



Psychometric Evaluation of Job Satisfaction Constructs among LIS Professionals in ICT-Enabled Central University Libraries of Uttar Pradesh

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Abstract

The study examines the psychometric properties of an instrument developed to measure job satisfaction among Library and Information Science (LIS) professionals working in ICT-enabled Central University libraries in Uttar Pradesh. The findings demonstrate that the five constructs—Working Environment, Monetary Benefits, Promotion Policy, Physical Environment and ICT Infrastructure, and Overall Satisfaction with Librarianship as a Career—exhibit high internal consistency, confirming the reliability of the measurement framework. Although a few items showed comparatively lower performance, they were retained due to their theoretical relevance. Overall, the instrument demonstrates strong psychometric validity and reliability, providing a robust framework for assessing job satisfaction in technology-driven academic libraries. It also offers a valuable tool for future research, institutional evaluation, evidence-based policy formulation, and human resource development in academic libraries.

Keywords: Job Satisfaction, LIS Professionals, Cronbach's Alpha, Psychometric Properties, Corrected Item–Total Correlation (CITC), Squared Multiple Correlation (SMC), Cronbach's Alpha if Item Deleted, Central Universities, ICT-Enabled Libraries.

Introduction

Job satisfaction is one of the most widely studied constructs in organizational and behavioural research because of its significant influence on both employees and organizations. It has been recognized as a key determinant of employee motivation, productivity, organizational commitment, service quality, and overall organizational effectiveness. Owing to its multidimensional nature, job satisfaction has been examined from various perspectives, including years of experience, nature of work, organizational environment, and the use of Information and Communication Technology (ICT). Spector (1997) defined job satisfaction as an individual's feelings about their job and its various aspects.

Luthans (1998) further described it as the perception of employees regarding how well their jobs provide the outcomes they consider important, including the work itself, pay, promotion opportunities, supervision, and overall contentment. Locke (1976) characterized job satisfaction as a positive emotional state resulting from the appraisal of one's job or job experiences. Complementing these definitions, Herzberg, Mausner, and Snyderman (1959), through their Two-Factor Theory, explained that job satisfaction is shaped by both motivational factors, such as achievement, recognition, responsibility, and advancement, and hygiene factors, including salary, working conditions, interpersonal relationships, and organizational policies.

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Library and Information Science (LIS) professionals play a crucial role in academic institutions by supporting teaching, learning, research, and the dissemination of knowledge. Their responsibilities have expanded considerably with the increasing integration of ICT, making job satisfaction an important factor influencing their performance and the quality of library services. Previous studies have identified several factors influencing job satisfaction among LIS professionals, including the working environment, salary and financial benefits, opportunities for promotion, job security, professional recognition, interpersonal relationships, and administrative support (Gboyega and Popoola, 2011; Shafique, Rehman, and Mahmood, 2012). Moreover, the increasing adoption of ICT in academic libraries has introduced additional dimensions of job satisfaction, including access to technological infrastructure, library automation systems, Internet connectivity, and electronic information resources (Pavithrabai et al., 2025; Bala and Viji, 2022). These findings suggest that job satisfaction is a multifaceted construct shaped by both organizational and technological factors that influence the professional experiences and workplace satisfaction of LIS professionals. Accordingly, examining these dimensions provides a valuable framework for understanding the determinants of job satisfaction among LIS professionals working in ICT-enabled academic libraries.

Although numerous studies have investigated the determinants and levels of job satisfaction among LIS professionals, comparatively little attention has been paid to evaluating the psychometric properties of the instruments used to measure this multidimensional construct. The quality of empirical research depends not only on the relevance and appropriateness of the variables selected but also on the reliability and validity of the measurement instrument. Reliable and valid instruments are essential methodological requirements in quantitative research because they ensure that research findings are accurate, consistent, and trustworthy (Creswell and Creswell, 2018).

Validity refers to the degree to which a measurement instrument accurately measures

the concept it is intended to measure (Hair et al., 2019). A valid instrument ensures that the data obtained truly reflect the dimensions of job satisfaction and that the research findings are meaningful. According to Sekaran and Bougie (2020), validity relates to the appropriateness and usefulness of the inferences drawn from measurement results. Reliability, on the other hand, refers to the consistency, stability, and dependability of an instrument in measuring a specific construct. A reliable instrument yields consistent results under similar conditions and reduces random measurement error (Bryman, 2016). One of the key approaches to assessing reliability is the evaluation of internal consistency, which examines the extent to which items within a scale measure the same underlying construct. Cronbach's Alpha is one of the most commonly used measures of internal consistency and is generally considered acceptable when its value is 0.70 or higher (Cronbach, 1951; Nunnally and Bernstein, 1994).

Objectives of the Study

The present study aims to evaluate the psychometric properties of the constructs used to measure job satisfaction among LIS professionals working in ICT-enabled Central University libraries in Uttar Pradesh, India. Specifically, the study examines the internal consistency reliability of the five major dimensions of job satisfaction, namely Working Environment, Monetary Benefits, Promotion Policy, Physical Environment and ICT Infrastructure, and Overall Satisfaction with Librarianship as a Career, together with the adequacy of their measurement items. The psychometric evaluation was carried out using Cronbach's Alpha, CITC, SMC, and Cronbach's Alpha if Item Deleted. These statistical indicators provide empirical evidence regarding the internal consistency, item-level performance, and overall robustness of the measurement instrument. Consequently, the study offers a reliable and psychometrically sound framework for assessing job satisfaction among LIS professionals working in ICT-enabled Central University libraries and provides a methodological foundation for future empirical research in technology-driven academic library environments.

Methodology

The present study adopts a psychometric approach to evaluate the measurement properties of the constructs used to assess job satisfaction among LIS professionals working in ICT-enabled Central University libraries. The analysis assesses the quality, internal consistency, and adequacy of the measurement instrument to ensure its suitability for measuring the multidimensional nature of job satisfaction. Internal consistency reliability was evaluated using Cronbach's Alpha coefficient, one of the most widely accepted indicators of scale reliability. A Cronbach's Alpha value of 0.70 or above is generally considered indicative of acceptable reliability (Nunnally and Bernstein, 1994). To further examine the contribution of individual items to their respective constructs, CITC, SMC, and Cronbach's Alpha if Item Deleted statistics were employed. CITC was used to assess the degree of association between each item and its respective construct, SMC was used to examine the proportion of shared variance among the items, and Cronbach's Alpha if Item Deleted was used to determine the effect of removing individual items on the internal consistency of each construct. Together, these analyses provide empirical evidence regarding the adequacy, internal consistency, and contribution of the measurement items.

All statistical analyses were conducted using IBM SPSS Statistics Version 27. The results were interpreted in accordance with established psychometric criteria to evaluate the internal consistency reliability and overall measurement properties of the instrument. The application of these statistical techniques provides empirical evidence regarding the robustness of the measurement framework, thereby enhancing the credibility and interpretability of the study findings.

Data Analysis

Psychometric Evaluation of the Working Environment Construct

Table 1 presents the descriptive statistics and internal consistency reliability of the Working Environment construct, which comprises five measurement items: policies, procedures, and administrative system of the institution;

appreciation of work and knowledge by higher authorities; cooperation with higher authorities; relationship with library staff; and sufficiency of manpower. Cronbach's Alpha coefficient was employed to assess the internal consistency reliability of the construct, while item-level psychometric properties were further evaluated using CITC, SMC, and Cronbach's Alpha if Item Deleted. In addition, descriptive statistics were used to examine respondents' perceptions of various aspects of their working environment.

The mean scores of the individual items ranged from 3.71 to 4.24, indicating that the respondents generally held positive perceptions of their working environment. The item "Relationship with library staff" recorded the highest mean score ($M = 4.24$, $SD = 0.864$), suggesting a high level of satisfaction with interpersonal relationships and teamwork within the library. This finding reflects positive working relationships and effective cooperation among library staff members.

The second-highest mean score was observed for the item "Cooperation with higher authorities" ($M = 4.05$, $SD = 0.971$), indicating that respondents perceived a satisfactory level of cooperation and support from their superiors and institutional authorities. Similarly, the item "Sufficiency of manpower" obtained a mean score of 3.91 ($SD = 1.006$), reflecting a moderately positive perception regarding the availability of adequate human resources for library operations.

Furthermore, the item "Appreciation of work and knowledge by higher authorities" recorded a mean score of 3.76 ($SD = 0.974$), indicating that respondents generally felt recognized and valued for their professional contributions. The lowest mean score was observed for "Policies, Procedures, and Administrative System of the Institution" ($M = 3.71$, $SD = 0.928$), although respondents still expressed a generally positive perception of this aspect of the working environment. The standard deviation values ranged from 0.864 to 1.006, indicating relatively low variability and a reasonable level of agreement among respondents.

The Working Environment construct demonstrated good internal consistency, with a

Table 1. Descriptive Statistics and Internal Consistency Reliability of the Working Environment Construct

Variables	Mean	Std. Deviation	N	Cronbach's Alpha
Policies, Procedures, and Administrative System of the Institution	3.71	0.928	199	0.811
Appreciation of work and knowledge by higher authorities	3.76	0.974	199	
Cooperation with higher authorities	4.05	0.971	199	
Relationship with library staff	4.24	0.864	199	
Sufficiency of manpower	3.91	1.006	199	

Table 1(a) Item-Level Psychometric Evaluation of the Working Environment Construct

Variables	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Policies, Procedures, and Administrative System of the Institution	15.95	8.619	0.618	0.415	0.769
Appreciation of work and knowledge by higher authorities	15.90	8.531	0.592	0.401	0.776
Cooperation with higher authorities	15.62	8.418	0.619	0.401	0.768
Relationship with library staff	15.43	8.832	0.636	0.427	0.765
Sufficiency of manpower	15.76	8.659	0.537	0.318	0.794

Cronbach's Alpha coefficient of 0.811, exceeding the recommended threshold of 0.70 (Nunnally and Bernstein, 1994). This finding indicates that the five measurement items are sufficiently interrelated and consistently represent the Working Environment dimension of job satisfaction. The relatively higher mean scores for "Relationship with library staff" and "Cooperation with higher authorities" further emphasize the importance of supportive interpersonal relationships and organizational support in shaping respondents' perceptions of their working environment. Overall, the construct demonstrates satisfactory psychometric properties and is appropriate for subsequent analyses.

Item-Level Psychometric Evaluation of the Working Environment Construct

Table 1(a) presents the item-level psychometric evaluation of the Working Environment construct using CITC, SMC, and Cronbach's Alpha if Item Deleted. These statistics were used to examine the contribution of individual measurement items to the internal consistency of the construct.

The CITC values ranged from 0.537 to 0.636, exceeding the recommended threshold of 0.30 (Hair et al., 2019), indicating that all items were positively associated with the Working Environment construct. The highest CITC value was recorded for "Relationship with

Table 2. Descriptive Statistics and Internal Consistency Reliability of the Monetary Benefits Construct

Variables	Mean	Std. Deviation	N	Cronbach's Alpha
Are you satisfied with the economic benefits provided by your job?	3.56	0.872	200	0.852
Are you satisfied with the pay you received?	3.45	0.981	200	
Are you satisfied with the increments and such other emoluments of your pay Level?	3.21	1.004	200	
Are you satisfied with the salary in relation to the nature and quantum of work being performed	3.38	0.933	200	
Are you satisfied with the post-retirement benefits, such as pension, gratuity, and related benefits?	3.02	1.100	200	

library staff" (0.636), whereas "Sufficiency of manpower" showed the lowest value (0.537), which nevertheless remained above the recommended threshold. The SMC values ranged from 0.318 to 0.427, suggesting acceptable shared variance among the items. Furthermore, the Cronbach's Alpha if Item Deleted values (0.765–0.794) were consistently lower than the overall Cronbach's Alpha coefficient (0.811), indicating that the removal of any item would reduce the internal consistency of the construct.

Overall, the item-level psychometric evaluation demonstrates that all five measurement items contribute meaningfully to the Working Environment construct. The CITC values exceeded the recommended threshold, while the Cronbach's Alpha if Item Deleted analysis indicated that none of the items should be removed. Accordingly, all five items were retained, confirming that the Working Environment construct demonstrates good internal consistency and satisfactory psychometric properties for measuring this dimension of job satisfaction among LIS professionals.

Psychometric Evaluation of the Monetary Benefits Construct

Table 2 presents the descriptive statistics and internal consistency reliability of the Monetary Benefits construct, which comprises five measurement items related to financial compensation and economic benefits received

by LIS professionals: economic benefits provided by the job, salary received, increments and emoluments, salary in relation to the nature and quantity of work performed, and post-retirement benefits. Descriptive statistics were used to examine respondents' perceptions of these financial aspects, while Cronbach's Alpha coefficient was employed to assess the internal consistency reliability of the construct.

The mean scores of the five items ranged from 3.02 to 3.56, indicating a moderate level of satisfaction with monetary benefits among LIS professionals. The highest mean score was recorded for "Economic benefits provided by the job" ($M = 3.56$, $SD = 0.872$), suggesting that respondents were relatively satisfied with the overall financial advantages associated with their employment. This was followed by "Pay received" ($M = 3.45$, $SD = 0.981$), indicating a moderately positive perception of salary. The mean scores for "Salary in relation to the nature and quantity of work performed" ($M = 3.38$, $SD = 0.933$) and "Increments and other emoluments" ($M = 3.21$, $SD = 1.004$) suggest moderate satisfaction with salary structure and financial incentives.

The lowest mean score was observed for "Post-retirement benefits, such as pension, gratuity, and related benefits" ($M = 3.02$, $SD = 1.100$), indicating comparatively lower satisfaction with retirement-related financial benefits. The standard deviation values ranged from 0.872 to 1.100, reflecting moderate variability in

Table 3. Descriptive Statistics and Internal Consistency Reliability of the Promotion Policy Construct

Variables	Mean	Std. Deviation	N	Cronbach's Alpha
Satisfied with the Promotions Policy	3.70	1.208	200	0.961
There is always a chance for promotion	3.70	1.228	200	
Educational qualifications are taken into consideration	4.06	1.395	200	
Opportunities for promotion based on seniority cum fitness.	4.07	1.356	200	

respondents’ perceptions, particularly regarding salary increments and post-retirement benefits. The Monetary Benefits construct demonstrated good internal consistency, with a Cronbach’s Alpha coefficient of 0.852, exceeding the recommended threshold of 0.70 (Nunnally and Bernstein, 1994). This finding indicates that the five measurement items are sufficiently interrelated and consistently represent the financial dimension of job satisfaction. Overall, respondents expressed moderate satisfaction with monetary benefits, particularly economic benefits and salary, whereas comparatively lower satisfaction with salary increments and post-retirement benefits suggests areas requiring greater institutional attention. The construct therefore demonstrates satisfactory psychometric properties and is appropriate for subsequent analyses.

Item-Level Psychometric Evaluation of the Monetary Benefits Construct

The item-level psychometric evaluation of the Monetary Benefits construct was carried out using Corrected Item–Total Correlation (CITC), Squared Multiple Correlation (SMC), and Cronbach’s Alpha if Item Deleted to examine the contribution of individual measurement items to the internal consistency and overall psychometric properties of the construct. The CITC values ranged from 0.453 to 0.804, exceeding the recommended threshold of 0.30 (Hair et al., 2019), indicating that all five measurement items contributed meaningfully to the construct. The highest CITC values were recorded for “Pay Received” (0.804), “Economic Benefits Provided by the Job” (0.757), and “Salary in Relation to the Nature and Quantity of Work

Performed” (0.739), suggesting that these items are strongly associated with the Monetary Benefits construct. Although “Post-retirement Benefits” recorded the lowest CITC value (0.453), it remained above the recommended threshold, supporting its retention. The SMC values ranged from 0.283 to 0.711, indicating satisfactory shared variance among the measurement items and providing additional evidence of the coherence of the construct. The Cronbach’s Alpha if Item Deleted values ranged from 0.782 to 0.882, compared with the overall Cronbach’s Alpha coefficient of 0.852. For the majority of the measurement items, deletion resulted in lower Alpha values, indicating that they contributed positively to the internal consistency of the construct. Although removing the item “Post-retirement Benefits” would increase the Alpha coefficient to 0.882, the improvement was modest and did not justify its removal. Moreover, post-retirement benefits represent an important conceptual dimension of monetary satisfaction and were therefore retained. Overall, the item-level psychometric evaluation provided no statistical justification for removing any measurement item. Accordingly, all five measurement items were retained, confirming that the Monetary Benefits construct demonstrates good internal consistency and satisfactory psychometric properties for measuring the financial dimension of job satisfaction among LIS professionals working in ICT-enabled Central University libraries.

Psychometric Evaluation of the Promotion Policy Construct

Table 3 presents the descriptive statistics and internal consistency reliability of the Promotion

Policy construct, which comprises four measurement items: satisfaction with the promotion policy, opportunities for promotion, educational qualifications considered for promotion, and promotion based on the principle of seniority-cum-merit. Descriptive statistics were used to examine respondents' perceptions of promotion-related practices, while Cronbach's Alpha coefficient was employed to assess the internal consistency reliability of the construct.

The mean scores of the four items ranged from 3.70 to 4.07, indicating generally positive perceptions of promotion policies among LIS professionals. The highest mean score was recorded for "Promotion based on seniority-cum-merit" ($M = 4.07$, $SD = 1.356$), followed closely by "Educational qualifications are taken into consideration for promotion" ($M = 4.06$, $SD = 1.395$), suggesting that respondents perceived merit and educational qualifications as important criteria in promotion decisions. The items "Satisfied with the Promotion Policy" and "There is always a chance for promotion" both recorded mean scores of 3.70, indicating moderate satisfaction with existing promotion policies and career advancement opportunities. The standard deviation values ranged from 1.208 to 1.395, reflecting comparatively greater variation in respondents' perceptions of promotion-related practices.

The Promotion Policy construct demonstrated excellent internal consistency, with a Cronbach's Alpha coefficient of 0.961, exceeding the recommended threshold for excellent reliability (Nunnally and Bernstein, 1994). This finding indicates that the four measurement items are highly interrelated and consistently represent the promotion dimension of job satisfaction. Overall, respondents expressed favourable perceptions of promotion practices, particularly regarding the importance of educational qualifications and seniority-cum-merit in promotion decisions. The construct therefore demonstrates excellent internal consistency and satisfactory psychometric properties, making it suitable for subsequent analyses.

Item-Level Psychometric Evaluation of the Promotion Policy Construct

The item-level psychometric evaluation of the Promotion Policy construct was carried out

using Corrected Item–Total Correlation (CITC), Squared Multiple Correlation (SMC), and Cronbach's Alpha if Item Deleted to examine the contribution of individual measurement items to the internal consistency of the construct.

The CITC values ranged from 0.899 to 0.917, substantially exceeding the recommended threshold of 0.30 (Hair et al., 2019), indicating that all four measurement items contributed strongly to the Promotion Policy construct. Similarly, the SMC values ranged from 0.952 to 0.959, demonstrating a high degree of shared variance among the items. The Cronbach's Alpha if Item Deleted values (0.946–0.952) were consistently lower than the overall Cronbach's Alpha coefficient (0.961), indicating that the removal of any item would reduce the internal consistency of the construct.

Overall, the item-level psychometric evaluation demonstrates that all four measurement items contributed meaningfully to the Promotion Policy construct. The consistently high CITC and SMC values, together with the Cronbach's Alpha if Item Deleted analysis, indicate that no item should be removed. Accordingly, all four measurement items were retained, confirming that the Promotion Policy construct demonstrates excellent internal consistency and satisfactory psychometric properties for measuring the promotion dimension of job satisfaction among LIS professionals working in ICT-enabled Central University libraries.

Psychometric Evaluation of the Physical Environment and ICT Infrastructure Construct

Table 4 presents the descriptive statistics and internal consistency reliability of the Physical Environment and ICT Infrastructure construct, which comprises ten measurement items representing workplace facilities, physical working conditions, ICT infrastructure, and occupational safety available to LIS professionals. Descriptive statistics were used to examine respondents' perceptions of their physical and ICT-enabled work environments, while Cronbach's Alpha coefficient was employed to assess the internal consistency reliability of the construct.

The findings indicate that all measurement items recorded very high mean scores, ranging

Table 4. Descriptive Statistics and Internal Consistency Reliability of the Physical Environment and ICT Infrastructure Construct

Variables	Mean	Std. Deviation	N	Cronbach's Alpha
Well-equipped furniture	4.39	0.781	200	0.829
Sufficient space to work	4.69	0.726	200	
Noise-free environment	4.43	0.938	200	
Good ventilation and other hygiene factors	4.55	0.831	200	
Computer system	4.53	0.687	200	
Internet facility	4.53	0.850	200	
Automation of the library	4.38	0.937	200	
E-resources/services	4.54	0.844	200	
Safety conditions	4.71	0.727	200	
Ergonomic working chairs, computer tables, and comfortable seating that support long hours of work.	4.50	0.783	200	

Table 4 (a). Item-Level Psychometric Evaluation of the Physical Environment and ICT Infrastructure Construct

Variables	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Well-equipped furniture	40.85	22.845	0.359	0.340	0.828
Sufficient space to work	40.54	22.963	0.381	0.341	0.826
Noise-free environment	40.80	20.281	0.589	0.439	0.806
Good ventilation and other hygiene factors	40.68	20.048	0.725	0.835	0.792
Computer system	40.70	23.226	0.369	0.320	0.827
Internet facility	40.71	19.908	0.726	0.852	0.791
Automation of the library	40.86	19.572	0.686	0.553	0.794
E-resources/services	40.70	20.082	0.706	0.623	0.793
Safety conditions	40.52	22.432	0.461	0.458	0.819
Ergonomic working chairs, computer tables, and comfortable seating that support long hours of work.	40.73	24.379	0.148	0.204	0.847

from 4.38 to 4.71, reflecting a high level of satisfaction with both the physical working environment and ICT infrastructure available in the participating Central University libraries.

The highest mean score was observed for “Safety conditions” (M = 4.71, SD = 0.727), indicating that respondents perceived their workplace as safe and secure. Similarly,

“Sufficient workspace” recorded a mean score of 4.69 (SD = 0.726), suggesting a highly positive perception regarding the adequacy of workspace for carrying out professional responsibilities.

High mean scores were also observed for the items “Good ventilation and hygiene factors” (M = 4.55, SD = 0.831), “Electronic resources and services” (M = 4.54, SD = 0.844), “Computer systems” (M = 4.53, SD = 0.687), and “Internet facilities” (M = 4.53, SD = 0.850). These findings indicate a high level of satisfaction with both the physical working environment and the ICT infrastructure available in the participating Central University libraries. In particular, the high ratings for computer systems, Internet facilities, and electronic resources suggest that respondents perceive their libraries as being well equipped with modern ICT infrastructure capable of supporting efficient library operations, digital information services, and ICT-enabled academic activities.

In addition, ergonomic working chairs, computer tables, and comfortable seating arrangements supporting prolonged working hours recorded a mean score of 4.50 (SD = 0.783), indicating a high level of satisfaction with the ergonomic facilities provided in the workplace. Likewise, “Noise-free environment” (M = 4.43, SD = 0.938) and “Well-equipped furniture” (M = 4.39, SD = 0.781) also received favourable ratings, reflecting respondents’ positive perceptions of the overall physical working environment.

The lowest mean score was observed for “Automation of library services” (M = 4.38, SD = 0.937). Although this item recorded the lowest score among the measurement items, it remained substantially above the neutral point, indicating that respondents generally expressed positive perceptions of the level of library automation in their institutions. This finding suggests that automation initiatives have been widely implemented across the selected Central University libraries, although there remains scope for further enhancement and modernization.

The standard deviation values ranged from 0.687 to 0.938, indicating relatively low variability in responses and a high level of agreement

among respondents regarding the quality of the physical environment and ICT infrastructure available in their institutions.

The Physical Environment and ICT Infrastructure construct demonstrated good internal consistency, with a Cronbach’s Alpha coefficient of 0.829, exceeding the recommended threshold of 0.70 (Nunnally and Bernstein, 1994). This finding indicates that the ten measurement items are sufficiently interrelated and consistently represent this dimension of job satisfaction.

Overall, the descriptive findings reveal that LIS professionals are highly satisfied with the physical working environment, workplace safety, ergonomic facilities, and ICT infrastructure available in the selected Central University libraries. The consistently high ratings for computer systems, Internet facilities, electronic resources, and library automation highlight the significant role of ICT in supporting library operations and enhancing the professional work environment. Collectively, these findings demonstrate that the Physical Environment and ICT Infrastructure construct exhibits good internal consistency and satisfactory psychometric properties, confirming its suitability for measuring this important dimension of job satisfaction among LIS professionals working in ICT-enabled Central University libraries.

Item-Level Psychometric Evaluation of the Physical Environment and ICT Infrastructure Construct

The item-wise reliability statistics for the physical environment and ICT infrastructure construct are shown in Table 4(a). The analysis includes Scale Mean if Item Deleted, Scale Variance if Item Deleted, CITC, SMC, and Cronbach’s Alpha if Item Deleted. These statistical measures were employed to assess the internal consistency and reliability of the construct, as well as to evaluate the contribution of each individual item to the overall scale. The analysis provides valuable insights into the adequacy of the items and their effectiveness in measuring the physical environment and ICT infrastructure dimension of job satisfaction among LIS professionals.

Table 5. Descriptive Statistics and Internal Consistency Reliability of the Overall Satisfaction with Librarianship as a Career Construct

Variables	Mean	Std. Deviation	N	Cronbach's Alpha
Recognition of accomplishment by supervisors/ higher authority	3.95	0.861	200	0.813
Job security	4.39	0.749	200	
Relationship with co-workers and users	4.31	0.753	200	
Reasonable salaries	3.77	0.924	200	
Opportunities for promotion (CAS)	3.19	1.296	200	
Opportunities for promotion, seniority cum fitness	3.14	1.165	200	
Suitability of the working environment	4.14	0.741	200	
Opportunities to use my ability in my work	3.94	0.972	200	
Better status in society	3.85	0.957	200	
Tensionless job	3.60	1.042	200	

The CITC values ranged from 0.148 to 0.726. According to Hair et al. (2019), a CITC value greater than 0.30 indicates that an item contributes satisfactorily to the measurement of the underlying construct. In the present study, nine of the ten measurement items exceeded the recommended threshold, indicating meaningful contributions to the Physical Environment and ICT Infrastructure construct. The only exception was “Ergonomic Working Chairs, Computer Tables, and Comfortable Seating that Support Long Hours of Work”, which recorded a CITC value of 0.148, suggesting a comparatively weaker association with the overall construct.

The highest CITC values were observed for “Internet facilities” (0.726), “Good ventilation and hygiene factors” (0.725), “Electronic resources/services” (0.706), and “Automation of library services” (0.686), indicating that these items were strongly associated with the construct. These findings highlight the important role of ICT infrastructure and a supportive physical working environment in shaping respondents’ perceptions of this dimension of job satisfaction. The remaining items, including noise-free environment, safety conditions, sufficient workspace, computer

systems, and well-equipped furniture, also demonstrated acceptable levels of association, with CITC values ranging from 0.359 to 0.589.

The SMC values ranged from 0.204 to 0.852, indicating varying levels of shared variance among the measurement items. The highest SMC values were recorded for “Internet facilities” (0.852) and “Good ventilation and hygiene factors” (0.835), whereas the ergonomic furniture item exhibited the lowest SMC value (0.204), further indicating its comparatively weaker relationship with the remaining items.

The Cronbach’s Alpha if Item Deleted values ranged from 0.791 to 0.847, compared with the overall Cronbach’s Alpha coefficient of 0.829. For nine of the ten items, deletion would reduce the overall Alpha coefficient, indicating that they contribute positively to the internal consistency of the construct. Although removing the ergonomic furniture item would increase the Alpha coefficient to 0.847, its retention was considered appropriate because ergonomic facilities represent an important conceptual dimension of the physical work environment and occupational well-being. Consequently, the decision to retain the item was based not only on statistical evidence but also on its theoretical and practical relevance.

Overall, the item-level psychometric evaluation demonstrates that the Physical Environment and ICT Infrastructure construct possesses good internal consistency and satisfactory psychometric properties. The findings indicate that ICT-related facilities—including Internet access, electronic resources, library automation, and computer systems—together with key aspects of the physical work environment, make meaningful contributions to measuring this dimension of job satisfaction. Accordingly, all ten measurement items were retained to ensure comprehensive representation of the construct among LIS professionals working in ICT-enabled Central University libraries.

Psychometric Evaluation of the Overall Satisfaction with Librarianship as a Career Construct

Table 5 presents the descriptive statistics and internal consistency reliability of the Overall Satisfaction with Librarianship as a Career construct. The construct comprises ten measurement items representing various dimensions of career satisfaction among LIS professionals, including recognition of accomplishments by supervisors and higher authorities, job security, relationships with co-workers and users, salary, opportunities for promotion through the CAS, promotion based on seniority-cum-merit, suitability of the working environment, opportunities to utilize professional abilities and skills, social status associated with the profession, and librarianship as a tension-free profession. Descriptive statistics were used to examine respondents' perceptions of these dimensions, while Cronbach's Alpha coefficient was employed to assess the internal consistency reliability of the construct.

The mean scores of the measurement items ranged from 3.14 to 4.39, indicating an overall positive level of satisfaction with librarianship as a career among LIS professionals. The highest mean score was recorded for "Job Security" ($M = 4.39$, $SD = 0.749$), suggesting that respondents highly value the stability and security associated with the profession. The second-highest mean score was observed for "Relationship with co-workers and users" ($M = 4.31$, $SD = 0.753$), reflecting positive

interpersonal relationships and a supportive work environment. Similarly, "Suitability of the working environment" recorded a mean score of 4.14 ($SD = 0.741$), indicating a favourable perception of workplace conditions.

Furthermore, "Recognition of accomplishments by supervisors and higher authorities" recorded a mean score of 3.95 ($SD = 0.861$), while "Opportunities to utilize professional abilities and skills" obtained a mean score of 3.94 ($SD = 0.972$). These findings suggest that respondents generally perceive librarianship as a profession that recognizes their contributions and provides opportunities to apply their professional knowledge and competencies.

The mean scores for "Better status in society" ($M = 3.85$, $SD = 0.957$) and "Reasonable salaries" ($M = 3.77$, $SD = 0.924$) indicate moderate satisfaction with the social status and financial rewards associated with the librarianship profession. Similarly, "Tension-free job" recorded a mean score of 3.60 ($SD = 1.042$), suggesting that respondents generally perceived librarianship as a relatively less stressful profession, although the comparatively higher standard deviation indicates some variation in these perceptions.

The lowest mean scores were recorded for "Opportunities for promotion through the Career Advancement Scheme (CAS)" ($M = 3.19$, $SD = 1.296$) and "Promotion based on seniority-cum-merit" ($M = 3.14$, $SD = 1.165$), indicating comparatively lower satisfaction with career advancement opportunities. The standard deviation values ranged from 0.741 to 1.296, reflecting moderate variability in responses, particularly for promotion-related items, which may be influenced by differences in institutional policies and individual career experiences.

The Overall Satisfaction with Librarianship as a Career construct demonstrated good internal consistency, with a Cronbach's Alpha coefficient of 0.813, exceeding the recommended threshold of 0.70 (Nunnally and Bernstein, 1994). This finding indicates that the measurement items are sufficiently interrelated and consistently represent overall career satisfaction.

Overall, the findings indicate that LIS professionals are generally satisfied with

librarianship as a career, particularly regarding job security, workplace relationships, the working environment, recognition by supervisors, and opportunities to utilize professional abilities and skills. In contrast, promotion through the CAS and seniority-cum-merit received comparatively lower ratings, suggesting that career progression remains an area requiring greater institutional attention. Collectively, the construct demonstrates good internal consistency and satisfactory psychometric properties, confirming its suitability for assessing overall career satisfaction among LIS professionals working in ICT-enabled Central University libraries.

Item-Level Psychometric Evaluation of the Overall Satisfaction with Librarianship as a Career Construct

The item-level psychometric evaluation of the Overall Satisfaction with Librarianship as a Career construct was carried out using Corrected Item–Total Correlation (CITC), Squared Multiple Correlation (SMC), and Cronbach's Alpha if Item Deleted to examine the contribution of individual measurement items to the internal consistency and overall psychometric properties of the construct.

The CITC values ranged from 0.380 to 0.639, exceeding the recommended threshold of 0.30 (Hair et al., 2019), indicating that all ten measurement items contributed meaningfully to the construct. The highest CITC values were recorded for "Better Status in Society" (0.639), "Reasonable Salaries" (0.622), and "Opportunities to Utilize My Abilities in My Work" (0.593), suggesting that these factors are strongly associated with overall career satisfaction. Although comparatively lower CITC values were observed for "Recognition of Accomplishment by Supervisors/Higher Authorities" (0.411) and "Opportunities for Promotion through the Career Advancement Scheme (CAS)" (0.380), both values exceeded the recommended threshold, supporting the retention of these measurement items.

The SMC values ranged from 0.284 to 0.521, indicating satisfactory shared variance among the measurement items and providing additional evidence of the coherence of the construct.

The Cronbach's Alpha if Item Deleted values ranged from 0.780 to 0.817, compared with the overall Cronbach's Alpha coefficient of 0.813. For the majority of the measurement items, deletion resulted in lower Alpha values, indicating that they contributed positively to the internal consistency of the construct. Although removing the item "Opportunities for Promotion through the Career Advancement Scheme (CAS)" would marginally increase the Alpha coefficient to 0.817, the improvement was negligible and did not justify its removal. Moreover, this item represents an important conceptual dimension of career satisfaction and was therefore retained.

Overall, the item-level psychometric evaluation provided no statistical justification for removing any measurement item. Accordingly, all ten measurement items were retained, confirming that the construct demonstrates good internal consistency and satisfactory psychometric properties for assessing overall career satisfaction among LIS professionals working in ICT-enabled Central University libraries.

Major Findings

The psychometric evaluation of the measurement instrument demonstrated that all five job satisfaction constructs exhibited satisfactory to excellent internal consistency, confirming the robustness of the instrument for assessing job satisfaction among LIS professionals working in ICT-enabled Central University libraries. The Cronbach's Alpha coefficients ranged from 0.811 to 0.961, indicating that the measurement items consistently represented their respective constructs.

Among the five constructs, Promotion Policy demonstrated the highest internal consistency ($\alpha = 0.961$), followed by Monetary Benefits ($\alpha = 0.852$), Physical Environment and ICT Infrastructure ($\alpha = 0.829$), Overall Satisfaction with Librarianship as a Career ($\alpha = 0.813$), and Working Environment ($\alpha = 0.811$). These findings indicate that the proposed measurement framework provides a reliable representation of the multidimensional nature of job satisfaction among LIS professionals.

The item-level psychometric evaluation further revealed that most measurement items recorded CITC values exceeding the recommended

threshold of 0.30, confirming their meaningful contribution to their respective constructs. Similarly, the SMC values demonstrated satisfactory shared variance among the measurement items, providing additional evidence of the coherence of the constructs. Although a few items, such as ergonomic workplace facilities and post-retirement benefits, exhibited comparatively lower item correlations, they remained within acceptable limits and were retained because of their theoretical and practical relevance in representing important dimensions of job satisfaction.

The Cronbach's Alpha if Item Deleted analysis further indicated that, for the majority of the measurement items, deletion would either reduce the overall Alpha coefficient or result in only negligible improvements. Consequently, no measurement item was removed from the final instrument, confirming the adequacy and completeness of the proposed measurement framework.

The descriptive findings revealed generally positive perceptions across all five dimensions of job satisfaction. Respondents expressed particularly high levels of satisfaction with job security, workplace safety, supportive relationships with colleagues, cooperation from higher authorities, and the availability of ICT infrastructure, including computer systems, Internet facilities, electronic resources, and library automation. These findings highlight the important role of both organisational support and ICT-enabled work environments in enhancing job satisfaction among LIS professionals.

In contrast, comparatively lower levels of satisfaction were observed for promotion opportunities, particularly under the CAS and seniority-cum-merit, as well as for certain aspects of monetary benefits, especially post-retirement benefits. These findings suggest that although ICT infrastructure and workplace conditions were viewed favourably, greater institutional attention is required to strengthen career advancement opportunities and financial incentives.

Overall, the findings demonstrate that the proposed measurement instrument possesses

good internal consistency and satisfactory psychometric properties for assessing job satisfaction among LIS professionals working in ICT-enabled Central University libraries. The instrument provides a robust methodological framework for future research in technology-driven academic library environments.

Conclusion

This study evaluated the psychometric properties of the constructs developed to measure job satisfaction among Library and Information Science (LIS) professionals working in ICT-enabled Central University libraries in Uttar Pradesh. The findings confirm that the five dimensions-Working Environment, Monetary Benefits, Promotion Policy, Physical Environment and ICT Infrastructure, and Overall Satisfaction with Librarianship as a Career-demonstrate satisfactory to excellent internal consistency and sound psychometric characteristics. Cronbach's Alpha coefficients for all constructs exceeded the recommended threshold, while the Corrected Item-Total Correlation (CITC) and Squared Multiple Correlation (SMC) values indicated that the measurement items contributed meaningfully to their respective constructs and adequately represented the underlying dimensions of job satisfaction.

The study further highlights the multidimensional nature of job satisfaction among LIS professionals. Professional satisfaction is influenced by a combination of organizational, professional, technological, and personal factors, including workplace relationships, institutional support, physical and ICT infrastructure, job security, professional recognition, financial benefits, and opportunities for career advancement. Although relatively lower levels of satisfaction were observed for certain promotion-related and post-retirement benefit items, these variables remain conceptually significant components of the overall job satisfaction framework.

Overall, the findings establish that the proposed measurement instrument is reliable and psychometrically sound for assessing job satisfaction in ICT-enabled academic library environments. Beyond validating the instrument,

the study provides a dependable framework for future empirical investigations, comparative studies, and institutional assessments of human resource practices in academic libraries. The validated constructs can support evidence-based research and policy formulation aimed at enhancing professional satisfaction, organizational effectiveness, and human resource development in the Library and Information Science profession.

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