

## Research Productivity and Gender: A Study of Annals of Library and Information Studies

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**Abstract:** The study examine the articles published in Annals of Library and Information Studies during 2008-2017 for author's gender productivity, collaborative works and geographical distributions. The study found that solo contributions of male authors are high in comparison to female authors. Furthermore, female productivity increases when they collaborate with man in their research work. Finding of the study revealed that male and female authors are more productive as working professional than teacher or scholar. The percentage of both gender contributed in annals of library and information studies is high in India comparatively to foreign authors.

**Keywords:** Authorship Pattern, Author Productivity, Female Authors, Male Authors, Annals of Library and Information Studies

**1. Introduction:** Research works are universally accepted as influential tools for the progress of the society. In recent years there has been a constant focus on women participation in academic and research works. Though governments across globe are encouraging female participation and contribution in research works by making women centric policies, offering grants and support, still there is a gap between man and woman research productivity. Study indicated that researcher faces constraints such as geographical, time, language, financial limitations in general and gender particularly by female authors (Gul et al., 2016)<sup>1</sup>. Research by West et al. (2013)<sup>2</sup> suggests that gender biasness and inequalities persist in higher education and academia is largely dominated by male contributors (Leon and others (2017)<sup>3</sup>. Furthermore, Barnett et al.(1998)<sup>4</sup> and Ritche, (2009)<sup>5</sup> indicated that the contribution from female contributor in research is low compared to male counterparts due to the existence of gender differences. The internal barriers such as priorities and personal decision (Reis,2002)<sup>6</sup>, marriage, household labor (Suitor et al.,2001)<sup>7</sup>, low academic ranks, less representation of women in higher education and fewer research funds (Lone and Hussain,2017)<sup>8</sup> are the factors affecting research productivity of woman.

**2. Statement of the Problem:** The study of disparity in research productivity between male and female authors has attracted interest among researchers. Contribution of authors in annals of library and information studies was examined. Annals of Library and Information Studies an open access journal published since 1954 by CSIR-National Institute of Science Communication and Information Resources is a leading quarterly journal in Library and Information Studies. It is abstracted in library and information science abstract (UK) and Indian library and information science abstracts (India) covers original papers, survey reports, reviews, short communications, and letters pertaining to library science, information science and computer applications in these fields(Annals,2017)<sup>9</sup>.

**3. Review of Literature:** Various studies have been done so far on gender disparity in research productivity in all disciplines at national and international level. Few of them are

Abramo, D'Angelo & Caprasecca (2009)<sup>10</sup> investigated the population of research personnel working in the scientific-technological disciplines of Italian university system. The study confirms the presence of significant differences in productivity between men and women.

Mozaffarian & Jamali (2008)<sup>11</sup> in their study found that the productivity of female authors was significantly lower than male authors.

Besselaar & Sandstrom (2016)<sup>12</sup> revealed that productivity of male researchers has grown faster than of female researchers.

Gul et al. (2016)<sup>13</sup> discloses in their study that there is increase in the proportion of male authors over the years with the resulting decline in female authors and also found that males are more productive as teachers while working professional as females.

Ebadi & Schiffauerova (2016)<sup>14</sup> in their study confirmed the existence of gender disparity among Canadian funded researchers and found that male researchers have been performing better in terms of publications.

Allen(1998)<sup>15</sup> found in his study that man and women have different priorities to their work. Male prefer to spent time in research than teaching and published more frequently in comparison to female devoted maximum time in teaching than to research and publish less articles.

Leahey (2006)<sup>16</sup> in his study revealed that women are less specialized in research programs than men. He found that specialization as measure factor in achieving higher productivity.

Loan & Hussain (2017)<sup>17</sup> noted personal and academic factors responsible for the limited productivity of women in research and revealed that males have a higher average productivity than females for all the performance indicators especially research productivity, patent creation, funding and collaboration across regions and disciplines.

**4. Objectives:** It has been interest of researcher across the globe to know the disparity between male and female authors. The key objectives of the study are

1. To find out the quantitative growth of articles
2. To examine authorship pattern (male and female) and asses collaborative pattern among authors
3. To ascertain productivity of authors with their professional status.
4. To asses national and international contribution of authors

The present study did not investigate the causes of disparity between gender productivity.

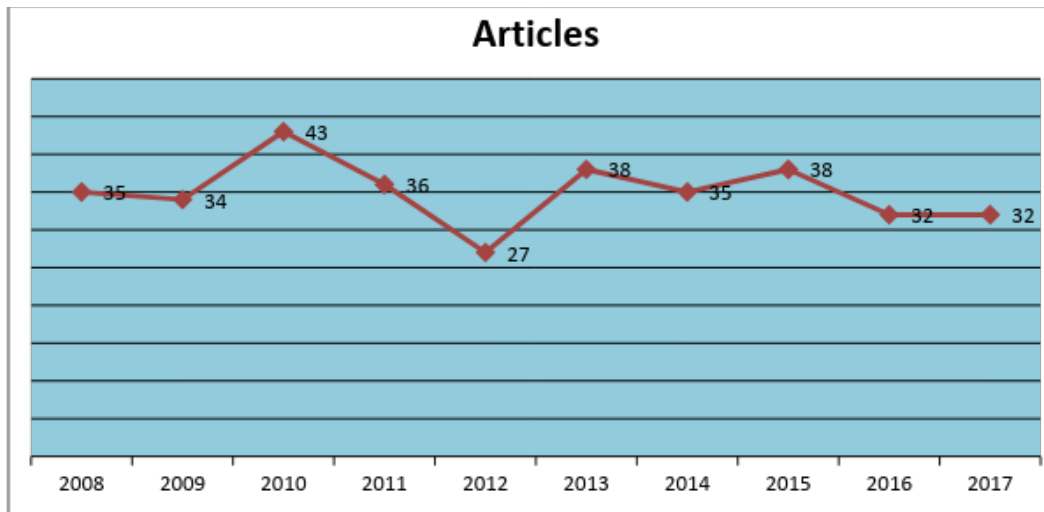
**5. Methodology:** The present study uses the bibliometric analysis as tool to identify the gender disparity. The study has covered articles published in annals of library and information studies during the period 2008-2017. The professional status of authors were examined under four categories such as teacher, scholar, working professional and other. Data about author's gender and their professional status was taken from their respective article itself. Here teacher mean who were engaged in imparting education in academic institutions. Whereas scholars were those who were involved in academic course or research programme. The authors who were involved in libraries, information and documentation centres were included under working professionals. The authors whose status could not be found under above mentioned three categories were covered under others. In case of missing information regarding author on article their institutional websites, social networking sites such as linkedin, researchgate and facebook was consulted. The study is based on works of Gul et al. (2016)<sup>18</sup> and Ebadi & Schiffauerova (2016)<sup>19</sup>. The data was extracted from website of Annals of library and information studies in Microsoft office excel then tabulated and analyzed according to objectives of the study.

**6. Data Analysis and Interpretation:**

**6.1: Total Articles:**

| Year         | Volume | Issues |    |    |    | No of Articles  |
|--------------|--------|--------|----|----|----|-----------------|
| 2008         | 55     | 9      | 10 | 9  | 7  | 35(10)          |
| 2009         | 56     | 7      | 8  | 9  | 10 | 34(9.7)         |
| 2010         | 57     | 9      | 9  | 15 | 10 | 43(12)          |
| 2011         | 58     | 10     | 10 | 9  | 7  | 36(10)          |
| 2012         | 59     | 6      | 6  | 8  | 7  | 27(7.7)         |
| 2013         | 60     | 9      | 9  | 9  | 11 | 38(11)          |
| 2014         | 61     | 9      | 8  | 11 | 7  | 35(10)          |
| 2015         | 62     | 6      | 7  | 9  | 16 | 38(11)          |
| 2016         | 63     | 10     | 8  | 8  | 6  | 32(9.1)         |
| 2017         | 64     | 10     | 6  | 6  | 10 | 32(9.1)         |
| <b>Total</b> |        |        |    |    |    | <b>350(100)</b> |

**Table 6.1: Year wise Distribution of Articles**



**Figure 6.1: Year wise Distribution of Articles**

Data on above graph reveals that 350 articles were published in last ten years in annals of library and information studies. It is shown that maximum 43 articles were published in 2010 and lowest 27 article published in 2012. It is clear from data that 2010 is the most productive year with 43 articles. It is evident from above data that on average 35 articles were published in each year during last 10 years.

## 6.2: Authorship Pattern:

| Year         | Number of Authors | Gender           |                  |
|--------------|-------------------|------------------|------------------|
|              |                   | Male (%)         | Female (%)       |
| 2008         | 67                | 60(89.6)         | 7(10.4)          |
| 2009         | 70                | 60(85.7)         | 10(14.3)         |
| 2010         | 79                | 66(83.5)         | 13(16.5)         |
| 2011         | 69                | 57(82.6)         | 12(17.4)         |
| 2012         | 49                | 39(79.6)         | 10(20.4)         |
| 2013         | 74                | 55(74.3)         | 19(25.7)         |
| 2014         | 65                | 47(72.3)         | 18(27.7)         |
| 2015         | 67                | 52(77.6)         | 15(22.4)         |
| 2016         | 66                | 47(71.2)         | 19(28.8)         |
| 2017         | 61                | 42(68.9)         | 19 (31.1)        |
| <b>Total</b> | <b>667(100)</b>   | <b>525(78.7)</b> | <b>142(21.2)</b> |

**Table 6.2: Authorship Pattern of Publications by Gender**

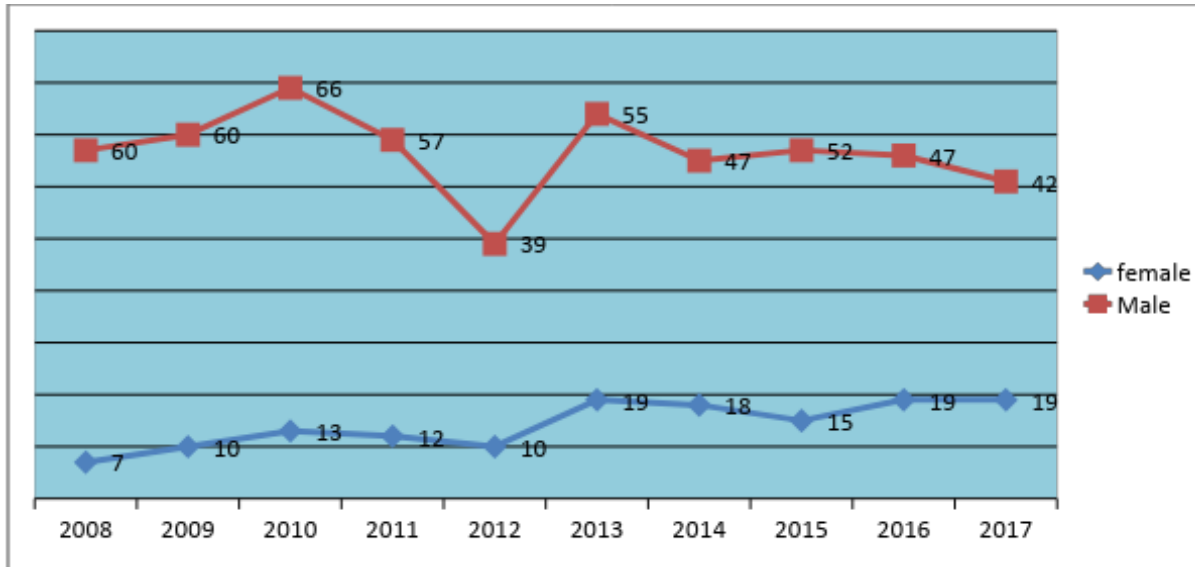


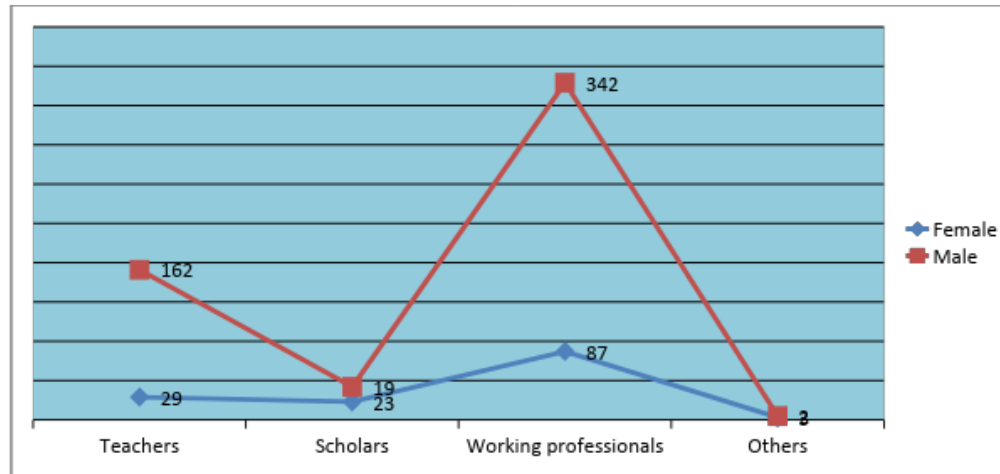
Figure 6.2: Authorship Pattern of Publications by Gender

It is evident from above data that 667 authors contributed to Annals of library and information studies during the study period. Out of these 667 contributions, 525(78.7%) authors were males and 142(21.9%) authors were females. It is also clear from above figure that lowest no of articles were produced by female authors in 2008 and by male authors in 2012. It is observed from above data that contribution of male authors (78.7%) was high in comparison to females authors (21.2%) during the study period.

**6.3: Author gender and Professional Status:**

| Professional Status   | Authors (%)     | Gender     |            |
|-----------------------|-----------------|------------|------------|
|                       |                 | Male       | Female     |
| Teachers              | 191(28.6)       | 162        | 29         |
| Scholars              | 42(6.3)         | 19         | 23         |
| Working professionals | 429(64.3)       | 342        | 87         |
| others                | 5(.75)          | 2          | 3          |
|                       | <b>667(100)</b> | <b>525</b> | <b>142</b> |

Table 6.3: Author Gender and Professional Status



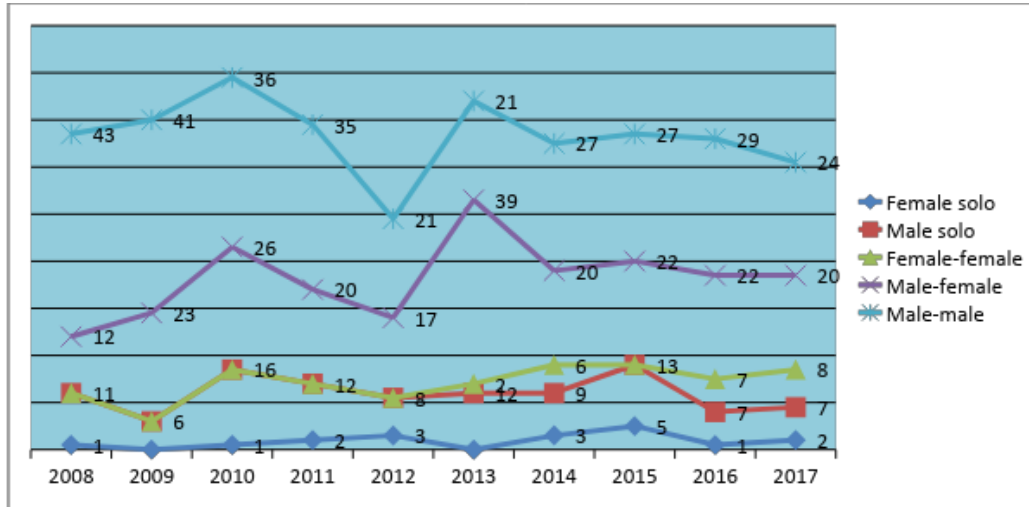
**Figure 6.3: Author Gender and Professional Status**

The data on above figure shows that out of 667 authors most of the authors (64.3%) were working professionals followed by teachers (28.6%) and scholars (6.3%). It is also observed from study that both male and female working professionals were more active than in other professional engagements in LIS field.

**6.4: Collaborative works of authors:**

| Year         | Female Solo    | Male Solo        | Female-female  | Male-female      | Male-male        | Total (%)       |
|--------------|----------------|------------------|----------------|------------------|------------------|-----------------|
| 2008         | 1(1.49)        | 11(16)           | 0(0)           | 12(18)           | 43(64.2)         | 67(100)         |
| 2009         | 0(0)           | 6(8.6)           | 0(0)           | 23(33)           | 41(58.6)         | 70(100)         |
| 2010         | 1(1.27)        | 16(20)           | 0(0)           | 26(33)           | 36(45.6)         | 79(100)         |
| 2011         | 2(2.9)         | 12(17)           | 0(0)           | 20(29)           | 35(50.7)         | 69(100)         |
| 2012         | 3(6.12)        | 8(16)            | 0(0)           | 17(35)           | 21(42.9)         | 49(100)         |
| 2013         | 0(0)           | 12(16)           | 2(2.7)         | 39(53)           | 21(28.4)         | 74(100)         |
| 2014         | 3(4.62)        | 9(14)            | 6(9.2)         | 20(31)           | 27(41.5)         | 65(100)         |
| 2015         | 5(7.46)        | 13(19)           | 0(0)           | 22(33)           | 27(40.3)         | 67(100)         |
| 2016         | 1(1.52)        | 7(11)            | 7(11)          | 22(33)           | 29(43.9)         | 66(100)         |
| 2017         | 2(3.28)        | 7(11)            | 8(13)          | 20(33)           | 24(39.3)         | 61(100)         |
| <b>Total</b> | <b>18(2.7)</b> | <b>101(15.1)</b> | <b>23(3.5)</b> | <b>221(33.1)</b> | <b>304(45.6)</b> | <b>667(100)</b> |

**Table 6.4: Collaborative Works of Authors**



**Figure 6.4: Collaborative Works of Authors**

The above graph shows five combinations of authorship pattern of gender. It is evident from above figure that collaboration between male-male (45.6%) authors is higher than other collaborations. Data clearly shows that male-male collaboration is high in the year 2008 while male-female collaboration was high in the year 2013. It is also indicated that individual level female productivity is low and also in association with other female authors. The study found that female research productivity is higher with male-female collaboration. This is supported by the fact that trend of multi authorship pattern prevail than single authorship pattern in study journal (Parmeshwar & Kolle,2016<sup>20</sup>, Thavamani & Velmurugan,2013<sup>21</sup>).

**6.5: National/International Contribution:**

| Male     |               | Female     |               |
|----------|---------------|------------|---------------|
| National | International | National   | International |
| 430(82%) | 95(18%)       | 102(71.8%) | 40(28.2%)     |

It is revealed from above figure that percentage of contribution of male authors (82%) and female authors (71.8%) from India is higher in comparison to foreign. It is quite appreciated that journal is a global one as data shows that contribution of male (18%) and female (28.2%) authors from foreign countries is in this journal.



**7. Conclusion:** The study reveals that in the field of library and information science there is difference in terms of productivity between male and female authors. The solo contribution of female authors is not satisfactory. However, female productivity increases when they collaborate with man in their research work. Similarly, male productivity is higher when there is male-male collaboration. Regarding professional status both genders are productive as working professionals.

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