A Study of Digital Competence and Occupational Stress among Library Professionals in the Indian Knowledge System

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Abstract: The typical function of a library professional has changed a lot in the fast-changing field of information science. The incorporation of digital technologies, a defining characteristic of the modern information system, has converted libraries into vibrant digital centers. This change has made it easier to get information, but it has also brought up some new problems, especially when it comes to library workers' stress levels and the need for them to be good with computers. This study, "A Study of Digital Competence and Occupational Stress Among Library Professionals in the Indian Knowledge System," seeks to examine the intricate correlation between occupational stress and digital competence among library professionals. The research suggests that the requirements of a digitally-driven workplace may substantially contribute to work-related stress. Employing a descriptive research approach, data were gathered from a sample of 50 library professionals from government colleges and university libraries. The data was thoroughly examined employing descriptive statistics and hypothesis testing, including t-tests and correlation analysis, to investigate the relationship between the two variables. The results indicate a substantial negative correlation, implying that elevated digital competence correlates with less professional stress. The study also looks at how gender and institutional affiliation (college vs. university) affect occupational stress and digital competence. The findings reveal no significant gender differences in either category; nevertheless, there is a considerable disparity in occupational stress between professionals in college and university environments. This research enhances comprehension of the professional issues encountered by library professionals in the digital era, providing a basis for the formulation of targeted interventions and training initiatives. The main goal is to create a more friendly and productive workplace that keeps library workers healthy and happy while they continue to be important sources of information in modern India.

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1.0 Introduction: The Indian knowledge system, which used to be based on printed books and physical archives, is going through a big change. Libraries are no longer only places to store books; they are instead digital portals that give people access to a huge number of electronic resources. Library workers now have to learn new skills and abilities because of this change. They are now in charge of managing digital collections, making online services easier to use, and helping people navigate complicated digital spaces. This change, which is necessary to stay relevant, has created a new dynamic in the workplace: the possibility of more stress at work. It is hard to be a professional when you have to learn and keep up with both traditional and digital services at the same time. This paper aims to examine the complex interplay between these two essential facets of contemporary library practice. The library profession has never had to deal with so many new challenges because of the quick adoption of digital technologies. Professionals need to know more than just the basics of library science, such how to catalog, classify, and manage collections. They also need to be good at using a lot of different digital tools and platforms. They need to know how to use integrated library systems, manage institutional repositories, offer virtual reference services, and understand how to deal with complicated license agreements for e-resources. The continual necessity for skill enhancement and the apprehension of obsolescence might constitute a considerable cause of stress. This study provides a contemporary examination of the impact of digital competence, or its absence, on the occupational stress encountered by library workers. The results will give library managers and policymakers important information that will help them make the workplace more supportive and plan better professional development programs.

1.1 Occupational Stress

Occupational stress, a phrase frequently employed in organizational psychology and management, denotes the psychological and physiological strain individuals encounter in reaction to work-related demands and pressures. Stress is a normal part of life and can sometimes be a good thing, but long-term stress at work can be very bad for a person's

health, job performance, and overall well-being. In a library, this can show up in a number of ways, such as burnout, less job satisfaction, and more people missing work. There are many different types of occupational stress for library workers, and they can be grouped into a few main categories.

One of the main causes is the stress that comes with the job. This includes role ambiguity, which is when the professional isn't sure what their duties are, and role conflict, which is when they have to meet the needs of patrons while also following the rules set by the administration. The workload is another big source of stress, and it has gotten worse since digital services were added. Professionals are now required to handle both physical collections and digital resources, but they often don't have enough staff to help them do this. Another big cause of stress is the strain to keep up with how quickly technology changes. Stress at work can have a lot of effects. It can cause health problems like high blood pressure, headaches, and persistent weariness. It can make you feel anxious, depressed, and that you're not good enough in your mind. For the company, a lot of stress might mean less work gets done, worse service, and more employees leaving. To make sure that library services are still useful and long-lasting in the digital age, it is important to understand and deal with these pressures.

1.2 Digital Competence

Digital competence is a complex idea that goes beyond just knowing how to use a computer. It includes the information, abilities, and attitudes needed to use digital technology effectively and critically for business, learning, and everyday life. When it comes to becoming a library professional, digital competence is not an extra ability; it is a must-have for success. It requires avariety of skills, such as:

- Information and Data Literacy: Being able to find, assess, organize, and manage digital information in a good way. In this age of misinformation, it's more vital than ever to be able to tell the difference between reliable and dubious sources.
- Communication and Collaboration: The ability to use digital technologies to talk to coworkers and customers and work together on projects. This encompasses everything from sending and receiving emails and instant messages to working on shared papers and taking part in online forums.
- Making digital content: the ability to make and change new content, such making library guides, digital presentations, and online exhibitions.
- Safety and finding solutions: A basic understanding of digital security, such as how to secure your personal information and deal with online threats. It also means being able to fix technical difficulties, which is something you have to do every day in a digital library.

In India, where there is still a digital gap and people use technology in different ways, the need for digital skills is especially strong. For many customers who may not have these abilities, library personnel are a very important link. So, their personal skills are closely related to how well they can serve their communities and how good they feel about their work. Not being good with technology may be quite stressful for professionals since they may feel like they can't do their jobs well, which can make them feel inadequate and frustrated.

1.3 Rationale of the Study

The rationale for this study is grounded in the recognition that the modern library is a space of dynamic change, where the old and new coexist and often collide. The digital revolution, while promising, is not without its human costs. The well-being of the library professionals who are spearheading this transformation is a critical area that deserves careful consideration. This research is motivated by the need to understand this dynamic, specifically the interplay between occupational stress and digital competence.

Several key factors underscore the importance of this investigation:

i. **Filling a Research Gap:** While there is extensive literature on occupational stress and digital competence as separate entities, the specific relationship between these two factors within the Indian library context is an under-researched area. This study aims to provide empirical evidence that can inform future research and practice.

ii. **Enhancing Professional Well-being:** By identifying the specific ways in which digital competence affects stress levels, this research can provide a roadmap for interventions. If a lack of digital skills is a significant stressor, then targeted training programs could be a powerful tool for improving the mental and emotional well-being of professionals.

iii. **Improving Service Delivery:** A stressed and under-skilled workforce is less likely

to provide high-quality service. By mitigating stress and enhancing digital competence, this research can indirectly contribute to better, more efficient library services for the public.

iv. **Informing Policy and Practice:** The findings will be invaluable for library administrators, university officials, and government bodies responsible for library development. They can use this information to design better job roles, allocate resources for training, and create more supportive work environments.

This study is a vital step toward ensuring that the digital transformation of libraries is a sustainable and humane process, where the professionals at the heart of the system are empowered, not overwhelmed.

1.4 Review of Related Literature

The convergence of occupational stress and contemporary workplace difficulties has been the focus of substantial research across multiple disciplines. Chaplain (2001), in a study of head teachers, identified a robust correlation between occupational stress and job satisfaction, observing that a considerable proportion of the participants reported elevated stress levels. The study emphasized that managing change and workload were significant causes to this stress. Kyriacou (2001) also found that instructors' main sources of stress were their workload, students' lack of discipline, and the pressure of being graded. These studies lay the groundwork for comprehending the origins of stress in knowledge-based occupations. Bhat and Arumugam (2020) investigated the correlation between digital proficiency and job satisfaction among secondary school teachers in the Kashmir Valley, focusing on the influence of technology. Their results showed a positive correlation, indicating that increased digital proficiency enhances job happiness. This gives a strong basis for the idea that being good with technology might help reduce stress. The global setting offers other perspectives. López-Meneses et al. (2020) evaluated the digital competency of university students across three European nations, revealing that although they exhibited proficiency in certain domains, deficiencies were evident in others, particularly in digital content creation. This indicates that even within a digitally native generation, competency is not homogeneous, which has ramifications for the older generation of library professionals. Researchers have also looked into the exact connection between technology and stress. Dhakate and Domple (2022), in a study examining non-teaching personnel at a hospital, discovered that a considerable proportion of participants experienced moderate levels of stress, primarily attributed to role conflict. This conclusion is especially important for library professionals, who often have to deal with uncertainty as their roles change.

The literature examined indicates a distinct trend: the contemporary workplace, characterized by escalating technology demands, serves as a significant source of occupational stress. However, there is also evidence that being better at using these new technologies might make you happier at work. This research seeks to integrate these two perspectives, particularly in the context of Indian libraries, to offer a comprehensive understanding of how digital competence may mitigate occupational stress.

1.5 Statement of the Problem

The rapid digitization of information and the subsequent transformation of library services have placed new and significant demands on library professionals. While this evolution is essential for the profession's survival and growth, it has also created a potential for increased occupational stress. The central problem to be investigated is the relationship between occupational stress and digital competence among library professionals in government colleges and university libraries in the Indian state of Haryana.

1.6 Operational Definitions

- **Occupational Stress:** The psychological and physiological strain experienced by library professionals due to work-related pressures. It is measured using a standardized scale that assesses various dimensions, including role overload, role ambiguity, role conflict, and interpersonal conflicts.
- **Digital Competence:** the combination of abilities, know-how, and dispositions needed by librarians to use digital technology critically and successfully. A standardised instrument that evaluates competence in domains including communication, content production, information literacy, and problem-solving is used to quantify this.
- **Library Professionals:** People working at government college and university libraries in Haryana in a variety of positions, such as assistant librarians, librarians, and other support personnel.

1.7 Objectives of the Present Study

1. To find out how common occupational stress is among librarians working in

Haryana's government college and university libraries.

2. To evaluate the same set of professionals' degree of digital competency.

3. To investigate the connection and link between digital competency and work-related stress.

4. To compare the levels of occupational stress experienced by college and university professionals, as well as by male and female professionals.

5. To compare the levels of digital competency across college and university professionals, as well as between male and female professionals.

1.8 Hypotheses of the Present Study

H1: Male and female library workers do not significantly differ in their levels of occupational stress.

H2: College and university librarians do not significantly differ in their levels of work stress.

H3: The digital competency of male and female library staff is not significantly different.

H4: College and university library staff do not significantly differ in their level of digital competency.

H5: Digital competency and occupational stress do not significantly correlate.

1.9 Research Design and Methodology

This study used a quantitative approach and a descriptive research design to examine the connection between digital competence and occupational stress. Standardised questionnaires were used as part of the approach to gather information from a sample of fifty library professionals.

1.9.1 Population and Sample

Library professionals employed by the state of Haryana's government college and university libraries made up the study's target demographic. 50 participants were chosen using a purposive sample technique, which guaranteed a balanced representation of both genders and various institution kinds. An equal number of men and women participated in each category, with 25 professionals from government college libraries and 25 from university libraries making up the sample.

1.9.2 Data Collection Tools

Two standardized tools were used for data collection:

1. **Occupational Stress Scale:** A validated scale developed by Srivastav was used to measure the level of occupational stress. The scale consists of multiple items on a Likert scale, covering various dimensions of stress such as role overload, role ambiguity, and interpersonal conflict.
2. **Digital Competence Assessment Questionnaire:** A standardized tool developed by Dangwal and Srivastav was used to assess the digital competence of the participants. This questionnaire measures a range of skills, from basic technical proficiency to more advanced abilities like digital content creation and information literacy.

2.0 Data Analysis and Interpretation

Thorough statistical analysis was performed on the data gathered from the 50 library professionals in order to evaluate the hypotheses and achieve the study's goals. Descriptive statistics, independent sample t-tests, and correlation analysis were all used in the analysis. A statistical software program was used for all statistical calculations. The results and their interpretation are shown in the sections that follow.

2.1 Descriptive Statistics

The descriptive analysis provides a general overview of the data on occupational stress and digital competence. The mean scores and standard deviations are presented in Table 1.

Table 1: Descriptive Statistics of Occupational Stress and Digital Competence

Variable	Mean Score	Standard Deviation
Occupational Stress	78.52	14.31
Digital Competence	62.18	12.87

The professionals polled had a relatively high degree of stress, as indicated by their mean occupational stress score of 78.52. The subjects' varying levels of stress are indicated by the standard deviation of 14.31. A moderate degree of proficiency is indicated by the mean score of 62.18 for digital competence. The 12.87 standard deviation suggests that there is variation in the sample's level of digital competency.

Table 2: T-Test for Occupational Stress by Gender

2.2 Hypothesis Testing

The findings of evaluating the five hypotheses developed for this study are shown in this section.

Hypothesis H1: Library workers who are male and female do not significantly differ in their levels of occupational stress.

An independent samples t-test was conducted to compare the mean occupational stress scores of male and female professionals.

Gender	N	Mean Score	Standard Deviation	t-value	p-value
Male	25	79.24	13.56	-0.42	0.677
Female	25	77.80	15.11		

Male and female library professionals do not differ statistically significantly in their levels of occupational stress, according to the t-test results, which show a p-value of 0.677, over the significance level of 0.05. The null hypothesis (H1) is so accepted. This implies that in this sample, the experience of occupational stress is not influenced by gender.

Hypothesis H2: Library professionals in colleges and universities do not significantly differ in their levels of occupational stress.

A second independent samples t-test was performed to compare the mean occupational stress scores of professionals working in college libraries versus university libraries.

Table 3: T-Test for Occupational Stress by Institution Type

Institution	N	Mean Score	Standard Deviation	t-value	p-value
College	25	83.12	12.45	2.15	0.036
University	25	73.92	15.34		

The t-test indicates a statistically significant difference in occupational stress between the two groups, with a p-value of 0.036, below the significance level of 0.05. We reject the null hypothesis (H2). According to the findings, college library staff members endure noticeably greater levels of occupational stress than their university library colleagues. A distinct organisational culture in college settings, lower staff sizes, or a lack of resources could all be contributing causes.

Hypothesis H3: Library professionals who are male and female do not significantly differ in their level of digital competency.

This hypothesis was tested by comparing the mean digital competency scores of male and female professionals using an independent samples t-test.

Table 4: T-Test for Digital Competence by Gender

Gender	N	Mean Score	Standard Deviation	t-value	p-value
Male	25	61.88	11.98	0.17	0.865
Female	25	62.48	13.80		

The significance level of 0.05 is significantly smaller than the p-value of 0.865. This suggests that there is no statistically significant difference between male and female library personnel' levels of digital competency. Thus, the null hypothesis (H3) is approved. This is encouraging since it shows that there is no gender difference in the need for digital skills among this professional group.

Hypothesis H4: There is no significant difference in digital competence between college and university library professionals.

The t-test for this hypothesis compared the mean digital competence scores of professionals from college and university libraries.

Table 5: T-Test for Digital Competence by Institution Type

Institution	N	Mean Score	Standard Deviation	t-value	p-value
College	25	59.84	10.57	-1.41	0.165
University	25	64.52	14.89		

The t-test result, with a p-value of 0.165, which is greater than the 0.05 significance level, shows no statistically significant difference in digital competence between professionals in college and university libraries. The null hypothesis (H4) is accepted. While the mean score for university professionals is slightly higher, the difference is not large enough to be considered statistically significant.

Hypothesis H5: There is no significant correlation between occupational stress and digital competence.

To test the relationship between the two main variables, a Pearson's correlation analysis was performed.

Table 6: Correlation Analysis between Occupational Stress and Digital Competence

Variables	Pearson's r	p-value
Occupational Stress &	-0.45	0.001
Digital Competence		

The correlation coefficient (r) is -0.45, and the p-value is 0.001. A p-value of less than 0.05 indicates that the correlation is statistically significant. The negative sign of the correlation coefficient indicates a significant inverse relationship between occupational stress and digital competence. This means that as digital competence increases, occupational stress tends to decrease, and vice

versa. The null hypothesis (H5) is rejected. This finding is crucial, as it provides a strong link between skill level and professional well-being. It suggests that equipping professionals with the necessary digital skills may be a direct way to reduce their work-related stress.

3.0 Discussion of Findings

The findings of this study provide a comprehensive and nuanced picture of the professional challenges facing library professionals in the digital age. The descriptive statistics show that the professionals surveyed experience a moderately high level of occupational stress, which is consistent with the findings of various studies on knowledge workers in a rapidly changing environment. The level of digital competence, while moderate, also indicates room for improvement.

The t-tests on demographic variables yielded some intriguing results. The acceptance of hypotheses H1 and H3 suggests that gender does not play a significant role in either the experience of occupational stress or the acquisition of digital competence among the professionals in this sample. This is a positive sign, indicating that the profession is becoming more gender-neutral in its demands and opportunities.

However, the rejection of hypothesis H2 highlights a significant disparity in occupational stress between professionals in college and university libraries. The higher stress levels in college libraries could be a result of several institutional factors. College libraries often have more limited budgets, fewer support staff, and less access to advanced digital infrastructure and training opportunities compared to their university counterparts. This suggests that the institutional environment plays a critical role in shaping the work experience and stress levels of library professionals.

The most significant finding of the study, and the core of this research, is the rejection of hypothesis H5. The strong negative correlation between occupational stress and digital competence (-0.45, $p < 0.01$) provides robust evidence that a professional's level of digital skill is directly related to their level of work-related stress. This is a powerful insight. It suggests that the challenges of the digital age are not abstract but are tangibly linked to the skills and abilities of the people on the front lines. The frustration and anxiety that come from feeling unprepared for new tasks, troubleshooting technical issues, and adapting to new systems are a major source of stress. Conversely, a high level of digital competence may act as a protective factor, providing a sense of control, efficacy, and confidence, thereby reducing stress.

This finding has profound implications for policy and practice. Instead of focusing solely on stress management programs, which treat the symptoms, a more effective approach would be to address the root cause. This means prioritizing and investing in professional development and training programs aimed at enhancing digital competence. By empowering library professionals with the skills they need to thrive in the digital landscape, institutions can not only improve service delivery but also, and more importantly, improve the well-being and job satisfaction of their staff.

4.0 Conclusion

This research paper, "A Study of Digital Competence and Occupational Stress Among Library Professionals in the Indian Knowledge System," has provided a detailed analysis of the relationship between occupational stress and digital competence. The study's primary contribution is the empirical evidence of a significant inverse correlation between the two variables, demonstrating that as digital competence increases, occupational stress tends to decrease. This finding is a call to action for library administrators, policymakers, and educators. The well-being of library professionals in the digital age is not an issue separate from their professional development; rather, the two are inextricably linked.

The study's findings also highlight the institutional disparities in stress levels, with college library professionals experiencing more stress than their university counterparts. This suggests that resources and support systems are not evenly distributed, creating an unequal work environment. To ensure a sustainable and effective library system, it is crucial to address these disparities and provide equitable access to training, technology, and support.

This research marks a step forward in understanding the human element of the digital transformation in the library profession. It moves the conversation beyond just the technology itself to the people who must wield it. The way forward for the Indian library system is not just about building digital libraries but about nurturing and empowering the digital librarians who will make them a reality. The results of this study ought to be the starting point for creating all-encompassing plans that give these vital knowledge workers' professional abilities and personal welfare first priority.

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