Unveiling the roots of cyberloafing: A fuzzy analytic hierarchy perspective on antecedents in the Indian IT landscape

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Abstract. In an era where work and workplaces are increasingly digitized, the pervasive phenomenon of cyberloafing—diverting work hours to non-job-related online activities—poses a growing challenge. This study delves into the intricacies of cyberloafing among Indian IT professionals, identifying and prioritizing its antecedents using a Fuzzy Analytic Hierarchy Process (FAHP). Surveying 250 employees from CMMI Level 5 IT companies in Delhi-NCR, our findings reveal that interpersonal factors hold the most significant weight (58.7%) in contributing to cyberloafing, followed by individual (29.7%) and situational antecedents (11.6%). Notably, factors such as status at work (44.3%), personality (15.6%), and managerial support (14.4%) emerged as crucial sub criteria. This research not only adds precision to understanding cyberloafing but also proposes tailored measures to mitigate its impact. Our results underscore the imperative for organizations to address cyberloafing, especially in the context of the dynamic Indian IT landscape.

Keywords: antecedents, cyberloafing, fuzzy AHP, Indian IT Professionals, workplace digitalization

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1. Introduction

The pervasive integration of the Internet into various facets of modern life has brought about unparalleled convenience and efficiency, revolutionizing the way individuals engage with information, communicate, and work. This transformative influence is particularly evident within professional settings, where the Internet has become an indispensable tool for enhancing employee productivity, organizational efficiency, and communication efficacy. However, this technological boon comes with its own set of challenges, and one pressing concern that has emerged in recent years is the phenomenon of cyberloafing.

Cyberloafing refers to the voluntary diversion of employees' work hours toward non-job-related online activities, such as browsing personal websites and checking personal emails, during office hours [15]. As organizations increasingly rely on digital platforms and remote work becomes more prevalent, the incidence of cyberloafing has witnessed a surge, leading to approximately 2 to 3 hours of daily productivity loss per employee and an estimated financial setback of $4500 per individual [14]. The COVID-19 pandemic has further exacerbated this issue, with the rise of telecommuting creating an environment where employees face fewer managerial controls, contributing to the escalating problem of cyberloafing [29].

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In light of the growing prevalence and impact of cyberloafing, this study seeks to address the critical need for a comprehensive understanding of its determinants, particularly in the context of the Indian IT industry. Previous research has explored various antecedents of cyberloafing, ranging from personality and demographics to time management and organizational justice [1, 6, 8]. However, a crucial gap remains in understanding the relative importance of these factors, hindering the development of targeted interventions to mitigate cyberloafing effectively.

Motivated by this research gap and the unique challenges posed by the Indian IT context, this study aims to rank the determinants of cyberloafing as identified by [17]. The focus on the Indian context is justified by previous studies indicating a high prevalence of cyberloafing among Indian employees [1, 25]. By providing insights into the specific factors contributing to cyberloafing in this context, this research strives to offer actionable recommendations for organizations seeking to curtail cyberloafing and mitigate its adverse effects on employee productivity and organizational outcomes.

This study's relevance extends beyond theoretical implications, as it directly addresses the practical challenges faced by organizations navigating the evolving landscape of remote work and digital engagement. The subsequent sections will delve into the literature review, the methodology and data, the results and discussion, and the conclusion. Through this research endeavor, we aspire to contribute meaningfully to the ongoing discourse on cyberloafing, providing valuable insights that can inform strategies to foster a more productive and secure digital work environment.

2. Literature review

2.1. Cyberloafing

The term "cyberloafing" encapsulates various forms of non-work-related online activities during working hours, including cyberslacking, personal internet use, mobile loafing, and personal-mobile internet loafing [25, 28, 4]. First introduced by Kamins in 1995 as an element of workplace deviance, the concept gained prominence in the early 2000s amid the digitization of business operations [28]. Despite its historical recognition, cyberloafing has resurged in scholarly attention due to its pervasive nature and potential impact on organizations. As employees increasingly use the internet for both personal and professional purposes, scholarly opinions on the ethical ramifications of cyberloafing vary. While some argue its role as a coping mechanism or stress reliever, others emphasize its detrimental effects on organizational performance, deeming it a counterproductive workplace behavior that requires mitigation [11, 16]

2.2. Antecedents of cyberloafing

The extensive body of literature on cyberloafing has shed light on its antecedents, categorizing them into individual, interpersonal, and situational factors [17].

2.2.1. Individual factors

Individual characteristics significantly shape cyberloafing behavior, with research exploring variables such as sleep patterns, habit formation, personality traits, mood, demographics, and time management. Emotions, particularly loneliness and boredom, play a pivotal role, driving employees to engage in cyberloafing activities, often manifesting as internet surfing during periods of monotony [2, 9]. Habits, formed through the Theory of Planned Behavior and Theory of Reasoned Action, correlate positively with cyberloafing and, once established, prove resistant to change. Demographic factors, including age, gender, marital status, and education, also exhibit varying associations with cyberloafing, emphasizing the nuanced nature of individual

predispositions [3, 16]. Personality traits, particularly the Big Five traits, unveil intriguing connections. Neuroticism, openness, and extraversion exhibit positive associations with cyberloafing, while conscientiousness and agreeableness manifest negative correlations [3, 10]. Sleep patterns, time management, and habit formation further underscore the intricate interplay of individual factors in shaping cyberloafing tendencies [27].

2.2.2. Interpersonal factors

In the realm of interpersonal dynamics, the workplace hierarchy and managerial support emerge as influential factors. Research indicates that individuals with higher work status are more prone to engage in cyberloafing, with managerial support and leadership styles significantly impacting employee behavior [3, 29]. The communication style of managers, encompassing assertiveness and mindfulness, plays a critical role in shaping employee cyberloafing behaviors, as do leadership styles such as authoritarianism [1].

2.2.3. Situational factors

Situational factors further contribute to the mosaic of cyberloafing determinants, with job-related variables, cultural influences, and adherence to social norms influencing employee behavior. Job-related stressors, such as role conflict and ambiguity, impact cyberloafing tendencies. Additionally, cultural disparities, social norms, and learned behaviors further contextualize the prevalence of cyberloafing across different workplace settings [4, 7]. This synthesized exploration of cyberloafing antecedents serves as a foundational understanding for our forthcoming research within the Indian IT industry. By comprehensively unraveling the intricate web of individual, interpersonal, and situational factors, we aim to provide nuanced insights into cyberloafing behaviors specific to this context. Recognizing the multifaceted nature of these determinants, our study aspires to contribute actionable insights for organizations seeking effective interventions to manage and mitigate the impact of cyberloafing on productivity and overall organizational well-being.

3. Methodology and data

Our study conducts a comprehensive analysis of the determinants of cyberloafing in IT companies in Delhi-NCR, treating the issue as a Multicriteria Decision-Making (MCDM) challenge due to its multifaceted nature. A total of 250 employees from CMMI level 5 IT companies participated in the research, using self-administered questionnaires based on Saaty's scale of relative importance through convenience sampling [21]. The used questionnaire is given below. In-depth, unstructured telephone interviews were conducted to collect data from the respondents, aiming to gain an in-depth understanding of the determinants of cyberloafing. Participants were assured of the confidentiality and anonymity of their responses, and they were briefed about the study's objectives. Each interview lasted between 35 and 90 minutes, ensuring completeness and accuracy. Participants were then asked to rank all the determinants of cyberloafing as outlined in the conceptual framework, using Saaty's scale to depict the dominance or importance of each antecedent over others. In our exploration of MCDM methods, we focused on diverse approaches, drawing insights from the existing literature. Shaktawat and Vadhera [23] employed various MCDM methods to rank hydropower projects, with PROMETHEE II and ELECTRE III recommended for their flexibility. However, the complexity of PROMETHEE II limited its user base to experts. In contrast, our preferred approach, Fuzzy Analytic Hierarchy Process (Fuzzy AHP) [20], excels in handling uncertainties and aligns seamlessly with the complexities of cyberloafing determinants, providing a more pragmatic choice compared to

PROMETHEE II and ELECTRE III. Kazemitash and Fazlollahtabar [12] proposed a comprehensive model for evaluating Information Systems on the Social Sustainability problem, utilizing the Best Worst Method (BWM). While BWM showcased advantages like requiring fewer pairwise comparisons, our chosen methodology, Fuzzy AHP, outperforms by adeptly handling uncertainties and imprecise judgments. Fuzzy AHP's integration of fuzzy logic addresses nuanced and subjective aspects of cyberloafing determinants, presenting a robust decision-making framework superior to BWM. Kovač and Podrug [13] focused on using MCDM for share selection, employing PROMETHEE and TOPSIS alongside Modern Portfolio Theory. Despite its comprehensiveness, Fuzzy AHP stands out for its advantages in handling uncertainties associated with cyberloafing determinants. The method's fuzzy logic accommodates imprecise judgments, providing a more robust decision-making framework compared to PROMETHEE and TOPSIS. Fuzzy AHP's incorporation of fuzzy set theory further enhances its suitability for addressing subjective and uncertain factors in cyberloafing determinants, establishing it as the superior choice for our research focus. The Fuzzy AHP method, incorporating fuzzy set theory and hierarchical structure analysis, provides a mathematical approach to alternative selection and justification problems [26]. Fuzzy comparison matrices have been addressed by various methods, such as the geometric mean method, the fuzzy logarithmic least squares method, and the extent analysis method. Among these, the extent analysis method has been widely utilized due to its computational simplicity [5]. Our methodological approach, centered around Fuzzy AHP, ensures a nuanced analysis of cyberloafing determinants in IT companies. Fuzzy AHP's theoretical rigor, practical applicability, and superior handling of uncertainties position our research at the forefront of addressing complexities within the realm of cyberloafing.

Questionnaire for identifying the antecedents of cyberloafing

Please compare the decision criteria and circle your Answer using the Saaty's scale of relative importance. When comparing the criteria regarding the goal, you need to answer the question which criterion is more important regarding the goal. Additionally, when comparing the sub criteria regarding each criterion, the question is which sub criterion is more important regarding the concrete criterion.

$Personal(Individual)factors$	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Interpersonal factors
$Personal(Individual)factors$	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Situational (environmental) factors
$Interpersonalfactors$	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Situational (environmental) factors

Table 1: *Pairwise comparison of main criteria.*

Mood (emotions)	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Habit formation
Mood (emotions)	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Demographic factors
Mood (emotions)	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Personality traits
Mood (emotions)	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Sleep
Mood (emotions)	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Time management
Habit formation	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Demographic factors
Habit formation	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Personality traits
Habit formation	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Sleep
Habit formation	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Time management
Demographic factors	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Personality traits
Demographic factors	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Sleep
Demographic factors	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Time management
Personality traits	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Sleep
Personality traits	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Time management
Sleep	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Time management

Table 2: *Pairwise comparison of sub-criteria (Individual factor).*

Status at work	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Managerial support (effective communication)

Table 3: *Pairwise comparison of sub-criteria (Interpersonal factor).*

Job-related factors	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Workplace culture
Job-related factors	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Social norm
Workplace culture	9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9	Social norm

Table 4: *Pairwise comparison of sub-criteria (situational factors).*

4. Results and discussion

At the core of our investigation is the overarching goal of identifying the antecedents of cyberloafing, an imperative in understanding and mitigating this prevalent modern workplace phenomenon. The first level of our hierarchical model comprises criteria, meticulously categorized into individual, interpersonal, and situational factors, reflecting the multifaceted nature of the variables influencing cyberloafing behaviors. Within this structured framework, each criterion further unfolds into sub-criteria, creating a layered depiction of the intricate relationships at play. The visual representation of this hierarchical structure is encapsulated in Figure 1, providing a lucid roadmap for scholars and practitioners alike to navigate the complex landscape of cyberloafing antecedents.

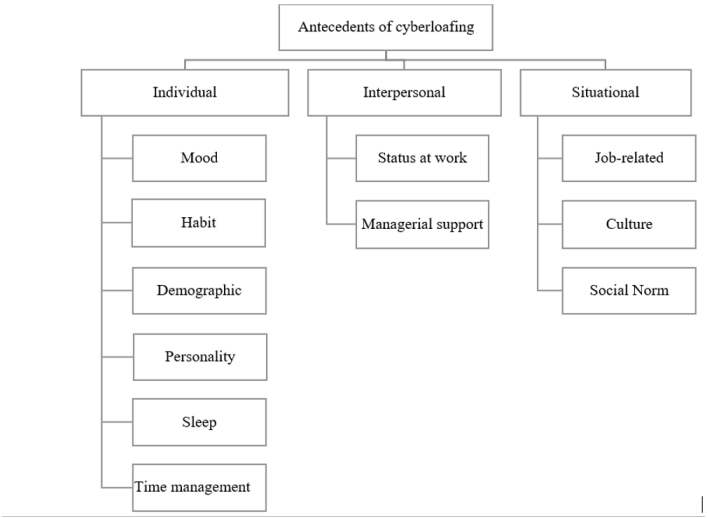

Figure 1: *Hierarchy structure of antecedents of cyberloafing.*

Once the hierarchical structure was developed, the next step was to create a pairwise comparison matrix for each level of the hierarchy. To achieve this, linguistic values (utilizing Saaty's scale of relative importance) [21] were assigned by experts to facilitate pairwise comparisons between elements. These values are detailed in Appendix 2. Subsequently, we organized the pairwise comparison matrix in the form of triangular fuzzy numbers (Equation 1).

$$\widetilde{A} = (\widetilde{a}_{ij})_{n*n} = \begin{bmatrix} (1,1,1) & (l_{12},m_{12},u_{12}) & \cdots & (l_{1n},m_{1n},u_{1n}) \\ (l_{21},m_{21},u_{21}) & (1,1,1) & \cdots & (l_{2n},m_{2n},u_{2n}) \\ \vdots & \vdots & \vdots & \vdots \\ (l_{n1},m_{n1},u_{n1}) & (l_{n2},m_{n2},u_{n2}) & \ldots & (1,1,1) \end{bmatrix} \quad (1)$$

In the Eq. 1, $\widetilde{A}$ is the fuzzified version of pair-wise comparison matrix or triangular fuzzy set.

$$\widetilde{a}_{ij} = (l_{ij}, m_{ij}, u_{ij}) = (\widetilde{a}_{ij})^{-1} = (\frac{1}{l_{ij}}, \frac{1}{m_{ij}}, \frac{1}{u_{ij}}) \text{for}, i, j, = 1, 2, \cdots n \quad \text{and} \quad i \neq j$$

Here, l_{ij} is lower value of i^{th} row and j^{th} column. Similarly, m_{ij} most promising value of i^{th} row and j^{th} column and u_{ij} is upper value of i^{th} row and i^{th} column. By employing the abovementioned equation (1), we generated the triangular fuzzy numbers for each criterion and sub-criterion, as presented in Tables 5 through 8 (referenced in tables mentioned below). To ascertain the priority vector of the aforementioned triangular fuzzy comparison matrix, we employed the extent analysis method [26].

		Individual	Interpersonal	Situational
$\tilde{A}$ =	Individual	(1,1,1)	(0.682, 0.839, 1.041)	(0.855, 1.116, 1.420)
	Interpersonal	(0.960, 1.192, 1.466)	(1, 1, 1)	(1.462, 1.842, 2.252)
	Situational	(0.704, 0.896, 1.170)	(0.444, 0.543, 0.684)	(1, 1, 1)

Table 5: *Triangular fuzzy comparison matrix of the main criteria.*

		Mood	Habit	Demo.	Per.	Sleep	Time mgt
$\tilde{A}$ =	Mood	(1,1,1)	(0.571, 0.697, 0.847)	(0.610, 0.750, 0.956)	(0.350, 0.473, 0.652)	(0.635, 0.820, 1.129)	(0.223, 0.295, 0.396)
	Habit	(1.181, 1.435, 1.751)	(1,1,1)	(0.763, 0.965, 1.258)	(0.436, 0.563, 0.767)	(1.042, 1.405, 1.870)	(0.269, 0.351, 0.490)
	Demo.	(1.046, 1.334, 1.641)	(0.795, 1.037, 1.311)	(1,1,1)	(0.618, 0.820, 1.121)	(1.346, 1.902, 2.667)	(0.269, 0.351, 0.490)
	Per.	(1.534, 2.115, 2.861)	(1.305, 1.777, 2.296)	(0.892, 1.219, 1.619)	(1,1,1)	(1.641, 2.259, 2.995)	(0.456, 0.594, 0.785)
	Sleep	(0.886, 1.219, 1.575)	(0.535, 0.712, 0.960)	(0.375, 0.526, 0.743)	(0.334, 0.443, 0.610)	(1,1,1)	(0.431, 0.523, 0.631)
	Time mgt	(2.524, 3.394, 4.481)	(2.040, 2.852, 3.713)	(2.040, 2.852, 3.713)	(1.274, 1.684, 2.192)	(1.586, 1.912, 2.318))	(1,1,1)

Table 6: *Triangular fuzzy comparison matrix of individual antecedents.*

	Status at work	Managerial	support
$\tilde{A}$ =	Status at work	(1,1,1)	(0.833, 1.069, 1.340)
	Managerial support	(0.746, 0.935, 1.201)	(1,1,1)

Table 7: *Triangular fuzzy comparison matrix of interpersonal antecedents.*

		Job-related	Workplace culture	Social Norm
$\tilde{A}$ =	Job-related	(1,1,1)	(0.346, 0.463, 0.553)	(0.245, 0.311, 0.415)
	Culture	(1.669, 2.162, 2.752)	(1,1,1)	(1.009, 1.363, 1.842)
	Social Norm	(2.410, 3.219, 4.082)	(0.543, 0.734, 0.991)	(1,1,1)

Table 8: *Triangular fuzzy comparison matrix of situational antecedents.*

First, we applied fuzzy arithmetic operations to each row of the fuzzy comparison matrix.

$$RS_i = \sum_{j=1}^{n} \widetilde{a}_{ij} = \left(\sum_{j=1}^{n} l_{ij} \sum_{j=1}^{n} m_{ij} \sum_{j=1}^{n} u_{ij} \right), i, j = 1, 2, ...n \tag{2}$$

here, RS_i is row sums.

Then we normalized the above row sums by using the following equation:

$$\widetilde{S}_i = \frac{RS_i}{\sum_{j=1}^{n} RS_i} = \left(\frac{l_{ij}}{\sum_{k=1}^{n}\sum_{j=1}^{n} u_{kj}}, \frac{m_{ij}}{\sum_{k=1}^{n}\sum_{j=1}^{n} m_{kj}}, \frac{u_{ij}}{\sum_{k=1}^{n}\sum_{j=1}^{n} l_{kj}} \right), l = 1, 2, ...n. \quad (3)$$

After that, we calculated the degree of possibility of $\widetilde{S} \geq \widetilde{S}_j$, through

$$V\left(\widetilde{S} \geq \widetilde{S}_j)\right) = \begin{cases} 1, & \text{if } m_i \geq m_j, \\ \frac{u_i - l_j}{(u_i - m_i)+(m_j - l_J)} & \text{if } l_j \leq u_i, \\ 0 & \text{otherwise} \end{cases} \quad (4)$$

here $\widetilde{S}_i = (l_i, u_i, m_i)$, $\widetilde{s}_i = (l_j, u_j, m_j)$.

After calculating the degree of possibility of $\widetilde{S} \geq \widetilde{S}_j$,we calculated the degree of possibility of $\widetilde{S}_i$ over all the other $(n-1)$ fuzzy numbers by

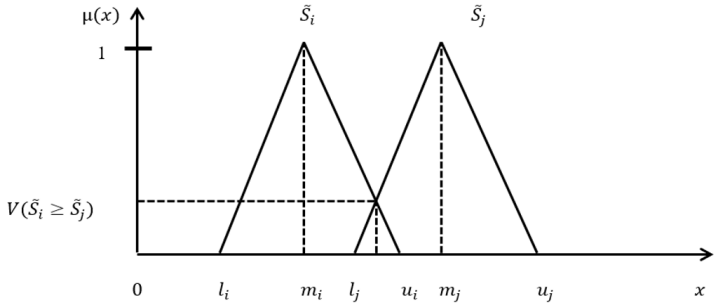

Figure 2: *Degree of possibility of [30].*

$$V\left(\widetilde{S}_i \geq \widetilde{S}_j)|j = 1, 2, ...n; j \neq i\right) = \min_{j \in 1,2,...n, j \neq i} V\left(\widetilde{S}_i \geq \widetilde{S}_j), i = 1, 2, ...n;\right) \quad (5)$$

Lastly, we defined the priority vector $w = (w_1, w_2, ...w_n)^T$ of the fuzzy comparison matrix $\widetilde{A}$ as

$$w_i = \frac{V\left(\widetilde{S}_i \geq \widetilde{S}_j) \ \ |j = 1, 2, ...n; j \neq i\right)}{\sum_{k=1}^{n} V\left(\widetilde{S}_k \geq \widetilde{S}_j) \ \ |j = 1, 2, ...n; j \neq k\right)}, \quad i = 1, \ldots\ldots, n. \quad (6)$$

After following all the above mentioned steps, we calculated the weights of each criterion and sub-criterion, which are presented in Figure 2. Based on the weight coefficients of the criteria, the most prominent antecedents of cyberloafing are the interpersonal antecedents (58.7 %), followed by the individual (29.7%) and the situational (11.6 %) antecedents. The sub-criterion with the highest global weight has ranked 1 and the variable with the lowest global weight has rank 10. Based on the ranks given to the sub-criteria, antecedents were further classified into three categories. Sub-criteria from rank 1 to rank 3 were kept under the most important factors, rank 4 to rank 6 were under the most important factors, and rank 7 to rank 10 were kept under the least important factors that influence cyberloafing behavior. These categories are based on the expert's responses. Status at work was ranked 1 (44.4 %), followed by personality (15.5%) and managerial support (14.3%).

After following all the above-mentioned steps, we calculated the weights of each criterion and sub-criterion, which are presented in Figure 3. Based on the weight coefficients of the criteria, the most prominent antecedents of cyberloafing are the interpersonal antecedents (58.7%), followed by the individual (29.7%) and the situational (11.6%) antecedents. The pronounced dominance of interpersonal antecedents underscores the pivotal role of social dynamics in shaping employees' engagement with cyberloafing activities. The significant contribution of individual antecedents signals the importance of personal characteristics in influencing cyberloafing tendencies, while the comparatively lower weight of situational antecedents highlights the contextual factors as less predominant but still noteworthy contributors.

The sub-criterion with the highest global weight has ranked 1 and the variable with the lowest global weight has rank 10. Based on the ranks given to the sub-criteria, antecedents were further classified into three categories. Sub-criteria from rank 1 to rank 3 were kept under the most important factors, rank 4 to rank 6 were under the most important factors, and rank 7 to rank 10 were kept under the least important factors that influence cyberloafing behavior. These categories are based on the expert's responses. "Status at work" emerges as the foremost influencer, commanding 44.4 % of the global weight, emphasizing the critical role of perceived status in shaping cyberloafing behaviors. "Personality" and "Managerial support" follow closely, each making substantial contributions at 15.5 % and 14.3 %, respectively. This granular categorization facilitates a more targeted approach to addressing cyberloafing, allowing organizations to prioritize interventions based on the identified significance of each antecedent. Those findings contribute not only to academic discourse but also offer practical implications for organizations seeking to devise effective strategies for mitigating cyberloafing behaviors among their workforce.

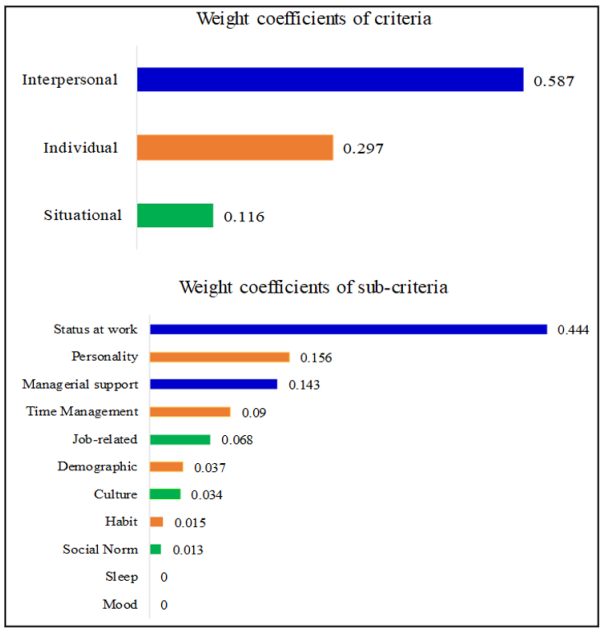

Figure 3: *Weight coefficients of criteria and sub-criteria.*

Our research findings have a dual impact, reaching beyond academic discourse to offer valuable practical implications for organizations grappling with the challenge of mitigating cyberloafing behaviors among their workforce. Academically, our study contributes to the existing body of knowledge by providing a nuanced understanding of the hierarchical structure

of antecedents influencing cyberloafing. This depth of insight is invaluable for researchers and scholars seeking to expand their comprehension of the multifaceted nature of cyberloafing, fostering further exploration and inquiry in this domain.

From a practical standpoint, our research offers actionable insights that organizations can leverage to develop effective strategies. The identification and weighting of criteria and sub-criteria, particularly the prominence of interpersonal, individual, and situational factors, serve as a blueprint for organizations to design targeted interventions. This means organizations can tailor their approaches based on the specific drivers of cyberloafing prevalent in their unique contexts. The ranking of sub-criteria in Figure 3 provides a practical guide for resource allocation, allowing organizations to prioritize interventions that address the most influential factors. For instance, recognizing "Status at work" as a key influencer underscores the importance of cultivating a positive work culture and addressing potential status-related stressors. Simultaneously, acknowledging the weight of "Personality" and "Managerial support" emphasizes the role of individual traits and effective leadership in mitigating cyberloafing behaviors.

5. Conclusion

The primary aim of this study was to investigate the antecedents of cyberloafing among Indian IT professionals using the Fuzzy Analytic Hierarchy Process (FAHP) and to provide targeted measures for mitigation. In this regard, the study successfully achieves its objective by not only identifying but prioritizing the influential factors contributing to cyberloafing behavior. The application of FAHP allows for a nuanced understanding of the weightage each factor holds, particularly emphasizing the significant influence of interpersonal, individual, and situational antecedents. By accomplishing this aim, the research adds a valuable layer of precision to the discourse on cyberloafing, specifically tailored to the dynamic landscape of the Indian IT sector.

Organizations operating in the rapidly evolving Indian IT sector stand to gain valuable insights from this research. The findings empower decision-makers, including managers and HR professionals, with a nuanced understanding of the intricate factors influencing cyberloafing behavior among IT professionals. As cyberloafing poses a growing challenge in digitized work environments, the study's implications extend beyond the IT sector, impacting any organization navigating the complexities of contemporary workplaces.

Decision-makers adopting the proposed approach glean actionable strategies for addressing cyberloafing within their organizations. By recognizing the pronounced influence of interpersonal factors and individual traits, organizations can implement targeted interventions to foster a more engaged and productive workforce. The emphasis on situational elements, such as status at work and managerial support, guides decision-makers in creating supportive work environments. Ultimately, organizations adopting these insights are better positioned to enhance productivity, job satisfaction, and overall workplace culture.

Despite its valuable contributions, this study has limitations. Firstly, the research draws its sample exclusively from the IT industry, potentially limiting the generalizability of findings to other sectors. Secondly, the focus on antecedents leaves unexplored the broader impact of cyberloafing on organizational outcomes. Additionally, the research confines itself to a developing country, necessitating further investigations in diverse global contexts to enhance the robustness and applicability of the results.

Future research can expand on this study by diversifying the industry sample to encompass sectors beyond IT, allowing for a more comprehensive understanding of cyberloafing across various workplace settings. Exploring the long-term consequences of interventions aimed at mitigating cyberloafing can provide valuable insights into the effectiveness and sustainability of such measures. Moreover, investigating the positive or negative impact of cyberloafing on organizational outcomes will contribute to a more holistic understanding of its implications. Additionally, replicating the study in different cultural and economic contexts will enhance

the external validity of the findings, providing a more nuanced perspective on the universality of cyberloafing determinants. Lastly, employing alternative MCDM methods, such as the PROMETHEE method, can offer comparative insights and further validate the robustness of the identified cyberloafing antecedents.

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