SEMIS faculty members of Mizoram University.

1.5 Research Design

1.5.1 Statement of the Problem

Although there is clear evidence that administrators at many institutions together with academic staff realize the importance of research within the university structure, there is still an unacceptably low level of research output. Why some faculties produce research year after year while others do not conduct any research is a ‘puzzle’ (Creswell, 1985). The current climate in higher education threatens the university’s ability to sustain the conditions that support research achievements. Increased demands on government funding, a deteriorating physical infrastructure, increased pressure on undergraduate and postgraduate programs have raised concerns about the continued capacity of universities to maintain teaching, research output and service to the state. Higher Education needs to be taken to the next level by motivating the new generation faculty members to raise their levels of output in terms of innovation in research. In the connected world of the knowledge era, forging meaningful linkages between academics towards raising the overall quality in research is the need of the hour. This prompts to undertake as research problem to find out the research output of SEMIS faculty members of Mizoram University.

1.5.2 Objectives of the Study

The objectives of the present study are to:

- a) Find out the trend & growth of research output of faculty members.
- b) Find out the forms of research output of the faculty members.
- c) Examine the socio-demographic characteristics of faculty members.
- d) Find out the constraints to faculty members on their research activities.

1.5.3 Research Methodology

The present study was designed to investigate the research output of SEMIS faculty members of Mizoram University. The total population for the study was 30 faculty members belong to departments under SEMIS. The survey method (through questionnaire) of research has been found appropriate to undertake the present study. The structured questionnaire has been distributed to every faculty members of the School covered under study and collected the filled in questionnaires. The questionnaire data has been recorded in MS-Excel and analyzed using SPSS for the purpose.

1.6 Chapterisation

The present study has been divided into the following chapters:

Chapter 1 “Introduction” gives basic information related to the dissertation topic like literature review, scope of the study, statement of the problem, objectives of the study, and research methodology.

Chapter 2 “Mizoram University: An Overview” highlights about Mizoram University, Schools and Departments under Mizoram University.

Chapter 3 “Research Output: Concepts” highlights the measurement of research output; models of faculty research output; and individual, institutional as well as leadership characteristics that facilitate the research output.

Chapter 4 “Data Analysis and Findings” highlights the data collected and processed in the forms of tables and graphs as well as its related findings.

Chapter 5 “Conclusion and Suggestions” presents the objective based conclusions of the study and suggestions for the improvement of research output.

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CHAPTER 2

MIZORAM UNIVERSITY: AN OVERVIEW

2.1 Introduction

Mizoram University is one of the premier institutions in North Eastern region. Since its establishment it has been catering the educational needs of the state of Mizoram mainly and to some extent to the other states in North East region. It has been helping the students to develop a distinguished career relevant and professional education. Mizoram University is moving ahead with a great vigor and confidence year after the year with a marked improvement.

2.2 Mizoram University: An Overview

As per the information provided in Mizoram University Annual Reports and Mizoram University website, Mizoram University was established on 25th April, 2000 by the Mizoram University Act 2000 of the Parliament of India. The President of India is the Official Visitor and the Governor of Mizoram acts as the Chief Reactor as per Mizoram University amendment bill, 2007. The objectives of the university as laid down in the Act are “to disseminate and advance knowledge by providing instructional and research facilities in such branches of learning as it may deem fit, to make provisions for integrated courses in Humanities, Natural and Physical Sciences, Social Sciences, Forestry and other allied disciplines in the educational programs of the University, to take appropriate measure for promoting innovations in teaching disciplinary studies and research, to educate and train man-power in the development of the state of Mizoram and to pay special attention to the improvement of the social and economic conditions and welfare of the people of the State, their intellectual academics and cultural development”. Keeping these objectives in view, Mizoram University has embarked on various programs for academic and administrative development.

2.3 Schools and Departments under Mizoram University

Presently in Mizoram University there are 33 functioning academic departments under 8 Schools of Studies which covered the streams of Humanities, Science, Social Science and Engineering etc. The following are the list of different Schools with different academic Departments attached to the Schools along with the Department and number of faculty members in each department.

Table 2.1 Name of the School, Departments with No. of Faculty

SN	Name of the School	Name of the Department	No. of Faculty
1	School of Earth Science	Environmental Science	8

	and Natural Resources Management	Extension Education & Rural Development	1
		Forestry	8
		Geography and Resources Management	7
		Geology	7
		Horticulture, Aromatic & Medicinal Plants	5
2	School of Economics Management and Information Science	Commerce	6
		Economics	4
		Library and Information Science	7
		Management	9
		Mass Communication	4
3	School of Education and Humanities	Education	16
		English	8
		Hindi	5
		Mizo	5
4	School of Engineering and Technology	Civil Engineering	3
		Computer Engineering	5
		Electrical Engineering	5
		Electronics & Communication Engineering	7
		Information Technology	5
5	School of Fine Arts, Arch and Fashion Technology	Planning & Architecture	3
6	School of Life Sciences	Biotechnology	6
		Botany	6
		Zoology	7
7	School of Physical Sciences	Chemistry	7
		Mathematics & Computer Sciences	6
		Physics	6
8	School of Social Sciences	History & Ethnography	6
		Political Science	7
		Public Administration	7
		Psychology	5
		Social Work	6
		Sociology	4

(Source: <http://www.mzu.edu.in>)

2.3.1 School of Earth Science and Natural Resources Management

School of Earth Science and Natural Resources Management came into existence in 2002 as a name “School of Forestry and Earth Science” and on 2006 the name was changed from “School of Forestry and Earth Science” to “School of Earth Science and Natural Resources Management”. The school comprises of 6 (six) functioning academic department namely Department of Environmental Science (established and started functioning in July 2002 as a name Forest Ecology, Biodiversity and Environmental Science and later renamed as Environmental Science), Department of Extension Education and Rural Development (established in 2007), Department of Forestry (established in 1990 during the era of NEHU), Department of Geography and Resources Management (established in 2003 as a name Geography, Tribal Culture and Resource Management and later change its name as Geography and Resource Management), Department of Geology (established in 2002), Department of Horticulture, Aromatic & Medicinal Plants (established in 2007). The Department of Horticulture Aromatic & Medicinal Plants and Department of Extension Education and Rural Development are the youngest Departments in the School (Source: <http://www.mzu.edu.in>).

2.3.2 School of Economics, Management and Information Science

There are five Departments under the School i.e. Economics, Commerce, Library and Information Science, Management, and Mass Communication. The Department of Economics is one of the oldest departments in Mizoram University, which was started under NEHU Mizoram Campus in 1979 (Source: <http://www.mzu.edu.in>).

2.3.3 School of Education and Humanities

School of Education and Humanities came into existence in 2001, with the establishment of Mizoram University. At present, the School consisted of 4 academic PG Departments namely, Education, English, Hindi, and Mizo. The Department of English and Department of Education which was established in 1979 are one of the oldest departments under Mizoram University. The Department of Hindi (established in 2010) is the youngest Department in the School (Source: <http://www.mzu.edu.in>).

2.3.4 School of Engineering and Technology

The School was set up in 2007. At present there are five departments under the School namely, Department of Information Technology, Department of Electronics &

Communication Engineering, Department of Electrical Engineering, Department of Computer Engineering, and Department of Civil Engineering (from Mizoram University website).

2.3.5 School of Fine Arts, Architecture and Fashion Technology

This School was set up in the year 2011. The Department of Planning and Architecture was established in May 2013 and offering UG courses in Architecture (B. Arch.) while the other two Departments in this School viz., Department of Fashion Technology and Department of Fine Arts are yet to be established (Source: <http://www.mzu.edu.in>).

2.3.6 School of Life Sciences

The School of Life Sciences came into existence in the year 2005 with three academic Departments viz. Zoology, Botany (both established in the year 2006) and Biotechnology (established in 2007). All the three Departments are partially funded by FIST and Non-SAP programs of DST, Ministry of Science & Technology, New Delhi and UGC, New Delhi (Source: <http://www.mzu.edu.in>).

2.3.7 School of Physical Sciences

The School of Physical Sciences was established in 2006. At present there are three academic Departments namely Department of Physics (established in 2003), Department of Chemistry (established in 2005), and Department of Mathematics and Computer Sciences (established in 2007) (Source: <http://www.mzu.edu.in>).

2.3.8 School of Social Sciences

The School of Social Sciences came into existence in the year 2002. The School consists of the Six PG Departments namely, Psychology, Public Administration, Political Science, Social Work, History & Ethnography, and Sociology (Source: <http://www.mzu.edu.in>).

2.4 Brief Profile of Selected Departments under Study

The School of Economics Management and Information Science consists of five PG Departments. The brief details of the department have been given hereunder:

2.4.1 Department of Commerce

The Department of Commerce, set up in July 2002, the department is committed to achieve the mission of facilitating the development of efficient and effective human resources required by the business world through quality education and personal growth (Source: <http://www.mzu.edu.in>).

Goals of the Department:

- To ensure the students learning the required skills and expertise needed to work as professional.
- To maintain a strong focus on sustainability in teaching and research.
- To remain responsive to the needs of our communities, viz. students, faculty, university, profession, the public at large, business and industry, as well as the environment.
- To build and update academic programs to meet ever changing needs of students, industry and the community.

Faculty of the Department (Present Status)

Prof. NVR Jyoti Kumar

Prof. Bhartendu Singh

Prof. N. Rokendro Singh

Dr. Rama Ramswamy

Dr. Laldinliana

Dr. Lalneihtluangi Fanai

2.4.2 Department of Economics

The Department of Economics is one of the Pioneer Departments in Mizoram University. Presently Department has student intake capacity of 50. The department has produced more than 30 PhD and 50 M Phil. A number of research and consultancy projects have been undertaken by the faculty with funding supports from the governments, and also from national and international agencies. In addition, the faculties have been involved effectively in policy making at the State and the Central level. The faculties have been

providing critical inputs based on the research done to monitor the schemes and policies adopted by the State and Central Governments (Source: <http://www.mzu.edu.in>).

Faculty of the Department (Present Status)

Prof. Vanlalchhawna

Dr. Lalhriatpuii

Dr. James L.T. Thanga

2.4.3 Department of Library and Information Science

The Department of Library and Information Science was established during the academic session 2002-2003. Prof. A. K. Sharma, the then Vice-Chancellor formally inaugurated the Department on 20th August, 2002 at the Central Library of Mizoram University. The Department offers 2 year PG program, M. Phil. and Ph.D. The M. Phil. Program was started by the Department in 2007 which was the first Program not only in Mizoram University but in the North-East Region (Source: <http://www.mzu.edu.in>).

Mission of the Department

- Providing quality based education to develop manpower strength to complete at national and international level.
- Providing meaningful education to meet the current demand of the library.
- Developing skill and competencies among the students so as to prove them a productive asset in the library.
- Building library skills and information literacy.

Vision of the Department

The vision of the Department rests on the principle of developing knowledge based society so as to make a free flow of information and access to it by all communities in the region. Perpetrated with the mission, the Department commits to excellence in service which substantially meets the objectives of the various colleges and university libraries and promotes lifelong learning. The vision also includes:

- Providing adequate and sustainable educational strength to meet the changing needs of the society.
- Developing leadership quality in managing the libraries and providing quality based services for sustainable education and research.
- Equipping the students to meet the 21st century workforce for libraries and academia.
- Strengthening information literacy among the students.
- Encouraging lifelong learning, continuous improvement and research.

Faculty of the Department (Present Status)

Prof. Pravakar Rath

Prof. R. K. Ngurtinkhuma

Prof. S. N. Singh

Dr. Akhandanand Shukla

Dr. Manoj Kumar Verma

Dr. Lalngaizuali

Dr. Amit Kumar

2.4.4 Department of Management

The Department of Management was established in the academic session 2006-07. The Department offers four (4) full time courses i.e. MBA, IMBA (5 Years' Integrated MBA), Ph.D. and M. Phil. The Department offers specialization in four disciplines – Marketing, Finance, Human Resource, and Small Business & Entrepreneurship Development (Source: <http://www.mzu.edu.in>).

Mission of the Department

- To develop committed professional of excellence.
- To serve young aspirants through different management courses in North East India and beyond.
- To impact field oriented research relevant to business and management in the changing global scenario.

Vision of the Department

- To be a business school of first choice that can change the lives for the better through value based education and research.

Faculty of the Department (Present Status)

Prof. L. Shashikumar Sharma

Prof. Elangbam Nixon Singh

Dr. Amit Kumar Singh

Dr. Bidhu Kanti Das

Dr. R. K. Giridhari Singh

Dr. Lalropuii

Dr. Biswajit Ghose

Dr. Lalhmingliana Renthlei

Dr. K. Lalromawia

2.4.5 Department of Mass Communication

The Department of Mass Communication was established in 2010. The department is the youngest department in the School.

Aims/ Objectives/ Vision of the Department

The department aims to impart theoretical knowledge and practical skills of handling equipments like video camera, still camera, editing software and studio recording equipments. It also attempts to explore research avenues on media, culture and society in the North East particularly Mizoram (Source: <http://www.mzu.edu.in>).

Faculty of the Department (Present Status)

Dr. Irene Lalruatkimi

Dr. V. Ratnamala

Indira Devi Nongmaithem

2.5 Conclusion

Mizoram University is one of the most important centers for higher education in the state of Mizoram since its establishment. It has numbers of Schools for studies and numbers of departments for undertaking the higher studies in the State. It is the only central university in the State for nurturing the young minds as a researcher, entrepreneur, faculty member, managers, engineers, social activists, public administrator, political leaders, library professionals etc.

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CHAPTER 3

RESEARCH OUTPUT: CONCEPTS

3.1 Introduction

Research output in higher education is gaining importance from the last few decades in India. A nation's greatness, glory and wealth are primarily rooted in its education. The lofty goals of any national policy on education can best be met through concerted efforts on research and teaching by the academic staff of universities in the country. The development of knowledge-societies, particularly in the developed countries, has made universities to be crucial national assets where many governments are looking to them to generate and share knowledge through research, produce short term practical outcomes, commercialize their intellectual property, and chase funding, no matter what it takes to win it (Group Eight, 2013). Research output is of vital significant not only for the university but also for the community surrounding the university and the nation at large. Universities are among of the organs where societal problems get their solutions through studies which are conducted by the expertise in the universities. There are number of countries have developed socially, economically and even technologically due to investments on education and use of education expertise particularly from the universities.

Research is becoming vital and necessary part of modern university education. Universities across the world are considered as producers of new knowledge. Universities are considered as modern entrepreneurial engines and generators of knowledge through research. Hence, the role of academics is not limited to teaching. McCabe and McCabe (2000) noted that “academic staff members in any higher institution, especially universities, are provided the opportunity to focus on an area of inquiry, develop a research program and later share the knowledge with students and others in the drive to develop professional skills and impact on a field and society, as a whole”. Research provides a good platform for teaching faculty members to become successful academics. This is because research develops academic knowledge and reinforces the skills needed for effective knowledge transfer. It also inspires academics towards hard work, fills the gaps of previous researches, and creates an opportunity for future research.

For the purposes of this investigation, it is important to clarify the key terms. ‘Research’ means careful study or investigation of new problems, collecting data or information about problems, drawing conclusion and making recommendations (Iqbal and Mahmood, 2011; Oxford University, 1995). According to Rashid (2001), it is the conscious effort to collect information, verify information and analyse it. ‘Output’, meanwhile, is the output compared with the inputs for the duration of time (Iqbal and Mahmood, 2011; Witzel, 1999). According to Creswell (1986), research output includes research publications in

professional journals and conference proceedings, book or chapter writing, gathering and analysing original evidence, working with postgraduate students on dissertations and class projects, securing research grants, carrying out editorial duties, getting patents and licenses, writing monographs, developing experimental designs, producing the work of an artistic of a creative nature, and engaging in public debates and commentaries. Green and Baskind (2007) state that in higher education the research output for the faculty members is growing worldwide and research scholarship in the reputed peer-reviewed publication appears essential for success by academic staff at all universities (O'Meara, 2005). According to Jaunch and Glueck (1975), in higher education, research output is based on the number and quality of articles published by researchers (affiliated), faculties and departments, evaluated on their 'publication count'. Debate on the research productivity is essential for government and university since it is the part of an economy (Offermann and Growing, 1990; Quinn et al., 1990; Roach, 1991).

“Most of the research output of academics is disseminated via publications. Research publications enable academics to earn recognition in academic circles locally and internationally. In higher education, research productivity often served as a major role in attaining success in academic circles as it is related to promotion, tenure, and salary (Bloedel, 2001; Kotrlik et al., 2002; Bassegy et al., 2007). It is generally accepted that research plays a critical role in promoting the prosperity of a nation and the well-being of its citizens in this knowledge-based era (Abbott and Doucouliagos, 2004). Creswell (2008) reported that research not only aids solving practical problems and brings about material improvements, but it also provides insight into new ideas that improve human understanding of various social, economic and cultural phenomena. Research has always been the main approach to solving problems by all categories of professionals right from the ancient times” (Boaduo and Babitseng, 2007).

Moreover, research and publication have been and will continue to be a critical factor to reckon with in the career life of faculties especially those in the academic environment. Research output is known as being one of the measures of the quality of the institution and career success among faculty members, interest in institutional rankings, and prestige seeking. “Publish or Perish” have always been used as a method to assess the performance of faculty members especially in terms of promotion, salary raising and contract renewal (McGrail, Richard & Jones, 2006). Besides this, in “ranking universities’ departments, one of the most important measure is the aggregate number of publications and citations of their faculty” (Gonzalez-Brambila and Veloso, 2007).

3.2 Types of Research Output

The research output module allows the comprehensive collection and output of all types of research output ranging from the traditional such as journal articles to the emerging types such as patent. The powerful category description allows the addition and manipulation of data relating to any type of output. Wintec (2019) defined the types of research output as given below in details:

3.2.1 Authored Book

“It’s a major work of research or scholarship. The authors are credited for the entire work, which means authors are not attributed to each chapter and the work would normally be published with an ISBN (in hard copy, bound, CD-ROM, packaged, and e-book format on subscription or fee basis). Consists mainly of previously unpublished material and makes a contribution to a defined area of knowledge” (Wintec, 2019).

3.2.2 Chapter(s) in Book

“It’s a contribution to an edited book, consisting of substantially new material. The book should be of a scholarly nature and make a substantial contribution to a defined area of knowledge, and would normally have an ISBN and be available for sale. This contribution is complete in itself but is often linked thematically to the other chapters. It is written by a single author or multiple authors who share responsibility for the chapter” (Wintec, 2019).

3.2.3 Conference Contribution (Un-Published)

“It’s a contribution to a conference that has not been published as a paper or as a published abstract in separate proceedings. An item appearing here cannot also appear in the Conference Contribution-Published category” (Wintec, 2019).

3.2.4 Conference Contribution (Published)

“It’s a conference paper or abstract published in a proceeding and available independently of the conference in which it was presented. Proceedings may be published in a various formats like a proceedings volume, a book, special edition of a journal, a normal issue of a journal, USB flash drive or online via the conference website, an

organization's website or a research repository. Although published in a journal or other media, the item is still categorized as a Conference Contribution-Published. Paper or abstracts in proceedings would normally undergo editorial selection to be included in the proceedings" (Wintec, 2019).

3.2.5 Creative Work

It includes the following subtypes:

- I. *Artefact, Object, Craftwork*: "These commissioned or otherwise presented or offered for distribution or sale in the public domain, like visual arts, crafts and cultural creations. Specific examples are: illustration, sculpture, media installations jewellery, or cultural artefacts such as large permanent public sculptures. A collection of artworks displayed together can be entered as exhibition/ curatorial exercise" (Wintec, 2019).
- II. *Composition*: "A published/ publicly available score, first performance or first recording by a record label (on CD or DVD) of a musical composition which can includes but not limited to as a composition created while being played for example, electronic compositions, jazz improvisation, published/ publicly available score, recordings, sound component of a film or video, lyrics, multimedia composition or chant, commissioned works, combinations or developments of the above" (Wintec, 2019).
- III. *Design Output*: "A creative research problems solving output in the form of design drawings, books, models, exhibitions, websites, installations or build works. These design output can includes fashion/ textile design, graphic design, interior design, industrial design, architectural design and multimedia design" (Wintec, 2019).
- IV. *Exhibition/ Curatorial Exercise*: "A display of a researcher's objects/ artworks in a public places (museum, art gallery or other public place) or curatorial work undertaken by an academic to form an exhibition (including catalogue). The objects may have historical, cultural or scientific importance, or alternatively possess aesthetic qualities or extraordinary characteristics. This can include:
 - a) Artwork exhibited in regional, national or international galleries, in dealer galleries or other sites of public presentation.
 - b) Artwork publicly presented in the form of site-specific exhibitions, installations, action, interventions, performances.
 - c) Commissioned artworks included in an exhibition as part of a biennial, national or international festival or other recognized art events" (Wintec, 2019).

- V. *Dramatic and Literary Texts*: “A work of creative prose, poetry, dramatic text or a literary essay which can includes:
- a) Novel- creative non-fiction a published prose narrative of considerable length.
 - b) Play- a published publicly available script, first performance or first distributed recording of a play written (or co-written) by the author.
 - c) Poetry- a published poem or collection of poems, or a poetry recital where the work is new.
 - d) Screenplay- a published available screenplay, first public showing of the related film written (or co-written) by the author.
 - e) Short fiction creation non-fiction or essay- a shorter work of short fiction creation non-fiction, or a published essay.
 - f) A short literary composition on a particular theme or subject, usually in prose and generally analytic, speculative or interpretative” (Wintec, 2019).

3.3 Measures of Faculty Research Output

The research output of faculty members can be measured in various ways. It depends upon the consideration on which indicators we have to measure the research output. Research output performance changes according to indicators chosen for the purpose. Most basically an institution measures the research output based on published work (like books, journal articles, conference papers, book chapters etc.), research grants or research projects, citations, publications in impacted journals etc. (Layzell, 1999; Middaugh, 2001; Porter & Umbach, 2001). The important and most prevalent productivity indicators are submitted manuscripts, accepted manuscripts (in press), or published manuscripts in the form of journal articles, books/ edited books/ textbooks/ book chapters, monographs, conference papers, and research projects (Middaugh, 2001). Delaware study “focused on instructional cost and faculty productivity at the academic discipline level of analysis” as the productivity measures. Blackburn and Lawrence (1995) and Blackburn and Bentley (1993) used “three outcome variables as measures of research productivity: published work, presentations on a national and international level, and conversations regarding research”.

In the academics and research institutions, normally researchers show the findings of their ongoing research with colleagues as well as students or any other stakeholders to let others know about what they have discovered. Research projects based studies insist the researchers to disseminate the research findings through various publication media (Fox, 1985; Arreola, 1995; O Meara & Braskamp, 2005; AAU, 2008). The research publication

in certain specific field enables the researcher to develop his/her own expertise in that particular field and share the knowledge with others through various academic platforms (Teferra, 2003; AAU, 2008). And thus publications seem to be recognizing factor of the researcher at the world level (Cole & Cole, 1973). Kennedy (2003), in his discussion of academic duty wrote, “All the thinking, all the textual analysis, all the experiments and the data gathering are not anything until we write them up. In the world of scholarship, we are what we write. Publication is the fundamental currency”.

3.4 Variation in Research Productivity

The research performance of a researcher varies due to its environmental set-up of higher education system. There are number of studies have been conducted to see the variations of research productivity (Allison & Stewart, 1974). From numerous literary sources, it has been found that two variables (individual and environmental) are the important factors which can deal with the variance of research productivity (Bean, 1982; Fox, 1985; McGee & Ford, 1987; Blackburn & Lawrence, 1995; Dundar & Lewis, 1998). “The individual factors are characteristics of faculty members and it includes socio-demographic data (sex, age, race/ ethnic identities), career variables (career age, discipline, prestige of the institution faculty member attended graduate school), and motivation” (Fox, 1983; Blackburn & Lawrence, 1995) while the “environmental characteristics are the institutional resources, norms or physical plant that will limit or enhance faculty productivity” (Blackburn & Lawrence, 1995). Along with above mentioned components in two different variables, some researchers suggested to add different terms or variables that could be the part of individual or environmental variables (Dundar & Lewis, 1998; Fox, 1985; Creswell, 1985; Porter & Umbach, 2001).

Creswell (1985) suggested that “researchers might consider using academic rank, discipline, institutional affiliation, even perhaps career age, as control variables in a predictive model and examine closely the significant correlates of productivity that are related to the work environment of the scholar”. Porter and Umbach (2001) used “human capital, personal tastes, career status, teaching workload, and demographics as indicators of productivity” while Fox (1985) has used “individual characteristics, environmental factors, and feedback” as indicators of productivity.

3.5 Conceptual Models of Faculty Productivity

There are numbers of studies have been conducted on faculty research productivity and many of the researchers have proposed different models to measure the faculty productivity. All the faculty research productivity models have discussed the factors responsible for the research productivity and proposed the measurement model based on difference variables whether it is individual variables or environmental variables. Following are the some notable faculty research productivity models which are based on different variables:

Researcher(s)	Faculty Research Productivity Model
Bailey (1999) and Blackburn et al. (1991)	Level of motivation and self-efficacy related to teaching, research, and service
Golden and Carstensen (1992)	Effect of institution control and size of Department on per capita publications
Crosta and Packman (2005)	Faculty research output through supervision of Doctoral students
Dusansky and Vernon (1998), Dwyer (1994), and Hagerman and Hagerman (1989)	Count of publications
Middaugh's (2001)	Examined the output through student credit hours generated
Dundar and Lewis (1998)	Two characteristics based model (a) Individual characteristics and (b) Organizational and department characteristics
Massy and Wilger (1995)	Ratio of outputs to inputs, or benefits to costs
Fox (1985)	Divided factors in three main clusters: individual ascriptive, individual achievement and institutional characteristics
Harris (1990)	Measurement through four facets: impact, quality, performance, and quantity
Porter and Umbach (2001)	Five research output categories: individual demographics; teaching workload; career status; personal career preferences; and dimensions of human capital
Creswell (1986)	Three categories based model: individual, department or program, and institutional measures

Bland and Ruffin (1992) 12 common characteristics of a productive research environment

3.6 Conclusion

The chapter deals with the conceptual approach towards research output and its related issues. The chapter discusses carefully the concepts of research output and its types described by Wintec (2019) and further measurement types have been discussed briefly. The various variations in faculty research models and researchers opinions have been elaborated briefly in the chapter followed by conceptual models given by numbers of researchers for the purpose.

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CHAPTER 4

DATA ANALYSIS AND FINDINGS

4.1 Introduction

The chapter covers the data analysis and findings based on the objectives laid for the purpose. Critical evaluation of processed data gives the right meaning for the research objectives and establishes relation with different variables of the study.

4.2 Data Analysis and Finding

Analysis of data is a skilled work which every researcher has to do with utmost care. Based on the objectives background, a structured questionnaire was prepared and distributed among 30 faculty members of Economics, Management and Information Science to obtain relevant data. Out of 30, two faculty members were on leave on academic grounds so that could not be included in the study. Out of total, 24 (80%) faculty members responded to the questionnaire. The collected data were analyzed, tabulated, and interpreted to draw the inferences in following sub-headings:

4.2.1 Number of Faculty Members in Departments

There were 28 faculty members representing 5 academic departments under School of Study in Mizoram University at the time of data collection excluding 2 faculties on leave. The responses of the faculty members were arranged according to department wise respectively shown in Table 4.1.

Table 4.1: Number of Faculty in Departments

Departments	Number of Faculty Members		Response %
	Distributed	Responded	
Commerce	6	4	66.66
Economics	2	1	50
Library and Information Science	7	7	100
Management	9	9	100
Mass Communication	4	3	75
Total	28	24	85.71

(Source: Field Survey)

Table 4.1 shows the total number of questionnaire distributed among the faculty members. The questionnaires were distributed to 28 faculty members and 85.71% was the questionnaire response rate. The Department of Library and Information Science and

Department of Management have the highest response rate (100%) among the departments followed by Mass Communication (75%), Commerce (66.66%) and Economics (50%).

4.2.2 Gender * Age of Respondents

Table 4.2 highlights the gender and age of the respondents belonging to the faculty members of School of study.

Table 4.2: Gender * Age of Respondents

Gender of Respondents	Age of the Respondents				Total	%
	<30	31-40	41-50	>51		
Male	1	6	7	4	18	75
Female	0	6	0	0	6	25
Total	1	12	7	4	24	100
%	4.17	50	29.16	16.67	100	

(Source: Field Survey)

From the observation of Table 4.2, it has been found that there were 75% male faculties and 25% female faculties. The age group has been divided into 4 categories viz. <30, 31-40, 41-50, >50. There were 50% faculties belongs to 31-40 age group while 4.17% faculties belongs to <30 age group. There were 29.16% faculties falls under 41-50 age group while 16.67% faculties comes under >50 age group. Further, 54.17% faculties come under the age of 40 years while rests are above the 40 years of age. Interestingly, all the female faculty members are young and they all are belongs to 31-40 age group only.

4.2.3 Academic Position * Age of Respondents

Analysis of the Academic Position and Age of Respondents of the faculty members have been discussed in Table 4.3. On the observation of Table 4.3, it has been found that 66.67% faculty members belong to Assistant Professor Category and 33.33% were Professors. Further 4.17% faculties belongs to the age group <30 which included all Assistant Professors only; 50% faculties belongs to the age group of 31-40 which include all Assistant Professors; 29.16% faculties belongs to 41-50 age group which include 42.86% Assistant Professors and 57.14% were Professors; 16.67% faculties belongs to >50 age group which includes all Professors only. Based on the analysis, it is observed that up to 40 years of age group, Assistant Professor are more in number and as age increased Professor were more. Thus we can say that for reaching at higher academic position age is the decisive factor.

Table 4.3: Academic Position * Age of Respondents

Academic Position	Age of the Respondent				Total	%
	<30	31-40	41-50	>51		
Assistant Professor	1	12	3	0	16	66.67
Professor	0	0	4	4	8	33.33
Total	1	12	7	4	24	100
%	4.17	50	29.16	16.67	100	

(Source: Field Survey)

4.2.4 Academic Position vis-a-vis Academic Qualification

Table 4.4 shows the faculty members Academic Position and Academic Qualifications covered under study during the last five years i.e. July, 2012 - June, 2017.

Table 4.4: Academic Position vis-a-vis Academic Qualification

Academic Position	Academic Qualification				Total	%
	Ph.D.	M. Phil.	Master Degree	Others		
Assistant Professor	15 (65.22%)	-	1	-	16	66.67
Professor	8 (34.78%)	-	-	-	8	33.33
Total	23	-	1	-	24	100
%	95.83	-	4.17	-	100	

(Source: Field Survey)

On the observation of Table 4.4, it has been found that 66.67% faculty members are Assistant Professor and 33.33% of the faculty members are Professor. Further, 95.83% faculty members had Ph. D. degree as their highest academic qualification while 4.17% had Master degree. Amongst the Ph. D degree holders, 65.22% faculty members belong to Assistant Professor and 34.78% of the faculty members belong to Professor. The Master Degree holder belongs to Assistant Professor category only. Vertically in the category of Assistant Professors, 93.75% had Ph. D. and 6.25% had Master Degree while all Professors had Ph. D. degree.

4.2.5 Academic Position vis-a-vis Teaching Experience

Table 4.5 shows the faculty members Academic Position and Teaching Experience covered under the study.

Table 4.5: Academic Position vis-a-vis Teaching Experience

Academic Position	Teaching Experience (in years)							Total	%
	1-5	6-10	11-15	16-20	21-25	26-30	>30		
Assistant Professor	4	9	2	1	0	0	0	16	66.67
Associate Professor	0	0	0	0	0	0	0	0	0
Professor	0	0	4	3	0	0	1	8	33.33
Total	4	9	6	4	0	0	1	24	100
%	16.67	37.5	25	16.67	0	0	4.16	100	

(Source: Field Survey)

On the observation of Table 4.5, it has been found that 16.67% faculty members belong to Assistant Professor Category have 1-5 years of experience while 37.5% Assistant Professors have 6-10 years of experience. There are 25% faculties belongs to Assistant Professor and Professor Categories have 11-15 years of experience, out of which 33.33% were Assistant Professor and 66.67% were Professor. Further, 16.67% faculties had experience of 16-20 years out of which 25% were Assistant Professor and 75% were Professor. There are 4.16% Professor have teaching experience of more than 30 years.

4.2.6 Academic Position * Publications (July, 2012 - June, 2017)

Analysis of the Academic Position * Publications of faculty members has been discussed in Table 4.6.

Table 4.6: Academic Position * Publications

Academic Position	Publications (in number)					Total	%
	0	1-10	11-20	21-30	> 30		
Assistant Professor	1	6	3	2	4	16	66.67
Associate Professor	0	0	0	0	0	0	0
Professor	1	1	3	0	3	8	33.33
Total	2	7	6	2	7	24	100
Percentage	8.33	29.17	25	8.33	29.17	100	

(Source: Field Survey)

Based on the observation of Table 4.5 and 4.6, it has been inference that designation and experience had direct relationship with the academic growth of faculty. In this regard, study has been conducted and found that 8.33% faculties have not a single publication during the five years of range taken for study. There were 29.17% faculties have total publications range from 1-10, out of which 85.71% belongs to Assistant Professors and 14.29% belongs to Professor. There are 25% faculties have publications range from 11-20, out of which 50% were Assistant Professor and 50% were Professor. About 8.33% faculties have publications range from 21-30, which belongs to Assistant Professors category only. Further, 29.17% faculties have publication range more than 30, out of which 57.14% were Assistant Professor, and 42.86% were Professor. Majority (54.17%) of faculties have publication range form 1-20 during last five academic years i.e. July, 2012 – June, 2017 and among them, most of the faculties belong to Assistant Professor category. Out of total Assistant Professor Category, 56.25% had publication range from 1-20 in the last five academic years i.e. July 2012 - June 2017 whereas in Professor category, 50% had publication range from 1-20 in the last five academic years i.e. July 2012 - June 2017.

4.2.7 Teaching Experience * Publications

Analysis of the number of Publications versus Teaching experience by the faculty members belongs to School of Economics Management & Information Science during 2012-2017 has been discussed in Table 4.7.

Table 4.7: Teaching Experience * Publications Cross-tabulation

Teaching Experience (in years)	Publications (July 2012 - June 2017)					Total	%
	None	1-10	11-20	21-30	> 30		
1-5	0	2	1	1	0	4	16.67
6-10	1	4	1	1	2	9	37.5
11-15	1	0	3	0	2	6	25
16-20	0	1	1	0	2	4	16.67
21-25	0	0	0	0	0	0	0
26-30	0	0	0	0	0	0	0
>31	0	0	0	0	1	1	4.16
Total	2	7	6	2	7	24	100
%	8.33	29.17	25	8.33	29.17	100	

(Source: Field Survey)

The data from Table 4.7 reveals that out of the 24 faculty members who responded to the questionnaire, 16.67% have 1-5 years of teaching experience, 37.5% have 6-10 years of

teaching experience, 25% have 11-15 years of teaching experience, 16.67% have 16-20 years of teaching experience, and 4.16% have more than 31 years of teaching experience. On the cross-tabulation analysis of the Table 4.7, it has been found that as experience increases the number of productive faculty members decreases, thus reduction in total number of publications also.

4.2.8 Preferred Medium of Research Publications

Analysis of the preferred medium of research publications during July 2012 - June 2017 has been discussed in Table 4.8.

Table 4.8: Preferred Medium of Research Publications

Publication Type/ Medium	Frequency	%
Textbooks	3	12.5
Book chapters	9	37.5
Co-authored books	1	4.17
Journal articles	21	87.5
Technical reports	0	0
Conference papers	3	12.5
Others	2	8.33

(Source: Field Survey)

On the observation of Table 4.8, it has been found 87.5% faculty members preferred publication medium in the form of Journal Article for their research publications followed by Book Chapters (37.5%). There are 25% faculty members who preferred Textbooks and Conference Papers as a medium of research publication while 4.17% had published in the form of Co-authored Books. None of them has found technical reports as their choice of publication medium. Few (8.33%) of them have some other means of publication medium.

4.2.9 Total Number of Publications in Publication Medium

Analysis of total published items in the various publication mediums (year wise breakup) have been discussed in Table 4.9. From the Table 4.9, it has been observed that faculty members belong to School of Economics Management & Information Science had published their most of the research output in the form of Journal Article followed by Chapters in Book and Conference Proceedings. Very few research output published in the form of Abstracts (22), Reviews (8), and Others (36). News items, Patents and Editorials had not been published during the last five academic years. Further on the observation of

Table 4.9, it has been noted that Journal Articles have shown tremendous growth during five years of duration while publication as a Conference Paper have shown fluctuations year wise but still third most publication medium.

Table 4.9: Total Number of Publications in Publication Medium (Year-wise)

SN	Publication Media	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	Total
1	Journal Articles	30	42	50	63	67	252
2	Abstracts	3	4	5	7	3	22
3	Reviews	0	1	3	0	4	8
4	Editorials	0	0	0	0	0	0
5	Chapter in Book	24	24	23	24	26	121
6	Conference Proceedings	10	15	10	10	13	58
7	News Items	0	0	0	0	0	0
8	Patents	0	0	0	0	0	0
9	Others	6	5	8	10	7	36
Total		73	91	99	114	120	497

(Source: Field Survey)

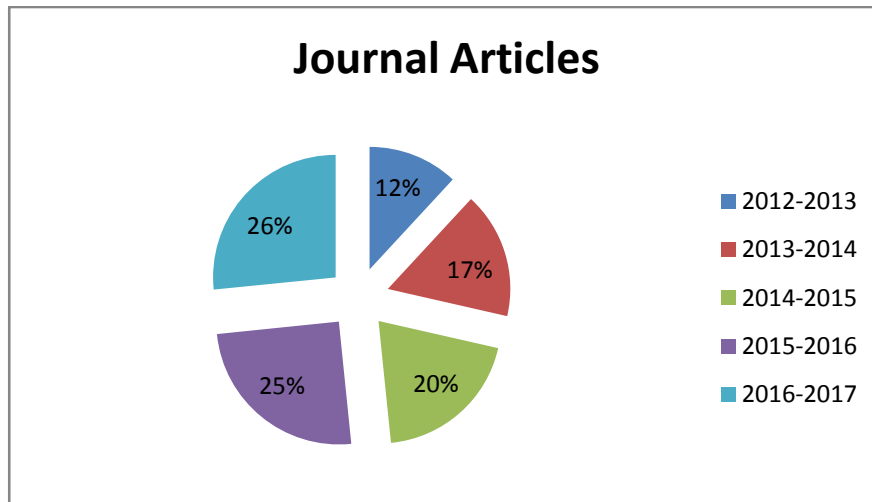


Fig. 4.1: Journal Articles

Fig. 4.1 shows the Journal Articles published during 2012-2017 academic years. There are 26% of journal articles published during 2016-2017 followed by 25% articles published during 2015-2016, 20% articles published during 2014-2015, 17% articles published during 2013-2014 and 12% articles published in 2012-2013 academic years.

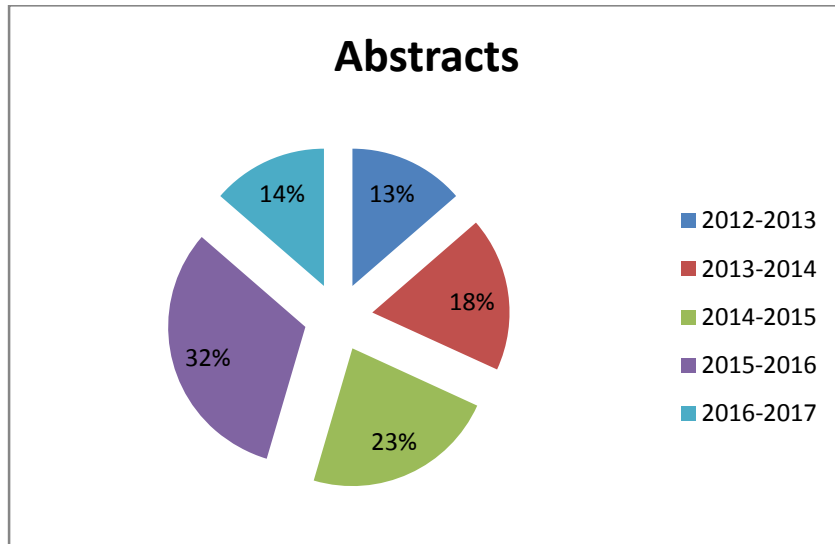


Fig. 4.2: Abstracts

Fig. 4.2 shows the Abstracts published during 2012-2017 academic years. There are 32% abstracts published during 2015-2016 followed by 23% during 2014-2015, 18% published during 2013-2014, 14% published during 2016-2017 and 13% during 2012-2013 academic years.

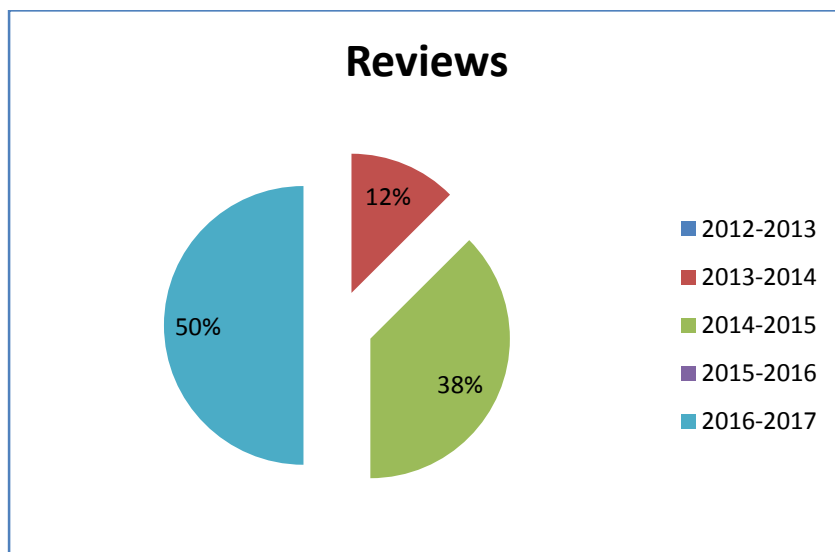


Fig. 4.3: Reviews

Fig. 4.3 shows the Reviews published during 2012-2017 academic years. It is observed that 50% of reviews were published during 2016-2017 followed by 38% reviews published during 2014-2015 and 12% reviews published during 2013-2014. There were no reviews published in 2012-2013 and 2015-2016 academic years.

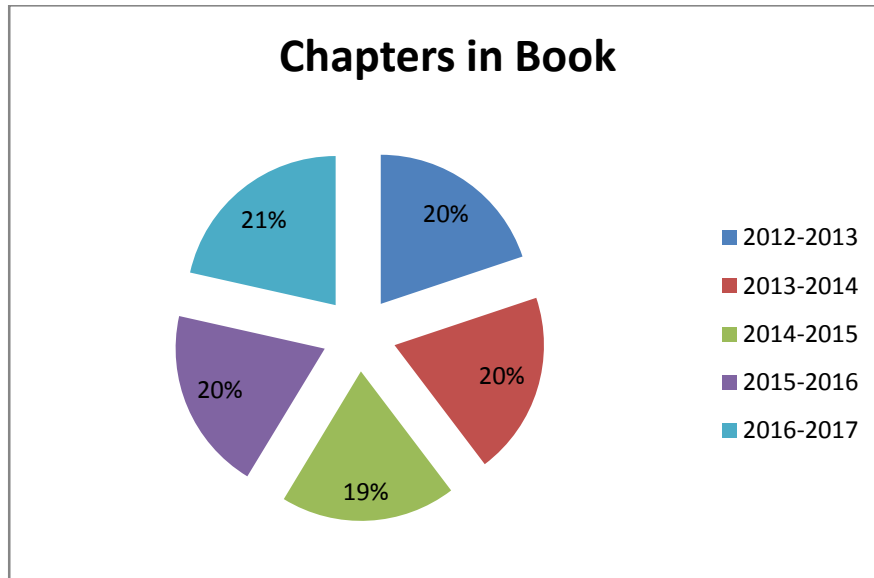


Fig.4.4: Chapters in Book

Fig. 4.4 shows Chapters in Book which was published in 2012-2017 academic years. It was found that 21% Chapters in Book published during 2016-2017, 20% chapters in book were published by the faculty members during the year 2012-2013, 2013-2014 and 2015-2016, and 19% chapters in book published during 2014-2015 academic years.

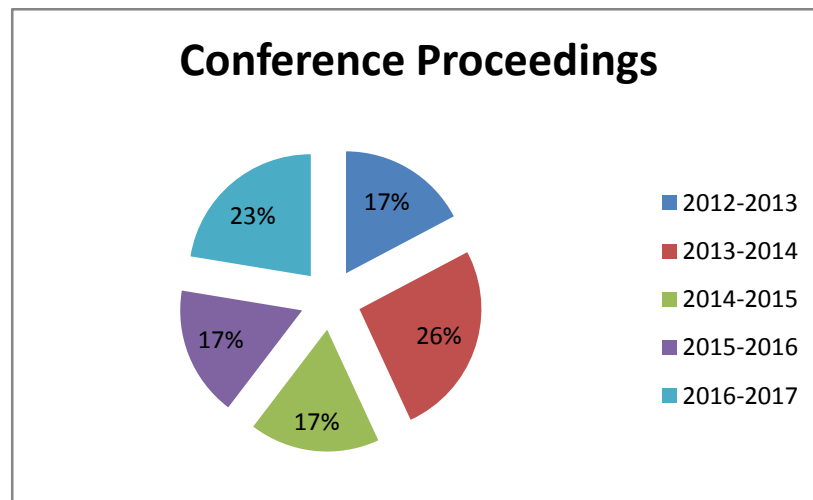


Fig.4.5: Conference Proceedings

Fig. 4.5 shows Conference Proceedings published during 2012-2017 academic years. In the case of conference proceeding, 26% published during 2013-2014 followed by 23% published during 2016-2017. It was found that 17% conference proceedings were published by the faculty members during 2012-2013, 2014-2015 and 2015-2016 academic years.

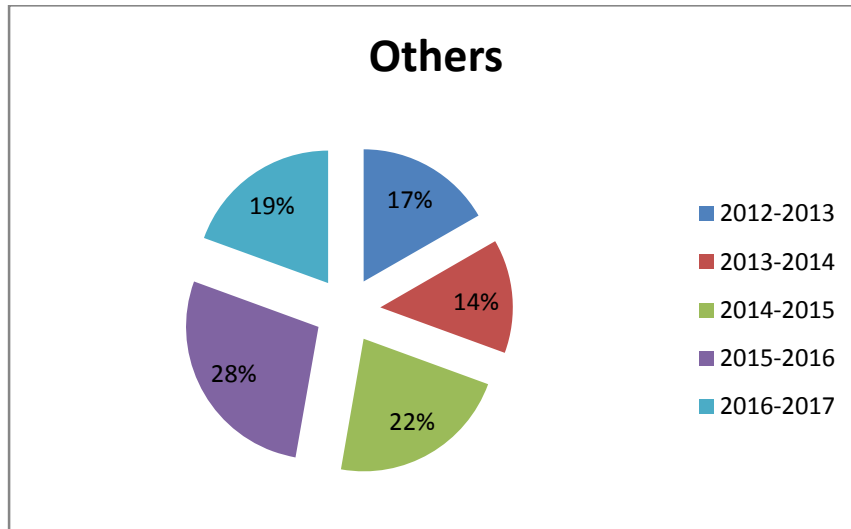


Fig. 4.6: Others

Fig. 4.6 shows Other forms of publication by the faculty members during 2012-2017 academic years. It was observed that 28% documents published during 2015-2016 followed by 22% during 2014-2015, 19% during 2016-2017, 17% during 2012-2013 and 14% published during 2013-2014 academic years.

4.2.10 Distribution of Authorship Pattern

Table 4.10 shows the distribution of authorship pattern by the faculty members during the study period as follows:

Table 4.10: Distribution of Authorship Pattern

SN	Authorship Patterns	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	Total
1	Single Author	27	30	26	24	22	129
2	Two Authors	29	46	53	66	78	272
3	Three Authors	1	3	1	3	7	15
4	Four Authors	0	0	0	2	1	3
5	Five Authors	0	0	0	0	0	0
6	More than Five Authors	0	0	0	0	1	1
Total		57	79	80	95	109	420

(Source: Field Survey)

From the analysis of Table 4.10 and Fig. 4.7, it has been observed that two authorship pattern had shown tremendous growth (268%) among faculty members during the study period. Single authorship pattern had shown -122% decline during the study period.

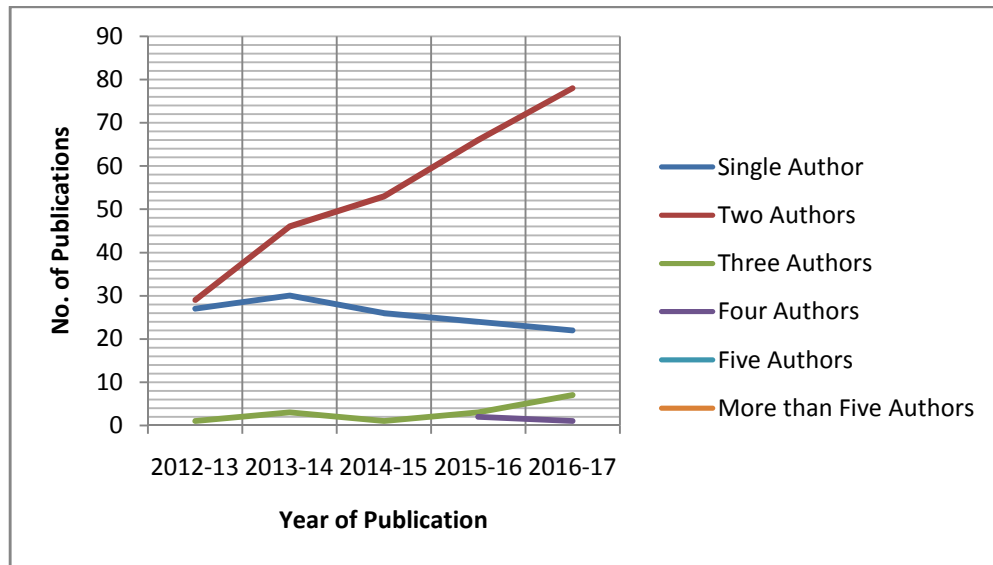


Fig. 4.7: Distribution of Authorship Pattern

The three authorship pattern has shown 700% growth among faculty members during the study period. The four authorship pattern have been appeared in last two academic years while five authorship pattern has not been observed during the period. More than five authorship pattern was found only in 2016-2017 academic years.

As per year wise analysis of authorship pattern, it had been observed that in the year 2012-2013, 50.88% publications were published as two authorship patterns, 47.37% publications as one authorship patterns and 1.75% publications as three authorship patterns, while in the year of 2012-2013, 2013-2014 and 2014-2015 none of the author does not have more than four authorship collaboration. In the year 2013-2014, 37.97% publications as single authorship pattern, 58.23% publication were in two authorship patterns and 3.80% publications were in three authorship patterns. In the year 2014-2015, about 32.5% publications were in single authorship patterns, 66.25% publications in two authorship pattern and very less (1.25%) in three authorship patterns. In the year 2015-2016, majority of the publications were in two authorship patterns (69.47%) followed by 25.26% publications in single authorship patterns. In the year 2016-2017, majority of the publications were two authorship patterns increases to 71.56%, followed by 20.18% of publications in single authorship patterns, 6.42% publications in three authorship patterns and 0.92% publications have both four and more than five authorship pattern during the study period.

4.2.11 Number of Productive Journals

The journals preferred for publication of research output of individual faculty members is treated as productive journals for the subject domain. Each faculty members have different productive journal wherein their research output had been published. The total counting of such productive journals for the same department has been given and names of the productive journals (subject wise) provided in the Appendix - II

Table 4.11: Number of Productive Journals

SN	Name of Department	No. of Productive Journals
1	Commerce	32
2	Economics	Nil
3	Library and Information Science	48
4	Management	46
5	Mass Communication	11

(Source: Field Survey)

From the Table 4.11, it was found that Department of Library and Information Science had the highest number of productive journals (48) followed by Department of Management (46), Department of Commerce (32) and Department of Mass Communication (11). However, no productive journals were reported from the Department of Economics during the study.

4.2.12 Research Output in Impact Factor Journals

Analysis of the number of research output published in Impact Factor (IF) journals by the faculty members during the study period has been discussed in Table 4.12.

Table 4.12: Research Output in Impact Factor Journals

SN	Category of Impact Factor (IF)	No. of Publications	%
1	Without IF	264	84.62
2	IF between 1-5	47	15.06
3	IF between 6-10	1	0.32
4	IF between 11-15	0	0
5	IF more than 15	0	0
Total		312	100

(Source: Field Survey)

From the Table 4.12, it has been found out that 15.06% research publications have been published in the Journals with Impact Factors (IF) 1-5 whereas 0.32% publications

appeared in Journals with Impact Factor 6-10. There was significant number of publications (84.62%) that published in the journal without any Impact Factor during the period. However no publications were reported with Impact Factor more than 10.

4.2.13 Number of Citations based on Google Scholar & Scopus

Analysis of the number of citations based on Google Scholar and Scopus have been discussed in Table 4.13.

Table 4.13: Number of Citations based on Google Scholar

SN	Number of Citations	Google Scholar	Scopus
		Publications (%)	Publications (%)
1	Without Citation	203 (81.2)	3 (18.75)
2	Citations between 1-25	47 (18.8)	13 (81.25)
3	Citations between 26-50	--	--
4	Citations between 51-75	--	--
5	Citations more than 75	--	--
Total		250 (100)	16 (100)

(Source: Field Survey)

On the analysis of Table 4.13, there were 81.2% publications without any citations as reported by the faculty members. Further, 18.8% publications had citations range between 1 to 25. However, no publications were reported with citations more than 25 during the period. Based on the observation of Table 4.13, there were 18.75% publications without any citations as reported by faculty members. Further, 81.25% publications had citations range between 1 to 25 while no publications were reported with citations more than 25.

4.2.14 *h*-index and *i-10* index based on Google Scholar and Scopus

Analysis of *h*-index and *i-10* index of research publications based on Google Scholar and Scopus is further studied in Table 4.14. From the analysis of Table 4.14, it has been found out that out of 24 respondents; only 45.83% faculty members had shared their *h*-index and *i-10* index value. Rest of the respondents may not be aware with their *h*-index and *i-10* index value or may not want to disclose it to the public. Amongst these *h*-index value given by Google Scholar database has been reported by all the faculty members and the highest value of *h*-index is 5 for Manoj Kumar Verma followed by Elangbam Nixon Singh (4), Amit Kumar (3) and Akhandanand Shukla (3). The *i-10* index value given by Google Scholar was also reported by some faculty members having the highest value of 2

by Akhandanand Shukla and Amit Kumar. For the case of *h*-index and *i-10* index value based on Scopus database, only one faculty has reported his values. Majority of the respondents are not aware of their *h*-index value in Scopus database.

Table 4.14: *h*-index and *i-10* index based on Google Scholar and Scopus

Department	Name of Faculty	<i>h</i> -index		<i>i-10</i> index	
		Google Scholar	Scopus	Google Scholar	Scopus
Library and Information Science	Amit Kumar	3	-	2	-
	R.K. Ngurtinkhuma	2	-	-	-
	Akhandanand Shukla	3	1	2	-
	Manoj Kumar Verma	5	-	-	-
Management	K. Lalromawia	2	-	-	-
	Amit Kumar Singh	2	-	1	-
	Elangbam Nixon Singh	4	-	1	-
	Bidhu Kanti Das	2	-	-	-
	Rajkumar Giridhari Singh	1	-	-	-
	L. Shashi Kumar Sharma	2	-	1	-
Mass Communication	V. Ratnamala	2	-	-	-

(Source: Field Survey)

4.2.15 Ph. D. and M. Phil. Dissertation Submitted/ Awarded

Analysis of the number of Ph.D. and M. Phil. Theses/ Dissertations submitted and awarded during the period of July, 2012 - June, 2017 has been discussed in Table 4.15.

Table 4.15: Ph.D. & M. Phil. Theses/ Dissertation submitted/ awarded

SN	Time Duration	No. of M. Phil.		No. of Ph. D.	
		Submitted	Awarded	Submitted	Awarded
1	2012-2013	2	6	4	0
2	2013-2014	6	9	0	0
3	2014-2015	5	8	0	2
4	2015-2016	8	9	1	5
5	2016-2017	8	10	4	4
Total		29	42	9	11

(Source: Field Survey)

On the observation of Table 4.15, it has been found that number of M. Phil. and Ph. D. awarded theses/ dissertation are more than submitted and growth has been observed in M. Phil. awarded while in the case of Ph. D. it decreases.

4.2.16 Major/ Minor Research Projects Undertaken

Table 4.16 shows the Major and Minor Research Projects undertaken by the faculty member of School of Economics Management and Information Science during the study period.

Table 4.16: Major/ Minor Projects Undertaken

SN	Time Duration	Minor Projects		Major Projects	
		Ongoing	Completed	Ongoing	Completed
1	2012-2013	-	1	-	1
2	2013-2014	-	0	-	1
3	2014-2015	-	0	-	1
4	2015-2016	-	0	-	0
5	2016-2017	-	1	-	-
Total		-	2	-	3

(Source: Field Survey)

Based on the observation of Table 4.16, it clearly shows that few of the faculty members have completed their major research projects and minor research projects. Interestingly, none of the faculty members have any ongoing Major/ Minor research projects in the School during the study period.

4.2.17 Constraints Faced during Research Activities

There are various challenges encountered by the academic faculty members when embarking on research activities and displayed in Table 4.17. Based on the observation of Table 4.17, it has been found that 25% of the respondent does not mention the constraints they faced during their research activities. In case of difficulty in locating the appropriate information resource from the library, majority of the faculty (45.84%) do not feel any difficulty, 25% of the faculty face the difficulty while 4.17% of the faculty were not sure. There are 45.83% faculties who are agree that the library location is isolated from their workplace while 29.17% of the faculty disagree in this regard. There are 37.5% faculties who do not feel the lack of physical infrastructure at their department, 33.34% of the faculty are agree that physical infrastructure available at the department was not

sufficient to undertake research activities, and 4.17% faculty members were not sure that physical infrastructure affect their research activities.

Table 4.17 Constraints Faced during Research Activities

Statements	SD	D	NS	A	SA	No Reply
Difficulty in locating the appropriate information resource in library	1 (4.17%)	10 (41.67%)	1 (4.17%)	6 (25%)	0	6 (25%)
Isolate location of central library from your work place	0	7 (29.17%)	0	11 (45.83%)	0	6 (25%)
Lack of physical infrastructure at your department	1 (4.17%)	8 (33.33%)	1 (4.17%)	4 (16.67%)	4 (16.67%)	6 (25%)
Internet connectivity problem	3 (12.5%)	5 (20.83%)	3 (12.5%)	7 (29.17%)	0	6 (25%)
Lack of financial support from university	0	5 (20.83%)	6 (25%)	6 (25%)	1 (4.17%)	6 (25%)
Lack of research projects/funding from sponsoring agency	0	7 (29.17%)	6 (25%)	4 (16.67%)	1 (4.17%)	6 (25%)
Lack of your personal interest in research activity	8 (33.33%)	8 (33.33%)	2 (8.33%)	0	0	6 (25%)

Legends: SD=Strongly Disagree, D=Disagree, NS=Not Sure, A=Agree, SA=Strongly Agree, NR=No Reply

(Source: Field Survey)

In terms of Internet connectivity, 33.33% faculties do not feel any problem at their work place, 29.17% of the faculty face the difficulty in Internet connectivity problems while 12.5% were not sure about the Internet connectivity problems. With regard to lack of financial support from the University for embarking research activities, 29.17% were “Agree” and “Strongly Agree” while 25% were “Not Sure”. Further 20.83% faculties were “Disagree”. There are 29.17% faculties who were “Disagree” that lack of research projects/ financial support from sponsoring agency is the main problems for their research activities, 25% faculties were “Not Sure” while 20.84% of the faculty “Agree” and “Strongly Agree” to this opinion. There are 66.66% faculties who opposed that lack of personal interest in research activities is the main cause of low research performance while 8.33% faculties were “Not Sure”.

4.3 Research Findings

The study was designed to find out the faculty research productivity of School of Economics Management and Information Science. Following are the findings drawn from the analysis:

- 1) Out of total (30 faculty members in School), 85.71% faculty members responded to the questionnaire distributed to them. The highest response rate (100%) came from Department of Library and Information Science as well as Department of Management.
- 2) There were 75% male and 25% female respondents. Majority (50%) of the respondents belongs to 31-40 age group which shows that majority of the faculty members of School of Economics Management and Information Science are younger in age. Interestingly, all the female faculty members were young and they all were belongs to 31-40 age group only.
- 3) Majority (66.67%) of faculty members belong to Assistant Professor Category and 33.33% belongs to Professor while no Associate Professor category related records have been recorded. None of the Assistant Professor is more than 50 years of age while none of the Professor is less than 40 years of age.
- 4) Majority (95.83%) of the faculty members had Ph. D. as the highest qualification and 4.17% faculty members had a Master degree qualification.
- 5) There were 37.5% faculties had experience of 6-10 years in their carrier while 25% faculties had the teaching experience of 11-15 years. Majority of them belongs to Assistant Professor. Majority of the Professor has teaching experience of 11-20 years of experience in the School.
- 6) There were 54.17% faculties had publication range of 1-20 during last five academic years i.e. July 2012 - June 2017 and most of them belongs to Assistant Professor Category. Out of total Assistant Professor, 37.5% had publication range from 1-10; whereas in Professor Category, 37.5% had publication range from 11-20 and more than 30 publications.
- 7) Out of the 24 faculty members who responded the questionnaire, more than 62.5% had teaching experience of 6-15 years.
- 8) Majority (87.5%) of faculty members preferred to publish their research output in the form of Journal article followed by Book Chapter.
- 9) Result indicates that two authorship pattern (64.76%) is the most prevalent among the faculty members followed by single authorship pattern (30.71%) and three authorship patterns.
- 10) As per year wise analysis of authorship pattern, majority of publications were published as two authorship patterns in each academic year.

- 11) Department of Library and Information Science (48) had the highest number of productive journals followed by Department of Management (46) and Department of Commerce (32).
- 12) There were 84.62% research publications which had been published in the Journal without Impact Factors (IF) while 15.06% of publications were published in Journals having Impact Factor (IF) between 1-5.
- 13) Approximately 81% publications are without any citations while 18.8% publications had citations range of 1-25 as per Google Scholar. Higher citations range has not been observed for many publications during the study period.
- 14) Based on Scopus database, there were 81.25% publications having citations range between 1-25 where as 18.75% publications without any citations.
- 15) Out of 24 respondents, only 45.83% faculty members had *h*-index and *i-10* index value.
- 16) The total number of awarded M. Phil and Ph. D. dissertation were more than dissertation submitted during the period.
- 17) In case of major and minor research projects, few faculty members have completed their minor and major research projects. Interestingly, no faculty records were found for ongoing minor and major research projects during the period.
- 18) There are 45.84% faculties who do not feel any difficulty in locating appropriate information from the library and 45.83% faculty members are agree that library location is isolated from their workplace.
- 19) More than 36% faculty members disagree about lack of physical infrastructure at their department while 33.33% faculties are disagree and not facing any problems in Internet connectivity.
- 20) There are 29.17% faculty members who agree that lack of financial support is the main cause of their research activities. Whereas 29.17% faculty members disagree that lack of research projects/ financial support from funding agency is the main cause of research activities.
- 21) Majority (66.66%) of faculty members are disagree that lack of personal interest causes problems in their research activities.

CHAPTER 5

CONCLUSION AND SUGGESTIONS

5.1 Introduction

Research plays a vital role in the development of society. Many research oriented organizations and academic institutions are involved in research to find out the solutions for the problems exists within the society. Universities and their various departments' conduct research to find out the problems associated with their subject domains for the betterment of the society. Research output of university departments' comes in the form of research publications, patents, drug discovery, trademarks etc. These research output measured through various tools and techniques available in the academic and research field viz. *h*-index, *i-10* index, citation, impact factor etc. Measuring the research output of university departments' is a kind of assessment.

5.2 Conclusion

Research output measures the outcome of a researcher in the form of publications, patents or any other. This becomes the criteria for evaluation of scholarship of a research since long. More research output by a researcher gives him more reputation and scholarly credit among academic world. Citations to the research papers and Impact Factor of the journals have given new dimension to this research output. With regard to present study conducted on faculty members of School of Economics Management & Information Science of Mizoram University. The conclusion has been divided into following three sections as raised in the form of objectives of the study:

a) Trends, Growth and Forms of Research Output

During the study period, Assistant Professor Category is having more number of total research output than Professor Category. The numbers of publications were affected by the experience of faculty members although less experienced faculties have more number of publications during the study due to more in number. Research output in the forms of Journal Article was prevalent amongst faculty members followed by Book Chapter and Conference Paper. Further, it has been noted that journal articles and book chapters had shown growth during five years of duration while publications as other forms had shown ups and downs but still third most published medium. The growth in authorship patterns have observed during study period and two authorship patterns was the most prevalent among faculty members followed by single authorship pattern.

With regard to publications in Impact Factor journals, the faculty members published research output with journal having Impact Factor (IF) 1-5. While majority of the research outputs were published in the journals without any Impact Factor. Majority of

the faculty publications were without any citations as generated by Google Scholar. Higher citation range has not been observed for majority of publications during the study period. Similarly, based on Scopus database, majority of publications had citation range between 1-25. Faculty members were producing more number of M. Phil. than Doctoral research. In case of research projects, School of Economics Management & Information Science need to be develop a system to get more number of major and minor research projects.

b) Socio-Demographic Characteristics of Faculty Members

With regard to demographic data about male and female, male faculty members are dominant over female in School of Economics Management & Information Science. The younger generation of faculty members are more than the elder one; and all female faculties belongs to less than 40 years of age; due to higher number of younger generation working as faculty members, this implies that the majority of the faculty are still in their productive age and they still have more years to spend in their work places. The faculty members at younger age were almost all Assistant Professor while elder faculties were almost Professor. In this regard, out of total respondents, two third of the faculty members belongs to Assistant Professor and majority of the faculty members are Ph. D. qualified.

c) Inhibitors of Research Activity

There are various challenges encountered by faculty members when embarking on research activities. The isolate location of Central Library from their work place and lack of physical infrastructure at the department create hindrance in research work. Also, lack of financial support from university and from research funding agency creates a problem in research. Sometimes slow Internet connectivity has hindered access to information resources by the faculties of School of Economics Management and Information Science, Mizoram University. With reference to lack of personal interest in research, majority of faculty members were not in favor with the opinion.

5.3 Suggestions

From the study, following suggestions have been drawn for the improvement of research output:

- a) The University should make a provision of Departmental Library for saving the time of the faculty members and procure research oriented books in the library.
- b) The University should make provision of “Start-up Fund” at its own level for younger faculty members to undertake research projects.
- c) Round the clock Internet connectivity (along with bandwidth) should be improved for reducing the barrier in research.
- d) University should improve basic physical infrastructure to increase the research activities and so research output of each department.

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Appendix - I

RESEARCH OUTPUT OF THE FACULTY MEMBERS OF THE SCHOOL OF ECONOMICS MANAGEMENT AND INFORMATION SCIENCE, MIZORAM UNIVERSITY

Dear Sir,

I am pursuing M. Phil. from Department of Library and Information Science, Mizoram University, Aizawl. As a component of the syllabus, I have to submit my dissertation on the above mentioned topic under the guidance of Dr. Akhandanand Shukla. You are requested to please spare some time to fill up this questionnaire, which will be used for academic purposes only. I shall be highly obliged to you for your kind support in completion of my dissertation work.

(Please answer the question or tick mark in the box provided against each question)

R. Lalrindika
M. Phil. Student
Department of Library and Information Science
Mizoram University, Aizawl

1. Name of the Respondent : _____

2. Name of the Department : _____

3. Gender

- Male
- Female

4. Age
- Less than 30 yrs
 - Between 31-40 yrs
 - Between 41-50yrs
 - 51 yrs or more

5. Academic Position
- Assistant Professor
 - Associate Professor
 - Professor

6. Last academic qualification :
- Ph. D.
 - M. Phil.
 - Master Degree
 - Others (please specify).....

7. Teaching Experience:
- 1-5 yrs
 - 6-10 yrs
 - 11-15 yrs
 - 16-20 yrs
 - 21-25 yrs
 - 26-30 yrs
 - 31 yrs or More

8. How many publications do you have since last five years (July 2012 – June 2017)?
- 1-10
 - 11-20
 - 21-30
 - More than 30

9. What is the preferred medium of research publication during July 2012 – June 2017?
- Textbooks
 - Book chapters
 - Co-Authored Textbooks
 - Journal Articles
 - Technical Reports
 - Conference Papers
 - Others

10. Kindly give the number of publications published in the various Publication Media.

S/N	Publication Media	2012-13	2013-14	2014-15	2015-16	2016-17
1.	Journal Articles					
2.	Abstracts					
3.	Reviews					
4.	Editorials					
5.	Chapters in Book					
6.	Conference Proceedings					
7.	News Items					
8.	Patents					
9.	Any other; please mention.....					

11. Kindly give number of publications published as per distribution of authorship pattern.

S/N	Authorship Pattern	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
1.	Single Author					
2.	Two Authors					
3.	Three Authors					
4.	Four Authors					
5.	Five Authors					
6.	More than Five Authors					

12. Name of the journal(s) where you publish your research article(s).

S/N	Name of the journals
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

13. Kindly give number of research output published according to Journals Impact Factor (JIF) during the period from 2012 - 2017.

S/N	Category of Impact Factor (IF)	No. of Publications
1.	Without IF	
2.	IF between 1-5	
3.	IF between 6-10	
4.	IF between 11-15	
5.	IF more than 15	

14. Kindly give number of Citations since 2010 based on Google Scholar Database.

S/N	Number of Citations	No. of Publications
1.	Without Citation	
2.	Citations between 1-25	
3.	Citations between 26-50	
4.	Citations between 51-75	
5.	Citations more than 75	

15. Kindly give number of Citations since 2009 based on Scopus Database.

S/N	Number of Citations	No. of Publications
1.	Without Citation	
2.	Citations between 1-25	
3.	Citations between 26-50	
4.	Citations between 51-75	
5.	Citations more than 75	

16. Kindly give *h-index* and *i-10 index* of your research publications since 2010 based on Google Scholar & Scopus Databases.

<i>h-index value</i>		<i>i-10 index value</i>	
Google Scholar	Scopus	Google Scholar	Scopus

17. Kindly give number of Ph. D. & M. Phil. Dissertations submitted/produced under your direct supervision (not as joint supervisor) during the period from July 2012 – June 2017.

Duration	No. of M. Phil. Production		No. of Ph. D. Production	
	Submitted	Awarded	Submitted	Awarded
2012-13				
2013-14				
2014-15				
2015-16				
2016-17				

18. Kindly give the number of Minor/Major Research Projects undertaken during the period from July 2012 – June 2017.

Duration	Minor Projects		Major Projects	
	Ongoing	Completed	Ongoing	Completed
2012-13				
2013-14				
2014-15				
2015-16				
2016-17				

19. Kindly give the basic details of Minor/Major Research Projects undertaken by you during the period from July 2012 - June 2017.

Name of Project(s)	Minor/ Major	Amount of Project (Rs.)	Sponsoring Agency	Current Status Ongoing/ completed

20. What are the constraints faced by you when embarking on research activities?

SN	Inhibitors/Constraints	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
1.	Difficulty in locating the appropriate information resource in library.					
2.	Isolate location of central library from your work place.					
3.	Lack of physical infrastructure at your department					
4.	Internet connectivity problem					
5.	Lack of financial support from university					
6.	Lack of research projects/funding from sponsoring agency					
7.	Lack of your personal interest in research activity					
8.	Any other problem (please specify):					

21. Please suggest if any, for improvement of research output in your field of study.

Thank you very much

(Signature)

Appendix- II

List of Productive Journals - Department Wise

(Source: as reported by faculty members)

SN	Department	Name of Productive Journals
1	Commerce	Accounting Studies, Journal of Research Development Association
		Advances In Management, An International Peer Reviewed Monthly Journal
		Asian Academic Research Journal of Social Science & Humanities
		Asian Economic Review
		Asian Journal of Multidimensional Research (AJMR)
		BHU Management Review
		Global Journal for Research Analysis
		Indian Journal of Gender Studies
		International Journal of Applied Services Marketing Perspectives, Pezzottaite Journals
		International Journal of Advanced Research in Management and Social Sciences
		International Journal of Entrepreneurship and Business Environment Perspectives, Pezzottaite Journals
		International Journal of Logistic & Supply Chain Management Perspectives, Pezzottaite Journals
		International Journal of Marketing, Financial Services and Management Research
		International Journal of Management and Social Science Research Review
		International Journal of Multidisciplinary Approach and Studies
		International Journal of Organizational Behaviour and Management Perspectives, Pezzottaite Journals
		International Journal of Retailing & Rural Business Perspectives, Pezzottaite Journals
		International Organization of Scientific Research (IOSR) Journal
		Invertis Journal of Management
		IOSR Journal of Business and Management
		IUP Journal of Entrepreneurship Development
		Journal of Business and Finance
		Journal of Development Management and Communication
Journal of NorthEastIndia Council for Social Science Research (NEICSSR)		
Mizoram University Journal of Humanities & Social Sciences		
Manipur University Research Journal of Humanities and Social Sciences		

		Nice Journal of Business
		Small 8 Enterprise Development Management & Extension Journal (SEDME)
		The Indian Journal of Commerce
		The IUP Journal of Operations Management
		The Journal of Management Awareness
		TRANS Asian Journal of Marketing & Management Research
2	Library and Information Science	AAR Journal of Social Sciences and Humanities
		Annals of Library and Information Studies
		Asian Academic Research Journal of Social Science & Humanities
		Asian Journal of Information Science and Technology
		Asian Pacific Journal of Library and Information Science
		COLLNET Journal of Information Management
		COLLNET Journal of Scientometric and Information Management
		Contemporary Social Scientist
		DESIDOC Journal of Library and Information Sciences
		European Academic Research
		Gyankosh- Journal of Library and Information Management
		IASLIC Bulletin
		Indian Journal of Information Library and Society
		Indian Journal of Information Sources and Service
		In Fundamental of Social Sciences and Library Consortia
		International Journal of Advanced Research and Development
		International Journal of Information Research
		International Journal of Information Dissemination and Technology
		International Journal of Library & Information Studies
		International Journal of Library Information Network and Knowledge
		International Journal of Library Management and Services (IJLMS)
		International Journal of Library and Information Science
		International Journal of Web Applications
		International Research : Journal of Library and Information Science
		International Journal of Information Dissemination and Technology
		ISST Journal of Advances in Librarianship
		JOARLIS
		Journal of Advancement in Library and Information Sciences
		Journal of Information Management
		Journal of International Academic Research for Multidisciplinary
		Journal of Information Science Theory and Practice
		Journal of Information & System Management
		Journal of Library and Information Science
		KELPRO Bulletin

		KIIT Journal of Information Management KIIT Journal of Library and Information Management Library Herald Library Philosophy and Practice Library Waves Librarian Mizoram University Journal of Humanities and Social Sciences Pearl: A Journal of Library and Information Science Scientometrics Today and Tomorrow The Journal of Indian Library Association VSRD International Journal of Technical and Non Technical Research Webology World Digital Libraries
3	Management	Asian Journal of Management Research Asian Journal of Management Asian Journal of Social Science Banijya European Academic Research Global Journal of Enterprise Information System Hind Business Review IJRCM Indian Journal of Commerce Indian Journal of Human Relations Indo-Indian Journal of Social Science Research International Journal of Applied Management Research International Journal of applied Research and Studies International Journal of Business Strategy International Journal of Banking Risk of Insurance International Journal of Finance Research Review International Journal of Innovative Research in Commerce and Management International Journal of Management Science International Journal of Management and Social Science Research International Journal of Management Sociology and Humanities Jamshedpur Research Review Journal of Business Management Journal of Commerce and Accounting Research Journal of Commerce and Management Studies Journal of Entrepreneurship Management Judicial Decision Making in Asian Journal of Management

		Research
		Kangleipak Business Review
		Management Sight
		Managerial Finance
		Management Convergence
		Mizoram in Indian Journal of Management Research
		Mizoram University Journal of Humanities and Social Sciences
		OPUS- Annual HR Journal
		OIMT Business Review
		Pe33ottaite Journal- International Journal of Organisational Behaviour
		Research world- Journal of Arts, Science and Commerce
		Researchers World Journal of Science Arts and Commerce
		Scholars Journal of Economics Business and Management
		SherubDoenme
		SS International Journal of Business and Management Research
		SSS International Journal of Management Research
		Survey
		The Asian Man
		The ICFAI Journal of Marketing Management
		Uttaranchal Business Reviews
		Vedaang
5	Mass Communication	Contemporary Social Scientist
		Contemporary Voice of Dalit
		Communicator
		International Journal of Current Humanities and Social Science Researches
		Journal of Literature and Cultural Studies
		Jan Media
		Journal of North East Region
		Mass Communicator: International Journal of Communication Studies
		Mass Media
		Mizoram University Journal of Humanities & Social Sciences
		Scholars Journal of Arts, Humanities and Social Sciences

Research Output of Faculty Members of Mizoram University Cross-Sectional Evaluation

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ABSTRACT

The paper deals with the cross-sectional evaluation of research output of faculty members during the last five academic years. Faculties belong to two schools of studies have been taken as population. The study mainly focuses to identify the progress of research output in terms of journal papers, conference papers, reviews, abstracts, books, book chapters, research projects, Ph.D./ M.Phil production and barriers in the research activities. The inferences are drawn based on the data to identify the progress of research output by faculty members and role of academic institutions to increase the capability to produce more research output for the development of an individual as well as institutional growth.

Keywords: Research Output, Research Performance, Authorship Patterns, Research Projects, Faculty Performance, Education & Humanities, Social Sciences.

The “research plays a vital role in promoting the prosperity of a nation and the well-being of its citizens in this knowledge-based era (Abbott and Doucouliagos, 2004). Universities are considered modern entrepreneurial engines and generators of knowledge through research, thereby, promoting national and global development (Okiki, 2013)” (Starovoytova, 2017). Research alone can bring revolutionary changes in society and on the whole to the nation. Research brings out tremendous changes in the field of knowledge. Research output and research productivity are considered as a synonym. William (2003) notes that research productivity could be defined in terms of research product and research effort to the extent to which a researcher produces. Research is defined as a careful study of a subject, especially to discover new facts or information (Research Endowment Policy, Moi University, Kenya, 2008). Research output has been defined as the “relationship between the outputs generated by a system and the inputs provided to create those outputs. It may also include the term “efficiency” and more importantly “effectiveness”, which measures the total output or results of performance (Turnage, 1990). According to Print and Hattie (1997), research productivity is the totality of research performed by academicians in universities and related contents within a given time period” (Lertputtarak, 2008). “On a broader perspective productivity can include research publication in professional journals and in conference proceedings, writing a book or chapter, gathering and analyzing original evidence, working with post-graduate students on dissertation and class projects, obtaining research grants, carrying out editorial duties, obtaining patents and licenses, writing monographs, developing experimental designs, producing works of an artistic or creative nature, engaging in public debates and commentaries” (Creswell, 1986).

REVIEW OF LITERATURE

Feyera et al. (2017) examined the publication productivity of 120 faculty members of Jigjiga University, Ethiopia. Study evidenced low publication productivity among faculty members of Jigjiga University, faculties belong to Natural Sciences and Life Sciences were more productive than Social Sciences. Fawzi and Al-Hattami (2017) investigated the research productivity of faculty members of Bahrain Teacher’s College (BTC) and identified their problems and difficulties faced during publishing a scientific research. The study concluded that faculty members have the competence for publishing the research but needs more time to focus on research. Mantikayan and Abdulgani (2018) identify factor affecting faculty research productivity. The results show that faculty research productivity is influenced by individual factors (self-efficacy, affiliation, motivation, etc.) institutional factors (staff support, advising and mentoring, resources, rewards, sufficient work time etc.), leadership factors (highly regarded able scholar, research-oriented, work for departments with a similar priority placed on research), ascriptive factors (gender, age of a faculty member at a given point in time, intelligence, personality of the individual). Okonedo et al. (2015) examined the correlation analysis of demographic factors, self-concept and research productivity of librarians in public universities in South-West, Nigeria and found that librarians’ level of self-concept is high with higher research productivity, significant relationship between self-concept and research productivity, and job tenure was found significant with research productivity among the demographic factors. Webber (2013) analyzed the data of National Survey of Postsecondary Faculty (NSOPF: 2004) which covers approximately 30000

faculties from 1000 U.S. institutions. He examined the research productivity of Science and Engineering by the foreign-born faculty and compared with the U.S. born faculty. The study found that foreign-born-faculties employment is growing in U.S. Post Secondary institutions and also found that 'foreign-born scientists' were more productive than U.S. peers. Okiki (2013) analyzed research productivity of teaching faculty members in Nigerian Federal universities and find out high research productivity in journal publications, technical reports, conference papers, working papers as well as occasional papers and their research productivity was lower in the publishing of textbooks, book chapters, monographs, patents, and certified inventions. The study observed financial constraint and slow Internet connectivity as major inhibitors to their research. Jung (2012) examined the research productivity of faculty in Hong Kong academics and explored the individual and institutional factors that contributed to the productivity and compared the determinants across academic disciplines. Study reveals that male Professors tend to publish more books or articles than female Professors, number of publications of doctoral degree holders is higher than that of non-holders, research productivity of Professors who have high post-doctoral experience was higher than those who do not have, senior academicians likes to be more productive than junior academicians, academicians in hard disciplines publish more journal articles than those in soft disciplines. There is a number of studies related to faculty members' performances were conducted by Abbott & Doucouliagos (2004), Sevukan et al. (2007), Kumbar et al. (2008), Wichian et al. (2009), Jeyshankar et al. (2011), Nandi and Bandyopadhyay (2011).

SCOPE

The scope of the study is limited to faculty members of the School of Social Sciences; and the School of Education and Humanities of Mizoram University, Aizawl. There are 67 faculty members working under both the Schools of Studies. The study covers the research output produced during five years of time period i.e. 2012-2017.

OBJECTIVES OF THE STUDY

The objectives of the present study are to:

1. Find out the trend & growth of research output of faculty members.
2. Find out the forms of research output of the faculty members.
3. Find out the constraints to faculty members on their research activities.

RESEARCH METHODOLOGY

The present study is designed to investigate the research output of faculty members of the School of Social Sciences; and the School of Education and Humanities. The total population for the study is 67 faculty members belong to departments under both the Schools. The survey method (through the questionnaire) of research is being found appropriate to undertake the study. The structured questionnaire distributed to every faculty members of the School covered under study. The data obtained through the filled-in questionnaire is tabulated and analyzed using a suitable statistical tool (MS-Excel).

DATA ANALYSIS AND INTERPRETATION

1. Academic Position*Publications

Table 1: Academic Position*Publications

Academic Position	Publications Range					Total (%)
	0	1-10	11-20	21-30	> 30	
Assistant Professor	--	8 (38.1%)	11 (52.4%)	2 (9.5%)	--	21 (56.75%)
Associate Professor	--	2 (50%)	--	2 (50%)	--	4 (10.81%)
Professor	2 (16.7%)	--	4 (33.3%)	2 (16.7%)	4 (33.3%)	12 (32.43%)
Total	2 (5.4%)	10 (27.1%)	15 (40.5%)	6 (16.2%)	4 (10.8%)	37 (100%)

(Source: Primary Data)

Table 1 displays the cross-tabulation of academic position and number of publications. There are 56.75% faculties belongs Assistant Professor followed by 32.43% Professor and 10.81% Associate Professor. During the study period, there are 5.4% faculties do not have any research publication while 27.1% faculties have the range of 1-10 publications, 40.5% faculties have the range of 11-20 publications, 16.2% faculties have the range of 21-30 publications, and 10.8% faculties have the range of >30 publications. Among the category of Assistant Professors, the majority (52.4%) of faculties published 11-20 publications during the period while 38.1% published 1-10 publications. The least number of faculties (9.5%) have 21-30 publications during the period while no Assistant Professor has more than 30 publications as well as without publications during the period. Under the category of Associate Professors, 50% have 1-10 publications while rests of the 50% have 21-30 publications during the period. There are no Associate Professors who have more than 30 publications as well as without publications during the period. In the category of Professors, 33.3% Professors have more than 30 publications, 16.7% Professors have 21-30 publications, and 33.3% Professors have 11-20 publications while 16.7% Professors do not have any publications during the period. On the observation of Table 1, it has been found that Professors are contributing more even they are less in number than Assistant Professors. This indicates that Academic Position of the faculty affects the number of publication.

2. Trends of Research Publication

Table 2: Academic Position*Preferred Medium of Publication

Preferred Medium of Publication	Assistant Professor (%)	Associate Professor (%)	Professor (%)
Textbooks	1 (4.76%)	0	3 (25%)
Book chapters	12 (57.14%)	2 (50%)	10 (83.33%)
Co-Authored Textbook	2 (9.52%)	0	1 (8.33%)

Journal Articles	14 (66.67%)	3 (75%)	10 (83.33%)
Technical Reports	0	0	0
Conference Paper	8 (38.09%)	0	5 (41.66%)
Others	4 (19.04%)	0	1 (8.33%)

Assistant Professor (N) = 21, Associate Professor (N) = 4, Professor (N) = 12

(Source: Primary Data)

Table 2 shows the preferred medium of research publication by different categories of faculty members. From the observation of Table2, it has been found that majority (66.67%) of Assistant Professors prefer to publish their research as Journal Articles followed by Book Chapters (57.14%), Conference Papers (38.09%). Few faculties prefer to publish as Text Book and Co-authored Books while 19% have some other form of publications. Under the category of Associate Professors, 75% prefer to publish as Journal Article while 50% prefer as Book Chapters. In the Professors category, the majority (83.33%) of Professors prefer Journal Article and Book Chapters equally followed by Conference Papers (41.66%) and Text Books (25%). Interestingly faculty members from all the categories have not preferred Technical Report as a preferred medium of publication. On the observation of Table 2, it has been concluded that Journal Articles are the preferred medium of publication for all the faculties followed by Book Chapters and Conference Paper.

3. No. of Publications Published in different Publication Media

Table 3: Publications in different Publication Media

Publication Media	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	Total (%)
Journal Articles	36	33	46	55	40	210 (44.30%)
Abstracts	1	3	3	1	1	9 (1.90%)
Reviews	7	3	5	3	1	19 (4.01%)
Editorials	3	5	5	3	3	19 (4.01%)
Chapters in Book	22	19	21	17	34	113 (23.84%)
Conference Proceeding	7	12	13	21	8	61 (12.87%)
News Items	2	3	3	2	3	13 (2.74%)
Patents	0	0	0	0	1	1 (0.21%)
Others	2	1	5	18	3	29 (6.12%)
Total	80	79	101	120	94	474

(Source: Primary Data)

Table 3 displays the publication media where faculties research output published during the study period. From the analysis of Table 3, it has been found that the highest publications belong to Journal Articles (44.3%) out of 474 publications during the period followed by Book Chapters (23.84%), Conference Proceedings (12.87%), Others

(6.12%), Reviews (4.01%), Editorials (4.01%), News Items (2.74%), Abstracts (1.9%), and Patents (0.21%). From Table 3, it is observed that Journal Articles, Book Chapters, and Conference Papers are the most preferred media of publication as identified in Table 2 categorically.

4. Ph. D. & M. Phil. Dissertations Submitted/ Produced

Table 4: Ph. D. & M. Phil. Dissertations Submitted/ Produced

SN	Time Duration	No. of M. Phil.		No. of Ph. D.	
		Submitted	Awarded	Submitted	Awarded
1	2012-13	8	16	4	6
2	2013-14	5	16	3	4
3	2014-15	9	20	6	9
4	2015-16	10	19	11	11
5	2016-17	20	31	12	14
Total		52	102	36	44

(Source: Primary Data)

Table 4 shows the total number of Ph. D. & M. Phil. submitted and awarded during the study period (i.e. July 2012 - June 2017). From Table 4, it has been found that M. Phil. and Ph. D. awarded dissertations are more than submitted and increasing growth has been observed in both the cases. Table 4 also displays the collective degree awarded status as well as submitted status during the specific period of study from both the Schools under study.

5. Minor/ Major Research Projects

Table 5: Minor/ Major Research Projects

SN	Time Duration	Minor Projects		Major Projects	
		Ongoing	Completed	Ongoing	Completed
1	2012-13	3	5	0	4
2	2013-14	1	0	1	4
3	2014-15	1	3	1	0
4	2015-16	3	0	1	3
5	2016-17	3	2	8	3
Total		11	10	11	14

(Source: Primary Data)

Table 5 shows the status of minor and major research projects conducted by the faculty members during the study period. Table 5 indicates that ongoing minor projects are higher than completed during the study period and on an average 2 minor projects completed every year during five years of study period. In case of major projects, numbers of ongoing projects are less than completed projects. The table also indicates that faculty members from both the School tend to get a number of major research projects than minor research projects.

6. Inhibitors to Academics during Research Activities

Table 6: Inhibitors to Research Activities

Statements	SD	D	NS	A	SA	NR
Difficulty in locating the appropriate information resource in the library	6 (16.22%)	10 (27.03%)	4 (10.81%)	11 (29.73%)	2 (5.40%)	4 (10.81%)
Isolate location of the central library from your workplace	8 (21.62%)	12 (32.43%)	3 (8.11%)	8 (21.62%)	2 (5.40%)	4 (10.81%)
Lack of physical infrastructure in your department	3 (8.11%)	16 (43.24%)	8 (21.62%)	4 (10.81%)	2 (5.40%)	4 (10.81%)
Internet connectivity problem	2 (5.40%)	10 (27.03%)	4 (10.81%)	12 (32.43%)	5 (13.51%)	4 (10.81%)
Lack of financial support from the university	2 (5.40%)	10 (27.03%)	7 (18.92%)	11 (29.73%)	3 (8.11%)	4 (10.81%)
Lack of research projects/ funding from sponsoring agency	1 (2.70%)	10 (27.03%)	4 (10.81%)	16 (43.24%)	2 (5.40%)	4 (10.81%)
Lack of your personal interest in research activities	14 (37.84%)	14 (37.84%)	3 (8.11%)	1 (2.70%)	1 (2.70%)	4 (10.81%)
Family responsibilities decrease your research interest	10 (27.03%)	12 (32.43%)	4 (10.81%)	7 (18.92%)	Nil	4 (10.81%)

Legends: SD=Strongly Disagree, D=Disagree, NS=Not Sure, A=Agree, SA=Strongly Agree, NR=No Reply

(Source: Primary Data)

Table 6 shows the factors affecting research activities of faculty members. From the analysis of Table 6, it has been found that majority of faculties (43.24%) do not feel any difficulty in finding the information resource in the library while 35.13% faculties faced the difficulty. There are 54.05% faculties do not feel that library location is isolated from their workplace while 27.02% found difficulty in this regard. There are 51.35% faculties does not feel that they have a lack of infrastructure at the workplace while 16.21% faculties found infrastructure lacuna at the department which affects the research activities. In terms of Internet connectivity problem, 32.43% faculties do not feel it as a problem while 45.94% faculties feel it as a problem which affects their

research activities. Lack of financial support from the university is the problem in research activities and supported by 37.83% faculties while 32.43% faculties opposed it. Faculty's research activities are lower due to lack of research projects and supported by 48.64% faculties while 29.72% faculties are not with the same opinion. There are more than 75% faculties who opposed that lack of personal interest in research activities is the main cause of low research performance while 5.4% faculties found that they have a lack of research interest. There are 59.45% faculties who opposed that family responsibilities are not affecting their research activities while 18.92% faculties are in support that family responsibilities are one of the factors affecting research activities.

FINDINGS AND CONCLUSION

Analysis of the study indicates that Assistant Professors are more in number than Professors while Associate Professors are the least in terms of numbers. Majority of publications belongs to Assistant Professors while Professors are just behind due to less in number. Majority of Professors have more than 30 publications range during the study period. Categorically, Assistant Professors prefer to publish their research in Journal followed by Book Chapters and Conference Papers while Associate Professors prefer Journal and Book Chapters only. Professors prefer Journal and Book Chapters equally followed by Conference Papers and Text Books. Nobody is interested to publish Technical Report. In terms of publication media, Journals are most used media for publications followed by Book Chapters and Conference Proceedings. Ph. D. & M. Phil. degrees have been awarded to more number of students than submitted during the period of study. In terms of minor/ major research projects, ongoing minor projects are higher than completed while numbers of ongoing major projects are less than completed major projects during the period. Internet connectivity problem, lack of financial support from the university, and lack of research projects/ funding from sponsoring agency are the major factors affecting research activities of faculty members.

The study analyses the cross-sectional research output of faculty members and found that academic position of the faculty has a direct relation with the number of research published during the period. Faculty's research output is high in the publishing of journal articles, book chapters, and conference proceeding while on the other hand research output is lower in the publishing of abstracts, news items, reviews, editorials, and patents. Similarly, journal articles, book chapters, and conference papers are the preferred media of publications and most of the research output appeared in the same medium. The financial constraint and slow Internet connectivity are the major inhibitors to their research activities which need to be undertaken by the university authority.

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PARTICULARS OF THE CANDIDATE

Name of candidate	:	R. LALRINDIKA
Degree	:	Master of Philosophy
Department	:	Library and Information Science
Title of Dissertation	:	Research Output of the Faculty Members of the School of Economics, Management and Information Science, Mizoram University
Date of payment of admission (Commencement of First Sem.)	:	23.8.2017
Commencement of Second Sem. (From conclusion of end semester exam)	:	1.02.2018
Approval of research proposal:		
1) BOS	:	26.04.2018
2) SCHOOL BOARD	:	02.05.2018
REGISTRATION NO & DATE	:	MZU/M.Phil./432 of 02.05.2018
DUE DATE FOR SUBMISSION	:	31.7.2019
EXTENSION (IF ANY)	:	Extended for one semester by School Board held on 26th October, 2018

(Head)

Department of Library Science

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Publication : 1 (one)
Presentation of Papers : 1 (one). Certificate enclosed

ABSTRACT ON

**RESEARCH OUTPUT OF THE FACULTY MEMBERS OF THE SCHOOL OF
ECONOMICS, MANAGEMENT AND INFORMATION SCIENCE, MIZORAM
UNIVERSITY**

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Introduction

It is generally accepted at international level that a university capacity to generate new knowledge is of vital importance to its economic growth and living standards. The generation and transmission of knowledge through research has long been recognized as an essential requirement for a university's long-term growth and competitiveness as well as creating a capacity to solve social problems (World Bank, 1998; United Kingdom, 1997; Kemp, 1999a; Kemp, 1999b). Today the universities play an important role in both the generation and dissemination of research. There has been increasing interest among researchers and policymakers in the notion of research productivity. Research output is one of the major measures of university's academic performance and a core indicator for calculations of university ranking. A number of studies have tried to compare research productivity across countries or academic disciplines and to explore the main factors that enhance the research productivity of faculty members. Research is becoming vital and necessary part of modern university education that universities are considered as modern entrepreneur engine and generation of knowledge through research.

According to Rashid (2001), "research is conscious efforts to collect, verify, and analyze information. Research can be understood as having two broad components, namely, knowledge creation and knowledge distribution". Research is required for the improvement of general knowledge, research enable the academicians to understand and analyze themselves, also enables the academicians to fully understand their discipline which is imperative for the effective learning. Research provides a good platform for reaching the faculty members to become successful academicians. This is because research develops academic knowledge and reinforces the skills needed for effective knowledge transfer. It also inspires academics towards hard working, filling the gaps of previous research and creates an opportunity for further research.

Research output enable academics to earn recognition in academic circle locally and internationally. In higher education, research output often served as a major role in attaining success in academics circles as it is related to promotion, tenure and salary. One of the strategies for determining research productivity is to access the quantity of publication which researcher communicated with primary or other sources. Research productivity and research activities are interrelated. Research involves collecting and analyzing the data. Research productivity is the extent to which faculty engage in their own research and publish scientific articles in referred journals, conference proceedings, writing a book chapter, gathering and analyzing original evidence, working with postgraduate students on dissertations and class projects, obtaining research grants, carrying out editorial duties, obtaining patents and licenses, writing monographs, developing experimental designs, producing works of an artistic or a creative nature engaging in public debates and commentaries (Creswell, 1986).

Significance of the Study

The aim of the study was to provide information that assists in the design, development and formulation of institutional research policies in the changing global situation, and in particular to highlight those factors that should be emphasized in order to further encourage academic staffs to increase their research output. It was anticipated that investigation will provide new perspectives on the issue. Such information is vital to this study for improving higher education research output. To most effectively achieve this aim, the various obstacles to increasing the output for faculty members have been identified in their own terms. This study had been designed to address these issues, and solicits information directly from the faculty members regarding their perceptions of reasons for non-participation in research output, and invited suggestions about the ways to overcome these obstacles. The findings of this study will provide benefits to the studied departments and university. Further, present study helps to show the current trend of research output of faculty members as well as display the various forms of research output. The research output status will help the faculty members to assess themselves for further improvement upon research output.

Scope of the Study

The present study was confined to School of Economics, Management and Information Science (SEMIS) faculty members of Mizoram University, Aizawl. The number of academic departments covered under study is given in Table 1. There are 30 faculty members belongs to 5 Departments under School of Economics Management and Information Science. Further faculty members research output has been measured for last 5 years from July, 2012 – June, 2017 academic years.

Table 1: List of Faculty Members – Department wise

SN	Name of Department	Professor	Associate Professor	Assistant Professor	Total
1.	Commerce	3	0	3	6
2.	Economics	1	1	2	4
3.	Library and Information Science	3	0	4	7
4.	Management	2	0	7	9
5.	Mass Communication	0	0	4	4
Total		09	01	20	30

(Source: Mizoram University Website)

Statement of the Problem

Although there is clear evidence that administrators at many institutions together with academic staff realize the importance of research within the university structure, there is still an unacceptably low level of research output. Why some faculties produce research year after year while others do not conduct any research is a ‘puzzle’ (Creswell, 1985). The current climate in higher education threatens the university’s ability to sustain the conditions that support research achievements. Increased demands on government funding, a deteriorating physical infrastructure, increased pressure on undergraduate and postgraduate programs have raised concerns about the continued capacity of universities to maintain teaching, research output and service to the state. Higher Education needs to be taken to the next level by motivating the new generation faculty members to raise their levels of output in terms of innovation in research. In the connected world of the knowledge era, forging meaningful linkages between academics towards raising the overall quality in research is the need of the hour. This prompts to undertake as research problem to find out the research output of SEMIS faculty members of Mizoram University.

Objectives of the Study

The objectives of the present study are to:

- a) Find out the trend & growth of research output of faculty members.
- b) Find out the forms of research output of the faculty members.
- c) Examine the socio-demographic characteristics of faculty members.
- d) Find out the constraints to faculty members on their research activities.

Research Methodology

The present study was designed to investigate the research output of SEMIS faculty members of Mizoram University. The total population for the study was 30 faculty members belong to departments under SEMIS. The survey method (through questionnaire) of research has been found appropriate to undertake the present study. The structured questionnaire has been distributed to every faculty members of the School covered under study and collected the filled in questionnaires. The questionnaire data has been recorded in MS-Excel and analyzed using SPSS for the purpose.

Research Findings

The study was designed to find out the faculty research productivity of School of Economics Management and Information Science. Following are the findings drawn from the analysis:

- 1) Out of total (30 faculty members in School), 85.71% faculty members responded to the questionnaire distributed to them. The highest response rate (100%) came from Department of Library and Information Science as well as Department of Management.
- 2) There were 75% male and 25% female respondents. Majority (50%) of the respondents belongs to 31-40 age group which shows that majority of the faculty members of School of Economics Management and Information Science are younger in age. Interestingly, all the female faculty members were young and they all were belongs to 31-40 age group only.
- 3) Majority (66.67%) of faculty members belong to Assistant Professor Category and 33.33% belongs to Professor while no Associate Professor category related records have been recorded. None of the Assistant Professor is more than 50 years of age while none of the Professor is less than 40 years of age.
- 4) Majority (95.83%) of the faculty members had Ph. D. as the highest qualification and 4.17% faculty members had a Master degree qualification.
- 5) There were 37.5% faculties had experience of 6-10 years in their carrier while 25% faculties had the teaching experience of 11-15 years. Majority of them belongs to Assistant Professor. Majority of the Professor has teaching experience of 11-20 years of experience in the School.
- 6) There were 54.17% faculties had publication range of 1-20 during last five academic years i.e. July 2012 - June 2017 and most of them belongs to Assistant Professor Category. Out of total Assistant Professor, 37.5% had publication range from 1-10; whereas in Professor Category, 37.5% had publication range from 11-20 and more than 30 publications.
- 7) Out of the 24 faculty members who responded the questionnaire, more than 62.5% had teaching experience of 6-15 years.
- 8) Majority (87.5%) of faculty members preferred to publish their research output in the form of Journal article followed by Book Chapter.
- 9) Result indicates that two authorship pattern (64.76%) is the most prevalent among the faculty members followed by single authorship pattern (30.71%) and three authorship patterns.
- 10) As per year wise analysis of authorship pattern, majority of publications were published as two authorship patterns in each academic year.

- 11) Department of Library and Information Science (48) had the highest number of productive journals followed by Department of Management (46) and Department of Commerce (32).
- 12) There were 84.62% research publications which had been published in the Journal without Impact Factors (IF) while 15.06% of publications were published in Journals having Impact Factor (IF) between 1-5.
- 13) Approximately 81% publications are without any citations while 18.8% publications had citations range of 1-25 as per Google Scholar. Higher citations range has not been observed for many publications during the study period.
- 14) Based on Scopus database, there were 81.25% publications having citations range between 1-25 where as 18.75% publications without any citations.
- 15) Out of 24 respondents, only 45.83% faculty members had *h*-index and *i-10* index value.
- 16) The total number of awarded M. Phil and Ph. D. dissertation were more than dissertation submitted during the period.
- 17) In case of major and minor research projects, few faculty members have completed their minor and major research projects. Interestingly, no faculty records were found for ongoing minor and major research projects during the period.
- 18) There are 45.84% faculties who do not feel any difficulty in locating appropriate information from the library and 45.83% faculty members are agree that library location is isolated from their workplace.
- 19) More than 36% faculty members disagree about lack of physical infrastructure at their department while 33.33% faculties are disagree and not facing any problems in Internet connectivity.
- 20) There are 29.17% faculty members who agree that lack of financial support is the main cause of their research activities. Whereas 29.17% faculty members disagree that lack of research projects/ financial support from funding agency is the main cause of research activities.
- 21) Majority (66.66%) of faculty members are disagree that lack of personal interest causes problems in their research activities.

Chapterisation

The present study has been divided into the following chapters:

Chapter 1 “Introduction” gives basic information related to the dissertation topic like literature review, scope of the study, statement of the problem, objectives of the study, and research methodology.

Chapter 2 “Mizoram University: An Overview” highlights about Mizoram University, Schools and Departments under Mizoram University.

Chapter 3 “Research Output: Concepts” highlights the measurement of research output; models of faculty research output; and individual, institutional as well as leadership characteristics that facilitate the research output.

Chapter 4 “Data Analysis and Findings” highlights the data collected and processed in the forms of tables and graphs as well as its related findings.

Chapter 5 “Conclusion and Suggestions” presents the objective based conclusions of the study and suggestions for the improvement of research output.