

ANALYZING INFORMATION-SEEKING BEHAVIOUR PATTERNS OF FEMALE SCIENTISTS IN NATIONAL ENVIRONMENTAL ENGINEERING RESEARCH INSTITUTE (NEERI), NAGPUR: A CRITICAL INVESTIGATION

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Abstract *In today's scientific landscape, particularly in Nagpur City, hailed as the Orange City and the nucleus of India, boasting 13 state and central government research institutes, the information-seeking behaviors of female scientists hold immense significance. This critical examination delves deeply into the intricate layers of how women scientists navigate, interact with, and utilize information resources in their relentless pursuit of knowledge and innovation. Through a comprehensive exploration of their resource access, involvement in professional networks, and the impact of gender dynamics on their career trajectories, we uncover compelling insights into the realm of information retrieval. In total of 89 scientists, male scientists are 53 and female scientists are 36. This investigation transcends mere analysis, aiming to offer profound insights into the experiences of women scientists and the strategies they employ to excel in their respective fields. The findings emerging from this study make a substantial contribution to the ongoing discourse on gender equality and inclusivity within the scientific community. By shedding light on the information-seeking patterns of female scientists, our goal is to cultivate a more inclusive and supportive environment that empowers women to continue making significant contributions to the advancement of scientific knowledge.*

Keywords: *Women Scientists, Information-Seeking Behavior, Library Resources*

INTRODUCTION

The information-seeking behavior of female scientists is a crucial aspect of the scientific landscape, shaped by a complex interplay of personal ambitions, societal dynamics, and professional hurdles. As we embark on this exploration, we delve into understanding how women in the scientific community interact with information, leveraging it to drive their research forward and navigate the intricate pathways of their careers. The involvement of women in science has witnessed a steady but persistent growth over the years, spanning various disciplines within the STEM spectrum (Science, Technology, Engineering, and Mathematics). These dedicated professionals bring a wealth of expertise, enthusiasm, and innovative ideas to the forefront, significantly contributing to the advancement of scientific understanding. However, their experiences, expectations, and challenges can diverge significantly from those of their

male counterparts, shaping how they seek, access, and utilize information in their scientific endeavors.

This exploration scrutinizes the multifaceted dimensions of information-seeking behavior within the female scientific community. From the resources they tap into and the networks they cultivate to the obstacles they overcome and the progress they champion, the information acquisition behavior of female scientists warrants attention and acknowledgment. By elucidating these unique patterns and challenges, our aim is not only to celebrate the achievements of female scientists but also to highlight areas within the scientific realm where further support and equity are necessary. The researcher will dissect the various factors that shape the information-seeking behavior of female scientists, from their access to resources and professional networks to the influence of gender dynamics on their careers. This endeavor transcends mere inquiry; it stands as a testament to the resilience and determination of women who persist

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in forging new frontiers in scientific exploration despite the adversities they face.

OBJECTIVES

- To study the information needs of women scientists.
- To Examine whether the research institutes have adequate resources.

SCOPE AND LIMITATION OF THE STUDY

The study was conducted in Nagpur, a city situated within the state of Maharashtra. For the research, NEERI was chosen to encompass the participation of women scientists in the study.

METHODOLOGY

In this study, a quantitative empirical methodology was employed, utilizing a questionnaire distributed via Google Forms. An invitation email was sent to all female scientists, extending an invitation to participate in the research. The questionnaire covered a diverse spectrum of inquiries, including those concerning library services, specifically educational programming. These questions were thoughtfully crafted to elicit open-ended responses and promote candid discussions on the subject matter.

It's worth noting that participation in the study was entirely voluntary, and stringent measures were implemented to guarantee the confidentiality of the participants' information.

LITERATURE REVIEW

Choudhury and Sarmah's (2014) research involved a survey of 65 scientists at ICAR Meghalaya, aiming to delve into the intricacies of scientists' information needs and their behaviors when seeking such information. Their study underscored the critical necessity of offering guidance on the utilization of library resources and services to aid scientists in their quest for information. Meanwhile, Majid and Anwar's (2000) study centered on the information needs and seeking behaviors of agricultural scientists in Malaysia. They stressed the importance of science and technology libraries routinely evaluating their users' information requirements, scrutinizing their collections and infrastructure, and intensifying their promotional activities to better serve the scientific community. Lastly, Zhang, Yao, Yuan, Deng and Guo (2021) undertook a comprehensive examination involving 409 Chinese university students, discerning five distinct personality trajectories intertwined with information-seeking behavior. Notably, their research revealed that individuals with higher levels of openness

tend to navigate information sources more effectively, while newcomers encounter difficulties in gathering information.

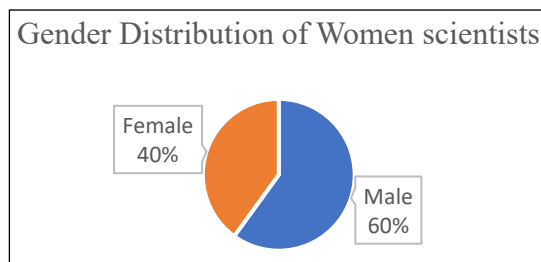
Table 1: Showing the Total Number of Employees Working with the Institute

Designation	Total Nos.
Scientist G	4(1)
Scientist F	13(3)
Scientist E	25(13)
Scientist D	21(12)
Scientist C	18(05)
Scientist B	8(02)
Total	89(36)

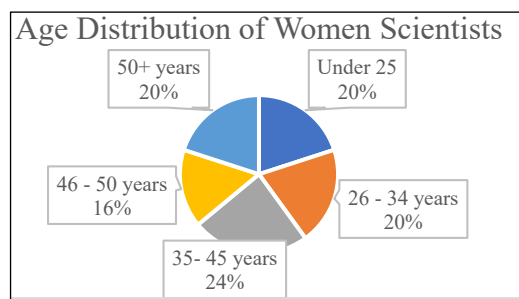
In total male scientists are 53 and female scientists are 36. Besides a team of academicians, the institute also has a team of 34 research scholars, research associates, project associates, and M. Sc. and M. Tech. students to work with the faculties and the Institute for their work.

DATA ANALYSIS AND INTERPRETATION

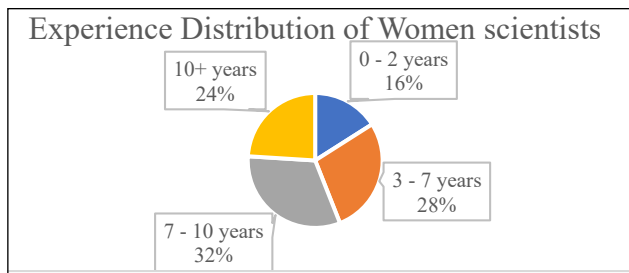
Descriptive Analysis



The above pie chart illustrates the gender distribution of Women scientists, with 40% female and 60% male participants. This suggests a relatively balanced representation, ensuring diverse perspectives in the research.



The pie chart illustrates the age distribution of Women scientists. The largest segment comprises individuals aged 35-45 years, accounting for 24%. This is followed by those aged 26-34 years at 20%. Individuals under 25 years represent 20%, while those aged 50+ years and 46-50 years constitute 20% and 20%, respectively.



The above pie chart illustrates the distribution of professional experience of scientist among respondents. The majority (28%) have 0-2 years of experience, followed by those with 7-10 years (26%). A substantial portion falls into the 3-7 years category (25%), while a smaller group boasts over a decade of experience (21%).

	Frequency	Percent	Valid Percent	Cumulative Percent
Research articles	126	21.0	21.0	21.0
Conference papers	131	21.8	21.8	42.8
Books and monographs	116	19.3	19.3	62.2
Technical reports	110	18.3	18.3	80.5
Patents	117	19.5	19.5	100.0
Total	600	100.0	100.0	

The above table presents a breakdown of the types of information most frequently required in my research work. Research articles and conference papers comprise the majority, accounting for 42.8% collectively. Books,

monographs, technical reports, and patents also play significant roles, contributing to a comprehensive knowledge base essential for diverse research endeavours.

		Sum of Squares	df	Mean Square	F	Sig.
How do you communicate your suggestions for acquiring specific resources that are not currently available in the library?	Between Groups	13.400	4	3.350	2.865	.023
	Within Groups	695.785	595	1.169		
	Total	709.185	599			
Have you ever participated in discussions with women scientists to identify gaps in the library's collection?	Between Groups	4.645	4	1.161	.897	.465
	Within Groups	770.074	595	1.294		
	Total	774.718	599			
In your opinion, how well does the library cater to your information needs within your research area?	Between Groups	.238	4	.060	.047	.996
	Within Groups	751.522	595	1.263		
	Total	751.760	599			
Are there any specific types of resources that you feel are lacking in the library's collection?	Between Groups	1.962	4	.491	.916	.454
	Within Groups	318.503	595	.535		
	Total	320.465	599			

The above results of the one-way ANOVA indicate significant variations in participants' perceptions across different aspects of library resources. Specifically, for the question regarding resource acquisition suggestions, there was a significant difference among groups ($F(4, 595) = 2.865, p = .023$), suggesting a need for additional resources. However, discussions with women scientists to identify collection gaps did not yield significant differences ($F(4,$

$595) = .897, p = .465$). Similarly, perceptions of the library's adequacy in meeting research needs showed no significant differences ($F(4, 595) = .047, p = .996$), indicating general satisfaction. Additionally, participants did not find specific resource types lacking in the library collection ($F(4, 595) = .916, p = .454$). These findings offer valuable insights for enhancing the library's resource offerings.

FINDINGS

The discoveries presented in this study enhance our comprehension of the information retrieval dynamics, making substantial contributions to the ongoing discourse concerning gender equity and inclusivity within NEERI, Nagpur City's scientific community. Our aspiration is that by illuminating the information-seeking behaviors of female scientists, we can actively participate in cultivating a more inclusive and nurturing environment. This environment will empower women, enabling them to make significant and enduring contributions to the progression of scientific knowledge.

In the past decade, there has been a notable increase in the utilization of library resources by women scientists, paralleled by a growing number of female scientists entering the field. This progression is pivotal in shaping a more equitable and flourishing scientific community that embraces the contributions of all its members.

CONCLUSION

In conclusion, this study has illuminated the critical importance of understanding the information retrieval patterns of female scientists within the contemporary scientific landscape. Our comprehensive examination has provided valuable insights into how women scientists access, engage with, and leverage information resources in their pursuit of knowledge and innovation.

By delving into the intricacies of their resource access, involvement in professional networks, and the influence of gender dynamics on their careers, we have uncovered a rich tapestry of experiences and strategies. Beyond analysis, our study has aimed to deepen our comprehension of women scientists' challenges and opportunities in their fields.

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