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Article

How recruitment ad informativeness influence application intentions: Mediating role of perceived fit and moderating role of employment experience

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Abstract: Business organizations use job advertisements to find and attract the high-quality workforce they need. Skillfully crafted job advertisements not only provide job-related information to job seekers but also help develop a strong employer brand in the employee market. Based on signaling theory and person-environment fit theory, we propose that the content and specificity of information provided in job advertisements influence job advertisement effectiveness through various mechanisms. In a scenario-based experiment on 310 young job seekers, we probed the direct and indirect effects of job advertisement informativeness on job pursuit intentions. Using structural equations modelling and multi-group path analysis, the mediating roles of perceived job appropriateness and ad truthfulness, along with the moderating role of previous employment experience, were examined. By manipulating the information content of a hypothetical job advertisement, we demonstrated that: a) both advertisement informativeness and perceived job appropriateness had positive direct effects on application intentions, while the latter had a greater effect; b) perceived job appropriateness mediated the relationship between advertisement informativeness and job pursuit intentions; c) the indirect (mediated) effect of advertisement informativeness on application intentions was moderated by previous employment experience; d) perceived ad truthfulness did not exert any significant effect on application intentions. These findings imply that HR practitioners should provide specific information in job postings to help candidates, especially those with less work experience, evaluate how well the job suits them and increase their motivation to apply.

Keywords: job advertisement; recruitment advertisement; information content; person-job fit; applicant attraction

1. Introduction

In today's fiercely competitive environment, gaining sustainable competitive advantage relies on having talented employees. Human resources managers who are on the front line in "talent wars" strive to attract and retain high-quality employees. Attracting scarce profiles, developing a talent pool, and establishing long-term relationships to ensure mutual satisfaction between employees and the organization are among the priority tasks of strategic human resources management. A growing body of research investigates how to attract, retain, and manage talented employees (Boštjančič and Slana, 2018; Collings and Melah, 2009; Lewis and Heckman, 2006).

A successful recruitment process is at the core of talent pool development. Effectively managing the recruitment process is an essential part of creating a favorable employer brand. In the recruitment process, the first contact between the candidate and company is often through job advertisements published in various

media. Job advertisements, also called recruitment advertisements or job announcements, not only announce open positions but also help develop a good initial organizational perception (Barber and Roehling, 1993) and a favorable employer brand that attracts talent to the company (Chapman et al., 2005; Neely-Martinez, 2002). The main functions of job advertisements are to attract the attention of the candidates, to arouse interest for the job advertised, to create a desire and ultimately to lead them to actual job application (Belt and Paolillo, 1982). Effective job advertisements improve perceived attractiveness of an organization and dissuade jobseekers from actively searching for additional job vacancies or receiving biased information from unreliable sources (Liu, 2020).

There is a plethora of studies examining the factors influencing the effectiveness of job advertisements (Mahjoub and Kruyen, 2021). Aesthetics and design issues (Burt et al., 2010; Kaplan et al., 1991), information content (Acarlar and Bilgiç, 2013; Carballo-Penela et al., 2020; Feldman et al., 2006; Highhouse et al., 1999; Heath et al., 2023; Liu, 2020; Roberson et al., 2005), media strategies (Buda, 2003; Baum and Kabst, 2014; Kim and Angnakoon, 2016), communication characteristics (Allen et al., 2013; Carpentier et al., 2019; Hentschel et al., 2021; Wille and Derous, 2017), individual differences (Deeter-Schmelz et al., 2020; Koçak et al., 2022; Walker et al., 2008), and organizational characteristics (Barbosa and Oliveira, 2021; Hoppe et al., 2021; Llanos-Contreras et al., 2024) are among the top researched topics in job advertisement studies.

Among others, the content of job advertisements and the information presented have a significant influence on job seekers' attitudes and application decisions. Several empirical studies have documented that job ads providing relevant and specific information about the advertised job and company will be perceived more positively (Abraham et al., 2024; Feldman et al., 2006; Liu, 2020; Walker et al., 2008; Yüce and Highhouse, 1998), and that including compensation and benefits information in the advertisement will boost application intentions (Verwaeren et al., 2017). However, research examining the interactions between job advertisement information content and candidate characteristics is relatively scarce. Moreover, with a few exceptions (Acarlar and Bilgiç, 2013; Muruganantham et al., 2021), most of the empirical research on job advertisement effectiveness is conducted in the US, UK, and Europe, resulting in a strong Anglo-Saxon influence. Therefore, the subject needs to be further studied in different cultures and especially in developing countries with different macroeconomic conditions. Accordingly, the current study aims to contribute to the recruitment literature by investigating the interrelation between job advertisement content and candidate characteristics in a developing country context. Guided by signaling theory (Spence, 1973) and person-environment fit theory (Caplan, 1987), we proposed that advertisement informativeness has positive effects on ad truthfulness and perceived appropriateness of the advertised job, which in turn will enhance application intentions. To test the proposed relationships, we conducted an experimental study on young job seekers and performed a moderated mediation analysis by using structural equation modeling.

In the next section, we provide a literature review on recruitment advertising and develop our research hypotheses. We then outline our sample and research methodology, analyze the data, and present the findings. In the last section, we discuss

the theoretical and practical implications, address study limitations, and present future research directions.

2. Literature review and hypothesis development

2.1. Attributes of job advertisements

Job advertisements (or recruitment advertisements) are an important tool for organizations to find and attract the high-quality workforce they need. Job advertisements are announcements published in newspapers, magazines, the internet, or other channels to inform potential employees about open positions in a company and to create a large pool of suitable candidates. In an effective recruitment process, the main goal for the company is to create a large and qualified pool of candidates from which they can acquire the employees they need, and to draw the right candidates. From the perspective of job seekers, the aim is to be employed in the best possible conditions through a realistic job search process. A realistic job search process increases productivity for both the employee and the employer by decreasing turnover and increasing commitment in the future (Meglino et al., 2000; Wanous, 1978). During the job search process, recruitment advertisements are the most important sources of information that signal potential employees about job opportunities, and potential employers (Rynes 1991; Turban and Greening 1996). They play an important role in the initial stages of the recruitment process by providing information about the job and employer from many different aspects. Main dimensions of job advertisement consist of job and work characteristics (tasks, duties, and responsibilities, skills required), organizational and job attributes (corporate image and identity information including logo, mission and vision statements, working environment), aesthetic appeal (size, position on the page, use of color, headlines, logos, borders, layout, artwork etc.), human resources offerings (compensation package, training and development opportunities, salary, rewards and other benefits etc.), contact details and application procedure, and other symbolic attributes (including employee portrayals and testimonials) (Muruganatham et al., 2018). Customizing the design, information content, and media preferences in accordance with the target audience and recruitment objectives, and other features of the job advertisement can increase communication success (Fatfouta, 2023; Petry et al., 2021). While all these features are important, the information content can significantly change the communication effects (Barber and Roehling, 1993; Cable and Judge, 1994; Feldman et al., 2006; Horvath and Sczesny, 2016; Yuce and Highhouse, 1998). Candidates generally evaluate job advertisements' information content in four main categories: information about the organization, description and content of the job, qualifications sought, skills required in candidates, the benefits and opportunities offered to the employees (Belt and Paolillo, 1982; Schmitz et al., 2021). Each of these elements can dramatically affect how candidates respond to a job advertisement.

2.2. Effects of information specificity

The literature provides equivocal results on the effects of job advertisement message specificity on job seekers' attitudes and intentions. Although a vast majority

of the literature indicates that providing rich and detailed information in job advertisements has positive effects on ad credibility, organizational attractiveness, and application intentions (Acarlar and Bilgic, 2013; Barber and Roehling, 1993; Highhouse, 1998; Kaplan et al., 1991; Verwaeren et al., 2017; Yüce and Feldman et al., 2006), some researchers reported non-significant effects of message amount and specificity on job pursuit intentions (Belt and Paolillo, 1982; Roberson et al., 2005). However, some argued that providing more detailed information in a job advertisement may increase applicant pool quality at the expense of pool quantity (Belt and Paolillo, 1982; Premack and Wanous, 1986). To reconcile these conflicting findings, Liu et al. (2016) proposed job seekers' decision-making style as a moderating variable. In a similar vein, work tenure or job search experience was also analyzed to draw boundary conditions (Walker et al., 2008). Depending on the job seeker's decision-making style and previous experience, the signal received from message specificity may differ.

Signaling theory (Spence, 1973) can explain how information provided (or omitted) in job advertisements can be used by job seekers as signals or cues that identify the superiority or attractiveness of an unknown recruiting firm (Derous, 2017; Muruganantham et al., 2021; Story et al., 2016; Turban and Cable, 2003; Wille and Vogel et al., 2023). In a realistic job search process, individuals look for specific information about job requirements, compensation, rewards and other benefits, and work environment (Cable et al., 2000; Strassburger et al., 2022). When there is no (or insufficient) direct information, indirect cues (such as amount of information and specificity) may be used as a proxy by job seekers, to base their decisions (Wille and Derous, 2017). Job ads that provide more detailed information can grab the attention of job seekers by signaling the image and reputation of the employer company, thus increasing their job pursuit likelihood. Accordingly, we propose the following hypothesis.

H1: Ad informativeness positively influences application intentions.

Job seekers look for job opportunities that fit their knowledge, skills, and abilities, as well as their personal needs and interests (Walker et al., 2008). A job seeker who receives specific information about the necessary skills and job requirements will evaluate the suitability of the position and make the decision to apply accordingly. On the other hand, when the job seeker receives little concrete information about the potential job, he or she tends to remove such postings from the evaluation set to devote time and energy to other posts that are more suitable. Consequently, job ads that contain comprehensive and specific information are more likely to be viewed as relevant by job seekers.

H2: Ad informativeness positively influences perceived job appropriateness.

The more specific information provided in a job advertisement can be interpreted as a signal indicating a sincere and honest partner who communicates openly. Thus, it increases the perceived truthfulness of the message and subsequent intentions to apply for the job. When job ads contain specific information, job seekers think that real job opportunities exist and that organizations are serious about hiring people with the specified qualifications (Feldman et al., 2006). On the other hand, low message specificity reduces the credibility of claims and increases negative attitudes towards the message (Snyder, 1989). Thus, we propose the following hypotheses:

H3: Ad informativeness positively influences perceived ad truthfulness.

H4: Perceived ad truthfulness positively influences application intentions.

2.3. The mediating role of perceived fit

Person-environment (P-E) fit theory (Caplan, 1987), posits that the fit between people and their environment affects behavior and psychological function. The match of people's knowledge, skills, and abilities (KSAs) with the requirements of the job can explain why some job seekers are more inclined to pursue certain employers (Kristof-Brown et al., 2005; Phillips et al., 2023). Lack-of-fit theory (Heilman, 1983), on the other hand, suggests that people make fit assessments by comparing their self-characterizations with the characteristics they perceive to be required for a certain position, and a mismatch reduces their interest in pursuing such opportunities (Hentschel et al., 2021; Stich et al., 2021). A job seeker who receives specific information about job requirements and necessary skills can better evaluate the match (or mismatch) between the job characteristics and their KSAs (Roberson et al., 2005; Vanderstucken et al., 2019). In a similar approach, need-supply fit (Bretz et al., 1994) or person-reward fit (Verwaeren et al., 2017) can also be used to explain job advertisement attractiveness. Providing detailed information on rewards and compensation packages will enable job seekers to better assess whether the offered package meets their needs and expectations (Verwaeren et al., 2017). Job seekers will be more likely to apply to job postings when they deem them more appropriate for their abilities, and expectations. Thus, we propose the following hypothesis.

H5: Perceived job appropriateness positively influences application intentions.

It is anticipated that the message specificity in job advertisements will enable job seekers to make a more accurate assessment of the fit between their skills and expectations and the job. Consequently, message specificity may exert an indirect effect on application intentions through perceived fit. Therefore, the effect of message specificity on application intentions will be further strengthened by the effect of perceived person-job fit. Hence, we propose the following hypothesis on the mediating role of fit:

H6: Perceived job appropriateness mediates the effects of ad informativeness on application intentions.

2.4. The moderating role of prior employment experience

Variations in job seekers' individual characteristics may change the effects of information specificity on application intentions. Beyond their demographics, many psychological, cultural, and experiential characteristics of job seekers can influence their responses to informational content in job advertisements. In addition to studies examining the effects of job seekers' information processing and decision-making styles (Liu et al., 2016), there are few studies examining the effects of work tenure and job search experience on reactions to job advertisements. Previous work experience can influence job seekers' reactions to job postings through their perception and information processing mechanisms (Wille et al., 2020). When exposed to job postings, people with previous employment experience have a greater ability to identify key organizational and job characteristics (Feldman and Arnold, 1978). Due

to perceptual alertness and selective attention, they can better process organizational information and evaluate the effects of the fit between person-organization fit and person-job fit (Kristof-Brown et al., 2002). Moreover, they can establish a more accurate link between what is written in the advertisement and the situation they will encounter at work, because they may have experienced or witnessed the consequences of a good and a bad fit. Walker et al. (2008) found that the content of job advertisements influences the organizational attitudes of experienced job seekers more than those of their inexperienced counterparts. Accordingly, we propose the following hypothesis:

H7a: Previous employment experience moderates the effect of perceived job appropriateness on application intentions, such that the effect would be stronger with high employment experience compared to low employment experience.

On the other hand, job seekers with less previous work experience will be more influenced by the information in the job advertisement when making the decision to apply for a job. These people, who have less information about the situations they may encounter in the workplace, will want to draw more conclusions from the information in the job advertisement. In this case, more detailed job advertisements will exert a stronger influence on less experienced job seekers in their decision to apply for a job. In line with this reasoning, the following hypothesis is developed:

H7b: Previous employment experience moderates the effect of ad informativeness on application intentions, such that the effect would be stronger with low employment experience than with high employment experience.

The proposed hypotheses were tested on young job seekers. **Figure 1** depicts the proposed model and research hypothesis.

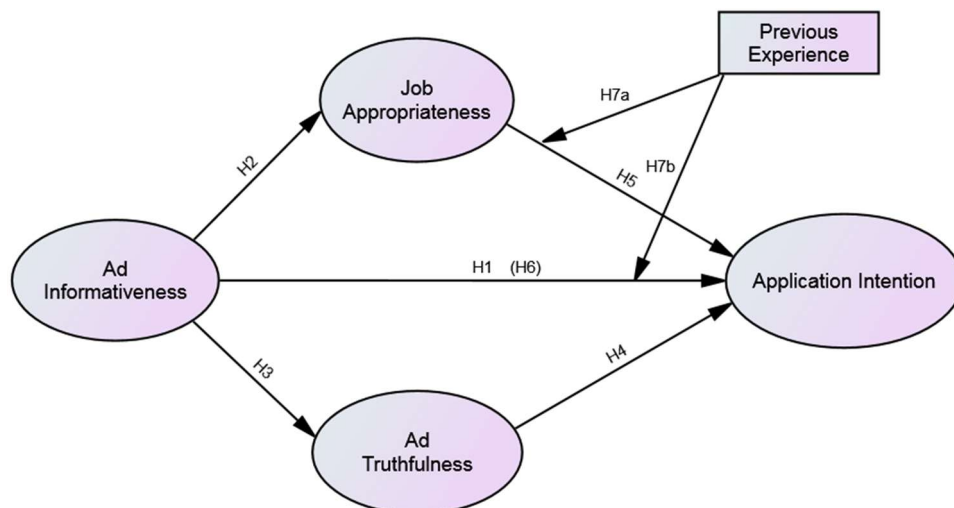


Figure 1. Proposed model and hypotheses.

3. Materials and methods

3.1. Sample

In order to test the study hypothesis, we conducted research on young job seekers. Research data were collected from a convenient sample of 310 undergraduate students (169 females, 141 males, mean age 22.2 years, SD = 1.53; range: 20–30 years)

attending various departments at a Turkish state university. About half of the participants (166) were in their third year, and the rest (144) were either senior students or those undertaking extended studies. Two-thirds (212) of the participants were business and management students, and the rest (98) were students attending technical departments (engineering, science, and technology). Respondents volunteered to take part in the study in return for extra course credits. The study was approved by the Ethics Committee of a Turkish University. Even though using student samples in social science research has some limitations, university students are considered to be a suitable target group for this study, as they constitute a particular audience that is about to enter the business world and are actively seeking employment opportunities.

3.2. Procedure

Study hypotheses were tested using a survey-based between-subjects experiment. A hypothetical job advertisement was used as the experimental stimulus. To manipulate the perceived informativeness of the job advertisement, researchers created three different versions by changing the compensation and benefits information. Participants were randomly assigned to experimental groups and were exposed to only one of these three versions.

Research data were collected by an online questionnaire. The online questionnaire consisted of four sections, beginning with the demographic questions (age, gender, study field, class, and prior employment experience). After responding to the demographic questions, respondents were randomly assigned to one of the three experimental conditions. They were instructed to “carefully read the job advertisement which was recently posted on a career website and then answer the questions.” The sector (banking and finance) and position (sales rep) in the job posting were chosen based on a pilot study, and qualitative judgments. The banking and finance sector is frequently presented in the labor market. After examining recent job postings published in newspapers and career sites, it was determined that the most common entry-level position was the sales representative. Although this position seems to be more suitable for business and management graduates, the job advertisement stated that anyone with a university degree can apply. By doing so, we aimed to create a variation in the perceived job appropriateness of participants from different study fields.

In order to prevent attitudinal bias, the employer company name was not disclosed. Instead, the job advertisement was prepared as if a career consultancy company had published it. In the title part of the advertisement, included are the name, logo of the brokerage firm, and the name of the vacant position. The phrase “We are looking for ‘Customer Representatives’ to work in one of Türkiye’s leading banks” is placed just below the title. After this sentence, job description, required skills and qualifications, compensation and benefits offered, and other information about the position are presented. In consultation with experts in the field of career management, three versions of the job advertisement were developed by manipulating the information on compensation and benefits. In the first version, no information was provided on compensation and benefits offered. In the second version, vague information is provided (i.e., satisfactory salary, promotion and career development

opportunities, bonuses, social support). In the third version, detailed, concrete, and specific information about compensation and benefits that is offered is given. In this version, beginning salary was also given explicitly. The amount of salary was set at a reasonable level that is attractive to new graduates, but not exaggerated. The shape, border, size, color, and other features of the advertisement were identical in all three versions.

After reading the job advertisement, participants were asked to respond to questions to capture perceived informativeness and credibility of the ad, job appropriateness, and their intentions to apply for the vacant position. Manipulation check questions were added in the last section of the questionnaire.

3.3. Measures

Respondents' age, gender, study field, class, and previous employment experience (how many months they have worked full-time) were measured by direct questions. As the sample comprised 115 respondents aged 23 and over (the typical age for graduation), a number of the respondents also had full-time work experience. These individuals were extension students, attending the university on a part-time basis in order to complete the remaining courses. After the demographic questions have been answered, a number of multi-item scales are used to measure the study variables.

Advertisement Informativeness was measured by the 7-item unidimensional scale developed by Feldman et al. (2006). A sample item from the scale is "I believe this job advertisement is very informative."

Ad Truthfulness was measured by the 5-item unidimensional scale adapted from Feldman et al. (2006). A sample item from the scale is "The information contained in the job advertisement is credible."

Job Appropriateness was measured by the 5-item unidimensional scale adapted from Feldman et al. (2006). A sample item from the scale is "The jobs being offered seem appropriate for someone with my education and interests."

To measure the intention to apply for the advertised job, a 7-item Likert-type scale derived from Highhouse et al. (2003), Feldman et al. (2006) and Walker et al. (2008) was used. Sample items from the scale are: "I'm considering applying for the advertised job" and "I would accept a job offer from this company."

To check the effectiveness of experimental manipulations, subjects' levels of agreement with three statements were captured. At this stage, respondents were not allowed to go back and view the job advertisement again. The statements were "This job posting provides a) comprehensive b) in-depth c) detailed information."

All measures relied on 5-point Likert-type reflective scales ranging from 1 (strongly disagree) to 5 (strongly agree). We used the translation (in Turkish) and back-translation (in English) procedure to maintain semantic equivalence of the scales.

4. Results and discussion

4.1. Manipulation checks and control variables

One hundred and ten participants were randomly assigned to the low

informativeness condition, one hundred and one participants were randomly assigned to the medium informativeness condition, and ninety-nine to the high informativeness condition. One-way ANOVA revealed significant differences among each group in the manipulation check questions. The mean score of the manipulation check questions in the “low informativeness” condition was 2.92 (SD = 0.66), whereas it was 3.09 (SD = 0.75) for the medium informativeness condition and 3.40 (SD = 0.74) for the high informativeness condition ($F_{2,307} = 11.58, p < 0.001$). These findings confirmed that the message framing manipulations worked properly.

In addition, the level of perceived job appropriateness by the respondents from different fields (management vs. technical), was compared to check whether there was significant variance. Independent samples *t*-test confirmed that business students perceived the advertised job as more appropriate ($M = 3.16, SD = .88$) compared to students studying in technical departments ($M = 2.58, SD = 1.03$) ($t = 5.125, p < 0.001$).

A correlation analysis has been conducted to check the relationships between the control variables (age, gender, year of study, job experience) and summated study variables (ad informativeness, ad truthfulness, job-appropriateness, and application intentions). **Table 1** shows descriptive statistics and correlations among study variables. None of the control variables had a statistically significant relationship with the study variables. Harman’s single-factor test was used to probe the common method bias (Podsakoff et al., 2003). Factor analysis revealed four factors explaining 69.2% of the variance. The largest factor accounted for 37.3% of the total variance. This finding suggested that common method bias is not likely to confound the results.

Table 1. Descriptive statistics and correlations among study variables.

Variables	Mean	Std. dev.	Correlations						
			1	2	3	4	5	6	7
1. Age (years)	22.21	1.54							
2. Gender (female = 1, male = 2)	1.45	0.50	0.135*						
3. Year of study (3 and 4)	3.46	0.50	0.377**	0.033					
4. Previous employment experience (range 0 – 96 months)	8.37	12.89	0.348**	0.189**	0.182**				
5. Ad informativeness	3.16	0.79	–0.032	0.001	–0.046	–0.049			
6. Ad truthfulness	3.45	0.78	–0.015	0.102	–0.072	0.007	0.376**		
7. Job appropriateness	2.98	0.97	–0.057	0.038	–0.074	–0.071	0.275**	0.210**	
8. Application intention	3.04	0.98	–0.041	–0.011	–0.120	–0.104	0.374**	0.179**	0.562**

*: Correlation is significant at the 0.05 level (2-tailed).

**: Correlation is significant at the 0.01 level (2-tailed).

In addition, we made a median split of the previous employment experience variable, to produce “high experience” and “low experience” groups in the dataset. Individuals with less than three months of prior work experience, including those with no previous employment, were classified as belonging to the “low experience” group. Those with more than three months of previous work experience were assigned to the “high experience” group. The low experience group ($n = 170$) has, on average, 1.3 months of employment experience (range 0–3 months), while the high experience

group ($n = 140$) has, on average, 16.95 months of employment experience (range 4–94 months). Although the discrepancy between the two groups in terms of work experience may appear insubstantial, mean difference is statistically significant ($t = -15.65$, $p < 0.001$) and may provide valuable insights into perceptual and attitudinal differences pertaining to job search behavior.

4.2. Measurement model and CFA

We performed a Confirmatory Factor Analysis (CFA) to validate the measurement model. Data exhibited an insufficient fit to the measurement model and some convergent and discriminant validity issues (low factor loadings, insufficient composite reliability scores, and AVEs) arose. To improve model fit and construct validity, we had to remove three items from ad informativeness, job appropriateness, and application intention scales (one from each). We also removed two items from the ad truthfulness scale. In the revised model, fit statistics showed a good fit to the data: $\chi^2 = 206.7$, $df = 111$; CMIN/DF: 1.86; GFI: 0.93; TLI: 0.96; CFI: 0.97; RMSEA: 0.053. Scale items obtained high standardized factor loadings (between 0.871 and 0.553), and reliability statistics (**Table 2**).

Table 2. Descriptives, factor loadings and reliability of the constructs.

Construct	Indicator items	Mean	Std. Dev.	Std. loadings	Cronbach alpha
Ad informativeness	INF_5 The information given in the advertisement is satisfactory.	3.12	0.958	0.789	0.797
	INF_6 The information given in the advertisement is well organized.	3.32	0.943	0.772	
	INF_7 The amount of information I get from the advertisement about the job is enough to make a decision.	3.00	1.069	0.722	
	INF_1 This posting gives all the information necessary about the content of the job.	3.19	1.031	0.553	
Job appropriateness	APPR O_2 I believe the company is seeking to hire people like me.	2.90	1.173	0.871	0.851
	APPR O_1 The job being offered seems appropriate for someone with my education and interests.	3.25	1.154	0.809	
	APPR O_4 The job being advertised here is appropriate for me, given the level of work experience I have had.	2.76	1.204	0.682	
	APPR O_5 I have all the qualifications to apply for this post.	3.00	1.125	0.63	
Ad truthfulness	CRED_2 The information contained in the job advertisement is credible.	3.49	0.873	0.866	0.777
	CRED_1 The ad appears to be a genuine job advertisement.	3.52	0.971	0.797	
	CRED_4 It is considered that the information contained in the ad is believable.	3.34	0.978	0.577	
Application intentions	INT_2 I can apply for the advertised job	2.92	1.202	0.866	0.913
	INT_1 I would like to work in the advertised job.	2.90	1.206	0.855	
	INT_5 I would make a significant effort to get this job.	2.92	1.246	0.818	
	INT_4 I would accept a job offer from this company'	3.23	1.172	0.808	
	INT_3 If this company invited me to a job interview, I would go.	3.33	1.150	0.792	
	INT_6 I would like to apply for other postings at this company.	2.96	1.095	0.607	

Table 3 shows the Heterotrait-monotrait (HTMT) ratio of the correlations among study constructs, composite reliability (CR) for internal consistency, average variance extracted (AVE) for convergent validity, maximum shared variance (MSV), and the correlation matrix of latent variables for discriminant validity. HTMT results indicate no issues regarding discriminant validity according to HTMT85 criterion (Henseler et al., 2015). All of the constructs had CR values greater than 0.8, indicating that they are reliable (Hair et al., 2010). Strong standardized factor loadings (ranging between 0.87 and 0.55) of indicators to respective constructs and AVE values that are higher than the 0.5 threshold indicate that convergent validity was also attained (**Table 2**). All MSV values are less than AVEs and the square root of AVEs is greater than inter-construct correlations, confirming no concerns about discriminant validity (Fornell and Larcker, 1981). These findings clearly indicate that the measurement model with four reflective constructs established convergent and discriminant validity and reliability.

Table 3. Validity and reliability indicators.

	HTMT analysis				CR	AVE	MSV	MaxR(H)	1	2	3	4
	1	2	3	4								
1. Informativeness					0.80	0.51	0.19	0.823	0.715			
2. Appropriateness	0.337				0.84	0.57	0.46	0.868	0.341***	0.754		
3. Truthfulness	0.479	0.255			0.80	0.57	0.18	0.84	0.427***	0.267***	0.757	
4. App intention	0.440	0.637	0.213		0.91	0.63	0.46	0.922	0.434***	0.679***	0.205**	0.796

4.3. Structural model and hypothesis tests

Before testing the specific hypotheses, the overall fit of the structural model was examined. The overall fit indexes of the structural model were satisfactory: $\chi^2 = 210.744$, $df = 112$; CMIN/DF: 1.882; TLI: 0.956; CFI: 0.964; RMSEA: 0.053. Next, we tested direct and indirect causal relationships between the structures. **Table 4** shows path coefficients and corresponding significance levels, 95% bias corrected confidence intervals, and coefficients of determination.

Table 4. Direct, indirect and total effects (mediated model).

Regression path	Unstd. estimates (<i>t</i> -values)	<i>p</i>	Std. estimates	95% bias-corrected CI (LL-UL)		Variance explained (R^2)
Informativeness → appropriateness	0.428 (5.094)	<0.001	0.352 ***	0.287	0.582	0.124
Informativeness → truthfulness	0.319 (5.538)	<0.001	0.435 ***	0.192	0.463	0.189
Informativeness → application intention (direct effect)	0.336 (3.856)	<0.001	0.250 ***	0.165	0.508	
Truthfulness → application intention	−0.101 (−0.955)	0.339	−0.055	−0.315	0.135	
Appropriateness → application intention	0.667 (9.643)	<0.001	0.603***	0.505	0.687	
Informativeness → appropriateness → application Intention (indirect effect)	0.254	0.001	0.189***	0.089	0.298	
Informativeness → application intention (total effect)	0.590	<0.001	0.439***	0.321	0.555	0.514

*** $p < 0.001$ (bootstrap sample size = 2000).

Based on a bootstrap test with 2000 re-samples (Preacher et al., 2007), we found that advertisement informativeness exerted significantly positive direct effects on application intentions ($\beta = 0.25, p < 0.001$), perceived job appropriateness ($\beta = 0.352, p < 0.001$), and ad truthfulness ($\beta = 0.435, p < 0.001$). These findings provided support for H1, H2, and H3. Further, perceived job appropriateness exerted a significantly positive effect on application intentions ($\beta = 0.603, p < 0.001$); this finding supports H5. Contrary to our expectations, ad truthfulness did not exert a significant effect on application intentions ($\beta = -0.055, p = 0.339$). Hence, H4 was not supported.

Moreover, perceived job appropriateness was found to mediate the relationship between advertisement informativeness and application intentions. Path analysis revealed a statistically significant indirect effect of advertisement informativeness on application intentions ($\beta = 0.189; p = 0.01$), through perceived job appropriateness. The 95% bias-corrected confidence intervals (lower and upper levels) do not contain zero. The relationship between advertisement informativeness and application intentions is strengthened by the mediating role of perceived job appropriateness (total effect $\beta = 0.439; p < 0.01$). Thus, H6 was also supported. Advertisement informativeness and perceived job appropriateness were significant predictors of application intentions and together they accounted for 51.4% of the total variation in application intentions. Among these variables, perceived job appropriateness was found to be the strongest predictor of application intentions.

To test proposed moderation effects of previous employment experience, a multi-group analysis was performed to check the significance of model invariance (Jöreskog and Sörbom, 1993). Based on a median split of previous employment experience, the high experience group had 140 participants, whereas the low experience group had 170 participants. The moderation effect is analyzed by examining significant differences in beta values of the regression paths for the two groups. **Table 5** shows the results of the multi-group analysis.

Table 5. Multi-group analysis.

Regression path	High experience		Low experience		$\Delta\beta$	Z score	Moderation effect
	β	R^2	β	R^2			
Appropriateness → application intention	0.613***	0.513	0.608***	0.522	-0.005	-0.833	Not significant
Informativeness → application intention (direct effect)	0.293**		0.216**		-0.077	-0.811	Not significant
Informativeness → appropriateness → application intention (indirect effect)	0.101		0.256***		0.155*		Significant
Informativeness → application intention (total effect)	0.394***		0.472***		0.078		Not significant

Significance of estimates: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; + $p < 0.10$ (bootstrap sample size = 2000.)

As presented in **Table 5**, perceived job appropriateness exerted significantly positive effects on application intentions, both in the high experience group ($\beta = 0.613, p < 0.01$) and in the low experience group ($\beta = 0.608, p < 0.01$). The difference between β values was not statistically significant ($\Delta\beta = -0.005; z = -0.833$). Thus, we could not find enough evidence to support the moderation hypothesis (H7a) proposing that previous employment experience would moderate the effect of perceived job appropriateness on application intentions. For both groups, perceived job

appropriateness positively influenced application intentions.

Ad informativeness exerted significantly positive direct effect on application intentions both in the high experience group ($\beta = 0.293, p < 0.01$) and in the low experience group ($\beta = 0.216, p < 0.01$). Although the magnitude of this positive effect was smaller in the low experience group, the difference between the parameters was not statistically significant ($\Delta\beta = -0.077; z = -0.811$). Thus, we concluded that previous employment experience did not moderate the effect of ad informativeness on application intentions (H7b not supported). However, we found that ad informativeness exerted a significantly positive indirect effect on application intentions ($\beta = 0.256, p < 0.01$) in the low experience group, while this indirect effect was not statistically significant in the high experience group ($\beta = 0.101, p > 0.05$). Thus, we concluded that previous employment experience moderated the indirect effect of ad informativeness on application intentions. These findings are discussed in the next section.

5. Discussion

This study investigated the effects of recruitment ad-informativeness on application intentions of young job seekers. To better understand the relationship between advertisement informativeness and job attraction, both direct and indirect (mediated) effects were analyzed. For this purpose, the amount of information in the job advertisement was manipulated in an experimental setting. The mediating roles of perceived job appropriateness and ad truthfulness, along with the moderating role of previous employment experience, were examined by utilizing structural equation modeling and multi-group path analysis. To the authors' knowledge, this is the first study that demonstrates the independent and joint effects of advertisement informativeness, perceived job appropriateness, and ad truthfulness on application intentions while controlling the moderating effect of previous employment experience within the context of a developing country. By manipulating the information content of a hypothetical job advertisement, we demonstrated that: a) both advertisement informativeness and perceived job appropriateness had positive direct effects on application intentions, while the latter had a greater effect, b) perceived job appropriateness mediated the relationship between advertisement informativeness and application intentions, c) the indirect (mediated) effect of advertisement informativeness on application intentions was moderated by previous employment experience, d) perceived ad truthfulness did not exert any significant effect on application intentions.

Our findings suggest that providing detailed information in job advertisements contributes to reducing information asymmetry by making it easier for candidates to evaluate how well the job suits them. Detailed information in job advertisements improves the perceived appropriateness of advertised jobs for potential applicants and enhances the perceived truthfulness of the advertisement. Although some studies revealed that detailed job ads may decrease applicant pool quantity (Belt and Paolillo, 1982), our findings indicate that candidates who receive detailed information about the vacant position, compensation, and benefits offered show a higher intention to apply for the position. This may be because detailed information strengthens the

perceptions of person-job fit (Feldman et al., 2006). Our findings indicate that perceived job appropriateness mediates the relationship between advertisement informativeness and application intentions. These findings are in line with previous studies showing the positive outcomes of providing detailed information in job advertisements (Acarlar and Bilgiç, 2013; Barber and Roehling 1993; Feldman et al., 2006; Kaplan et al., 1991; Turban et al., 1998; Verwaeren et al., 2017; Walker et al., 2008). Contrary to our expectations, advertisement truthfulness did not exert a direct effect on application intentions. A weak positive correlation was observed between ad truthfulness and job pursuit intentions. However, ad truthfulness was found to have no significant effect on intention to apply for the job when analyzed together with other study variables. One possible explanation for this unexpected finding is that the strong effect of perceived job appropriateness overshadowed the effect of ad truthfulness. However, examining ad credibility from different perspectives still warrants more careful attention in future studies.

We found that job seekers with various levels of previous employment experience (low vs. high) may be affected differently by the amount of information in job ads. The direct effect of advertisement informativeness on the intention to apply is further reinforced by the indirect (mediating) effect of perceived job appropriateness, particularly in candidates with limited or no employment experience. For individuals with higher previous employment experience, no such effect was observed. This finding is in line with Walker et al. (2008). Job seekers with low employment experience interpret how suitable the job is for them by looking at the details in the advertisement when evaluating a recruitment ad. This, in turn, strengthens the effect of the informative nature of the advertisement on application intentions. For those who are new to the job search process, the quantity and quality of information provided in a job advertisement can influence their evaluation of whether the position aligns with their qualifications and interests, as well as their decision to pursue the opportunity.

Our findings have practical implications for human resources professionals in developing more effective recruitment advertisements. The results demonstrate that the inclusion of specific information has a generally positive effect on individuals' reactions to job openings for new entrants to the labor market. The provision of specific information may increase the likelihood of potential applicants believing that the job openings are genuine, while also increasing the perception of the credibility of the advertisement. Furthermore, providing detailed information may enhance applicants' perceptions of the suitability of the roles being advertised to them. It is the responsibility of HR professionals to identify the core requirements of the job, which may include skills, qualifications, experience, and competencies. These should be clearly stated in the job advertisement, presented in a concise and measurable format. Furthermore, the job description should highlight various aspects of the position, such as the benefits or challenges, depending on the attributes that appeal to the target candidates. It is also imperative to refrain from over-specification, which entails being excessively rigid or narrow in the delineation of the job description. Over-specification can constrain the talent pool, preclude diverse and qualified candidates, and engender unrealistic expectations. When targeting new entrants, it is also beneficial to emphasize potential, focusing on the future growth and development of the job and the candidate. Potential can attract and motivate candidates who are looking for

opportunities to learn, improve, and advance in their careers.

In order to hire the right talent with the optimal set of skills for a given business, it is essential to create a well-written job description. A good job description enables the identification of the most appropriate candidate, the elimination of those who are unsuitable, and the promotion of the business. Conversely, a poorly written job description attracts candidates who do not meet the specific requirements of the position. To create a large pool of candidates by receiving more applications for job postings, managers should ensure the job posts are as informative as possible and provide detailed information about the compensation packages and benefits offered. They should also provide information about the employing company, qualifications sought in the candidate, job responsibilities, and other details. Job advertising informativeness will be more effective on candidates with low employment experience, who will apply for entry-level positions. By comparing the requirements and promises of the vacant position with their own characteristics, candidates who do not find the post suitable for themselves will not apply, and thus, the right candidates will be found in the candidate pool. This will improve the effectiveness of the recruitment process and prevent the waste of time and resources.

This research has several limitations. First, although the use of hypothetical job ads is a practical approach for experimental control, it may not fully capture the complexities of real-world recruitment scenarios. It would be beneficial for future studies to consider how real-world factors, such as company/employer reputation or industry-specific norms, might influence job seekers. Next, as we portrayed an entry-level job for recent graduates in the experimental setting, it is necessary to examine how ad informativeness and truthfulness will affect intentions to apply for higher-ranks and executive positions.

Another limitation comes from the scope and content of the study. We manipulated only one aspect of job ads—information content—but there are other important attributes that need more attention. In future studies, apart from the informativeness of the job ad, the effects of the medium in which the advertisement is published, the aesthetic/design elements of the advertisement, and the language used (diversity and inclusion) in the advertisement on the intention to apply for a job should be examined.

Third, the effect of the image and reputation of the employer firm was excluded from the evaluation in this study, with the company name undisclosed. In future studies, using recruitment ads posted by real companies, including the company's name, may enable us to probe different interactions between the perceived company reputation and ad features.

Using university students with relatively little work experience as a sample is another important limitation. Considering that senior university students or recent graduates constitute a significant group in the job market, we can say that the data obtained from this sample provide important insights for recruitment professionals. Nevertheless, there is a need to consider the extent to which our findings can be generalized to more experienced job seekers. An important avenue for future research would be to examine the reactions of employees with different levels of work experience and at further stages of their career journey.

Finally, the dependent variable examined in the study is the respondents'

intention to apply for the job in the advertisement. Due to the inherent nature of the experimental setting, it was not possible to examine the actual behavior of the subjects. While intentions are an important antecedent of actual behavior, measuring actual behavior is crucial to validate the specified causal relationships in real-world settings.

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Article

Investigating the impact of human resource empowerment on the establishment of green human resources management in Tehran's 14th district municipality

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Abstract: This study explores the influence of human resource empowerment on the establishment of green human resource management (GHRM) within Tehran's 14th district municipality. Utilizing a descriptive-analytical research approach, the study targets the practical implications of empowerment strategies on GHRM implementation. The research population consists of 1500 employees from the 14th district, based on the 2017 census. A sample of 306 respondents was selected using Morgan's table. Data were collected via a structured questionnaire developed from the study's conceptual framework and research hypotheses. The questionnaire's validity and reliability were confirmed through expert review and Cronbach's alpha (0.9). Descriptive statistics outline the background and primary variables, while inferential statistics, particularly the Pearson correlation test, were used to evaluate the hypotheses. Results indicate that human resource empowerment positively affects the establishment of GHRM in Tehran's 14th district municipality.

Keywords: human resource empowerment; green human resource management; municipality; Tehran; 14th district

1. Introduction

The importance of the role of human resources in organizations is undeniable; human resources are the most effective tools for achieving predetermined goals, and not paying attention to providing the right environment and tools to improve their sustainability can cause organizations to face many problems (Barba-Aragón and Jiménez-Jiménez, 2020). Human resources are a treasure of potential forces of the organization that can be developed strategically and move towards achieving excellence. The survival and success of the organization increasingly depend on the development and release of the full potential of human resources. Therefore, one of the challenges facing organizations is to adopt measures and mechanisms to increase satisfaction and commitment and, finally, the stability of employees (Ahakwa et al., 2021). Nowadays, empowerment as one of the approaches to human resource development has become the basis for many positive developments in implementing employees' work activities in the last few decades. In today's changing conditions, organizations have no choice but to use human resources correctly. Based on this, the only factor that creates balance in the organization is the empowerment of employees. Empowerment is a tool that aligns individual goals with organizational goals and makes the belief that the organization's progress will benefit employees (Rayni et al., 2021). Therefore, the necessary condition for realizing the goals of any organization is the existence of human resources and employees who, in addition to

having specific abilities and skills, are committed to their jobs and organizations and feel satisfied with their performance. Therefore, by empowering human resources, the organization's managers increase their power and motivation, leading to more and better production. Moreover, this path benefits and satisfies the organization, employees, customers, society, and the country (Lyons et al., 2016). On the other hand, in most organizations, employees' abilities are not used optimally, and managers cannot use their potential. Based on past research, the dimensions of employee empowerment can be divided into five dimensions. It summarized self-efficacy, self-determination, personal acceptance of results, job meaningfulness, and trust (Pakdel et al., 2018).

Green human resource management is one of the critical pillars of green management. Green human resource management practices and the ecological behavior of employees have a significant impact on environmental performance (Nisar et al., 2021). Environmental concerns have forced organizations to abandon their traditional policies and take steps towards forming sustainable operations and green policies by effectively and efficiently using all their resources to achieve environmental and organizational goals. Policies including green human resource management, which has become one of the critical areas of management in recent years with the emergence of new challenges facing organizations (Bucăța, 2018). Green human resource management, along with other branches of green management (such as green production, green investment, and green marketing), has received the attention of a large and growing part of management studies, especially human resource management (Zare et al., 2023).

Today, organizations can play their role correctly if they pay attention to social responsibilities such as environmental protection and prioritize them. In the current millennium, the definition of ethics is to pay attention to the environment, and on the other hand, the establishment of an environmental management system reduces costs and creates wealth, and managers who pay attention to these issues, in addition to these benefits, should also pay attention to the health of citizens (Böhm et al., 2022). In recent years, it has become common to see municipalities as providers of public services and as apparatuses against the government. Considering this issue, the municipality is under pressure to respond as much as possible to the needs and demands of the citizens. As a result, performance outcomes such as citizen satisfaction have become increasingly important (Morelli, 2011). Therefore, the efficiency of the municipality as a public organization providing services at the local level plays an important role in creating development capacities in every society (Fraisl et al., 2022).

Creating a sense of citizens' participation in the administration of urban affairs requires regular and comprehensive planning. People's participation in planning and respecting their opinions is perhaps the first step in achieving planning goals. Therefore, without people's participation and paying attention to public needs and interests, only referring to the criteria written in books cannot guarantee the achievement of the final goals of planning (Baloch et al., 2023).

Esmailzadeh et al. (Raiisi et al., 2023) conducted research titled Identifying the empowerment components of social security organization employees based on the teachings of Nahj al-Balagha (a qualitative method: document content analysis). The

findings showed that eight components and forty-five indicators were extracted, including Independence (including four indicators), Responsibility (including six indicators), self-control (including eight indicators), self-esteem (including six indicators), Trust building (including four indicators), modeling (including five indicators); Knowledge enhancement (including six indicators) and work discipline (including six indicators). Eskandari et al. (Eskhandary et al., 2021) conducted the research entitled *Designing a Model of Employee Empowerment with a Spiritual Approach*. The findings showed that the model's inputs have a positive and significant effect on the process by 83%. The process has a positive and significant effect on the outputs of 87%. Hashemzadeh et al. (2019) researched the influence of the empowerment of the human resources of the Sports and Youth Organization of West Azarbaijan Province on their efficiency, emphasizing some Islamic dimensions. The findings showed eight extracted indicators (including 39 items) in the studied society: individual factors, organizational culture, technical, organizational, educational, systemic, environmental, and occupational support. Therefore, organizations need all employees' and managers' knowledge, energy, and creativity to succeed in today's dynamic business environment. The results of the research conducted by Rezaei et al. (Babak et al., 2020). The title provides a model to identify dimensions and effective measures in implementing green human resources management; it shows that some of the identified dimensions, including green selection and green reward management, significantly impact the successful implementation of green human resource management. Therefore, managers must focus more on the implementation of these dimensions. Ekaputra and Medakumala (Rizki et al., 2021). Research was conducted on the effect of human resource empowerment, good governance, monitoring, and evaluation of the quality of staff services in Hazrat Fateme State Hospital, Batam City. The findings showed that employees are under the direct influence of human resources empowerment, good governance, and monitoring and evaluation of employees. Rizki and Saputra (Satriadi et al., 2021) conducted research entitled *Empowering Human Resources in Technology to Improve Leadership Performance in Business Performance: A Systematic Review*. The findings showed that the empowerment of human resources in the business world in the modern era requires the power of technology for real competition because the empowerment of human resources is closely related to the policies and best practices required by businesses. The results of the research conducted by Muisyo and Qin (2021) *Enhancing Corporate Green Performance through Green Human Resource Management*. The moderating role of green innovation culture showed that green human resource management practices, including recruitment and selection, training and development, performance management and evaluation, reward and pay, participation, and employee leadership, significantly impact green or environmental performance. The results of the research conducted by (Singh et al., 2020) under the title *Green Innovation and Environmental Performance: The Role of Green Transformational Leadership and Green Human Resource Management* showed that green human resource management practices mediate the effect of green transformational leadership on green innovation. The results of the research conducted by Kim et al. (2019) under the title *The Effect of Green Human Resource Management on the Environmentally*

Friendly Behavior and Environmental Performance of Hotel Employees, show that top hotel management and human resource managers should implement human resource management policies. Define green and use it to improve the company's environmental performance. Zarakt, Gerous, and Malek (2018) conducted research titled *The Effect of Employee Empowerment on Organizational Commitment in the Banking Sector of Lebanon*. The findings showed a positive relationship between employee empowerment and organizational commitment. This was in line with other commercial sectors in Lebanon and similar banking sectors in the region and the West. Based on this, banks should consider employee empowerment as one factor that strengthens organizational commitment. Consequently, this leads to organizational retention of employees in the Lebanese banking sector.

Empowerment, as a concept, is widely recognized as part of the development discourse and is considered a means to enhance survival by improving individual performance (Tajeddin and Ramadi, 2014). It is fundamentally a social phenomenon, which, like other social phenomena, cannot be attributed to a single cause. The primary objective of empowerment is to foster participation in decision-making processes that align with sustainable development. However, what is more critical is the approach and mindset underlying empowerment, particularly in the context of human resource development and management.

Empowerment is interpreted in various ways across political, social, economic, and cultural frameworks, leading to different definitions. Standard definitions include control, power, self-reliance, the power to choose, the ability to advocate for one's rights, independence, the right to make decisions, awareness, and capability. In a broader sense, empowerment refers to the freedom of individual choice and action and increased power and control over resources and decisions that impact their life. The more power people must choose, the greater their control over their lives (Nazari and Ghasemi, 2013).

Undoubtedly, empowering employees enhances an organization's flexibility and improves the performance of organizational and personal tasks (Young and McComas, 2016). Among the various interpretations of "empowerment," a prominent view considers it a continuous and ongoing process that addresses motivational or psychological aspects, enhancing individuals' abilities and competencies. This process drives the organization's productivity, growth, and development, ensuring that human resources align with organizational goals (Shahriari et al., 2020).

In this context, Blanchard defines human resource empowerment as "releasing the power that individuals possess due to their knowledge and motivation." From Kanger and Kongo's perspective, empowerment is a process that fosters a sense of "self-fulfillment" among employees. This process is characterized by the development of individuals' abilities and the provision of valuable information, such as "knowledge management" and "information systems," through the use of organizational operations and informal techniques (Turkmenoglu, 2019).

Green human resource management includes environmental objectives in human resource management practices, such as recruitment and selection, compensation, incentives, training and development, and performance evaluation (Awan et al., 2023). Green human resource management follows green human

resource management policies, green philosophy, green practices for environmental management, and employee awareness of environmental responsibilities. Organizations are moving towards greening to gain a competitive position, save energy and use it properly and optimally, reduce waste, significantly reduce costs, improve the company's image, and increase employees' morale. Moving towards green practices in any organization requires the support of human resources (Darvazeh et al., 2023). Human resource management focuses on overall management strategies. The main goal of environmental management is to reduce impacts and pollution by integrating business and environmental activities. Green human resource management improves employees' knowledge, skills, motivation, and behavior to achieve environmental goals (Alavi, 2021). Green human resource management is related to the ecological behavior of employees and the organization's environmental strategy (Singh et al., 2020). Recognizing policies in recruitment, staffing, performance evaluation, training and development, and employee communication can be a solid tool to create coordination between employees and the company's environmental strategies and guarantee the company's success. Human resource management policies and practices are related to the individual environmental behaviors of employees (Pham et al., 2020). Green HRM has a positive relationship with employee cooperation to promote practices that align with environmental protection. Green human resource management refers to all activities in developing, implementing, and maintaining a system to create green employees for an organization. The task of green human resource management is to transform the organization's employees into green employees to reach the organization's environmental goals. Green human resource management refers to policies, actions, and systems that prepare the organization's green employees to achieve individual, social, commercial, and environmental benefits. This type of green human resource management aims to create, improve, and maintain the "green concept" by using the maximum individual participation of employees in a protective, caring, productive etc. program in the organization (Zihan et al., 2024). Green human resource management is important not only at the organizational level. It is also important at the individual level. An employee has two parts to life: the part that includes his work life and the person who plays a role in it as an employee. Another part is his personal life, where he appears as a citizen. Having environmentally friendly behaviors will be helpful for humans in two areas of life because the emergence of these behaviors in both sectors causes success in preserving the environment in society, which will benefit the individual (Hajizadeh et al., 2022).

Therefore, according to the stated issues, this study aims to investigate the effect of human resources empowerment on establishing green human resources management in the 14th district municipality of Tehran.

2. Research method

The current study is of an applied type because its purpose is to develop practical knowledge in a specific field and use the results of the findings to develop reliability. Also, to prepare and collect primary data for this study, which is a

descriptive study of a survey type, the statistical population of this study was made up of all employees of the 14th district of Tehran, whose number is about 1500 people. According to the sampling criteria based on the Morgan sampling method, 316 people have been selected as the research sample from the mentioned statistical population. This research used two general statistical approaches, descriptive statistics, and inferential statistics, to analyze the data. Descriptive statistics were used to describe the demographic characteristics of the statistical population and measure data dispersion indices. Inferential statistics and Spearman's correlation test were also used to check the significance of the hypothetical effect of the variables on each other. Also, this study includes a central hypothesis and five sub-hypotheses. Also, Mann-Whitney and Kruskal-Wallis tests were used to measure the significance of each of the hypotheses of this study, and finally, the results obtained from this study were compared and reviewed with other studies and articles.

Testing research hypotheses

In this section, according to the data distribution of the research variables, Spearman's correlation test was used to check the hypotheses. Spearman's correlation test shows the relationship between variables in a two-by-two manner. Some coefficients are significant at the 99% confidence level (significance level value is less than 1%) and are marked with (**). Some coefficients are significant at the 95% confidence level and are marked with (*). The coefficients that do not have a particular sign also show no significant relationship between the two variables at the 95% confidence level. A positive coefficient indicates a positive and direct relationship between two variables, and a negative coefficient indicates a negative and opposite relationship.

3. Results and discussion

3.1. The central hypothesis

“There is a relationship between the empowerment of human resources (self-efficacy of human resources, self-determination of human resources, personal acceptance of results, meaningfulness of work and trust) and the establishment of green human resources management in the 14th district municipality of Tehran.”

According to **Table 1**, the correlation coefficient's value is equal to ($r = 0.683$), and the significance level of the test is equal to (0.000). Considering that the significance level of the test is less than 0.01 ($\alpha = 0.01$) and the sign of the correlation coefficient is positive, there is a positive and direct relationship at the 99% confidence level between human resource empowerment (human resource self-efficacy, workforce autonomy Humanity, personal acceptance of results, meaningfulness of job and trust) and the establishment of green human resources management in the 14th district municipality of Tehran. The above hypothesis is confirmed.

Table 1. Spearman's correlation test of the central hypothesis.

Establishment of green human resource management	Variable	
683**0/ 0/000	The correlation coefficient	Empowering staff
	The significance level	

* $P < 0.05$, ** $P < 0.01$.**3.1.1. The first sub-hypothesis**

“There is a relationship between the self-efficacy of human resources and the establishment of green human resources management in the 14th district municipality of Tehran.”

According to **Table 2**, the value of the correlation coefficient is equal to ($r = 0.578$) and the significance level of the test is equal to (0.000). Considering that the significance level of the test is less than 0.01 ($\alpha = 0.01$) and the sign of the correlation coefficient is positive, there is a positive and direct relationship at the 99% confidence level between the self-efficacy of human resources and the establishment of green human resources management in the municipality. There is the 14th district of Tehran. The above hypothesis is confirmed.

Table 2. Spearman's correlation test of the first sub-hypothesis.

Establishment of green human resource management	Variable	
578**0/ 0/000	The correlation coefficient	Self-efficacy of manpower
	The significance level	

* $P < 0.05$, ** $P < 0.01$.**3.1.2. The second sub-hypothesis**

“There is a relationship between the self-determination of human resources and the establishment of green human resources management in the 14th district municipality of Tehran.”

According to **Table 3**, the value of the correlation coefficient is equal to ($r = 0.329$) and the significance level of the test is equal to (0.000). Considering that the significance level of the test is less than 0.01 ($\alpha = 0.01$) and the sign of the correlation coefficient is positive, there is a positive and direct relationship at the 99% confidence level between the self-determination of human resources and the establishment of green human resources management in There is 14 district municipality of Tehran. The above hypothesis is confirmed.

Table 3. Spearman's correlation test of the second hypothesis.

Establishment of green human resource management	Variable	
329**0/ 0/000	The correlation coefficient	Manpower autonomy
	The significance level	

* $P < 0.05$, ** $P < 0.01$.**3.1.3. The third sub-hypothesis**

“There is a relationship between personal acceptance of the results and the establishment of green human resources management in the 14th district

municipality of Tehran.”

According to **Table 4**, the value of the correlation coefficient is equal to ($r = 0.378$), and the significance level of the test is equal to (0.000). Considering that the significance level of the test is less than 0.01 ($\alpha = 0.01$) and the sign of the correlation coefficient is positive, there is a positive and direct relationship at the 99% confidence level between the personal acceptance of the results and the establishment of green human resources management in the municipality. There is the 14th district of Tehran. The above hypothesis is confirmed.

Table 4. Spearman’s correlation test of the third hypothesis.

Establishment of green human resource management	Variable
378**0/ 0/000	The correlation coefficient The significance level

* $P < 0.05$, ** $P < 0.01$.

3.1.4. The fourth sub-hypothesis

“There is a relationship between the meaningfulness of the job and the establishment of green human resources management in the 14th district municipality of Tehran.”

According to **Table 5**, the value of the correlation coefficient is equal to ($r = 0.423$), and the significance level of the test is equal to (0.000). Considering that the significance level of the test is less than 0.01 ($\alpha = 0.01$) and the sign of the correlation coefficient is positive, there is a positive and direct relationship at the 99% confidence level between the meaningfulness of the job and the establishment of green human resources management in There is 14 district municipality of Tehran. The above hypothesis is confirmed.

Table 5. Spearman’s correlation test of the fourth hypothesis.

Establishment of green human resource management	Variable
423**0/ 0/000	The correlation coefficient The significance level

* $P < 0.05$, ** $P < 0.01$.

3.1.5. The fifth sub-hypothesis

“There is a relationship between trust and the establishment of green human resources management in the 14th district municipality of Tehran.”

According to **Table 6**, the value of the correlation coefficient is equal to ($r = 0.396$) and the significance level of the test is equal to (0.000). Considering that the significance level of the test is less than 0.01 ($\alpha = 0.01$) and the sign of the correlation coefficient is positive, there is a positive and direct relationship at the 99% confidence level between trust and the establishment of green human resources management in the municipality of Region 14. There is Tehran. The above hypothesis is confirmed.

Table 6. Spearman's correlation test of the fifth hypothesis.

Establishment of green human resource management	Variable
396**0/ 0/000	The correlation coefficient The significance level

* $P < 0.05$, ** $P < 0.01$.

There is a difference between the respondents' opinions according to demographic factors. There is a significant difference between the empowerment of human resources and the establishment of green human resources management according to the gender variable. Due to the non-normality of the data distribution of the research variables, the non-parametric Mann-Whitney test is used to investigate the above question.

Table 7 shows the results of the Mann-Whitney test that in the human resource empowerment variable, a significant value (0.0002) was less than 0.05 ($sig < 0.05$), so there is a significant difference between the human resource empowerment of men and women has it. According to the average value of the rank, it can be said that the level of empowerment in women is higher than in men. In the variable of the establishment of green human resources management, a significant value (0.000) was less than 0.05 ($sig < 0.05$), so there is a significant difference between the establishment of green human resources management in men and women. There is a significant difference between the empowerment of human resources according to the education variable.

Table 7. Mann-Whitney test according to gender variable.

The significance level	Statistic Z	Mann Whitney statistics	average rank	Dimensions
0.002	3/075	26213/5	168/04	male
			203/01	female
0.001	-3.351	25926/5	204/32	male
			166/20	female

Table 8. Kruskal-Wallis test according to the human resource empowerment variable based on education level.

The significance level	Degrees of freedom	Chi-square statistic	average rank	Dimensions
0/017	3	8/179	130/16	Associate degree
			164/49	Bachelor's degree
			155/27	Master's degree

Table 8 shows the results of the Kruskal Wallis test, which has a significance level of (0.017) in the human resource empowerment variable. A significant value of less than 0.05 was obtained, so there is a significant difference between the mean of the empowerment variable of human resources with different education levels. Employees with a bachelor's degree report the highest levels of empowerment, followed by those with a master's degree and an associate degree. This suggests that educational attainment influences perceptions of empowerment, with those holding higher degrees potentially feeling more empowered in their roles. Organizations may

need to consider additional support or training for employees with lower educational levels to balance these perceptions.

In **Table 9**, the Kruskal-Wallis test shows a highly significant difference in staff empowerment based on years of experience ($p = 0.000, < 0.05$). Employees with less than ten years of experience feel the most empowered, while those with 10–20 years of experience report the lowest levels of empowerment. This trend might reflect the enthusiasm and adaptability of newer employees versus the potential disillusionment or resistance to change among more experienced staff. Addressing these disparities could involve tailored strategies to re-engage long-term employees and harness their experience in promoting green initiatives.

Table 9. Kruskal-Wallis test according to the human resource empowerment variable based on experience.

The significance level	Degrees of freedom	Chi-square statistic	average rank	Dimensions	
0.000	2	34/577	223/12	Less than ten years	Empowering staff
			152/68	10–20 years	
			197/568	More than twenty years	

Table 10 shows the results of the Kruskal Wallis test, which has a significance level of (0.000) in the green human resource management deployment variable. A significant value of less than 0.05 was obtained, so there is a significant difference between the average green human resources management establishments and different citizens' residence areas. Area 1 reports the highest levels of GHRM establishment, while Area 2 reports the lowest. This geographical disparity could be due to differences in local environmental policies, economic conditions, or community engagement in green practices. These findings suggest that targeted, area-specific strategies may be necessary to implement GHRM practices across different regions consistently.

Table 10. Kruskal-Wallis test according to the variable of establishment of green human resources management according to the area where citizens live.

The significance level	Degrees of freedom	Chi-square statistic	average rank	Dimensions	
0.000	5	40.341	297.93	one	Establishment of green human resource management
			155.47	Two	
			164/54	Three	
			198.19	Four	
			222.33	Five	
			278.54	Six	

4. Conclusion

Organizations today increasingly recognize that traditional command-and-control management paradigms are insufficient for addressing modern challenges such as continuous innovation, re-engineering, and managing multicultural workforces. As a result, many organizations are transitioning to a new management paradigm centered on employee empowerment. This shift is crucial as it allows

managers to focus on key retention factors influencing employees' skills, attitudes, and behaviors. By fostering a committed workforce, organizations can better achieve their goals, leading to enhanced development, revenue generation, and efficiency.

The general results of this study were based on the Mann-Whitney and Kruskal-Wallis tests, the results of which were obtained as follows:

Because the Mann-Whitney test indicated the significance of the human resource empowerment variable, therefore there is a significant difference between male and female human resource empowerment, therefore there is a significant difference between the establishment of green human resource management in men and women. There is a significant difference between the empowerment of human resources based on the variable of education.

The results of the Kruskal Wallis test showed that the human resource empowerment variable is equal to the answer, so there is a significant difference between the average of the human resource empowerment variable with different educational levels, which indicates that organizations may need support or training. Consider more for employees with lower education levels to balance these perceptions.

The Kruskal-Wallis test showed a significant difference in employee empowerment based on years of experience, which could be related to reflecting the enthusiasm and adaptability of newer employees versus potential frustration or resistance to change among more experienced employees.

The results of the Kruskal Wallis test showed that the variable of establishment of green human resources management has a significant level, so there is a significant difference between the average of green human resources management institutions and different residential areas of citizens. The reason for this geographic disparity is related to differences in local environmental policies, economic conditions, or community participation in green practices.

The findings of this research align with previous studies, such as Esmailzadeh et al. (2022), who identified empowerment components in social security organizations, and Eskandari et al. (2021), who developed an employee empowerment model with a spiritual approach. Similarly, the work of Hashemzadeh et al. (2018) on the empowerment of human resources in the sports and youth organization of West Azerbaijan province and Rezaei et al. (2022) on the role of human resource empowerment in green human resource management further support the importance of these factors. Additionally, research by Rizki and Saputra (2021) on human resource empowerment in technology and studies by Moisio and Kane (2021) on enhancing corporate green performance through green HRM highlight the broader implications of these findings. These studies collectively underscore the critical role of human resource empowerment in fostering organizational commitment and achieving green HRM goals in various sectors.

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Article

Power, politics and job satisfaction among employees in Wolaita Sodo Polytechnic College, South Ethiopia

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Abstract: When power is exercised, it results in political behavior in organizations. Excessively held organizational politics can hurt an organization and its members though some consider wisely used political behavior as positive. This study was conducted at Wolaita Sodo Polytechnic College (WSPTC) to investigate the effect of power and political dynamism on employee job satisfaction. Cross-sectional survey design was used to collect data from stratified, randomly selected 146 informants. The Rahim Leader Power Inventory (RLPI), Interpersonal Power Inventory (IPI), Perception of Organizational Politics (POP), and Minnesota Satisfaction Questionnaire (MSQ) were employed to collect data. Descriptive and inferential statistical analyses were made using statistical packages (SPSS version 23). The findings revealed that when managers legitimate, coercive, and reward power bases are higher, then organizational politics becomes higher. Power concentration at higher positions results in increased organizational politics than when it was shared. Regression analysis uncovered that 47% (R-squared 0.468) of variations in job satisfaction were explained by POP and power dynamics. Hence, it is recommended that having power sharing, empowering subordinates, and moderate political maneuvering in the use of power and politics will be helpful in maintaining constructive relationships and job satisfaction.

Keywords: power bases; interpersonal power; job satisfaction; political behavior; POP

1. Introduction

Political behavior is a major part of organizational life that stems from the use of power or is sometimes considered the management of power in organizations (Mohd Yusof, et al., 2018). The importance of knowing power and politics in the context of organizations gives a manager better understanding and organizational culture (Camm, 2013); however, people often are uncomfortable discussing the concepts of power and organizational politics because both terms carry emotional, often negative connotation (Dhar, 2011; Hardy, 1993; Olorunleke, 2015). Despite such contentions, this study tried to investigate some important aspects of power and politics in Wolaita Sodo Poly Technique College (WSPTC), which is an educational institution where there was a high level of staff dissatisfaction, turnover, and short-lived leadership tenure experienced among other evidence.

In all organizations involving the human element, such as households, trade associations, business enterprises, colleges, and universities, etc., politics is characterized by struggle for power and influence, conflict, bargaining, reconciliation, resolution, and consensus (Olorunleke, 2015). Power dynamism exercised by the leadership and followers and the level of perceived organizational politics (POP) among the personnel impacting job satisfaction in some organizations. Among other

work-related behavior and outcomes, the amount of job satisfaction explained by power distribution and perceived politics was not yet given attention in public sector organizations in general and the Ethiopian context in particular.

Therefore, this study was conducted on the pursuit of indicating the effect of power and politics on employee job satisfaction at Wolaita Sodo Poly Technique College (WSPTC) in South Ethiopia. The main aim of this study was investigating the dynamism of power and politics and its impact on employee job satisfaction in WSPTC. More specifically, it was conducted to see the power bases used by the college management affecting POP; to assess the interpersonal power distribution among subordinates impacting POP; and to evaluate the effect of power bases, tactics, and interpersonal relationships, and the level of POP on employees' job satisfaction in the college.

2. Materials and methods

2.1. Operationalization of power and politics

Politics and power have been characterized as the last dirty words, and therefore it is simpler for most of us to discuss other topics than these topics (Olorunleke, 2015). They are also the most contested concepts because of the competing outlooks developed through time; for instance, politics was considered one of the important factors to get the jobs done in the organization (Brouer et al., 2012), and it was seen by others as damaging and divisive by generating counterproductive work behaviors (Meisler et al., 2019). The following sections discuss the definition of and arguments towards the descriptions of power and politics subsequently and in detail.

Power seems to be a straightforward concept, though it was a controversial concept. One simple and universal definition of power does not exist, although theorists have been struggling to do so over decades (Jones and York, 2016). Power refers to a capacity that one must influence the behavior of others so that the influenced act in accordance with the influencer's desires (Schein, 1977). Power could also be defined as the ability to overcome resistance on the part of others, to exert your will, and to get results that are consistent with your own interests and objectives (Ibid). It can be used to describe people, teams, departments, organizations, and groups. This influence may have an impact on employment decisions, job assignments, budgeting, goals, and a host of other organizational outcomes and behaviors.

The fact that power is a consequence of a dependence relationship is perhaps its most significant feature. Therefore, influence can be viewed as the application of power (Williams et al., 2016). Therefore, the idea of power defines how people interact with one another (Schein, 1977). Furthermore, power is a dynamic connection that evolves with circumstances and people since it is never absolute or static (Comstock, 1982). Managers in both public and private organizations utilize and gain power daily to achieve objectives and often to enhance their own standing. At times, individuals can find themselves in a position of powerlessness within their organization and may lose their influence as a result in interpersonal power relationships (Williams et al., 2016).

Aristotle was regarded as the first observer that man is a political animal (Cacciattolo, 2015; Camm, 2013). Political behavior encompasses efforts by

individuals to influence others to protect their self-interests, meet their own needs, and advance their own ends (Cacciattolo, 2015). Defined in this way, almost every behavior may be regarded as political because people are often egocentric when labeling actions as political behavior. Labeling behavior as political usually indicates that certain people are gaining something at the loss of others or the entire organization (Mokhtari et al., 2018). But employees could justify their own political behavior as defending legitimate rights or interests. It may be considered a political game by some. Therefore, unbiased understanding of political behavior and organizational politics was required that the scholars tried to do so.

There is no standard definition despite dozens of definitions of organizational politics published in different books. However, Olorunleke (2015) mentioned two frequently used definitions in most of the literatures he reviewed: “first, politics is seen as the process of influence that contains a general set of social behavior that can be either functional or dysfunctional” and “second, it includes generally dysfunctional behavior that is strategically designed to serve long-term or short-term self-interest.”

Essentially, both types of politics emphasize the use of power (Comstock, 1982) to some gain in an organization or on self-serving and organizationally unapproved behaviors. Political behavior in an institution consists of activities that are not included as part of official responsibilities of an individual but that influence, or try to influence, the distribution of benefits and costs within the organizations (Mokhtari et al., 2018). Organizational politics was most often thought of and explained as behaviors that the organization itself undertook to influence attitudes and employee behavior (Wangui and Muathe, 2014). Politics in organizations contains activities by leaders, teams, or individuals to gain, maximize, and deploy power and other resources to attain preferred outcomes. These behavioral tactics exhibited by members of an organization are collectively termed as political strategies in organizations.

As indicated above, Aristotle was accredited for describing the idea of politics for the first time as he made the observation that man is a political animal (Cacciattolo, 2015; Camm, 2013; Wangui and Muathe, 2014). In Greece, he promoted politics as a way for unification in the Greek polis (city-state) with the need that the polis was an “aggregate of many members.” Politics, for him, supplied a means of forming order out of diversity while avoiding models of totalitarian rule. Many systems of government in political science have built on this basic concept of politics and acknowledging contentious interests that politics implies as a means of maintaining a non-coercive form of social order (Olorunleke, 2015).

The other earliest literature on organizational power and politics, *Il Principe* (“The Prince”), remains a significant discourse on politics and power in organizational life that was written by Niccolò Machiavelli (1521–1532) 400 years ago (Ferris et al., 2019) as an early attempt at conceptualizing power and politics that has bearing on today's research and practice in organizational behavior. Additionally, organizational power studies also root their base in leadership. For instance, works of French and Raven (1959); Raven et al. (1998); Rahim (1988); and Kacmar and Carson (1997) were some of the studies that could be mentioned in this vein. However, only in the last 20 years has politics in organizations become a legitimate field of study, as suggested in Akaegbu (2018). The majority of the research was to ascertain how organizational politics affected workers' views, conduct, and productivity at work

(Wangui and Muathe, 2014).

In the majority of the studies conducted on the issues involving the relationship between politics and performance, it seems to be influenced by a person's comprehension of organizational politics' hows and whys. To study different relationships among variables in the organization's equity theory, social exchange theory, and theory of procedural justice are the different theories that have been employed as a theoretical lens to test the issue of organizational power and politics empirically (Wangui and Muathe, 2014). Researchers also used social exchange, leader-member exchange, political skill, and influence theories (Brouer et al., 2012). The present study tried to consolidate research approaches and the theories used in power and politics hereunder in **Table 1**.

Table 1. Summaries of theories/models used in power and organization politics research.

Studies	Theory/Model	Findings	Implications
Brass and Burkhardt (1993)	Structural and Behavioral Approaches	Both structural and behavioral issues were relevant in the study of power dynamics.	The separation of power potential from its use is unrealistic
Daud et al. (2013)	Need Theory	The need for power has a negative significant relationship and impacts perceptions of politics.	A political game is considered dirty and will reduce motivation.
French and Raven (1959)	Power Bases /Sources/	Identified the bases of power leaders use to influence others.	Behavioral influence of each power sources used by followers.
Brouer et al. (2012); Olorunleke (2015)	Social exchange theory	- Individual relational satisfaction; and - Trust and commitment will be fostered if success attained in social exchanges relationships;	Managing expectation and making successful exchanges
Brouer et al. (2012)	LMX theory (Leader-member relationships)	It needs norms of mutual obligations more than the employment contract.	High quality relationships and exchanges.
Brouer et al. (2012)	Political skill and influence theories	Individual social motives, situational adaptive behavior, dynamics of influence, and perceptual lenses that affect quality work relationship.	High political skill is needed to bring about good job-related outcomes.
Olorunleke (2015)	Equity theory	Perception of organizational politics affects perception of fairness, equity, and justice in organizations.	Collective goals needed to be considered in managing politics.
Olorunleke (2015)	Procedural justice theory	Lack of justice and fairness in systems and decision-making processes is found to be the main cause of organizational politics and hampers work outcomes.	Maintaining procedural justice in the systems.
Cacciattolo (2015)	Person-based Interactionist Approach	The understanding of personality traits in politics resulting to perception differences cause politics may not always negative effects.	Politically skilled managers are effective in stressful organizations
Kisaka et al. (2020)	Max Weber's theory of bureaucracy	The politics of organization mission contribute to employee performance.	Mission is a key in institutional political dynamism.
Yang (2017)	Uncertainty Management Theory	A perception of organizational politics significantly affects job performance negatively in organic and positively in mechanistic organizations structures respectively.	Situational tactics are necessary.
Ferris and Kacmar (1992)	Political Characteristics, Actions and Outcomes Model	Political outcomes are constructs influenced by political traits and political behavior.	Focus should be given to political actions.

Source: Own compilation from available literature.

Not every organization has the same political stance. For example, politicking is overt and pervasive in some companies, whereas it only has a minor impact on results in others. The pyramid-shaped organizational structure, subjective performance standards, environmental turbulence and uncertainty, emotional insecurity, manipulative tendencies, and disagreements that impede rational decision-making are some of the organizational and individual factors that Olorunleke (2015) classified as influencing political behavior. According to Eniola et al. (2015), the majority of literature enumerated a number of typical sources of uncertainty in organizations that lead to political maneuvering, including ambiguous goals, imprecise performance metrics, poorly defined decisions, intense competition between individuals or groups, and any kind of change.

Table 2. Factors that influence political behavior (organizational politics).

Categories	Factors	Sources/Authors
Organizational	Re-allocation of resources	Keum (2022)
	Resource scarcity	Olorunleke (2015); Wangui and Muathe (2014)
	Promotion opportunities	Hooi (2012)
	Low trust	Olorunleke (2015)
	Role ambiguity	Goo et al. (2022)
	Skill variety	Sultan et al. (2015)
	Unclear performance appraisal	Olorunleke (2015)
	Zero- sum reward practices/Favoritism	Alsalamah (2015)
	Democratic decision making	Gargiulo (1993)
	High performance pressures	Ferris et al. (2019)
	Self-serving senior managers	Kirchmeyer (1990)
	Organizational structure	Olorunleke (2015); Wangui and Muathe (2014)
	Centralization and Formalization	Sultan et al. (2015)
	Job autonomy	Sultan et al. (2015)
Individual	Fairness/Procedural justice	Atinc et al. (2010)
	Organizational conflicts and disagreements	Olorunleke (2015); Wangui and Muathe (2014)
	Feedbacks	Sultan et al. (2015)
	Age and Job- tenure	Sultan et al. (2015)
	Type A behavior and need of autonomy	Sultan et al. (2015)
	High self-monitors	Ferris et al. (2019)
	Internal locus of control	Ng et al. (2006)
	High Machiavellian/Manipulative personality	Olorunleke (2015)
	Organizational Investment	Olorunleke (2015)
	Perceived job alternatives	Ferris et al. (2019)
Others	Expectations of success	Agarwal (2016)
	Emotional insecurity	Olorunleke (2015)
	Environmental uncertainty/Turbulence	Olorunleke (2015); Wangui and Muathe (2014)

Source: Own compilation from available literature.

Any change is likely to incite controversy and promote politicking, especially if

it involves a major reallocation of resources inside the organization. By suggesting that such behavior is permissible, top management's politics effectively grant individuals lower in the firm permission to engage in political activity (Ferris et al., 2019). This is how different studies have identified several factors that appear to encourage political behavior though all the factors contributing to organizational politics and employees' political behavior could be categorized under organizational, individual, or environmental categories. Therefore, the following summary of the most cited factors in different empirical and theoretical literature was compiled in **Table 2** for the current study.

As we can see from **Table 2**, organizational politics affects almost every employee to some degree, becoming an inevitable and significant part of the entire organization (Hochwarter et al., 2020). Employees who feel victimized by office politics generally tend to develop negative behaviors towards work and the entire organization, affecting their performances (Jain and Ansari, 2018). However, the research synthesis by meta-analysis performed by scholars shows mixed results that perception of organizational politics has an effect on the job performance of individuals, but the relationship was statistically insignificant (Meisler et al., 2019; Miller et al., 2008; Vigoda-Gadot and Talmud, 2010).

All leaders use power to influence others to get the job done or for other wrong reasons (Somoye, 2016). Effective managers' ability to persuade others to carry out their duties efficiently is one of the most crucial factors in determining management effectiveness (Yukl, 2012). This is done so morally and successfully by true leaders. Others who hold management positions but are not capable of becoming successful leaders instead engage in inefficient and destructive use of power and political behavior (Peyton et al., 2019). Power corrupts and absolute power corrupts absolutely; and power is not always bad as medicines can kill if taken in the wrong amount are the old adages used by scholars to signify effective use of power in the organizations (Olorunleke, 2015). Therefore, by learning how power works in organizations, you will be better able to use your knowledge to become a more effective manager.

The personal bases of power (expert and referent) are definitely the most effective, according to researchers (Peyton et al., 2019). But in some studies, reward power was included besides the personal sources of power in the organizations. Both referent and expert power sources are positively associated with employees' satisfaction with the leadership, their organizational commitment, and their performance, whereas reward and legitimate power seem to be not related to these outcomes (Gürerk et al., 2018). One source of formal power—coercive power—becomes counterproductive in that it is negatively related to employee satisfaction and commitment (Peyton et al., 2019).

Staff members, groups, or managers must decide on a plan of action when they wish to affect the actions of others. The techniques used by people or organizations to try to control others or change their behavior are known as influence strategies. Nine different influence strategies have been found by research (Barthwal, 2013), including pressure, alliances, ingratiation, legitimacy, rational persuasion, inspirational appeals, consultation, exchange, and personal appeals. There are some strategies that work better than others. The most successful strategies are usually consultation, inspirational appeals, and rational persuasion, particularly when the audience is very

engaged in the decision-making process's results. Of the nine strategies, pressure is usually the least successful and has a tendency to backfire. Although people in different countries prefer different power methods, you are more likely to be successful if you start with softer strategies that rely on personal power, such as consultation, logical reasoning, and personal and inspiring appeals (Maes and Van Hootegeem, 2022). When several tactics are employed together instead of separately, differences in efficacy become apparent. Similarly, when trying to influence those lower in the organizational hierarchy as opposed to higher, there are variances in effectiveness. This process is dynamic and complex, changing as circumstances do (Comstock, 1982; Yukl, 2012). To fully comprehend the efficacy of different influence strategies, one must be aware of the power sources at one's disposal, the direction of influence attempts (i.e., lateral, upward, or downward), and the objectives being pursued. According to Peyton et al. (2019), a significant amount of a manager's time is spent engaging in power-oriented activity in all three directions: lateral, upward, and downward.

A somewhat less obvious way to increase personal power is to learn political savvy which means dealing with better ways to negotiate, persuade individuals, and understand the goals and means that subordinates are most willing to accept (Barthwal, 2013). Possessing the ability (power) to affect other people's actions and employing that ability (power) successfully are two different things. Ineffective managers are those who think they can always effectively change other people's behavior by gaining enough authority to merely order people around. Power abuse has numerous detrimental effects on the individual as well as the business. Aggressive managers that use pressure tactics had the lowest performance reviews, the lowest incomes, and the highest levels of stress and strain at work when compared to other managers in the study (Bolden, 2011).

There must be power that has been discussed if you want to get things done in a group or organization. Here are several suggestions for how to deal with politics in a managerial career: Politics was considered as power in action; therefore, as a manager who wants to maximize his/her power, one ought to increase others' dependence on him/her. Few workers enjoy being helpless in their position and company. Steer clear of placing people in situations where they feel powerless. That means the power distribution through delegation and empowerment of subordinates was needed for the smooth flow of operations in the institutions. Individuals react to the different power bases in different ways. Develop and use an expert power base more effectively (Nejad et al., 2016) because it is helpful to engage in soft influence tactics as well as political maneuvering.

Effective managers accept the political nature of organizations (Somoye, 2016). You can better forecast other people's conduct and use that information to create political tactics that will benefit you and your team by evaluating behavior within a political framework (Soares, 2018). Some people are far more politically adept than others, which means they can control impressions and understand the underlying politics. Employees who have poor political skills and are unwilling to play the politics game generally relate perceived organizational politics to lower job satisfaction and self-reported performance, increased anxiety, and higher turnover. Politics-savvy people are likely to receive better performance reviews, higher pay raises, and more

promotions than politically inexperienced or incompetent people (Maes and Van Hootegeem, 2022). The organizational politics should be adjusted to a fair level in light of the fact that politically astute people are also likely to show higher job satisfaction and be better able to neutralize job stressors (Peyton et al., 2019).

It is not quite clear how much power affects people's ability to make decisions and interact with others in organizations (Sturm and Antonakis, 2015). However, attempts were made in some recent empirical studies conducted in different locations having different social and organizational cultures. Studies have demonstrated, for example, that intragroup power struggles are common and negatively impact group results, such as innovation, performance, and viability (Greer and Chu, 2020). Likewise, one important social influence process that can be classified as either dysfunctional or functional is organizational politics (Cacciattolo, 2015) which goes to both the organization and its employees (Wangui and Muathe, 2014). The political process can even determine organizational existence and strategic direction.

There are studies on organizational power, although the number of the studies was very low (Kiziloglu, 2016). This was because scholarly examination of the properties and outcomes of power has only recently begun in management studies (Sturm and Antonakis, 2015), as some of them were also indicated in the above table. Political capital generates power not only resource dependence but also status, identification, and legitimacy in organizations (Ocasio et al., 2020).

But evidence also showed that employees consider political behavior in organizations as positive when used professionally and fostering cooperation among members but negative when politics is used for serving self and destructing team spirit among various units in the organization (Sonaike, 2013). According to similar theoretical considerations, politics frequently impedes regular organizational procedures, such as decision-making, promotions, and awards, and impairs performance and productivity at both the individual and organizational levels (Wangui and Muathe, 2014). When it goes too far, it can have detrimental effects on an organization and its members who are not very good at politics or who don't want to play the game. These include lower job satisfaction, higher levels of stress and anxiety, more employee turnover, and worse performance (Ibid).

Such mixed empirical results and positions underpinned by theoretical arguments prevail in the literature, and power and politics are separately analyzed in most of the studies so far. However, power and politics were pervasive ingredients in interpersonal relations affecting the work outcome and attitudes. But one cannot address all of their effects, and hence the case study presented hereunder was focused on the combined effect of both on job satisfaction only because it predicts organizational performance (Bakotić, 2016) as well as employee engagement (Singh, 2017) and thus representative construct to other effects.

2.2. Respondents and sampling

A quantitative approach by means of cross-sectional survey design was used in this inquiry to collect the primary data. A person's perception reference point determines what he or she classifies as organizational politics (Olorunleke, 2015). Research showed that power-oriented behavior performed by a permanent, tenured

employee is seen as more legitimate and less harsh than the same behavior performed by temporary employees (Robbins et al., 2018). Therefore, this study was focused on permanent employees only who are currently working in the college from whom data collection was made during 19–23 July 2021.

Employees in the institution, both academic and administrative staff as well as individuals in management positions and subordinates in different sections were considered as the prospective informants of the study. The number of employees from the records of the human resource department of the college shows that a total of 237 employees was there in the institution out of which 30 were in managerial positions. Using the population proportion formula used in much social science research (Taherdoost, 2017);

$$n_0 = \frac{p(1-p)z^2}{e^2} \text{ and } n = \frac{n_0 \times N}{n_0 + N}$$

where n_0 is the initial sample calculated based on the p which is the population proportion; e is the precision level; z is the standard score of confidence interval; n is the adjusted size of the final sample; and N is the size of the population.

Using this statistical formula, 146 informants were selected to give their opinion by assuming 50% as an estimate of unknown p , as this could maximize the variance and produce the maximum sample size at a 95% confidence interval and 5% error margin adjusted for the known population factor (*Ibid*). Stratified randomized sampling technique was used to select the subjects. Therefore, 18 informants from employees in managerial positions and 128 from subordinates were involved in the study. The sampling frame used to draw the respondents was constructed from their payroll to give equal chance to the members of the institution, and a random number table was employed to select individual informants.

2.3. Data collection method

There are different approaches available to investigate power and politics in organizations. When we want to investigate power sources and their application in organizations, structural and behavioral approaches are available because the separation of potential power from its use would be unrealistic according to Brass and Burkhardt (1993). Politics, or organizational politics, is considered power in action, and understanding of organizational politics requires analysis of power, coalitions, and bargaining. That means power is the most important construct in relationship studies (Dunbar, 2015); it is the contest for political action and encompasses the most basic issues underlying organizational politics (Omisore and Nweke, 2014). Rahim Leader Power Inventory (RLPI) (Rahim, 1988) was employed to see the power bases used by the leadership, and Interpersonal Power Inventory (IPI) (Raven et al., 1998) was used to see the power distribution among the subordinates. There are options to use POP versions devised by Ferris and Kacmar (1992) and/or Kacmar and Carlson (1997). However, the present study chooses the latter due to its simplicity and popularity in different studies so far.

Organizational politics, as well as the distribution and use of power, have several job-related outcomes (Gencer et al., 2018; Khalid and Ishaq, 2015; Vigoda-Gadot and Talmud, 2010), and the scope of this research was focused on job satisfaction only.

Job satisfaction can be defined as an individual's feelings about their work and their attitudes towards various aspects of their work (Jabid et al., 2021), as well as attitudes and perceptions that may influence the degree of fit between the individual and the organization (Mohd Yusof, et al., 2018). From the different approaches to measure job satisfaction, the Minnesota Satisfaction Questionnaire (MSQ), particularly the short form, was used in this study (Weiss et al., 1967).

2.4. Data analysis techniques

The data analysis was made using descriptive and inferential statistics by a statistical package (SPSS version 23) accessible to analyze the frequency, percentage, and average score index of the constructs in all four scales, viz., RLPI, IPI, POP, and MSQ. Then correlation and OLS regression were performed to see the relationships and effects.

3. Results and discussion

The result of the quantitative survey was presented hereunder in the order of the objectives of the inquiry mentioned above. Firstly, the management's power base used in the organization in the study and interpersonal power distribution were shown. Secondly, the effects of power bases of leadership and interpersonal power inventory on the perception of organizational politics were given. Finally, the effects of power bases used by leaders, interpersonal power interaction, and perceived organizational politics prevailing in the college on employee job satisfaction were presented.

3.1. Respondents' demographic characteristics

The data was collected from permanent employees of WSPTC, and 145 usable filled questionnaires were returned from the survey. Out of the informants, 77 (53.1%) were male, and the remaining 68 (46.9%) were female respondents. As far as their age was concerned, 59.3% of the respondents were aged 40 years or below, while the remaining 40.7% were aged 41 years or more. The educational status of the respondents showed that 60.7% of the respondents have a diploma or its equivalent (involving different levels of certification of the TVET program) and below. The other 39.3% of the respondents have had higher qualifications, such as a bachelor's degree or more. Moreover, 54 (37.2%) of the respondents were from the academic section, and the larger part, comprising 91 (62.8%) respondents, were drawn from the staff who are responsible for supporting the line in the academic operations of the college.

3.2. Managements' power base and interpersonal interactions among employees

The managements' power base and tactics were measured by employee version of RLPI scale that comprises 5 power bases as constructs: viz., expert power, referent power, reward power, coercive power and legitimate power having 7 items for each and a total of 35 items with 5-point Likert scale. The score of response ranges from 18–29 out of a maximum possible 35 points with mean 22.8 (showing mediocrely exerted power from the leader) and standard deviation 3.00 (showing the variability among the power bases used by leaders). Similarly, the interpersonal power spread

among employees of the college was measured by IPI scale that comprises 11 power bases as constructs: viz., reward impersonal, coercive impersonal, expert power, referent power, informational power, legitimate power, legitimate reciprocity power, legitimate dependency power, legitimate equity power, reward personal and coercive personal powers having 3 items for each and a total of 33 items with 5-point Likert scale. The score of response ranges from 7.82–10.91 out of a maximum possible 15 points with mean score of 9.33 and standard deviation 0.78 showing fluidity of interpersonal power with little variability among the respondents.

3.3. Role of power base of leaders and followers on perceived organizational politics

Organizational politics was measured by the POP scale. The scale was prepared of 13 items measured using a 5-point Likert scale. The data in the study showed that the mean POP score was 48.3 and its standard deviation was 2.58. This indicates that the level of perceived politics in the college was slightly higher because the maximum score was 65. From the constructs in the RLPI scale, leaders' power bases showed significant positive correlation to POP legitimate power ($r = 0.645, p < 0.001$), reward power ($r = 0.635, p < 0.001$), and coercive power ($r = 0.517, p < 0.001$). The cumulative RLPI score also showed a positive and significant correlation with the POP score. But the use of expert and referent powers showed a negative but insignificant correlation with POP.

In the case of interpersonal power in the organization from components of the IPI scale; coercive personal power, coercive impersonal power, and reward personal power have negative and significant correlations with POP ($r = -0.71, -0.622$, and $-0.586, p < 0.001$, respectively). Legitimate reciprocity power ($r = 0.393, p < 0.001$); legitimate dependence power ($r = 0.544, p < 0.001$); and legitimate equity power ($r = 0.549, p < 0.001$) exhibited positive significant correlation with POP. The pooled IPI score also exhibited a negative significant relationship ($r = -0.334, p < 0.001$) with the POP score. However, informational, reward, expert, and referent powers didn't show significant correlation with PO.

Regression analysis was performed by taking POP score as the dependent variable and both RLPI score and IPI score as independent variables. The regression model fulfilled all the OLS assumptions. The result of the analysis indicated that the combined effect of both leadership power bases and power distribution among employees on POP was statistically significant, as the ANOVA *F-statistic* was 47.01 and was significant at $p < 0.001$. The *R-squared* of the model was 0.398, meaning around 40% of the employees' perception of the organizational politics was explained by the power bases of leaders and interpersonal power relationships among employees as indicated in the model summary in **Table 3**.

Table 3. Model summary of effects of IPI and RLPI scores on POP.

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.631 ^a	0.398	0.390	2.01571	2.369

a. Predictors: (Constant), IPI_SCORE, RLPI_SCORE.

b. Dependent Variable: POP_POLITICS.

However, the leadership power base designated by the RLPI score only positively and significantly explains the employee's perception of organizational politics as indicated by its coefficient ($B = 0.491$, $p < 0.001$), which showed that a unit increase in RLPI score results in a 0.5 increase in POP score, and the IPI score has a negative but insignificant effect on the perception of organizational politics as indicated in the coefficients table hereunder (see **Table 4**).

Table 4. Coefficients of predictors of POP.

Coefficients ^a									
Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	<i>B</i>	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	41.142	2.928		14.050	0.000	35.353	46.930		
1 RLPI_SCORE	0.491	0.060	0.572	8.223	0.000	0.373	.609	0.875	1.143
IPI_SCORE	−0.437	0.230	−0.132	−1.899	0.060	−0.893	.018	0.875	1.143

a. Dependent Variable: POP_POLITICS.

3.4. Impact of the dynamism of power and politics on employees' job satisfaction

A shortened version of the MSQ, consisting of 20 items on a 5-point Likert scale, was utilized in the study to measure the job satisfaction of the participating employees. Employees' job satisfaction scores, as indicated by the data gathered, range from 33.00 to 80.00, with a mean score of 51.04 and a standard deviation of 11.82. The fact that the value was below the median suggested that there was job dissatisfaction, and the significant standard deviation further suggests that job satisfaction level severely varies among college employees. Despite the fact that expert and referent powers showed a positive correlation that was statistically insignificant, legitimate power ($r = -0.418$, $p < 0.001$), reward power ($r = -0.323$, $p < 0.001$), and coercive power ($r = -0.286$, $p < 0.001$) showed a significant but inverse relationship with the job satisfaction score. The job satisfaction score was positively correlated with the interpersonal power relationship factors of personal coercive power ($r = 0.369$, $p < 0.001$), personal reward power ($r = 0.341$, $p < 0.001$), and coercive impersonal power ($r = 0.291$, $p < 0.001$). Conversely, legitimate reciprocity power ($r = -0.301$, $p < 0.001$), legitimate dependence power ($r = -0.203$, $p < 0.001$), and legitimate equity power ($r = -0.238$, $p < 0.01$) were negatively significant. There was no statistically significant relationship between work satisfaction and the other IPI scale components. The RLPI, IPI, and POP indices all showed statistically significant relationships with the job satisfaction score. There was a negative connection between job satisfaction and RLPI (-0.316 , $p < 0.001$) and POP (-0.672 , $p < 0.001$). However, there is a positive link between IPI and employees' job satisfaction scores ($r = 0.176$, $p < 0.001$).

The statistical output of OLS regression revealed in the model summary below in **Table 5** also showed the results in tandem with the correlation analysis. As indicated by the ANOVA, the combined effect of these three variables was statistically significant (F -statistic = 41.4, $p < 0.001$). The regression analysis passed all the model fitness tests in which R-squared was 0.468, implying 47% of employee job satisfaction

of the employees was explained by power base and influence tactics, interpersonal power distribution, and perception of organizational politics.

Table 5. Model summary of effects of IPI, RLPI and POP scores on job satisfaction.

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.684 ^a	0.468	0.457	8.71050	2.216

a. Predictors: (Constant), POP_POLITICS, IPI_SCORE, RLPI_SCORE.

b. Dependent Variable: MSQ_Job Satisfaction.

Despite such a result, only the perception of organizational politics has a strong negative effect on the employees' job satisfaction, as indicated by the standardized beta coefficient ($\beta = -0.778$, $p < 0.001$) indicated below in **Table 6**. This implies that an increase of 1 standard deviation in the perception of organizational politics results in a 0.78 standard deviation in the job satisfaction score of the employees.

Table 6. Coefficients of predictors of employee job satisfaction.

Coefficients ^a									
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	213.348	19.563		10.906	0.000	174.673	252.023		
1 RLPI_SCORE	0.609	0.314	0.155	1.941	0.054	-0.011	1.228	0.593	1.687
IPI_SCORE	-0.452	1.008	-0.030	-0.449	0.654	-2.445	1.540	0.853	1.172
POP_POLITICS	-3.563	0.363	-0.778	-9.824	0.000	-4.279	-2.846	0.602	1.662

a. Dependent Variable: MSQ_Job Satisfaction.

4. Discussion

Earlier studies found that contextual performance and job happiness are more favorably correlated with personal power than positional power. When followers perceive higher levels of organizational politics, their job happiness is negatively correlated with the leaders' exercise of positional authority (Dirik and Eryılmaz, 2018). The empirical evidence in this survey also implied that when the power of leaders or managers was consolidated, the perceived politics in the organization was higher. More specifically, when a manager's legitimate power, coercive power, and reward power are higher, the organizational politics become higher. This was in line with the empirical literature surveyed in this study. Autocratic leadership predicts disruptive political behavior in the organization (Hussain et al., 2020). A positive relation of organizational politics was observed with transactional leadership and a negative relation with transformational leadership, as indicated by the research conducted in public universities in Pakistan (Durrani, 2014).

According to Schein (1977), the bases of individual power bases moderate the evolution of political behavior in organizations as a means of obtaining desired outcomes, which was probably the hidden intent of the power holder in the organization. The data obtained from the survey confirmed a negative interrelation

with organizational politics perception, though legitimate reciprocity, legitimate dependence, and legitimate equity interpersonal power bases positively impact the formation of political behavior. That means it was partially in line with the theoretical propositions of power and politics in the organization. This is due to the fact that political skill, or interpersonal power interrelationships, and the leaders' power bases and tactics drive the formation of political behavior (Mokhtari et al., 2018), but the relative usage of distributed or shared leadership varies across countries and sectors (Bolden, 2011).

Positional power bases result in job stress and hence dissatisfaction as empirically tested in research conducted in Turkey (Erkutlu et al., 2011; Erkutlu and Chafra, 2006). In contrast, referent, expert, and reward power bases, or non-coercive power bases, have a positive impact on job satisfaction (Junaimah, 2015; Lee and Tui Low, 2008). This was also the same in the survey findings, where the data exposed that legitimate, reward, and coercive power bases negatively affected job satisfaction. It was also revealed that interpersonal power distribution improves job satisfaction, though it was statistically insignificant. This finding was also supported by the study that showed a significant positive relationship between harsh power bases and job stress and a negative relationship between soft power bases and job stress from interpersonal power bases (Erkutlu et al., 2011; Erkutlu and Chafra, 2006), as it was known that when job stress increases job satisfaction decreases and vice versa. Harsh bases of interpersonal power have a significant positive correlation with job satisfaction, which was contradicting to the findings reported by Western culture like America (Raven et al., 1998).

The study results were strongly supported by the findings of earlier studies on the negative effect of organizational politics on employees' job satisfaction (Ayobami, 2013; Bedi and Schat, 2013; Hassan et al., 2017; Jabid et al., 2021; James, 2019; Javed et al., 2014; Miller et al., 2008; Wangui and Muathe, 2014). But the study conducted in private universities in Ankara, Turkey (Durnali and Ayyildiz, 2019) revealed that perceptions of organizational politics and job satisfaction were moderately positively related, which confirms that healthy organizational politics generates a competitive environment and innovation in an organization as posited by Agrawal (2013). The impact of politics and power in organizations offers a political analysis of intra-organizational relationships when politics and power struggles are commonplace. We look to people and human resources for support in any organization. This explains why power struggles and organizational politics are inevitable (Omisore and Nweke, 2014).

5. Conclusion

The power bases used by management that affect POP include the excessive use of positional power bases such as legitimate power, reward power, and coercive power bases. However, the personal bases of power (referent and expert power) of the leadership in the organization didn't predict the formation of political behavior in the organization. When the power was shared among the members of the organization, there was no significant level of effect in the formation of political behavior as indicated in the findings. From this we can conclude that power concentration at the

higher positions results in a higher level of organizational politics than when it was dispersed among employees in the organization that shares power and empowers them.

The level of perceived organizational politics in the college was above average or slightly higher, and it has so many impacts coupled with the leadership power bases and tactics. Among other effects of power and political dynamism in organizations on employees' job satisfaction were the usual criteria that could be used to see work-related employee behavior. In the study, the power tactics as well as the politics affect employee satisfaction negatively, which further affects employee performance, job stress, organizational commitment, turnover intention, etc. This means the dynamism of power and politics in organizations impacts the work-related behavior of employees, starting from satisfaction at the individual level and the organization's productivity at large.

A person's success or failure at using or reacting to power is largely determined by understanding power, knowing how and when to use it, and being able to anticipate its probable effects. It is wise to have a balanced use of power and politics in achieving organizational goals and objectives (Somoye, 2016). The hybrid configuration of the power constitution of an organization and its members was important to success (Bolden, 2011) because any power base is seen potentially to be double-edged: effective usage depends entirely upon organizational climate and culture (Singh, 2009). It is also recommended that increasing personal sources of power (Fuqua et al., 2004) improves the effectiveness of leaders, though its compatibility was contingent on different situational factors. To sustain in the changing situations and power dynamism, socially responsible power use in the context of ethical leadership (Haller et al., 2018) was recommended for the leadership and executive practitioners in the case-studied institution and other organizations.

Similarly, without political awareness and skill (Hartley and Fletcher, 2008), we face the inevitable prospect of becoming immersed in bureaucratic infighting, parochial politics, and destructive power struggles, which greatly retard organizational initiative, innovation, morale, and performance (Hartley and Branicki, 2006). Managerial political wisdom (Nejad et al., 2016) is essential to a full understanding of organizational politics, its causes and effects; practitioners may take corrective action to minimize factors that inhibit innovation efforts and encourage those behaviors that enhance innovation activity (Wangui and Muathe, 2014). Political maneuvering should be managed to keep it constructive and within reasonable bounds because organizational politics is not inherently bad. That means in contemporary management perspective, nobody can say that organizational politics was completely bad and should be avoided despite the literature on organizational politics having historically focused on a negative viewpoint of politics (Soares, 2018).

6. Limitations and future research directions

Despite the pervasiveness of power and politics in organizations, its many facets did not gain the attention of researchers (Schein, 1977); it was not adequately researched (Bodla, 2013); and it lacked full integration (Treadway et al., 2013); dyadic relationships allow upward influence, interactions, perceptions about the working relationship, and the direction of influence (Williams et al., 2016). Therefore, it is

required to see the use of power and politics in institutions in developing countries perspectives, and this study tried to fill this gap. But it needs further elaboration using business enterprises and targeting a wider population for gaining representative findings of the culture. It will be necessary to see the path of the effect by using alternative methodological analysis to see the direction of influence among the behavioral variables that might be seen as a research arena for researchers and academicians.

This study suffers from the weaknesses of a survey study conducted in one institution. This is since the representativeness and generalizability of the findings could be limited to only the organization involved in the study. It was highly recommended to include qualitative data when required because explanations of power exerted and political behavior were social phenomena, we could not be fully quantified.

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Article

Exploring the potential of art-based workshops for solving complex problems in companies

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Abstract: The current business environment characterized by volatility, uncertainty, complexity, and ambiguity (VUCA) advances numerous challenges for organizations. To respond effectively to these changing demands, traditional approaches to solving problems often prove inadequate in this dynamic context. A new approach, the ProCESS methodology, was developed and tested in the last three years within an Erasmus+ consortium in four European countries. This approach stimulates unconventional thinking and the finding of creative solutions for real-world business challenges. The aim of this perspective paper is to present the research data collected in two Romanian companies by testing ProCESS methodology. In the discussion section, the paper highlights the potential of this methodology that uses various artistic tools like drawing, music, modeling, or meditation to encourage participants to tap into their sensory, emotional, and spiritual sides for finding new and unexpected solutions. The paper also discusses potential influences on organizational culture and employee well-being.

Keywords: SES skills; sensorial; emotional; spiritual; teamwork; communication; training

1. Introduction

The end of the book “The Future of Management” highlights that the 21st-century business environment demands a new approach for managing people, systems, and technology in organizations (Hamel and Breen, 2010). Indeed, companies face an external and internal VUCA (volatile, uncertain, complex, and ambiguous) business environment that presents significant challenges for organizations leadership (Eskola et al., 2022b). Traditional problem-solving methods are often insufficient in a dynamic environment; therefore, innovative organizational approaches to adapt and to thrive are needed. To be competitive and oriented to future opportunities, companies must remove the limitations of traditional management approaches in addressing complex problems and must prioritize human resources by fostering a culture that values initiative, creativity, and collaboration.

In the context of developing 21st-century crucial skills for solving complex problems in companies, exploring the potential of short-term, on-site, flexible, art-based tools and work-based learning training programs for adults can provide insights into the organizational training process.

The aim of this paper is to present the author's experience in the process of developing and implementing two pilot training sessions in Romanian companies using art-based workshops. Based on qualitative and quantitative feedback received from participants, the results show promising results and suggest new directions for

future research. However, more research data is needed, since the two training sessions involved a small group of participants.

The paper is structured in five sections. After the introduction, it presents the research context and methodology, followed in the third part by results description. The fourth section is allocated to discussion, research limitations, and further research directions. The last section highlights the main research conclusion.

2. Materials and methods

2.1. Research context

Creative thinking and cognitive skills, particularly complex problem-solving, are crucial skills for employees in the next five years, followed closely by self-efficacy (resilience, flexibility, agility, motivation, and self-awareness) and interpersonal skills like empathy, active listening, and social influence (World Economic Forum, 2023). Some cross-functional skills have become essential for the future of work. The increasing importance of collaboration, adaptability, psychological flexibility, curiosity, lifelong active learning, and ethical focus is indisputable in organizational well-being (Waldeck et al., 2021), Industry 4.0 (Hecklau et al., 2016), Industry 5.0, and in green-oriented occupations (Firescu et al., 2022; OECD, 2024).

2.1.1. Leadership challenges in a VUCA world

Leaders should understand that new ideas and opportunities arise within the organizational community created by them, and the organizational culture plays a crucial role. New solutions can be co-created by managers and employees in collaboration with other internal and external stakeholders if they understand and admit that considering new perspectives can bring innovative solutions to organizational challenges. New approaches can be successful if people debunk the false perception that they know all the answers, they know the processes and strategies to follow, they have all the resources needed, etc. (Burnett and Evans, 2016, pp. 200–201).

Great leaders, with exceptional experience and emotional resilience, make the work meaningful for employees and understand the importance of supporting organizational cultures (D'Oliveira and Persico, 2023). To that end, they identify employees' strengths, focus on positive contributions, and eliminate awkward criticism (Clifton and Harter, 2021, pp. 151–152). Active listening is a key workplace skill and a powerful leadership tool important for building trust, fostering stronger relationships, ensuring meaningful communication, motivating employees, and boosting team productivity (Abrudan et al., 2022; Castrillon, 2024; Erikson, 2019; Kriz et al., 2021).

2.1.2. Solving complexity in organizations

The world is complex, and complexity involves many stakeholders with different priorities, values, and needs. Even though organizations face new challenges nowadays, the way of working, the thinking patterns, and the management style remained largely unchanged (Eskola et al., 2021).

Most companies neglect innovative approaches to complex problem solving and employee well-being, ignoring that a wide range of human capacities like emotional,

sensorial, and spiritual dimensions can be integrated into organizational training to significantly improve both individual and organizational performance (Clifton and Harter, 2021; Fisher and Phillips, 2021; Wigglesworth, 2014). To that end, to help leaders in leading their teams to solve challenges in addressing complex problems, a holistic approach that integrates elements of art, religion, and philosophy is needed (Eskola et al., 2022b). Employees emotional engagement is extremely important for raising awareness and driving behavioral change. A substantial transformation of the organizational culture requires repeated interventions and sustained effort for both employees and the organization. Traditional training methods often prioritize cognitive skills over emotional intelligence; therefore, organizational training should consider practical and experiential approaches, along with theoretical ones. To foster holistic development and enhance both personal and professional growth, the potential of using artistic practices in training should be considered (Mistretta and Goubier, 2022).

Three years ago, the European Union allocated funds for an Erasmus+ Knowledge Alliances project designed to develop and test a methodology to revolutionize management education. Four higher education institutions (HEIs) and five companies from four countries (France, Finland, Latvia, and Romania) signed a consortium agreement and took part in the ProCESS project (Processing Complexity with Emotional, Sensorial, and Spiritual Capacities) between January 2021 and March 2024.

2.2. The framework of ProCESS methodology

ProCESS methodology emphasizes the integration of Sensorial, Emotional and Spiritual (SES) skills with traditional rational thinking, aiming to equip managers and decision-makers with tools to navigate complex organizational problems effectively, as the guide for this innovative methodology mentions (Goubier et al., 2024).

The operational objectives of the project and the public intellectual outputs were: (1) developing ProCESS methodology and four training modules for SES skills development (Eskola et al., 2022a; Goubier et al., 2024), (2) testing the methodology in real-life situations with students (Eskola et al., 2024), (3) creating a global network of trainers in SES skills (SESS trainers) able to implement project methodology (Leen and Trenvouez, 2024; Leen et al., 2024; Ludviga et al., 2024), and (4) testing the training modules through pilot training sessions in companies.

2.2.1. Testing ProCESS methodology with students

The ProCESS methodology was developed during the three years of project implementation and tested with students in real-life situations. To achieve this goal, four partner companies from four different countries have written 12 real-business case studies to be solved by 192 students involved in the three rounds of case studies (four case studies per round) (Eskola et al., 2024). The fifth partner company has developed a SESS evaluation tool to assess students SES skills before, during, and after the training process (Trenvouez et al., 2022).

During the training program that took place over the course of one semester, students worked in teams to find innovative solutions to the complex problem raised by the case study they worked for. The four partner HEIs followed the ProCESS

methodology, organizing six workshops to empower students to enhance their SES skills. By engaging students in a variety of art-based activities—using tools like music, dance, meditation, poetry, sculpture, theatre, etc.—this holistic approach fostered innovative thinking, enabled students to develop “out of the box” solutions for real-world challenges, and encouraged them to tap into their creative potential (Kakko, 2022; Lungu et al., 2023; Sava et al., 2022; Sluka and Ludviga, 2022).

2.2.2. Pilot training sessions at companies, based on ProCESS methodology

Using the experience gained by testing ProCESS methodology with students, each partner HEI in collaboration with national partner companies, associated partners, and other entities has organized seven pilot training sessions at companies during the last part of the project. These pilot training sessions—a total of 28 trainings in four countries—aimed to test the effectiveness of the SESS training modules developed by each country involved in the project (Eskola et al., 2022a), using the expertise of SESS trainers’ community (Ludviga et al., 2024). To collect participants’ feedback regarding the training experience and the pilot training sessions value-added, a common feedback questionnaire was designed and used in all four countries.

The Romanian partners in the ProCESS project have implemented a total of seven pilot training sessions with a duration of 21 hours (three hours/training session) and a total of 67 participants. The participants that tested ProCESS methodology for free during July 2023–February 2024 were students from Romanian partner HEI (one session, with 13 participants), teachers from different educational institutions (two sessions, with 19 participants), managers from clients of a business consulting company—Romanian partner company in the project (one session, with 6 participants), or employees in companies with different fields of activity (three sessions, with 28 participants; one of these sessions brought together 13 employees from three different companies). As a quick analysis of this data can show, the main technical issue faced by implementing training sessions in the real business world was to find companies open to allocating resources (time and people) for these free-of-charge trainings.

The author of this paper was one of the SESS trainers certified to implement ProCESS methodology, besides her role as project manager of the Romanian partner HEI in the project. In this role of SESS trainer, she was involved in designing and implementing pilot training sessions at two Romanian companies, described in this paper as Company A and Company B, to maintain confidentiality.

Due to the profile complexity of participants involved in the seven pilot training sessions, based on a preliminary analysis of research data and considering that the author of this paper was directly involved in designing and implementing two training sessions, this perspective paper presents a comparison of results obtained through the implementation of pilot training sessions in two companies.

2.3. Designing two pilot training sessions for Romanian companies

This section presents the main coordinates of designing the pilot training sessions in two different Romanian companies.

The selection of the participants in both pilot training sessions was made by company representatives after a preliminary discussion about training objectives,

methodology, and requirements (maximum 16 participants per session, managers of different levels, engineers, or team leaders). In the first case, the selection was made by Company A' owner (general manager of the company for 25 years, male, 73 years old) complying with the requirements mentioned by trainers. In the second case, the participants were selected by the commercial department manager (leader of a group of 42 members, female, 50 years old).

As **Table 1** shows, both companies have chosen to test ProCESS methodology in on-site trainings with a duration of three hours at company premises. Companies' headquarters were in different geographic locations, in two different counties in Transylvania (Romania). After a preliminary discussion with the managers of the employees selected to attend, the pilot training sessions were scheduled differently: in the middle of the day before the lunch break (Company A) and at the end of the working day (Company B). The period of the year in which the pilot training sessions took place was different: September (Company A) and February (Company B).

Table 1. Main coordinates of pilot training sessions.

Data description	Company A	Company B
Company profile	Wood processing company, 170 employees	Wholesale trade company, 240 employees
Company headquarters location	Center of a commune located in a hilly area of Transylvania (Romania)	The industrial area of a municipality, in the central part of Transylvania (Romania)
Training location	Company premises*	Company premises**
Training duration	3 hours	3 hours
Schedule	11 a.m.–2 p.m. (September 2023)	2 p.m.–5 p.m. (February 2024)
Training type	On-site training; On-the-job training	On-site training; On-the-job training
Number of participants	8 (eight)	7 (seven)
Participants' profile	Employees from different departments (engineers or middle managers/team leaders)	Employees from the same department, in different teams that work together
SESS trainers' profile	Team of four SESS trainers, led by a SESS trainer with large experience in companies training	Team of four SESS trainers, led by an entry-level experience SESS trainer
Strategy used for choosing the problem to be solved	Asked by email before training. The director of the company research center suggested a list.	Asked from participants at the beginning of the session.
Complex problem discussed during training	Being productive maintaining the work-life balance	Improving team communication to reduce the impact of errors
Training methodology:	ProCESS methodology	ProCESS methodology
Phase 1: representing the problem	Drawing and modeling	Drawing and modeling
Phase 2: relaxation	Meditation and active listening	Neurography
Phase 3: finding solutions	Drawing and modeling	Drawing and modeling

* Bistrița Năsăud county, Romania, ** Cluj-Napoca county, Romania.

3. Results

This section presents the qualitative and quantitative data, and the results obtained at the end of each pilot training session, using a common feedback questionnaire. All participants in the training sessions have completed the survey.

The research data are presented both centralized (all participants feedback, 15 respondents, in **Figures 1–3**) and separately (Company A and Company B participants feedback, 8 respectively 7 responses, in **Figures 4–6**).



Figure 1. Participants' main gains from the training sessions.



Figure 2. Things that participants liked most in the training sessions.

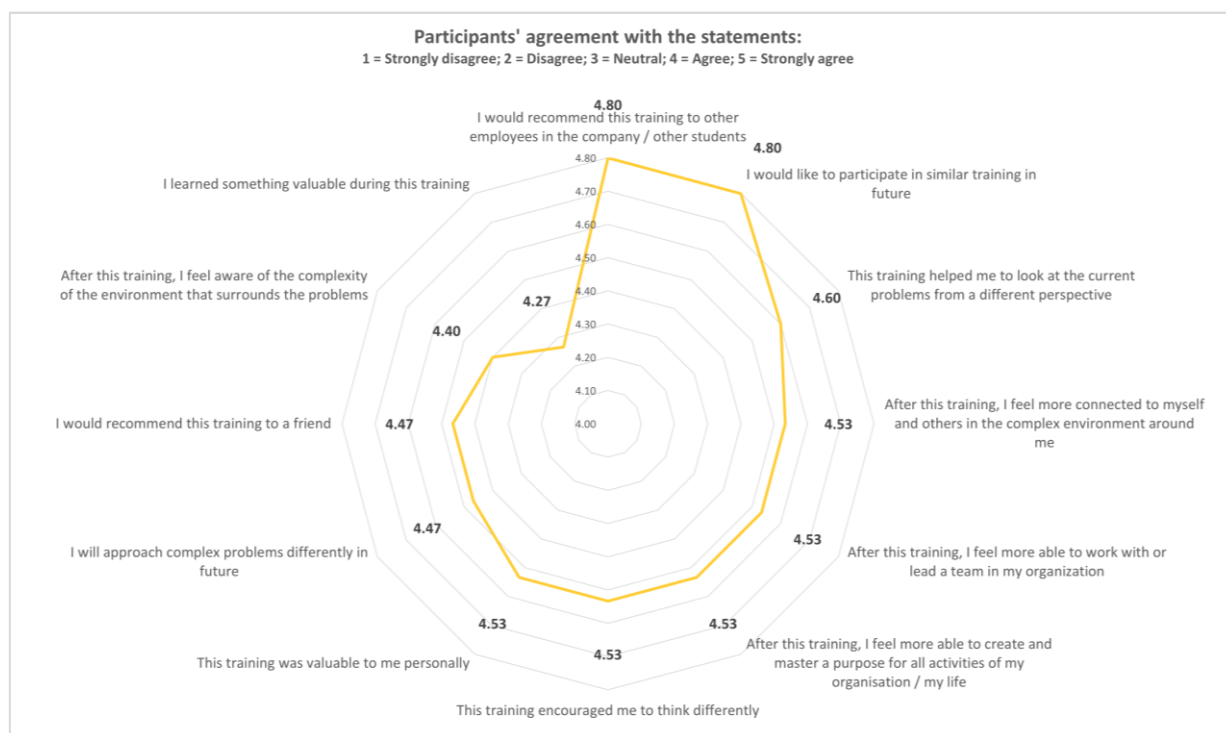


Figure 3. Participants' opinion on the value-added of training sessions.

3.1. Participants' overall feedback regarding training benefits and implementation

Research qualitative data was collected using two open questions and analyzed with free online tools (www.freewordcloudgenerator.com/generatewordcloud). Participants' feedback regarding the main gains of the training and things they appreciated most in the training session are presented in **Table 2** and figures below.

Table 2. Participants' overall feedback on training experience.

Question	Company A participant's opinion	Company B participant's opinion
My main gains from this training are:	<i>We learned many interesting and useful things that help us in our personal lives. /Learning a new method of thinking for solving problems. /I have seen that when a problem arises, it is very important to detach yourself from it, to do something. /Discipline, coordination, balance. /Better organization and freer thinking.</i>	<i>That I realized that I am part of a team with the same life principles and that we are oriented towards the same goals. /Communication is very important for things to run efficiently, but also for understanding the person next to you. /Better communication /Time spent with colleagues /Time spent together /Relaxation, awareness of problems, desire to solve problems.</i>
List 3 things you liked most in this training.	<i>(1): I noticed that problems can be solved by thinking differently from what I knew before. /I learned to approach complex problems in a different way. /Learning interesting things /Understanding the problem /Using positive thinking /Free expression of ideas /Diversity of ideas /Solutions (2): Communication/Open discussion/Involvement/Team collaboration/Spontaneity/Sincerity/Positive thinking of trainers/Exercises/Activities/Use of aid materials/Free time/Meeting new people</i>	<i>(1): Information transparency/Diversify/Topics/Discussions/Conclusions (2): Interaction with colleagues/Teamwork/Involvement/Creativity/Relaxation/The calm atmosphere/People/Exercises/Activity/Method/That I drew/Colors</i>

3.2. Participants' opinion on the training value-added and impact

Using one question based on the Likert scale, participants were asked to indicate their level of agreement with twelve statements related to their perception of the value-added and impact of training on solving complex problems differently in the future. The average scores were calculated using Excel, and research data are presented above.

4. Discussion

This perspectives paper introduces an innovative methodology for managers training. The results described in the previous section show promise in considering the organizational training based on art as an innovative way to train employees to find creative solutions to complex problems (Goubier et al., 2024).

Besides the fact that during the training sessions participants have found solutions to the selected complex problem by learning a new method to approach complexity, the feedback received from participants involved in two art-based workshops implemented in Romanian companies shows possible additional training impact on teambuilding, employee well-being, and team collaboration.

In line with the literature review, as Clifton and Harter (2021) stated, when work is stressful, it becomes difficult for managers to inspire enthusiasm for initiatives aimed at improving employees' well-being. Maintaining the work-life balance was one of the topics of interest suggested and chosen to be discussed in Company A training. Following the ProCESS methodology to come up with solutions, participants worked in groups and came up with new solutions for this complex problem that

included many stakeholders with different needs and values (Eskola et al., 2021). For example, using his talent for drawing, one of the participants represented this complex problem by two animals (a horse and an elephant) going in opposite directions. After an exercise that included meditation, in the last part of the training he used drawing again to represent ideas for solving the problem. In the new representation, he reorganized the animals walking in the same direction, adding other elements to inspire positive emotions and possible solutions.

Exploring another research direction, the importance of team collaboration and building authentic connections at work was highlighted by many authors (Erikson, 2019; Fisher and Phillips, 2021). Finding solutions for improving team communication to reduce the impact of errors at work was the aim of ProCESS methodology-based training at Company B. As **Table 2** presents, participants appreciated not only the fact that they found new solutions and realized the importance of communication and understanding others, but also the time spent with their colleagues during the training session. Within an informal discussion between the author of this paper and colleagues from the ProCESS Committee Board (Leen and Trenvoux), it was proposed that this innovative methodology could be a novel approach to teambuilding, an idea supported by the research data collected at Company B.

Turning to a different research question, creativity used during training sessions can improve training results and participants motivation (Zhang and Chen, 2021). As **Figure 4a** shows, the feedback received from Company A participants highlights learning and novelty as the main gains for attending the training session.

In addition, as shown in **Figures 1–2**, analyzing the research data globally, the results obtained indicate that the participants' main gains through the training sessions were communication and learning new things. By contrast, analyzing separately the research data, differences between participants' opinions can be identified as shown in **Figures 4–5** and **Table 2**. The main gains mentioned by Company A participants were learning new things and freer thinking, while Company B participants mentioned aspects related to communication and team collaboration. Differences can be observed also when analyzing participants' opinions regarding training experience. For example, freedom of expression and thinking was most appreciated by Company A participants, while the things most liked by Company B participants were training exercises and relaxation, brought by neurography and music used in the second part of the training session. Following **Figure 3** and **Figure 6**, the research supports the fact that training sessions brought value-added for participants. Slight differences can be observed between average scores calculated separately. For example, Company A participants "strongly agree," while Company B participants "agree" with statements describing training added value (this training session was "valuable to me personally" or "encouraged me to think differently") and impact ("after this training I feel more able" to work with or lead a team in my organization" or "to create and master a purpose for all activities of my organization/my life").

Thinking about previous discussions and the main limitation of this research, given especially the number of participants involved and the limited number of training sessions analyzed, further research using statistical analyses and artificial intelligence tools can be considered for gathering more insights into:

- the potential of art-based workshops for: (1) solving real life complex problems in companies; (2) increasing employees' performance and innovation impact.
- the influence of ProCESS methodology-based training on: (1) team collaboration, (2) organizational wellbeing; (3) employees' motivation for learning and (4) knowledge sharing effectiveness in organizations.
- the influence of company organizational culture on art-based workshops results.

5. Conclusion

Using art within organizations should be more than just for teambuilding, facilities design and wellbeing, but also for organizational training based on artistic tools. Talent managers and human resources specialists should recognize the potential of art in organizational and professional development, because “artistic employees” can perceive the world in new ways and come with new insights for boosting innovation.

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Article

Conceptual principles of enterprise management and its system-forming components

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Abstract: In modern conditions of instability and changes in the factors of the environment of the functioning of many business structures, the construction of their management systems is becoming more complicated; the issue of the conceptual principles of enterprise management is becoming especially important. The conducted research is aimed at substantiating the conceptual principles of enterprise management, defining tasks, and developing recommendations for increasing the efficiency of business processes, strengthening economic potential, and ensuring adaptation to modern challenges. It was determined that under the enterprise management system, it is advisable to consider the methods of influence and interaction between the subject and the object of management, which is based on compliance with principles, using methods, and performing functions in order to achieve the set goals and fulfill the tasks of the enterprise's activities. The authors proposed a structure of procedural support for building an enterprise management system, which includes. The study developed a system of principles for building organizational structures for managing the activities of enterprises. The main principles of organizing the process of managing a production enterprise include achieving economic efficiency, personal material interest, single leadership, self-management, proportionality, and systematicity. The main recommendations for improving the efficiency of business processes and ensuring adaptation to modern challenges include: the use of digital platforms for promoting the corporate mission, vision and values; the creation of interactive employee training programs; the use of analytical tools for collecting and analyzing data; forecasting market trends and modeling development scenarios; the implementation of systems for integrating key enterprise functions; the use of specialized platforms for risk assessment; building a culture of innovation; methodological support for monitoring the results of the implementation of digital tools; the integration of environmental and social initiatives into all levels of management.

Keywords: enterprise management; management concept; efficiency; economic activity; economic potential

1. Introduction

In modern conditions of instability and changes in the factors of the operating environment of many business structures, the construction of their management systems is becoming more complicated, therefore, the study of the issue of the conceptual principles of enterprise management is of particular importance. Business development is characterized by dynamism, technological breakthroughs and fierce competition. In these conditions, enterprises need a clear conceptual basis, which serves as a tool for making effective management decisions. Any organization needs an effective management system that is able to ensure its development in the face of

the competitive environment, respond to all consumer requests, and satisfy the interests of the team.

The purpose of the work is to substantiate the conceptual principles of enterprise management, define tasks and develop priority areas to ensure its effective functioning. The main tasks of the study include: generalization of the theoretical concept of enterprise management; formation of the structure of procedural support for building a management system; definition and detailing of the principles of organizing the enterprise management process; development of recommendations for increasing the efficiency of business processes and ensuring adaptation to modern challenges.

2. Research methods

The methodological basis of the study is a systematic approach to revealing the conceptual principles of enterprise management. The following methods were used in the research process: dialectical—when generalizing theoretical principles related to the disclosure of the concept of enterprise management; abstract-logical—when revealing the content of “enterprise management”, “enterprise management concept” for the theoretical justification of the logical relationship of these categories; analysis and synthesis and system-complex methods in developing a system of procedural support for building an enterprise management system and forming the principles of organizing the enterprise management process; generalization method – when making generalizations and conclusions from the research conducted.

3. Discussion

Many scientists have devoted their works to the study of issues related to enterprise management processes. Among them, I would like to focus on the works of: Boychyk (2016), Georgiadi et al. (2018), Kalyuzhna (2011). Kulakova (2014), Ladunka and Rybalka (2017), Lozychenko (2018), Poghrischuk et al. (2023), Shcheglova et al. (2017), Vilgutska (2014), Yarkina (2014) and others. Boychyk (2016) notes: “Enterprise management should be considered as an activity aimed at achieving its effective functioning through the fulfillment of set tasks, through the use of means and methods of influencing all processes within it, coordinating the work of structural divisions and employees of the enterprise”. The importance of adhering to the principles of building organizational management structures is emphasized (Georgiadi et al., 2018). Kalyuzhna (2017) proposed a definition of the concepts of “enterprise management” and “organization”. The dependence of management efficiency on the construction of its organizational structure was carried out by Kulakova (2014). Ladunka and Rybalka (2017) in their study, they carried out an in-depth analysis of the features of economic management of an enterprise. Lozychenko (2018) substantiated the economic essence and approaches to defining enterprise management. Shcheglova et al. (2017) investigated approaches to enterprise management and the problem of increasing the efficiency of enterprise management. Shostak et al. (2024) devoted their work to the study of anti-crisis management strategies that can be effectively integrated into the business model system of an enterprise to ensure its sustainable development in the conditions of the

modern economy. The studies conducted by Yarkina (2014) focus on such definitions of the essence of the concept of “management” as: management is a system of ordered knowledge, principles, methods; management should be considered as an activity that encompasses the organization, planning, control, coordination, and motivation of the economic activity of an enterprise; management consists of a set of managerial actions aimed at improving production activities; management is used to direct the subject to the object of management; management is a governing body, that is, it consists of divisions, executors, who ensure the operation of the enterprise. The author argues that enterprise management is associated with the division of labor and regulates, organizes other types of economic activity by influencing the subject on the object of management. Therefore, enterprise management is aimed at identifying problems and finding solutions to solve them.

4. Results

The concept of enterprise management is a system of views, approaches and principles that determine the general direction of development, internal organization of processes and mechanisms for responding to the challenges of the external environment.

In conditions of uncertainty caused by crises or global challenges, such as a pandemic or war, enterprises face changes that require adaptation not only of business models, but also of ways of thinking, decision-making, and approaches to doing business (Shostak et al., 2024).

Enterprise management is a constant and systematic influence on the activities of its structures to ensure coordinated work and achieve a final positive result. The task of enterprise management is to ensure the coordinated activities of its divisions, as well as the interaction of the enterprise with the structural components of the external environment.

Under the enterprise management system, it is appropriate to understand the methods of influence and interaction between the subject and the object of management, which is based on compliance with the principles, use of methods and performance of functions in order to achieve the set goals and fulfill the tasks of the enterprise’s activities. Management activities are implemented through the development and implementation of management decisions aimed at achieving the set goals of the activity, which ensures the coherence of the work of divisions, contributes to increasing the efficiency of the enterprise.

The enterprise management system is a way of interaction between the subject and the object of management, the main element of the organization’s functioning and is based on the use of principles, functions, methods (Kolyuzhna, 2018).

The management structure is considered as an ordered set of stably interdependent elements that ensure the functioning and development of the organization as a single whole, it is also defined as a form of division and cooperation of management activities, within the framework of which the management process is carried out according to the corresponding functions aimed at solving the tasks set and achieving the intended goals. From these positions, the

management structure is presented as an optimal distribution of functional duties, rights and responsibilities, the order and forms of interaction between the management bodies included in its composition and the people working in them.

Thus, standard are those rules and procedures, the construction of which involves a general typology of management and production situations, which makes it possible to use them repeatedly as a certain sequence of mutually agreed actions. **Figure 1** shows the stages of developing rules and procedures in building an enterprise management system.

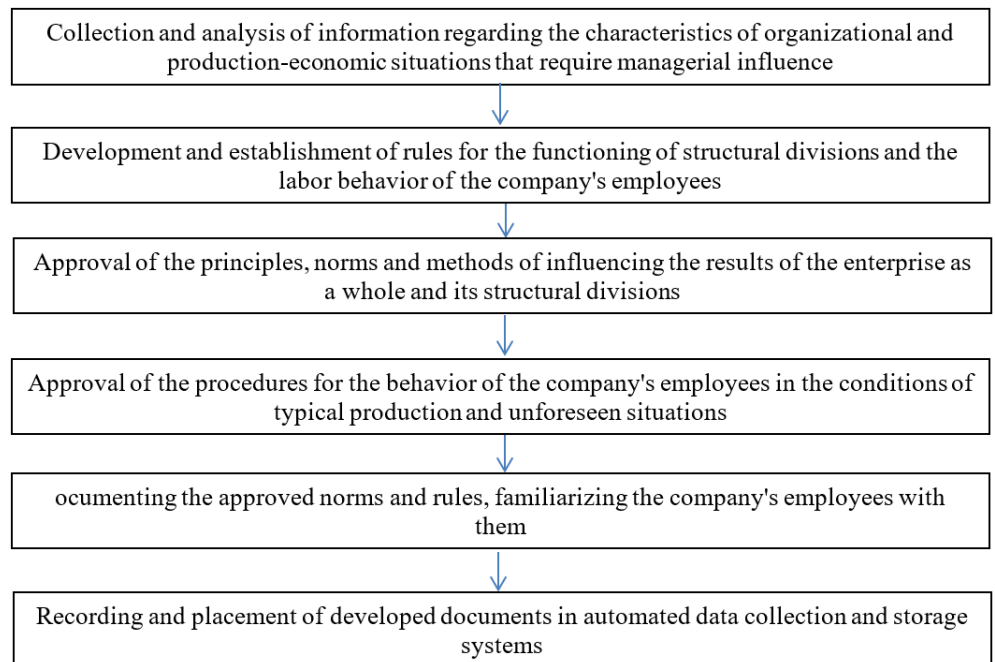


Figure 1. Procedural support for building an enterprise management system.

The idea outlined in the study has been developed (Georgiadi et al., 2018).

The creation of organizational structures for enterprise management usually occurs on the basis of existing structures. The sequence of creating an effective organizational structure of an enterprise should include the following components:

- Establishing the main goal, subgoals, tasks and functions to achieve the corresponding subgoals of activity, which are determined on the basis of previous research;
- Developing and substantiating the functional structure of the enterprise management by building appropriate models to provide a detailed and clear description of management processes and determining the factors and conditions for building interaction between all participants in the management process;
- Formation of structural divisions of the organizational structure of management by: allocation of structural blocks, oriented towards market expansion, increasing the number of consumers or improving products; unification of target groups of specialists in structural blocks through the creation of appropriate teams for common goals, carrying out their activities according to the network principle of work, establishing their interaction; the need to focus on the

minimum number of management levels and expanding control measures; unification of functions in structural blocks on the basis of a clear separation and the formation of general types of functions and relevant managers depending on the functional model of the enterprise; the need to provide employees with appropriate competencies and opportunities to demonstrate creative abilities to perform assigned tasks;

- Establishment of the level of competence of all employees performing managerial activities, determination of responsibility and development of effective tools to ensure orders and effective receipt of information through appropriate channels and means of accumulation.

The optimal organizational structure of enterprise management should meet the following requirements:

- Meet the communication needs of modern society, have an information structure adequate to these needs, which is the basis of the organizational structure;
- Reflect the strategic goals of the enterprise, based on the center of strategic management, which should become an integral element of the organizational structure;
- Be oriented towards the formation of the network principle, most fully corresponding to the competitive activities of enterprises in the conditions of global integration.

The system of principles for the process of managing activities can be considered as certain initial aspects or rules that make it possible to form the optimal organizational structure of enterprise management and ensure its effective use in the future.

The conducted studies have shown that it is necessary to form and use organizational structures of enterprise management on the basis of compliance with interrelated principles, which are a set of rules, compliance with which helps to avoid such problems as irrational distribution of functions and powers between enterprise units and individual officials, the emergence of labor conflicts, violation of subordination, etc. (Georgiadi et al., 2018).

In the process of organizing the process of managing an enterprise, the manager must apply such principles as: achieving economic efficiency, personal material interest, single leadership, self-management, proportionality and systematicity (**Figure 2**).

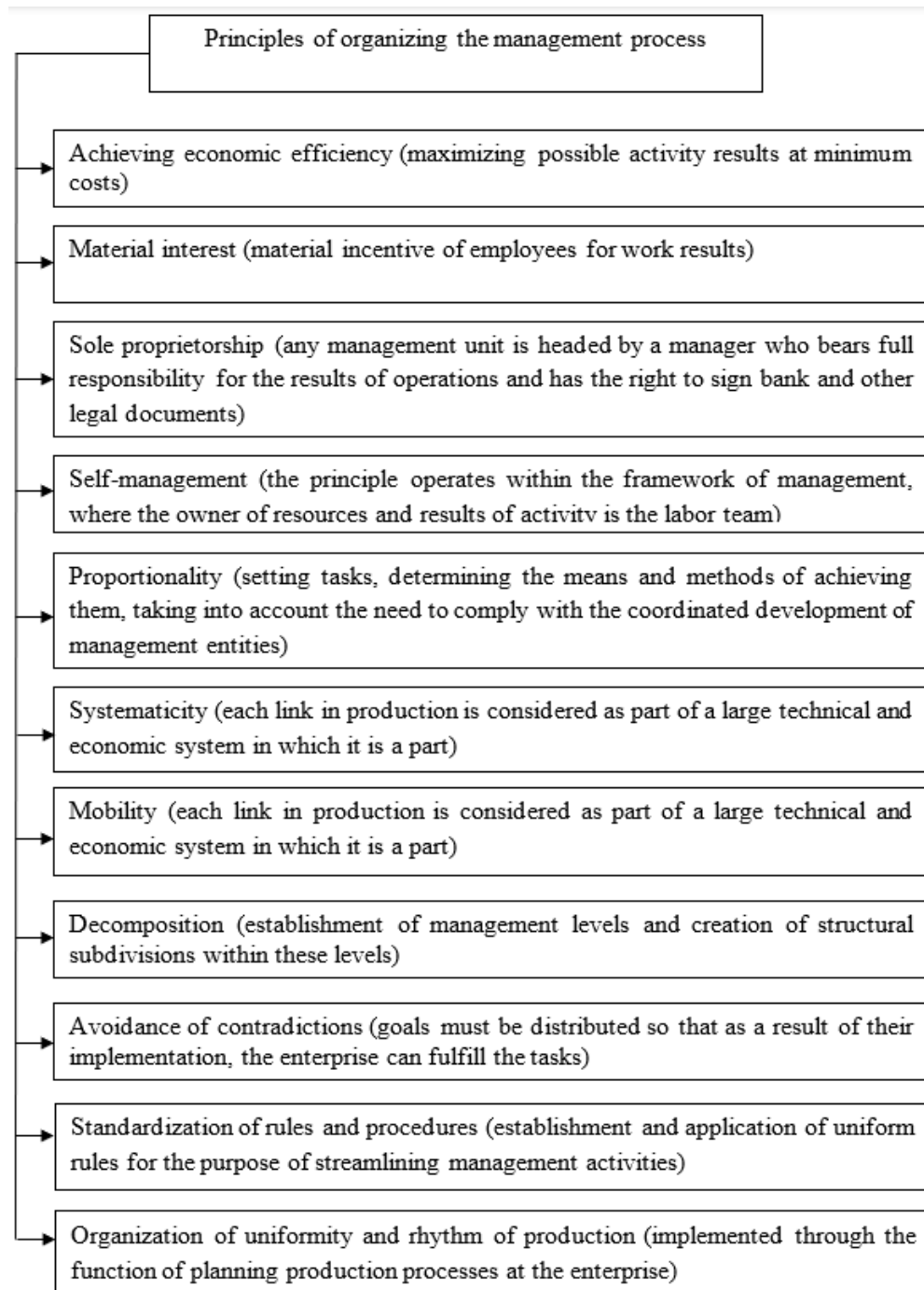


Figure 2. Basic principles of organizing the management process of a production enterprise.

Also important in the process of forming a management system is the achievement of high mobility of the system, avoidance of contradictions, decomposition, standardization of rules and procedures, uniformity and rhythm of production. It is advisable to recognize that compliance by enterprise managers with these principles is a necessary, but not sufficient condition for the rational formation and effective use of organizational management structures.

The highlighted principles provide the expected results when their practical application is based on scientifically sound methodological tools for performing specific management tasks.

In the process of developing and implementing management decisions by enterprise managers, the principle of avoiding contradictions is also relevant. Contradictions can arise when, for example, decisions of a middle-level manager involve the implementation of certain actions, measures, the implementation of which is prohibited by managers of the institutional level of management.

The principle of avoiding contradictions becomes relevant not only during the construction of organizational structures of enterprise management, but also at the stage of creating a system of organizational goals. Goals must be distributed so that as a result of their implementation the enterprise can fulfill the mission for which it was created.

Given that all, without exception, organizational structures of enterprise management have hierarchical management components, one of the basic principles of the formation and use of organizational structures of enterprise management is the principle of decomposition. Its essence lies in the adequate establishment of management levels, as well as in the fact that structural divisions of the enterprise must be created exclusively within these levels. The condition for implementing this principle in practice is such a distribution of functions, responsibilities and powers, in which they do not duplicate and do not overlap between positions, structural units and levels of management.

As another example, we can cite a situation in which, in an enterprise where a matrix management structure operates, subordinates are brought to the attention of managers who linearly and functionally manage a certain type of activity with opposite content. To avoid such situations that cause such contradictions, it is important to ensure the publicity of management decisions and practice their collective development. For large enterprises with cumbersome organizational management structures, it is important to standardize rules and procedures as much as possible. Standardization will contribute to the uniformity of the conditions for managing the organization regardless of the number of types of activities of the enterprise, the geographical diversification of units, the nature of the projects implemented. Transnational companies that have a large number of foreign representative offices have extensive positive experience in standardizing rules and procedures.

The need for periodic adjustment of existing organizational management structures makes it necessary for managers to also adhere to the principle of ensuring the mobility of structures. The organizational management structure should be characterized by sufficient flexibility, which is due to the nature of the relationships between its components, which significantly changes depending on the needs of the organization under the influence of factors of the internal and external business environment. Compliance with the principle of mobility when using organizational structures of enterprise management is necessary for:

- Timeliness of adaptation of the existing organizational structure to changing conditions of the internal and external environments of the enterprise;
- The possibility of implementing entrepreneurial ideas that require the introduction of innovations, in-depth analysis of demand and supply in the market;

- The use of reserves to reduce the volume of conditional fixed costs in the overall cost structure of the enterprise, etc.

One of the principles of building organizational structures of enterprise management is the principle of uniformity and rhythm of production. Its essence is that any organizational changes that lead to the elimination of existing or the creation of new positions or structural units should not affect the uniformity and rhythm of production. The conditions for implementing this principle are as follows:

1) the decision on organizational changes should be formed collectively. This will reduce the likelihood of unforeseen management and production situations that may cause the enterprise to be unable to fulfill the operational and calendar production plan;

2) the enterprise should have a reserve of production capacity in case of need to compensate for the volume of finished product production when, due to certain changes in the organizational structure, there is a need to temporarily stop the operation of the equipment.

3) the enterprise should have a personnel reserve formed from among persons who are able to promptly begin performing new functions. They should be familiar with their job descriptions, as well as interested in the results of performing new duties.

4) changes in the current organizational structure of management must be implemented promptly, in short periods of time. This is possible in the case when, when modeling the updated organizational structure on alternative principles, all possible obstacles to the implementation of organizational changes are removed. In the process of creating organizational structures for enterprise management, the principles of systematicity and economic efficiency are pervasive. The essence of the first is that any decisions that result in the creation of new or liquidated existing positions and divisions should not affect the integrity of the enterprise management system, its ability to fulfill its goals, and the stability of its functioning.

The principle of systematicity is based on such a property of systems as emergence (a special characteristic of the system that is not inherent in any of its elements). Emergence is a synergistic phenomenon that is not the sum of the properties of individual components of the system, but a qualitatively new property of the system that appears when the system is a holistic entity that interacts with the external environment, self-develops, realizes goals and performs the functions for which it was created. When using the organizational structure of enterprise management in the conditions of forming a joint venture, merging enterprises or their absorption by each other, situations are common in which (Vilhutska, 2014):

- A new organizational structure is formed from two or more organizational management structures;
- One or more organizational management structures become part of another existing organizational management structure. Adherence to the principle of systematicity when building organizational management structures requires enterprise managers to have an adequate vision of the organization's mission, the structure of the organization's goals, their temporal and spatial adequacy, consistency in the development and implementation of tactical management decisions, their consistency with the enterprise's development strategy, etc.

The development of enterprises largely depends on the management of production, financial, investment, marketing, sales activities. Enterprise management is the main tool, a method that allows you to coordinate, control, organize all types of activities at the enterprise (Lozychenko, 2019).

Amazon is a prime example of an organization that has successfully embraced the principle of systematicity. Its operational processes, including warehouse automation and personalized recommendation algorithms, are highly efficient and consistent. This allows Amazon to maintain its ability to scale without compromising service quality. In addition, the company is constantly improving its internal processes by implementing regular audits and optimizing its supply chains. Whether you call it customer-centricity or customer obsession, customer focus is essential for highly effective, agile organizations. It's no wonder Amazon emphasizes it so much in its "Leadership Principles." To succeed, customer focus must be consistently emphasized as a value and reflected in the daily work of teams (Jean-Michel, 2024).

As an example of its use, Grammarly uses proportionality in startups. Ukrainian proofreading startup Grammarly demonstrates the principle of proportionality by applying its resources to current needs. The company has focused on adapting to the growing demand for educational resources during the COVID-19 pandemic, using a proportional approach to distributing finances for research and development. "The company also recently announced the launch of Grammarly for developers with the Text Editor SDK, which allows programmers to embed Grammarly's text editing features into any application. To use these features, a Grammarly account is not required. More than half a million applications and sites currently work with the service, including email clients, enterprise software, and text editors. The Grammarly team consists of 600 people, of which more than 270 are in Ukraine" (State Enterprise "Ukrainian Institute of Intellectual Property", 2024).

The effectiveness of enterprise management largely depends on the mutual coordination of the components of the enterprise management concept, decisions made by management personnel, the use of principles, functions, methods, the existing management system and affects the financial results of the activity. Therefore, the implementation of the enterprise management concept is aimed at achieving the set goal, the planned result, high performance indicators, and the coordination of the work of the divisions.

The main components of the concept of enterprise management include: mission, vision, values, business model, risk management and strategic planning, they form a system that allows the enterprise to adapt to modern challenges, effectively respond to changes in the external environment and ensure long-term development. Integration of these components with modern tools, such as digital technologies, is a key condition for success in the modern business environment.

An important condition for the effective formation of the enterprise management structure is the introduction of modern technologies for a significant number of processes in the enterprise management system, which implies the need to acquire work skills for specialists at all levels - from enterprise managers to performers of certain works. The proposed approach provides an opportunity to create such a management structure that is able to function for a long period of time

and the ability to make and timely resolve organizational changes, restructuring and quickly respond to external challenges.

Enterprise managers need to actively implement modern digital and innovative tools to integrate the components of the enterprise management concept. This will not only increase the efficiency of business processes, strengthen economic potential, but also ensure adaptation to modern challenges.

Specific effective steps that will help managers achieve this goal are identified:

1) Use of digital platforms to promote the enterprise's mission, vision and values.

2) Creation and implementation of interactive employee training programs on the core values of the enterprise, development of competencies through the use of an online platform for employee training.

3) Using analytical tools to collect and analyze large data sets related to market assessment, customer search and competitor analysis.

4) Forecasting market trends and modeling scenarios for the future development of the enterprise using digital business transformation models.

5) Using electronic platforms to establish interaction with customers, automate sales, marketing and customer service issues.

6) Implementing systems for integrating key enterprise functions: finance, production, supply and human resources management.

5) Using specialized platforms for risk assessment using technologies that allow monitoring and minimizing risks in real time, including the integration of cybersecurity tools to protect data and information systems of the enterprise.

6) Developing a culture of innovation by using innovative platforms for collaborative work on ideas in order to involve employees in the development of new products or services, and conducting interactive events to stimulate team creativity.

7) Methodological support for monitoring the results of the implementation of digital tools using performance indicators, such as customer satisfaction, employee productivity, sales volumes.

8) Integrating environmental and social initiatives into all levels of organization management. For example, using digital platforms for reporting on environmental indicators, optimizing resources or minimizing waste from production activities.

Part of the set of measures to improve the efficiency of enterprises is the optimization of organizational management structures. Managers must choose the structure that best meets the goals and objectives of the enterprise, responds in a timely and adequate manner to the actions of internal and external environmental factors, purposefully distributes and coordinates the efforts of employees and thus increases their own competitiveness (Kulakova, 2014).

The introduction of innovative approaches in the performance of management functions involves the emergence of a new type of innovation in the management system to assess the state of internal problems in management activities, as well as to develop and implement new solutions and organizational innovations, which involves the use of a knowledge system in management and communication activities. The business sector, scientific institutions, business and private

organizations are given access to open databases for use in their activities, their distribution in order to obtain economic, environmental, and social results.

Orientation to a certain competitive status encourages the enterprise to effectively use all available resources, personnel abilities, information, financial and innovative opportunities. In this context, the effectiveness of the management system acquires special importance for maintaining competitiveness and further effective development of the enterprise (Shcheglova et al., 2017). Assessment of management effectiveness within each subsystem should be carried out on the basis of the selection of criteria and determination of indicators capable of reflecting the degree of achievement of the organization's goals. A powerful influence on the effectiveness of employees' work is exerted by their material incentives, which has long become an effective mechanism for increasing their interest in improving the quality of the functions performed.

Different forms of enterprise ownership have a significant impact on the management of the enterprise and its system-forming components. Differences arise in approaches to decision-making, financing, profit distribution, definition of responsibility and interaction with the external environment. In particular, in state-owned enterprises, management is often carried out through bureaucratic structures, which sometimes reduces efficiency, decisions are made on the basis of state policy, the main task is to meet the needs of society, not to make a profit.

For private enterprises, flexibility in management is ensured through automation and optimization of processes, important components are innovation and competitiveness, and priority is given to maximizing profit and efficiency. Features of management are quick decision-making due to a simplified management structure and the ability to attract investments and create strategic alliances.

For mixed forms of ownership, a combination of private and public capital is inherent to solving strategic tasks, and complexity in coordination due to the diverse interests of shareholders. A potential advantage of this form of enterprise is access to state resources and investment capital.

Different types of organizations face unique challenges when implementing management principles:

- Small companies or startups often have limited resources, which makes it difficult to create systematic processes. For example, limited budgets and staffing forces young companies to choose narrowly focused solutions instead of long-term automation strategies;
- Large corporations such as Google face different challenges when it comes to proportionality. For example, making decisions to cut costs in one department can affect the overall corporate culture and employee motivation;
- Non-profit organizations such as the Red Cross must adapt the principles of systematicity and proportionality to their mission. They often operate in unpredictable environments, which makes systematic planning difficult, and proportionality in such environments requires flexibility.

Conducting an in-depth analysis requires identifying and specifying the factors that cause changes in the activities of the enterprise. Enterprise analysts must regularly identify which of the changes are the cause of subjective decisions of enterprise managers, and which are caused by objective circumstances, in particular,

demand and supply in the market for finished products, changes in prices, discount rate, fiscal policy, etc. Thus, as a result of the research conducted, it was found that when building organizational management structures, enterprise managers must adhere to a number of interrelated principles, namely: decomposition, systematicity, subordination, mobility, avoidance of contradictions, cross-control, standardization of rules and procedures, uniformity and rhythm of production, economic efficiency. Their observance will contribute to strengthening entrepreneurial potential, rationality of management decisions related to the formation and use of organizational structures of enterprise management.

The development of a strategic plan for the enterprise's activities must correspond to a certain scenario of events and provide for the development of a sequence of intended goals, which will lead to the fulfillment of the indicators provided for by the approved activity strategy, timely and necessary technological and raw material support, a certain composition of performers (Pogrishchuk et al., 2023).

When developing a management concept, it is necessary to take into account such basic components as: adaptability to changes in the external environment; innovation in the implementation of technologies, products and services; achieving a balance between economic, social and environmental goals; consumer orientation.

5. Conclusions

The concept of enterprise management is considered as an integrated system of principles, values and approaches that sets the framework for planning, organization, motivation and control. It is the foundation on which the strategy is built and operational tasks are implemented. The concept of enterprise management in conditions of uncertainty must take into account all existing risks and threats, which are an integral part of entrepreneurial activity, which is taken into account not only when making management decisions.

It is determined that under the enterprise management system it is advisable to consider the methods of influence and interaction between the subject and the object of management, which is based on adherence to principles, the use of methods and the performance of functions in order to achieve the set goals and fulfill the tasks of the enterprise's activities. Management activities are implemented through the development and implementation of management decisions aimed at achieving the set goals of the activity, which ensures the coherence of the work of divisions, contributes to increasing the efficiency of the enterprise.

Different forms of enterprise ownership have a significant impact on the management of the enterprise and its system-forming components. Differences arise in approaches to decision-making, financing, profit distribution, definition of responsibility and interaction with the external environment. The form of ownership determines management priorities (social, economic, commercial). State-owned enterprises are oriented towards public interests, while private ones are oriented towards achieving competitive advantages. Mixed enterprises can be the optimal choice for strategically important industries where cooperation between the state and business is required.

The study proposes a structure of procedural support for building an enterprise management system. The components of such a structure include: collection and analysis of information on the characteristics of organizational and production and economic situations that require managerial influence; development and institutional consolidation of the rules for the functioning of structural units and the labor behavior of enterprise employees; approval of principles, norms and methods of influencing the results of the enterprise's activities as a whole and its structural units; approval of procedures for the behavior of enterprise employees in typical production and unforeseen situations; documentation of approved norms and rules, familiarization with them by enterprise employees; recording and placement of developed documents in automated data collection and storage systems.

The main recommendations for increasing the efficiency of business processes and ensuring adaptation to modern challenges include: the use of digital platforms. The main recommendations for increasing the efficiency of business processes, strengthening economic potential and ensuring adaptation to modern challenges include: the use of digital platforms for promoting the corporate mission, vision and values; creating interactive employee training programs; using analytical tools for collecting and analyzing data; forecasting market trends and modeling development scenarios; implementing systems for integrating key enterprise functions; using specialized platforms for risk assessment; building a culture of innovation; methodological support for monitoring the results of implementing digital tools; integrating environmental and social initiatives into all levels of management.

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Article

Job satisfaction in relation to the situation inside the organization—results of research at the technical university

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Abstract: Human capital, which is a key resource of every organization, is characterized by high sensitivity to social, cultural and other factors that are not necessarily economic in nature. In the process of managing this capital, employee satisfaction becomes key, resulting from various reasons. In this study, we attempted to examine the level of satisfaction of university employees. The aim of this study was to gather information on the level of employee satisfaction with their job positions and to examine the relationships between selected, identified factors influencing their job satisfaction. The paper used multivariate statistical analysis, mainly Wilcoxon tests and Spearman rank correlation. Analysis of the survey results confirmed significant relationships between factors such as work atmosphere, appreciation of work effects, proper division of responsibilities and possible help in the team.

Keywords: atmosphere at work; employee satisfaction; salary and non-wage conditions; social relations; university

1. Introduction

Human resource management at the enterprise level which is the subject of numerous studies and research in Poland and abroad, seems to be a constantly interesting topic. Changes occurring in the social structure and market situation, intensified by the political situation, the development of techniques for changing employee preferences, a constant increase in income and free time, and the availability of various services are changing the perception of the role of work. This paper attempts to analyze employee satisfaction of academic staff employed in a public organization and a university. Due to the duality of tasks (teaching and science), its functioning is characterized by a specificity different from other public enterprises operating in the conditions of a market economy.

Such organizations are forced to fight for a customer, i.e., a student, through their offer, often carrying out tasks imposed by the institution that systemically manages the sector. Every element of work is related to employee involvement. Universities simultaneously carry out non-commercial and commercial research work in the form of commissioned research, analyses, and reports, as well as external funds directed at predetermined research directions. Therefore, apart from the issues of uncertainty of student recruitment (affecting employment), there are also issues of uncertainty of the results of competitions in research projects, uncertainty of demand for commissioned research, or funding for specific fields of science. In this light, organizational management, and especially the management of research and teaching staff, seems to be an interesting issue. Satisfaction surveys in an organization, especially in large international companies, are almost a standard. At the university level, especially in

the countries of Central and Eastern Europe, this is still a rarity, or at least these results are not published.

The aim of this study was to evaluate the level of employee satisfaction with their positions. The results, aside from the anticipated recognition of the importance of remuneration, highlight the significance of workplace atmosphere and interpersonal relationships. Knowledge of the situation in the company, but more importantly for the generalization of the results, the relationship between the examined issues seems to be interesting.

2. Materials and methods

The study was conducted in 2022 on employees of the organization, of whom 188 completed a complete survey, which constituted 25% of the total workforce. The research was carried out electronically, ensuring anonymity and voluntary participation. To increase respondent trust—also at the request of their representatives involved in the study—the survey was distributed via the LimeSurvey platform to all employees. Information about the survey was disseminated through official channels.

The content of the questionnaire was approved by the ethics committee with the participation of trade unions. The questions did not directly refer to specific individuals, except for an optional section for comments, where participants could express opinions about individual employees, managers, or procedures. The questionnaire included 54 thematic questions and 8 demographic questions. Forty-eight questions used a five-point Likert scale, one employed a nominal scale, and the remaining were open-ended.

The reliability of the questionnaire was verified using Cronbach's alpha, which was determined to be $\alpha = 0.973$. The questions were grouped into seven categories:

- 1) Wage and non-wage conditions,
- 2) Occupational health and safety,
- 3) Working hours,
- 4) Social relations,
- 5) Employee recognition and development opportunities,
- 6) Self-fulfillment at work,
- 7) Barriers to the institution's potential development.

Each group concluded with an option for additional comments. Due to the sensitive nature of the results and the presence of sensitive organizational data, the findings were stored in the repository of the Commission for Strategy Implementation. Multivariate statistical analysis was employed to validate the results, using Microsoft Excel and Statistica 13 software. Due to the scale of grades used, the analyzes used the Wilcoxon test for comparisons and a correlation test using the Spearman coefficient.

3. Results and discussion

Conducting research at the organization level—especially on matters as crucial to its operations as employee satisfaction—is not an easy task and involves numerous challenges, which we attempted to address.

3.1. Research assumptions

The need for satisfaction, which is the focus of this study, is situated in the upper tiers of Maslow's hierarchy of needs. It can be related both to the need for respect and recognition and, in certain aspects, to the need for self-actualization. However, considering the broad spectrum of the concept of satisfaction, it is important to also mention elements from the lower tiers of Maslow's hierarchy, such as satisfaction with compensation for work performed. The multifaceted nature of satisfaction complicates its analysis. It can be examined from economic, social, or sociological perspectives (Yusoff et al., 2022). These viewpoints overlap and interact, producing—especially in the case of extensive studies—a generalized picture that, while potentially too broad in large enterprises, remains analyzable in terms of specific groups (Crossman and Harris, 2006) as well as in aggregate. The level of satisfaction depends on factors such as age (Mgaiwa, 2023), gender—particularly in the context of pay inequalities (Ward and Sloane, 2000)—and, in connection with these, length of service (Drucker-Godard et al., 2015).

3.2. Purpose of employee satisfaction analysis

Research originating in sociology and psychology (Mishra, 2013) has gained recognition among economists. It has become evident—a notion no longer requiring justification—that as employee satisfaction increases, so does their effectiveness (Katebi et al., 2022), which can be measured directly or indirectly as it influences economic efficiency (Çelik, 2011) and ultimately benefits the enterprise. This applies to both profit-oriented and other types of organizations (Platis et al., 2015).

The study discussed in this article was one of several conducted as part of work on the organization's development plan for the 2030 perspective. The research within this project covered all stakeholder groups. The literature features numerous studies on job satisfaction conducted in African (Olusegun, 2013) and Asian countries (Ahmed, 2015; Chaudhry, 2012). However, even in these, cultural differences in employee attitudes were highlighted (Wong and Heng, 2009). Therefore, research conducted in Polish-European conditions may simultaneously exhibit similarities to many studies worldwide while accounting for the specificities of the national science system, state organization, and culture.

The aim of this study was to gather information on the level of employee satisfaction with their job positions and to examine the relationships between selected, identified factors influencing their job satisfaction. The results related to individual scores and personal comments are proprietary to the client and subject to confidentiality usually (except for scientific purposes). The insights into relationships between the categories studied and the behaviors analyzed constitute valuable material—according to the author—valuable material with a high potential for universality.

3.3. Key findings

Among the various aspects evaluated in the study, those concerning supervisors and employees' identification with the organization emerged prominently.

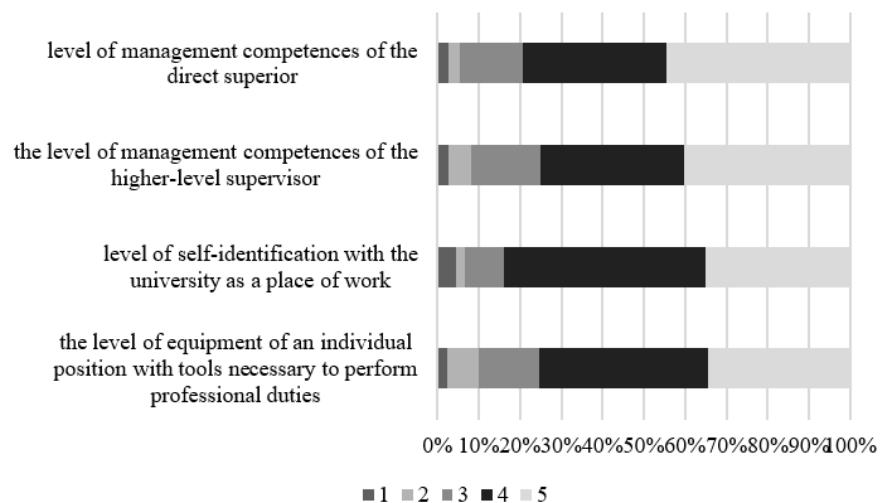


Figure 1. Distribution of scores for selected factors influencing job satisfaction.

The competencies of supervisors are highly rated, with the expected trend of higher scores for direct supervisors (**Figure 1**). Proper leadership and organizational support (Purwanto, 2020) are also frequently mentioned in other studies as critical not only for job satisfaction but for the overall functioning of the team (Skolik and Kukowska, 2022). Both research-teaching and administrative staff (distinguished as separate groups in the study) demonstrate strong identification with their institution, with over 80% indicating this connection. This represents a valuable asset that cannot be underestimated.

However, the situation is reversed when it comes to the evaluation of remuneration levels. More than half of the employees rate it poorly. In detail, as many as 25% rate their pay as very low. Within the framework of job satisfaction, remuneration emerges as a key factor (Ali and Anwar, 2021). A mismatch in pay can lead to professional burnout, even among younger employees (Rinny et al., 2020), and consequently result in reduced productivity or employee turnover, despite the inherent prestige associated with working at a university, which otherwise contributes to job satisfaction (Gadi et al., 2024). In this context, the university's efforts to foster identification with the institution are crucial for workforce stability. Satisfaction, in turn, translates into the work involvement (Chiracu et al., 2024) and the level of educational services provided (Sale Ma and Quirap, 2024).

The components of employee satisfaction tend to receive the highest ratings from those with the shortest tenure. Conversely, the most critical evaluations come from employees with 6–15 years of service. One of the key issues in recent times has been the manner in which tasks related to research, teaching, and administrative work are carried out. Apart from the noticeable lack of clear, organization-wide guidelines—partially due to the autonomy of internal units—there is also evidence of employees being overburdened with tasks unrelated to their primary responsibilities.

The quality of relationships with direct supervisors and the workplace atmosphere contribute to reduced duplication of work and better oversight of tasks performed by others. Strong relationships with supervisors also correlate with a higher level of employee recognition ($r = 0.813$; $p < 0.001$). Building appropriate

relationships further enhances peer assistance in overcoming challenges ($r = 0.741$; $p < 0.001$) and accelerates conflict resolution ($r = 0.752$; $p < 0.001$).

On the other hand, low ratings for remuneration and evaluation processes strongly correlate with poor assessments of promotion opportunities ($r = 0.532$; $p < 0.001$) and recognition of work outcomes ($r = 0.451$; $p < 0.001$). The study did not confirm differences in satisfaction levels based on gender; however, individuals who disclosed their gender reported significantly higher levels of satisfaction compared to those who chose not to disclose this information.

Table 1. Wilcoxon signed-rank test results for pay and non-pay condition factors.

Factor	2.	3.	4.	5.	6.
1) the level of equipment of an individual position with tools necessary to perform duties	-	-	←	←	-
2) the level of equipment of your unit with the necessary tools and infrastructure to perform duties		-	←	←	-
3) the level of equipment your unit needs to conduct classes			←	←	-
4) social rooms available for employees				←	↑
5) salary level					↑
6) availability and distribution of social benefits					

The results of the Wilcoxon signed-rank test for factors (**Table 1**) related to pay and non-pay conditions further reinforce these findings, highlighting the critical role these elements play in overall job satisfaction.

Among the analyzed factors, the level of remuneration appears (in the opinion of employees) to be less significant than, for example, the level of individual workplace equipment with tools necessary to perform duties or the level of equipment of the unit with the necessary tools to fulfill responsibilities.

Table 2. Results of Wilcoxon signed-rank test for occupational health and safety (OHS) factors.

Factors	2.	3.	4.	5.	6.	7.	8.
1) level of security related to continuity of employment	↑	-	←	-	←	-	←
2) level of self-identification with the university as a place of work		←	←	←	←	←	←
3) physical conditions of work performed			-	-	←	-	←
4) mental well-being at work				-	←	-	←
5) the level of stress experienced					←	-	←
6) with the work performed						↑	-
7) level of improvements in administrative services							←
8) work-life balance							
9) level of security related to continuity of employment	↑	-	←	-	←	-	←
10) level of self-identification with the university as a place of work		←	←	←	←	←	←
11) physical conditions of work performed			-	-	←	-	←
12) mental well-being at work				-	←	-	←
13) the level of stress experienced					←	-	←
14) with the work performed						↑	-
15) level of improvements in administrative services							←
16) work-life balance							

Further analyses confirm significantly higher ratings for identification with the organization compared to most other factors. Interestingly, work-life balance is rated lower than the majority of other factors (**Table 2**). Among these, job security associated with continuity of employment stands out as particularly significant, a factor that gained considerable importance during the COVID-19 pandemic (Siejka and Szajt, 2022). The greatest differences and clear advantages, however, are observed in the domain of social relations.

Table 3. Results of Wilcoxon signed-rank test for social relations factors.

factors	2.	3.	4.	5.	6.	7.	8.	9.	10.
1) atmosphere in your head unit	↑	↑	-	←	-	-	←	←	←
2) atmosphere in your direct unit		-	←	←	←	←	←	←	←
3) help from colleagues if they encounter a problem at work			←	←	←	←	←	←	←
4) resolving conflicts in your team/section				←	-	-	-	←	←
5) division of responsibilities in your team/section					↑	-	-	←	←
6) building positive relationships in the team by the direct superior						←	←	←	←
7) level of cooperation between colleagues in your team/department/section							-	←	←
8) the level of competition between colleagues in your team/department/section								←	-
9) the level of trust between colleagues in your team/ department/section									↑
10) the level of openness of communication between colleagues in your team/department/section									

The most critical factors shaping job satisfaction (in this study) were the atmosphere in the direct unit and coworkers' assistance in addressing problems encountered at work (**Table 3**). This factor is highlighted across various types of enterprises, even the largest ones oriented primarily toward commercial success (Karczewska, 2020). Collaboration and knowledge sharing are closely linked to an increased sense of self-efficacy (Krzyżowska, 2022). These characteristics proved to be significantly more important than all others. Similar conclusions can also be found in other studies (Kun and Gadanecz, 2022; Van Marle, 2018). Interestingly, in reference to previously mentioned research, the next most important factor was the ability of direct supervisors to foster positive team relationships (Korombel, 2013). The interdependence of these categories has also been confirmed in other studies conducted in relatively different environments but also within the context of technical universities (Ampha et al., 2022).

The study (**Table 4**) confirmed a clear synergy between workplace atmosphere, assessment of pay and non-pay factors, evaluation of coworkers' and management's competencies, and mutual collaboration and trust. Although these factors have been widely discussed in the literature, this study reaffirms the need for further exploration, particularly concerning the specific nature of higher education institutions.

Table 4. Directions of statistically significant relationships among selected factors.

atmosphere in your direct unit	→	help from colleagues if they encounter a problem at work
division of responsibilities in your team/section	→	atmosphere in your direct unit
the level of appreciation of the effects of your work by your direct superior	→	atmosphere in your direct unit
level of management competencies of the direct superior	→	matching the difficulty of the tasks assigned to you to your skills
the level of appreciation of the effects of your work by your direct superior	→	level of management competencies of the direct superior
salary level	→	level of improvements in administrative services
social rooms available for employees	→	salary level
time to rest during the working day	→	work-life balance
the level of openness of communication between colleagues in your team/department/section	→	the level of trust between colleagues in your team/department/section
level of management competencies of the direct superior	→	the level of quality of the relationship with the direct superior
the number of teaching duties performed during the year is adjusted to my working hours	→	level of management competencies of the direct superior

4. Conclusion

The results obtained provide excellent material to support organizational work within the studied enterprise. Due to the omission of assessments in itself and the indication of the relationships between the assessments of individual factors (including motivational) and the working conditions, these results are a valuable study with high potential for universalism. The cyclical nature of such studies (as recommended) can highlight the effects and effectiveness of implemented actions, contributing to the organization's success.

Limitations of this research include the sample size and the specific characteristics of the employees studied. Despite certain legal frameworks and regulations, even at the state level, there are significant deviations in university management methods and conditions resulting from factors such as location, economic development, demographics, traditions, etc. Therefore, generalizing the findings to a broader population should be done with caution.

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Article

Work-life balance and employee well-being: The moderating effect of employee engagement among millennials in front-line service companies

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Abstract: The human factor of production is a significant player in increased organizational productivity. Due to the contemporary competitive work environment, the millennial in front-line jobs is faced with demanding work activities, resulting in challenges to their psychological well-being. Therefore, exploring the connectedness between work-life balance, employee engagement and psychological well-being of the millennial becomes imperative. Research was conducted, using an ex-post facto research design, among 320 purposively selected front-line millennial employees, with a mean age of 32 years. The instrument administered in a Google Form survey contained a 44-item self-report questionnaire, comprising work-life balance, employee engagement with components as vigor, dedication and absorption, and employee well-being. Data analyzed revealed that work-life balance significantly predicted employee well-being, accounting for 25% variance. The dimensions of employee engagement (vigor, dedication and absorption) collectively accounted for 7% variance in employee well-being. The study establishes the fact that to enhance the psychological well-being of Millennials in front-line jobs, organizational management should design the work structures to allow for work-life balance, which will as well increase their work engagement. They can encourage employees to find meaning and purpose in their work (dedication), provide opportunities for skill development and autonomy (vigor), and create an environment that allows employees to fully immerse themselves in their tasks (absorption). These could be implemented through organizational development strategies and work design. However, future research should target additional variables, replicate the study in different contexts and among another population of employees, employ longitudinal data collection methods, and increase sample sizes. Furthermore, measures should be taken to minimize the impact of social desirability and enhance the generalizability of the research.

Keywords: work-life balance employee engagement; self-dedication; vigor; absorption; moderating; and frontline

1. Introduction

In recent times in Nigeria, there has been an upsurge in frontline services, especially in the areas of banking, telecommunication, fintech, hospitality, and general service-oriented jobs. Frontline jobs are service-oriented jobs that involve the provision of services to customers directly, through face-to-face contact with customers. The front-line service personnel are therefore those who form the public face of the organization and play a vital role in shaping customer experiences. The nature of front-line jobs attracts millennials and has thus increased their numbers on the job.

Millennials refer to the individuals born between 1981 and 1996, and in 2025, they would be between 29–43 years old. This set of people makes up a significant portion of the current workforce, as they have taken over the major front-line service sector. The nature of the front-line job demands positive dispositions of the employees, hence, employee well-being is critical for the front-line jobs due to the direct contact expected with customers (Ehigie et al., 2015).

Employee well-being is the overall health and happiness of employees, which includes physical, mental, and emotional health. Employee well-being is a key issue for organizations and has been linked to increased productivity, reduced absenteeism, retention, and higher job satisfaction (Bakker and Demerouti, 2017). Employee psychological well-being is a central concern for hospitality establishments as it impacts talent retention (Walbeek and Hajal, 2022). It is reported that organizations with high levels of employee well-being have 30% lower customer turnover rates than companies with low levels of employee well-being (University of Michigan Ross School of Business, 2016). A significant positive correlation was established between employee well-being and business profitability (Krekel et al., 2019). In particular, employees who have positive mental health have higher job performance (Lu et al., 2022). Thus, psychological well-being is significantly related to organizational effectiveness (Hejase et al., 2024). On this note, it becomes imperative for the human resource professionals to identify what variables could enhance or hinder employee psychological well-being, especially among millennial employees. The well-being of front-line service employees is essential for providing excellent customer service. Companies that focus on employee well-being are likely to gain customer satisfaction and retention (Ehigie, 2000).

By the 2017 Deloitte report, millennials value flexibility, meaningful work, and work-life balance over traditional benefits such as salaries and promotions and millennial are more likely to switch jobs if their current employer does not offer a work-life balance that suits their needs. For the millennial, work-life balance means integration and flexibility at work. It is more than just balancing professional and personal time. It is about blending a job with life; not separating them. The Millennials are remote workers, have flexible hours, and pick projects they enjoy (Brown, 2023). Therefore, it is critical for organizations to understand the impact of work-life balance on the well-being of millennials in the workplace.

Work-life balance is an important issue for modern organizations as they aim to enhance employee well-being and satisfaction, hence, gaining significant attention in human resource management. Work-life balance, in this context, refers to the extent to which a millennial perceives a balance between the demands and challenges of their work and the demands and challenges of their personal life, without compromising either domain (Greenhaus et al., 2006). It is believed that work-life balance could determine the well-being of employees in an organization, hence it is an important human resource management variable for a healthy employee well-being.

When employees feel that they have control over their work schedules and that they have access to flexible time off, they are more likely to be engaged and motivated in their work (Bakker and Demerouti, 2017). Employee engagement is the level of involvement and enthusiasm that employees have for their work. It is a measure of how much employees care about their jobs and how much they are willing to go the

extra mile to help their company succeed. Engaged employees derive a sense of meaning and purpose from their work, resulting in higher level of psychological well-being (Bakker and Leiter, 2010). Engaged employees also tend to experience lower levels of stress and burnout, as their deep involvement and positive experiences act as protective factors against the negative impacts of work-related demands (Saks, 2006).

1.1. Statement of the problem

The Nigerian service sector is a significant contributor to the country's economy, and it employs a large number of millennials in front-line service roles. These employees face unique challenges in managing their well-being, due to the demanding nature of the work. Adegbite and Akinlabi (2021) are of the view that organizations can foster a workplace culture that supports the well-being of millennials by acknowledging their unique needs and values. Contemporary work environments have experienced notable changes, placing increasing pressure on employees, particularly millennials. Thus, balancing work and personal lives has become a struggle for many employees, leading to adverse effects on their work engagement and well-being, resulting in lower productivity and performance levels (Akhtar and Janssen, 2020).

Existing studies have predominantly concentrated on individual factors, personal characteristics, economic factors, and general aspects of work-life balance, neglecting the potential moderation provided by employee engagement. While there has been significant amount of research conducted on work-life balance, employee engagement, and employee well-being as separate constructs, there is paucity of studies investigating the role of employee engagement as a moderating factor in the relationship between work-life balance and employee well-being, especially among millennials in front-line service companies. On this note, Thilagavathy and Geetha (2021) called for more research on work-life balance and employee well-being in developing nations. By understanding how employee engagement can moderate the relationship between work-life balance and employee well-being, organizations can develop strategies to improve the well-being of their employees and ultimately enhance their performance and productivity (Halbesleben and Wheeler, 2011). By considering moderation in this connection, the present study contributes to the understanding of how the study variables are related, thus enriching theoretical frameworks and practical applications. Some other studies that examined the relationship between employee engagement and employee well-being primarily focused on the adolescent and student populations (Gómez-López et al., 2022), but the present research is valuable in extending understanding of the relationship to the context of millennials in the workplace.

1.2. Research questions

The following research questions are raised:

- 1) Would work-life balance positively predict employee well-being among millennials in frontline service companies?
- 2) Would employee engagement positively predict employee well-being among millennials in frontline service companies?

- 3) Would employee engagement moderate the relationship between work-life balance and employee well-being among millennials in frontline service companies?

2. Literature review

2.1. Theoretical review

Some theories are presented to show the relationship among employee work-life balance, work engagement, and psychological well-being.

2.1.1. The self-determination theory (SDT)

The self-determination theory (SDT) explains the importance of psychological needs and intrinsic motivation in human behavior and well-being. It posits that individuals have three basic psychological needs: autonomy, competence, and relatedness (Ryan and Deci, 2000). When employees feel they are supported in satisfying these needs, they are more likely to experience greater well-being (Deci and Ryan, 2015). The theory explains the link between work-life balance and well-being. SDT suggests that when millennials have the autonomy to balance their work and personal commitments, feel competent in managing their responsibilities, and have positive relationships in their life affairs, their overall well-being is enhanced (Ryan et al., 2016).

2.1.2. The social exchange theory (SET)

The social exchange theory highlights the reciprocity that occurs in the relationship between individuals and their organisations, and how it results in desirable outcomes like good psychological well-being. SET is based on the idea that social behavior is the result of an exchange process, whose purpose it is to maximize benefits and minimize costs. According to this theory, individuals consider potential rewards and risks of social relationships (Cook and Rice, 2006). The theory explains that all human relationships are shaped by a subjective reward-cost analysis and the comparison of alternatives. Someone who gives much will expect to get at least the same amount back from others, and in return, persons that received a lot from others will be under pressure to give much back to them. People will terminate or abandon a relationship as soon as the costs incurred in the relationship outweighs the benefits.

The inferences drawn from the theory are that employees form positive dispositions, like good psychological well-being, when they feel that the rewards they receive from their jobs and workplace outweigh what they invest (the costs) on the job (Cropanzano and Mitchell, 2005). Conversely, employees will form negative dispositions, like poor psychological well-being, when they feel that the costs of their job and workplace outweigh the rewards. The cost expressed in this context is work-life imbalance. SET posits that millennial working in front line service companies could experience poor psychological well-being when they perceive incongruence in their perceived work-life balance. In other words, the millennial experiences poor psychological well-being when there is an imbalance in work-life experience.

The relationship between employee engagement and well-being is multifaceted and also implied in this theory. Engaged employees are more likely to experience positive emotions, higher levels of motivation, and a sense of fulfillment, which

contribute to enhancing their overall well-being. They derive a sense of meaning and purpose from their work, resulting in a higher level of psychological well-being (Bakker and Leiter, 2010). Engaged employees also tend to experience lower levels of stress and burnout, as their deep involvement and positive experiences act as protective factors against the negative impacts of work-related demands (Saks, 2006). Engaged employees are more likely to engage in proactive health behaviors, experience higher levels of vitality, and report fewer physical health complaints (Bakker and Leiter, 2010). By the SET, when millennials perceive support, recognition, and fair treatment from their organizations, they are more likely to be engaged in their work.

2.1.3. The spillover theory

The spillover theory provides valuable insights into the understanding of work-life conflict, particularly regarding its impact on millennials' well-being (Bakker and Demerouti, 2013). According to this theory, experiences and emotional states originating from one domain of life can extend into other domains, thereby influencing an individual's overall well-being. Negative moods, emotions, and the interconnections between home and work can disrupt balance and hinder psychological well-being, as negative emotions from one domain (work or home) spill over into the other. Thus, millennials who experience imbalance in work-life could spill over this experience to their psychological well-being.

Within the realm of work-life balance research, a considerable body of literature has focused on the phenomenon of positive and negative spillover. Positive spillover denotes the notion that positive experiences in one domain led to fulfillment and achievement in another domain (Vijayakumar and Janakiram, 2017). In contrast, negative spillover suggests that negative experiences in work-life balance could negatively impact work engagement and psychological well-being.

Spillover is also classified as vertical and horizontal. Horizontal spillover refers to the influence one domain has on its neighboring domain, such as the impact of work-life balance on employee engagement. On the other hand, vertical spillover is characterized by the hierarchical organization of life domains, where satisfaction or dissatisfaction in a subordinate domain spill over into a superordinate domain, with life as the most superordinate domain (Sirgy et al., 2001); hence, millennial psychological well-being could be affected by vertical spillover. The segmentation model posits that work and non-work domains remain distinct without influencing each other, whereas the spillover model suggests potential positive or negative influences between domains (Bello and Tanko, 2020; Sen and Hooja, 2018).

2.1.4. Human relations theory

The human relations theory is a management model that explains improving employee satisfaction and productivity by improving social factors in the workplace. The well-being of employees plays a crucial role in shaping an organization's economic outcomes (Krekel et al., 2019). Diminished levels of employee well-being are linked to reduced productivity, increased rates of absenteeism, and elevated turnover. Analysing 339 independent research papers encompassing 1,882,131 individuals and the performance of 82,248 businesses, the study significantly supports the Human Relations Theory, affirming that elevated employee well-being corresponds to superior organizational performance (Krekel et al., 2019).

2.2. Empirical review of literature

2.2.1. Employee work-life balance and well-being

Work-life balance is a crucial aspect of individuals' lives, involving the ability to achieve harmony between work-related obligations and personal pursuits. It encompasses managing the allocation of time and effort between work and non-work activities to attain an overall sense of equilibrium (Saraswati and Lie, 2020). The Pricewaterhouse Coopers' (PwC) 2019 millennial survey conducted among 19,000 millennials in 42 countries found that millennials are more likely than previous generations to value flexibility, meaningful work, and work-life balance and are willing to take a pay cut in exchange for more flexibility. In the developing countries, such as Nigeria, there is a growing concern about the ability of millennials to balance their work and personal lives (Adegbite and Adegbite, 2021). There is therefore the need to research how work-life balance and employee engagement could influence millennial well-being at the workplace.

Okeya et al. (2020) investigated the relationship between work-life balance and job satisfaction among Nigerian bank employees. The findings revealed that employees who reported a higher level of work-life balance experienced greater job satisfaction and overall well-being. However, the study focused on a broad range of employees, but the present study focuses on the millennial workers, covering the service industry but restricted to those on the front line.

The existing body of literature on work-life balance primarily focuses on the developed nations. It is important to recognize the influence of national culture, organizational culture, and their interplay with work-life balance on employee psychological well-being (Adnan et al., 2021; Stankevičienė et al., 2021). But Thilagavathy and Geetha (2021) reveals a critical research gap regarding the relationship between work-life balance and employee psychological well-being within developing countries. Thus, Adisa and Osibanjo (2017) in their empirical study on the influence of work-life balance on employee well-being among Nigerian nurses, found that nurses who reported a higher level of work-life balance experienced improved well-being in various dimensions, including physical, emotional, and psychological aspects. Though the research was conducted among service-oriented employees in the health sector, it is limited in scope.

Furthermore, Aziz and Adewale (2016) discovered a positive relationship between work-life balance and psychological well-being among Nigerian academics. Academic professionals who reported a higher level of work-life balance also experienced improved psychological well-being. This research has limitations of being restricted among service providers in the educational sector. It is possible that different results could be obtained with other service jobs.

Allen et al. (2000) found that work-to-family conflict is associated with negative outcomes such as increased stress, decreased job and life satisfaction, and poorer mental and physical health, while Greenhaus et al. (2006) found that individuals who experience work-family enrichment have higher levels of job satisfaction and life satisfaction. Thus, extensive research has established a positive association between work-life balance and job satisfaction (Pathak et al., 2019); linked to subjective well-

being (Cannas et al., 2019), improved social relationships and reduced depression (Nadinloyi et al., 2013).

Additionally, the Society for Human Resource Management (SHRM) (2022) in their Employee Job Satisfaction and Engagement Report demonstrated that 71% of employees who feel they have a good work-life balance are satisfied with their jobs, compared to 57% of employees who feel they do not have good work-life balance. These findings suggest that work-life balance plays a pivotal role in cultivating job satisfaction, leading to heightened levels of psychological well-being. These findings have the credit of not reflecting general well-being but psychological well-being. Kurtuluş et al. (2023) found that work-life balance is positively related to psychological well-being, and psychological well-being had a mediating effect on the relationship between social support and work-life balance.

Furthermore, in some other studies, work-life balance and employee psychological well-being served as mediators and moderators for each other. For instance, work-life balance acted as a mediator in the relationship between workplace culture and employee psychological well-being (Stankevičienė et al., 2021), while employee psychological well-being mediated the link between work-life balance and job performance (Haider et al., 2018). These findings underscore the intricate interplay between work-life balance and employee psychological well-being, wherein each construct exerts influence on and is influenced by the other in a complex manner. This present study also contributes to a deeper understanding of the networks surrounding work-life balance and employee well-being, particularly employee engagement, emphasizing their vital role within organizational settings.

2.2.2. Employee engagement and well-being

Employee engagement happens when employees are interested, positive, and even excited about their work and they work to do their best and it goes beyond motivation and simple job satisfaction (Armstrong and Taylor, 2014; CIPD, 2018). Employee engagement is worth pursuing, not as an end in itself, but as a means to improve working life and business performance (Purcell, 2013).

According to HBR Store (2019), companies with high levels of employee engagement have 50% higher customer satisfaction rates than companies with low levels of employee engagement. This implies that employee engagement is a key driver of business performance, and that companies with engaged employees are more likely to be profitable, have higher productivity, and have lower turnover. It is opined that millennial employees are more likely to be engaged when their work aligns with their personal values and when they have a sense of purpose (Yeoh and Wong, 2017). Employee engagement and workplace well-being were shown to be linked, according to the study by Prakash and Kashyap (2023). According to the findings, if an employee is mentally well and fulfilled, they are totally involved in their work. A study by Adekoya et al. (2019) revealed a positive association between employee engagement and employee well-being among Nigerian millennial. Disengaged employees are more likely to be absent from work, make mistakes, have accidents, steal from their organization and sabotage their organization's success. Thus, research on employee engagement is paramount, especially among the millennials.

Employee engagement has been found to positively influence various dimensions of well-being, such as physical health, mental health, and overall life satisfaction (Halbesleben and Wheeler, 2011). The reason provided is that engaged employees are more likely to engage in proactive health behaviors, experience higher levels of vitality, and report fewer physical health complaints. They also tend to have a more positive outlook on life, greater job satisfaction, and stronger social connections, all of which contribute to their overall well-being (Bakker and Leiter, 2010). Thus, understanding the relationship between employee engagement and well-being is crucial for organizations seeking to enhance the quality of work life for their employees.

By fostering employee engagement, organizations can positively impact the well-being of their employees, leading to benefits such as increased job satisfaction, reduced turnover, and improved organizational performance (Bakker and Leiter, 2010). Several studies have found a positive relationship between employee engagement and well-being among academics (Adeyemo and Owolabi, 2018), nurses (Adisa and Osibanjo, 2017), but there are limited studies in other general service industries and among the millennials in Nigeria. The present study therefore sets out to explore these.

2.3. Research hypotheses

Based on the literature review, the following hypotheses are tested in the research.

- 1) Work-life balance would positively predict employee well-being.
- 2) Employee engagement would positively predict employee well-being.
- 3) Employee engagement would moderate the relationship between work-life balance and employee well-being.

3. Methods

3.1. Design

This study employed an ex-post facto design, also known as “after-the-effect,” because the variables of interest, which are work-life balance, work engagement and psychological well-being, had already occurred by nature prior to the commencement of the study. The data needed for the study were collected in order to draw inferences among these variables.

3.2. Participants

The participants consisted of three hundred and twenty (320) millennials working in front-line service companies in a major city in Nigeria. The average age of the participants was 32 years, with 51.3% ($n = 164$) male and 48.8% ($n = 154$) female. A significant proportion, 73.3% ($n = 244$) reported being single, 21.6% ($n = 69$) were married, while 2.2% ($n = 7$) indicated being either separated or divorced.

3.3. Inclusion/exclusion criteria

The participants in this study are only millennials, persons between 29–43 years old, working in front-line service companies in Nigeria. They must be of Nigerian nationality, indicate willingness to participate in the study, and understand the English language.

3.4. Instrument

The data for the study were gathered through a structured questionnaire. The questionnaire was divided into four sections. The first section contained items on socio-demographic variables such as age, gender, marital status, educational qualification, religion and nature of organization.

The second section contained Hayman's (2005) version of the Work-Life Balance Self-Assessment scale. It consists of 15 items that assess different aspects of work-life balance, such as time allocation, satisfaction with work and personal life, and the ability to manage multiple roles. The items are measured on Likert type scale, with response options ranging from Strongly Agree (SA) to Strongly Disagree (SD). Examples of items include: "My job gives me energy to pursue personal activities," "I am in a better mood at work because of my personal life," "My job makes my personal life difficult." The Cronbach alpha of the scale is 0.92, and for the present study, the obtained value is 0.937, indicating high reliability and consistency among the scale items.

The third section of the questionnaire contained the General Health Questionnaire-12 (GHQ-12) developed by Goldberg (1972). The scale is designed to measure the wellbeing of respondents. It is a 12-item questionnaire that measures psychological distress and identifies symptoms of mental distress. These items are measured on Likert type scale with response categories as; "not at all", "no more than usual", "rather more than usual", and "much more than usual". The scale developer reported a Cronbach alpha of $\alpha = 0.88$. This study reported a local reliability of $\alpha = 0.69$. Examples of the scale items are: "Have you recently been able to concentrate on whatever you're doing?" "Have you recently lost much sleep over worry?" "Have you recently felt that you're playing a useful part in things?"

The fourth section of the instrument has the Utrecht Work Engagement Scale (UWES) (Coelho et al., 2023). The scale measures work engagement, described as a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption. It is intended to measure the hypothesized 'opposite' of burnout. Originally, 20 self-constructed items were simultaneously formulated in Spanish and English to reflect three underlying dimensions, including "Vigor" (VI) (9 items; e.g., 'When I get up in the morning, I feel like going to work', 'At my work, I feel bursting with energy', 'At my job, I feel strong and vigorous'); "Dedication" (DE) (8 items; e.g., 'I'm enthusiastic about my job', 'I find the work that I do full of meaning and purpose', 'When I get up in the morning, I feel like going to work); and "Absorption" (AB) (7 items; e.g., 'When I'm working, I forget everything around me', 'Time flies when I'm working', 'When I am working, I forget everything else around me').

The engagement items were administered by the author to 314 undergraduates and 619 employees. Internal consistencies were computed for the three subscales and

scale refinement processes led to the deletion of 7 items and the final 17-item engagement measure, with a version each for students and employees. The resultant 17 items scale has VI (6 items), DE (5 items), and AB (6 items). The subscales were found to be internally consistent but relatively strongly correlated (PsycTests Database Record (c) 2020 APA, all rights reserved).

The 17-item scale has response categories that include never, almost never, rarely, sometimes, often, very often, and always. The scores range from 0 to 6. The Cronbach alpha for the scale $\alpha = 0.90$. For the present study, the Cronbach's alpha coefficient calculated is $\alpha = 0.92$, indicating high reliability and consistency among the scale items.

3.5. Procedure

Employing a purposive sampling technique, millennials employed in front-line service companies in a city in Nigeria were the target. To collect data for the study, a well-designed Google Forms survey was adopted, and administered using the hybrid structure. The survey was distributed among potential participants through popular social media platforms, including Facebook, WhatsApp, Twitter, and Instagram; both individual profiles and group pages. These were utilized to reach a wide range of individuals who met the study's inclusion criteria. This dissemination strategy aimed to maximize survey accessibility and facilitate the involvement of participants from diverse backgrounds and experiences. Additionally, to ensure a comprehensive representation of the target population, a paper-and-pencil survey was administered by two trained research assistants to frontline service company employees in the city. This hybrid approach, combining online and offline survey administration, helped broaden the reach and participation of individuals, resulting in the collection of 320 completed questionnaires. As a control measure, respondents for the offline survey were asked if they had responded to the same questionnaire online. Those who responded that they have were excluded from the offline data collection process.

3.6. Ethical considerations

A proposal for the research was developed and submitted to the Research Ethical Committee of the Faculty of the Social Sciences of the University. After due processing with considerable suggestions made, the proposal passed the test for execution. Participants were duly informed of the age range for qualification to participate in the study, and they must be front-line service providers. Participation was voluntary and participants were encouraged to discontinue with the research if peradventure they felt uncomfortable responding to the items in the questionnaire.

3.7. Statistical analyses

The collected data were checked for its adequacy and analyzed, using the Statistical Package for the Social Sciences (SPSS). Hypothesis one was tested using linear regression, hypothesis two was tested using standard multiple regression analysis, and hypothesis three was tested using hierarchical regression.

4. Results

4.1. Intercorrelation results

To show the relationships that exist among work-life balance, employee engagement, and employee psychological well-being, among millennial in front-line service companies, a zero-order correlation analysis was conducted and the results are presented in **Table 1**.

Table 1. Summary of zero-order correlation showing the relationship among employee engagement (vigor, dedication, and absorption), work-life balance and employee well-being.

	X	SD	1	2	3	4	5	6
1. Employee well-being	7.93	4.49	-					
2. Vigor	22.74	6.23	0.06	-				
3. Dedication	20.50	6.32	0.20**	0.77**	-			
4. Absorption	21.38	6.23	0.18**	0.82**	0.82**			
5. Employee engagement	64.63	17.52	0.16**	0.93**	0.93**	0.94**	-	
6. Work-life balance	34.85	8.69	0.50**	0.30**	-0.06	0.02	0.09	-

* $P < 0.05$ level, ** $P < 0.01$ level.

The results from **Table 1** shows that the three components of employee engagement are significantly inter-correlated. Vigor is positively correlated with dedication ($r = 0.77$; $p < 0.01$) and absorption ($r = 0.82$; $p < 0.01$), and dedication is also positively correlated with absorption ($r = 0.82$; $p < 0.01$). These results show that the more vigor a millennial employee displays at work, the more dedicated and absorbed the person is at work. Similarly, the more dedicated a millennial employee is at work, the more absorbed the person is. The high level of positive intercorrelations among these three components of employee engagement indicate that the three components actually measure the same psychological construct, which is employee engagement. These coefficients indicate the internal consistency of the employee engagement scale. Furthermore, the results showed that vigor ($r = 0.93$; $p < 0.01$), dedication ($r = 0.93$; $p < 0.01$), and absorption ($r = 0.94$; $p < 0.01$) are positively correlated with employee engagement. The internal consistency of employee engagement is further enhanced as each component of the employee engagement scale is positively correlated with the composite score of employee engagement.

Employee well-being is positively correlated with dedication ($r = 0.20$; $p < 0.01$), absorption ($r = 0.18$; $p < 0.01$), overall employee engagement ($r = 0.16$; $p < 0.01$), and work-life balance ($r = 0.50$; $p < 0.01$) but not significantly correlated with vigor ($r = 0.06$; $p > 0.05$). It is implied that the more dedicated, absorbed, and engaged at work a millennial is the higher their psychological well-being, but being vigorous is not significantly related to psychological well-being. Also, the more balanced they are on work-life the higher is their psychological well-being. Further observations of the correlation results show that while work-life balance correlated significantly with vigor ($r = 0.30$; $p < 0.01$), it did not correlate significantly with dedication ($r = -0.06$; $p > 0.05$), absorption ($r = 0.02$; $p > 0.05$), and general employee engagement ($r = 0.09$;

$p > 0.01$). The results show that experiencing work-life balance produces more vigor at work, but does not translate to work dedication, work absorption, or general work engagement. These results to some extent show the level of independence of the predictor variables, hence the orthogonality of the predictor variables.

4.2. Hypotheses testing

The first hypothesis stated that work-life balance would significantly predict the psychological well-being of millennial front-line employees. The results are presented in **Table 2**, where it is revealed that work-life balance is a significant predictor of employee well-being [$F(1, 318) = 105.63$; $R = 50$, $R^2 = 0.25$; $p < 0.01$]. Work-life balance accounted for 25% of the observed variance in employee well-being of millennial front-line employees. The hypothesis stated was confirmed and therefore accepted.

Table 2. Linear regression of employee well-being on work-life balance.

Predictor	<i>B</i>	<i>t</i>	<i>P</i>	<i>R</i>	<i>R</i> ²	<i>F</i>	<i>P</i>
Work-life balance	0.50	10.28	<0.01	0.50	0.25	105.63	<0.01

In the second hypothesis, it was stated that employee engagement would significantly predict employee well-being. This was tested using standard multiple regression analysis and the results are presented in **Table 3**.

Table 3. Summary of standard multiple regression of employee well-being on employee engagement dimensions (vigor, dedication, and absorption).

Predictors	β	<i>t</i>	<i>P</i>	<i>R</i>	<i>R</i> ²	<i>F</i>	<i>P</i>
Vigor	−0.33	−3.36	<0.01				
Dedication	0.26	2.55	<0.05	0.27	0.07	8.32	<0.01
Absorption	0.24	2.20	<0.05				

Results from **Table 3** reveals that the dimensions of employee engagement (vigor, dedication and absorption) are significant joint predictors of employee well-being [$R = 27$; $R^2 = 0.07$; $F(3, 316) = 8.32$; $p < 0.01$]. Employee engagement (vigor, dedication and absorption) collectively accounted for about 7% of the observable variance in employee well-being among millennial front-line employees. In the same vein, all the dimensions vigor ($\beta = -33$; $t = -3.36$; $p < 0.01$), dedication ($\beta = 26$; $t = 2.55$; $p < 0.05$) and absorption ($\beta = 24$; $t = 2.20$; $p < 0.05$) were independent predictors of employee well-being. The direction of the influence shows that the higher the vigor of employees ($\beta = -33$), the lower the employee well-being. However, the higher the dedication ($\beta = 26$) and absorption ($\beta = 24$), the higher the employee well-being. The hypothesis stated was confirmed and therefore accepted. In the correlation analysis, vigor was not significantly correlated with employee well-being, but in the multiple regression analysis it significantly predicted well-being negatively. This implies that dedication and absorption are suppressor variables for vigor, hence vigor did not correlate significantly with employee well-being but predicted significantly in the

multiple regression analysis, where the influences of the other predictor variables (dedication and absorption) were statistically controlled.

In the third hypothesis, it was stated that employee engagement would moderate the significant relationship between work-life balance and employee well-being. This was tested using hierarchical multiple regression analysis and the results are presented in **Table 4**.

Table 4. Summary of hierarchical multiple regression analysis of the moderating role of employee engagement in the relationship between work-life balance, employee well-being and demographic variables.

Model	Predictors	β	t	p	R	R^2	R^2 Chan.	F	p
Model 1	Age	−0.09	−1.47	>0.05	0.21	0.04	0.04	4.77	<0.05
	Gender	−0.15	−2.53	<0.05					
	Educational qualification	0.03	0.47	>0.05					
Model 2	Age	−0.01	−0.09	>0.05	0.52	0.27	0.23	28.48	<0.01
	Gender	−0.09	−1.71	>0.05					
	Educational qualification	0.07	1.38	>0.05					
	Work-life balance	0.49	9.77	<0.01					
Model 3a	Age	0.05	0.91	>0.05	0.54	0.30	0.03	26.29	<0.01
	Gender	−0.12	−2.28	<0.05					
VIGOR	Educational qualification	0.02	0.46	>0.05					
	Work-life balance	0.46	9.38	<0.01	0.19	3.63	<0.05		
	Vigor * Work-life bal.	0.19	3.63	<0.05					
Model 3b	Age	0.02	0.41	>0.05	0.52	0.27	0.01	23.43	<0.01
	Gender	−0.11	−2.03	<0.05					
DEDICA	Educational qualification	0.04	0.83	>0.05					
	Work-life balance	0.50	9.92	<0.01	0.09	1.62	>0.05		
	Dedic * Work-life bal.	0.09	1.62	>0.05					
Model 3c	Age	0.05	0.91	>0.05	0.53	0.28	0.02	24.73	<0.01
	Gender	−0.12	−2.27	<0.05					
ABSORP	Educational qualification	0.02	0.45	>0.05					
	Work-life balance	0.50	10.02	<0.01	0.15	2.72	<0.05		
	Absorpt. * Work-life bal.	0.15	2.72	<0.05					

The result from **Table 4** shows that in model 1 the influence of the demographic variable on the dependent variable (employee well-being) was analyzed. Model 1 reveals that the demographic factors (age, gender and educational qualification) jointly predicted employee well-being significantly [$R = 0.21$; $R^2 = 0.04$; $F(3, 316) = 4.77$; $p < 0.05$]. The demographic factors jointly accounted for 4% of the observable variance in employee well-being. However, only gender ($\beta = -0.15$; $t = -2.53$; $p < 0.05$) independently contributed to the prediction of employee well-being among millennial front-line employees, and the female participants were of better well-being.

In model 2, when the work-life balance was added to the demographic factors, all the variables jointly predicted employee well-being significantly [$R = 0.52$; $R^2 = 0.27$; $F(4, 315) = 28.48$; $p < 0.01$], accounting for 27% of the observable variance in

employee well-being. However, only work-life balance ($\beta = 0.49$; $t = 9.77$; $p < 0.01$) independently predicted employee well-being significantly, among the millennial front-line employees. The addition of work-life balance contributed about 23% change in employee well-being and was significant ($\Delta R^2 = 23$; $p < 0.01$).

In model 3a, the moderation effect of work engagement in the prediction of employee well-being by work-life balance was examined. When moderated by vigor dimension of employee engagement, demographic variables, work-life balance and the moderated work-life balance jointly predicted employee well-being significantly [$R = 0.54$; $R^2 = 30$; $F(5, 314) = 26.29$; $p < 0.01$]. The variables jointly accounted for 30% of the observable variance in employee well-being. However, only gender ($\beta = -0.12$; $t = -2.28$; $p < 0.05$), work-life balance ($\beta = 0.46$; $t = 9.38$; $p < 0.01$), and the moderated work-life balance ($\beta = 0.19$; $t = 3.63$; $p < 0.05$) independently predicted employee well-being significantly, among millennial front-line employees. Further, vigor was a significant moderator as it contributed to about a 3% change in the relationship between work-life balance and employee well-being ($\Delta R = 0.03$; $p < 0.01$).

In model 3b, when the dedication dimension of employee engagement was the moderator, demographic variables, work-life balance and the moderated work-life balance jointly predicted employee well-being significantly [$R = 0.52$; $R^2 = 27$; $F(5, 314) = 23.43$; $p < 0.01$]. The variables jointly accounted for 27% of the observable variance in employee well-being. However, only gender ($\beta = -0.11$; $t = -2.03$; $p < 0.05$), and work-life balance ($\beta = 0.50$; $t = 9.92$; $p < 0.01$) independently predicted employee well-being. Dedication was not a significant moderator despite contributing about a 1% change in the relationship between work-life balance and employee well-being ($\Delta R = 0.01$; $p > 0.05$).

In model 3c, when the absorption dimension of employee engagement was the moderator, demographic variables, work-life balance and the moderated work-life balance jointly predicted employee well-being significantly [$R = 0.53$; $R^2 = 0.28$; $F(5, 314) = 24.73$; $p < 0.01$]. The variables jointly accounted for 28% of the observed variance in employee well-being. However, only gender ($\beta = -0.12$; $t = -2.27$; $p < 0.05$), work-life balance ($\beta = 0.50$; $t = 10.02$; $p < 0.01$) and moderated work-life balance ($\beta = 0.15$; $t = 2.72$; $p < 0.05$) independently predicted employee well-being significantly. Absorption was a significant moderator as it contributed to about a 2% change in the relationship between work-life balance and employee well-being ($\Delta R^2 = 0.02$; $p < 0.05$).

5. Discussion

The study investigated the influence of work-life balance, work engagement, and the moderating role of employee engagement in work-life balance on employee well-being among millennials in front-line service companies in a city in Nigeria. A total of three research hypotheses were tested. Hypothesis one stated that work-life balance will positively predict employee well-being among millennials in Nigeria. This was tested using linear regression analysis, and it was discovered that work-life balance is a significant positive predictor of employee well-being. The hypothesis is accepted signifying that when millennials are able to achieve a balance between their work and

personal life, it has positive impact on their overall well-being. This finding supports the discovery of Aziz and Adewale (2016) that a positive relationship exists between work-life balance and psychological well-being among Nigerian academics, and among nurses (Adisa and Osibanjo, 2017). The present findings also support the positive association between work-life balance and job satisfaction reported by Pathak et al. (2019), and the positive association between work-life balance and subjective well-being reported by Cannas et al. (2019).

The findings on the positive relationship and predictive ability of work-life balance on employee psychological well-being suggest that maintaining a harmonious balance between work and personal life is associated with enhanced mental well-being among millennials in front-line service jobs in Nigeria. Going by the self-determination theory, when employees feel supported on the job in satisfying their needs, they are more likely to experience greater well-being, in terms of intrinsic motivation and engagement (Deci and Ryan, 2000). For instance, where the Millennial employees enjoy work-life balance, they will be self-determined for work engagement and the consequent experience of good psychological well-being. It is very likely also that as the Millennial employees enjoy work-life balance, they reciprocate the gesture from the organization with high job engagement, while they are further reciprocated with good psychological well-being, according to the social exchange theory (Cropanzano and Mitchell, 2005). It is evident from the present study, going by the work-life balance theory that, when an employee is able to balance the demand from work and family, there is significant reduction in the stress experienced and subsequently, increased well-being (Kossek et al., 2014). Going by the spillover theory also, drawing the line between work and family duties helps to maintain a balanced work-life where the workload is not spilled over to the home; this invariably improves psychological well-being.

In the study by Allen et al. (2000), work-to-family conflict is associated with negative outcomes such as increased stress, decreased job and life satisfaction, and poorer mental and physical health. When the Millennials experience work-life imbalance, negative experiences could ensue, leading to reduced well-being. The present result falls in line with Kossek et al.'s (2014) assertion that high levels of work-family conflict negatively impact both job and life satisfaction. Stressing further, the availability and use of work-family policies, such as flexible work schedules and childcare support, can buffer the negative effects of work-family conflict on well-being, improve social relationships, and reduce depression (Nadinloyi et al., 2013).

Hypothesis two stated that employee engagement (vigor, dedication and absorption) will significantly predict employee well-being. It was discovered that when these components were combined and tested independently, all the dimensions predicted employee well-being, significantly. This finding underscores the importance of fostering high levels of employee engagement within organizations, as it has a positive impact on the overall well-being of employees. The identification of all three dimensions of employee engagement (vigor, dedication, and absorption) as significant predictors of employee well-being suggests that each dimension contributes uniquely to the well-being of employees. Vigor represents high levels of energy and enthusiasm at work, dedication reflects a strong sense of significance and pride in one's job, and absorption signifies being fully immersed and engrossed in work activities. When

employees exhibit these dimensions of engagement, they experience higher levels of well-being.

The findings from the results on employee work engagement are in support of Prakash and Kashyap (2023), who investigated the relationship between employee engagement and employee well-being among Nigerian millennials and found a positive association. The result from the present study also supports the results of the positive correlation between employee engagement and workplace well-being (Prakash and Kashyap, 2023). It can be said that engaged millennials experience a stronger sense of purpose in their work, perceiving their contributions as meaningful and impactful. This sense of purpose further contributes to their overall well-being. According to the findings, if an employee is mentally well and fulfilled, they are totally involved in their work. A similar finding was recorded in Adeyemi and Owolabi's (2018) research on the relationship between employee engagement and employee well-being in the Nigerian banking sector.

Similar to the work engagement theory and from the results of the positive correlation between work engagement and well-being obtained in the present study, the finding that an engaged employee is productive because their well-being is directly or indirectly catered for is supported. Kickul (2000) presented those psychological factors such as employee well-being benefits more when there is intentional work engagement from the employees. By the positive spillover theory, there is a spillover of their work engagement to the psychological well-being they enjoy.

Hypothesis three stated that employee engagement will significantly moderate the relationship between work-life balance and employee well-being among millennials in front-line jobs in service organizations in Nigeria. It was discovered that vigor and absorption were significant moderators of the relationship between work-life balance and employee well-being, and both were positive moderators. This finding suggests that the type and level of employee engagement influence how work-life balance affects employee well-being. The confirmation of the hypothesis indicates that when millennials have high levels of vigor and absorption, their well-being is more positively impacted with high levels of work-life balance. In other words, when employees are highly engaged and enthusiastic about their work (vigor) and fully absorbed in their tasks (absorption), they are more likely to experience good psychological well-being when they effectively balance their work and personal life.

The findings from the present research emphasize the importance of fostering work-life balance practices among the millennials in front-line jobs and highlight the potential benefits of achieving a balance between work and personal life for enhanced overall well-being. This finding is in support of Salanova et al.'s (2011) discovery of the moderating effect of employee engagement in the relationship between work-life balance and organizational commitment. They found that engaged employees who reported better work-life balance displayed higher levels of organizational commitment. Similarly, it could be inferred from the present study that millennial work engagement strengthens the connection between work-life balance and their psychological well-being, but vigor and absorption are the aspects of work engagement that are of emphasis in this context.

The findings by Shuck and Reio (2014) on the moderating role of employee engagement in the relationship between work-life balance and employee well-being

are supported in the present study. They found that engaged employees who perceived a greater degree of work-life balance experienced lower levels of stress and higher levels of satisfaction with life. It is implied, therefore, that millennial employee engagement amplifies the positive effects of their work-life balance on well-being outcomes

6. Conclusions

The present study investigated the moderating role of employee engagement in work-life balance predicting employee well-being among millennials in front-line service companies in Nigeria. It is concluded from this study that the higher the work-life balance of millennial front-line employees, the higher their well-being. In other words, how much millennial employees are able to balance their work and family life contributes positively to their overall well-being. Findings from this study also show that when Millennials are dedicated to their job, they enjoy higher levels of well-being. Similarly, the higher the absorption of millennial front-line employees, the higher their well-being. This study also concludes that employee engagement dimensions (vigor, dedication and absorption) are significant joint and independent predictors of employee well-being. While vigor had a negative influence on employee well-being, absorption and dedication had a positive influence. Finally, when moderated by vigor and absorption, there was a further positive relationship between work-life balance and employee well-being. In other words, employee engagement further boosted the relationship between work-life balance and well-being in the positive direction.

7. Human resources implications of findings

It is discovered that there exists a significant and positive relationship between work-life balance and employee well-being among millennials working as frontline employees in Nigeria. It is therefore recommended that organizations ensure that millennials' rights to annual leave as well as other holidays are not taken for granted. As they could be considered young and agile, they would use such opportunities to pursue other benefits for life. Also, concerns should be shown, especially when a millennial is perceived to be due for personal leave; such leave could be utilized for self-development in studies or professional growth.

From the results of the three work engagement factors predicting psychological well-being positively, it is suggestive that managers should be mindful of the individual dimensions of employee engagement. By understanding the specific aspects of engagement that contribute to employee well-being, managers can tailor their approaches to supporting employees accordingly. For example, they can encourage employees to find meaning and purpose in their work (dedication), provide opportunities for skill development and autonomy (vigor), and create an environment that allows employees to fully immerse themselves in their tasks (absorption). These could be implemented through organizational development strategies and work design.

The discovery that dedication and absorption are positive correlates of employee well-being of millennial frontline employees shows that the more dedicated and absorbed employees are, the higher their well-being. It is therefore recommended that

organizations lay more emphasis on the importance of self-dedication to work, among the millennials. Organizations should prioritize strategies and interventions aimed at enhancing employee engagement. This could involve creating a positive work environment, providing opportunities for growth and development, fostering supportive relationships, and recognizing and rewarding employees for their contributions. By promoting employee engagement, organizations can foster a work culture that promotes well-being and positive outcomes for employees. For instance, rewards can be attached to the dedication of employees. Reinforcing such behavior will further contribute to increased dedication, subsequently leading to the enhancement of their psychological well-being. Being absorbed in work can also be rewarded by the organization such that it will be counted and seen as a positive organizational behavior. While such behavior will not only contribute to further increases in the well-being of millennial employees, it will also indirectly contribute to increased productivity and performance of the employees.

The findings from the present research emphasize the need for ongoing measurement and assessment of employee engagement and well-being within organizations. Regularly monitoring and evaluating employee engagement levels can help identify areas for improvement and guide targeted interventions to enhance well-being. By prioritizing employee engagement and well-being, organizations can create a positive work environment that attracts, retains, and motivates the millennials in the front-line jobs.

In addition, it was found that work engagement moderated the relationship between work-life balance and employee well-being. This stresses the importance of work engagement. It is therefore recommended that management should invest more time in ensuring reinforcing behaviors that encourage engagement with work among employees. These findings highlight the importance of considering employee engagement as a key factor when developing work-life balance interventions and policies. Organizations should aim to create a work-life balance culture that not only focuses on providing flexibility and support but also emphasizes and promotes employee engagement. Organizations should recognize the significance of employee engagement in the work-life balance and well-being relationship. By fostering a work environment that encourages and supports employee engagement, organizations can enhance the positive effects of work-life balance on employee well-being. This can be achieved through strategies such as providing autonomy, opportunities for growth and development, and creating a positive and supportive work culture.

Besides, managers should focus on cultivating and nurturing employee engagement, particularly in terms of vigor and absorption. By promoting a sense of energy, enthusiasm, and absorption in work tasks, managers can enhance the positive impact of work-life balance on employee well-being. This can be done through effective communication, recognition of employee efforts, and creating a work environment that encourages and supports engagement.

8. Limitations and recommendation for further studies

It is recognized that a single study cannot comprehensively examine all psychological variables contributing to employee well-being among millennials

employed as frontline service personnel. Therefore, it is recommended that future research explore additional psychosocial predictors of employee well-being among Millennials. Another limitation stems from the study's narrow focus on a specific research site, namely millennials in a city in Nigeria. This restricted focus may limit the generalizability of the findings to others. To enhance the generalizability, other researchers are advised to replicate the research in diverse contexts.

Furthermore, this study assessed the respondents at a single point in time, acknowledging that the variables examined are dynamic and subject to change as circumstances evolve. To overcome this limitation, adopting a longitudinal data collection method would be beneficial in capturing the dynamic nature of these variables over time. The sample size utilized in this study was relatively small, which may impact the representativeness of the findings. Addressing this issue, future studies should employ larger sample sizes to enhance the generalizability of the results to a broader population.

Additionally, it is worth noting that the study encountered limitations due to the social desirability effect. Some respondents likely expressed curiosity regarding the study's nature, potentially leading to responses that align with social norms and desirability. It is recommended that more studies should be carried out on other factors that could contribute to the well-being of millennials. This will further contribute to increased productivity and overall performance of organizations.

Conclusively, recognizing and addressing these limitations will contribute to strengthening the study's findings and advancing knowledge in the field. Future research should aim to explore additional variables, replicate the study in different contexts, employ longitudinal data collection methods, increase sample sizes, and conduct confirmatory factor analysis for comprehensive validation. Furthermore, measures should be taken to minimize the impact of social desirability and enhance the generalizability of the research.

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Article

Exploring and addressing AI challenges in HRM: Insights and evidence from the UAE workforce

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Abstract: Purpose: This article explores the adoption of Artificial Intelligence (AI) in Human Resource Management (HRM) in the UAE, focusing on the critical challenges of fairness, bias, and privacy in recruitment processes. The study aims to understand how AI is transforming HR practices in the UAE, highlighting the issues of bias and privacy while examining real-world applications of AI in recruitment, employee engagement, talent management, and learning and development. **Methodology:** Through case study methodology, detailed insights are gathered from these companies to understand real-world applications of AI in HRM. A comparative analysis is conducted, comparing AI-driven HRM practices in UAE-based organizations with international examples to highlight global trends and best practices. **Findings:** The research reveals that while AI holds significant potential to streamline HR functions such as recruitment, onboarding, performance monitoring, and talent management, it also discusses challenges and strategies companies face and develop in integrating AI into their HRM processes, reflecting the broader context of AI adoption in the UAE's HR landscape. **Originality:** This paper contributes to the growing body of literature on AI in HRM by focusing on the unique context of the UAE, a rapidly developing market with a highly diverse workforce. It highlights the specific challenges and opportunities faced by organizations in the UAE when implementing AI in HRM, particularly regarding fairness, bias, and data privacy.

Keywords: artificial intelligence; human resource management; strategies; UAE

1. Introduction

The integration of Artificial Intelligence (AI) into Human Resource Management (HRM) in the UAE is rapidly advancing, propelled by the nation's focus on digital transformation and innovation as outlined in initiatives like the UAE Vision 2030 (Pereira, 2020). AI-powered tools are increasingly employed to enhance recruitment processes, utilizing algorithms to screen resumes, match candidates to job profiles, and conduct preliminary interviews via AI-driven chatbots. These technologies reduce biases, accelerate the hiring process, and enable organizations to identify top talent efficiently (Aboramadan et al., 2024). In addition to recruitment, AI-driven platforms are pivotal in monitoring employee engagement and predicting turnover rates. By analyzing data on employee interactions, feedback, and performance, these systems allow HR managers to address potential issues proactively. In the UAE's highly competitive labor market, where employee retention is a priority, AI empowers HR teams to devise more effective retention strategies (Singh and Shaurya, 2021). The adoption of AI in HRM optimizes operational efficiency and aligns with the UAE's broader vision of leveraging technology for economic and organizational development (Fenech et al., 2019).

The UAE's focus on skills development, particularly in light of the country's innovation agenda, has led to the adoption of AI in personalized learning. AI-powered platforms can tailor learning experiences based on employees' skill gaps, learning pace, and career goals. This ensures employees have the skills needed for the future (Shaya et al., 2023). AI tools in performance management help continuously track and evaluate employee performance. Through real-time feedback and data analysis, HR professionals in the UAE can make more informed decisions about promotions, rewards, and training needs. This aligns with the nation's emphasis on building high-performing organizations. AI's ability to process vast amounts of data helps HR departments forecast workforce needs, identify trends in employee behavior, and improve workforce allocation. In the UAE, where industries such as technology, construction, and finance are expanding, AI-enabled workforce analytics provide insights that support strategic planning (Li et al., 2023).

While existing research explores the role of AI in HRM globally, limited studies focus on AI-driven HR practices in the UAE, a region with a highly diverse workforce and unique regulatory landscape. Most studies highlight AI's general impact on recruitment, talent management, and learning (Aboramadan et al., 2024; Fenech et al., 2019), but few address the specific challenges of fairness, bias, and privacy in the UAE context. Additionally, comparative analyses between UAE-based organizations and international AI-driven HRM practices remain scarce, creating a need for localized insights into how AI aligns with cultural, legal, and economic factors in the region. This study contributes to the literature by offering a UAE-specific analysis of AI adoption in HRM, bridging the gap between global trends and local practices. Insights into fairness, bias, and privacy challenges, which are critical but underexplored in the UAE's AI-driven HR landscape. By addressing these gaps, this research serves as a valuable resource for HR professionals, policymakers, and researchers, guiding AI's ethical and strategic integration into the UAE's evolving HR ecosystem.

2. Relevance of AI in HRM in UAE

The UAE's commitment to becoming a global leader in AI is evident in its establishment of a Minister of AI and the implementation of various AI strategies. The integration of AI into HRM aligns with the country's broader vision to transform traditional sectors, improve efficiency, and innovate across both public and private organizations (Du, 2024; McKinsey, 2021). By automating key HR tasks such as candidate screening, onboarding, and payroll management, AI enables HR departments to reduce operational costs and administrative workloads, which is particularly crucial in the UAE's fast-evolving market (Pandya and Al Janahi, 2021). With the UAE's dynamic job market, where sectors like technology, finance, and construction are experiencing high demand for talent, AI is instrumental in optimizing recruitment processes. AI-powered systems can quickly analyze large volumes of resumes, match candidates with suitable job profiles, and even conduct pre-interview assessments, helping organizations attract the right talent efficiently (McKinsey, 2021). Additionally, AI fosters more inclusive hiring processes by mitigating unconscious biases in recruitment, a critical factor given the UAE's diverse expatriate

population. This enhances fairness and ensures that talent acquisition remains inclusive and unbiased.

AI-driven analytics provide HR professionals with real-time insights into employee performance, engagement, and satisfaction. In a competitive labor market like the UAE, where employee retention is a priority, AI allows HR managers to monitor employee well-being and productivity, helping to prevent turnover and improve organizational performance (McKinsey, 2021). Furthermore, AI supports the UAE's emphasis on skills development by offering personalized learning experiences for employees. AI-powered platforms can identify skill gaps and tailor training programs to individual career goals, which is essential for advancing the country's knowledge-based economy.

AI-driven workforce analytics also contribute to long-term strategic planning by predicting future workforce needs and identifying talent gaps. This is particularly important for industries like construction, hospitality, and finance, which are vital to the UAE's economy. With such insights, organizations can ensure optimal human resource allocation and plan for future demands. In addition, AI helps HR departments make data-driven decisions about promotions, performance appraisals, and compensation, leading to more objective and accurate HR practices in the UAE's competitive business environment (McKinsey, 2021).

As the UAE's regulatory framework evolves, particularly with the implementation of data protection legislation like the UAE Data Protection Law, AI technologies have become instrumental in enabling HR departments to comply with these regulations. By automating data management processes and monitoring legal obligations, AI ensures adherence to compliance standards, thereby safeguarding employee trust and upholding organizational accountability (Okatta et al., 2024). In addition, the post-pandemic shift to flexible work models, including hybrid and remote arrangements, has further highlighted the role of AI in modern HR practices. AI-driven solutions facilitate seamless virtual onboarding processes, enhance employee engagement, and support collaborative efforts, making them indispensable in today's dynamic work environment (Mer and Virdi, 2023). These innovations not only streamline HR operations but also contribute to maintaining productivity and fostering organizational resilience in an era of rapid digital transformation (Fenwick et al., 2024; Krishnan and Chinnathambi, 2024).

3. Challenges and ethical considerations

Artificial Intelligence (AI) in HRM offers substantial advantages, including heightened efficiency, data-driven decision-making, and improved employee engagement. AI enables HR departments to streamline operations and foster a more strategic approach to managing talent. However, these benefits are accompanied by challenges related to data privacy, job displacement, and fairness in decision-making processes (Bankins, 2021; Mendy et al., 2024). In the UAE, organizations face the dual responsibility of leveraging AI's potential while adhering to local labor laws and data protection regulations, such as the UAE Data Protection Law. This regulatory framework emphasizes the ethical handling of employee data, underscoring the importance of transparency and compliance in AI-driven HR practices (Elhaj, 2022).

While AI can transform HRM into a more strategic and data-focused function, organizations must carefully address ethical concerns to maintain trust and equity in the workplace. The risk of biases embedded in AI algorithms and potential job displacement necessitates the implementation of robust governance frameworks that prioritize fairness, accountability, and inclusivity (Khair et al., 2020). Achieving this balance ensures that adopting AI contributes positively to organizational performance while upholding ethical standards and fostering employee trust.

Bias and Discrimination: One of the major ethical challenges in using AI in HRM is the risk of bias in algorithms. AI systems are trained on historical data, and if that data contains biases (e.g., gender, race, or socioeconomic biases), the AI can perpetuate or even amplify those biases in decisions like recruitment, performance evaluations, and promotions. Bias in AI can lead to unfair hiring practices or biased employee evaluations, which violate principles of fairness and equality. AI must be carefully designed and regularly audited to ensure it does not discriminate against specific groups.

Data Privacy and Security: AI relies on vast amounts of data, often including sensitive personal information about employees. This raises concerns about how that data is collected, stored, and used. In HR, where personal information like performance records, health data, and feedback is critical, the risk of data breaches or misuse is high. Organizations using AI in HR must ensure they comply with data privacy laws, such as the UAE Data Protection Law. Transparent data handling and clear consent processes are essential to protect employees' privacy.

Transparency and Accountability: AI algorithms in HR often operate as “black boxes,” meaning that HR managers may not fully understand how decisions are made. This lack of transparency can make it difficult for employees to challenge or appeal AI-driven decisions regarding recruitment, promotions, or terminations. There is a need for transparency in how AI-driven decisions are made. Organizations must be able to explain AI's decision-making processes and ensure accountability for those decisions.

Job Displacement and Automation: As AI automates various HR tasks, such as recruitment, employee onboarding, and performance evaluations, there is growing concern about the displacement of HR professionals and the reduction in the human element of HRM. AI-driven automation might eliminate roles in recruitment or payroll processing, impacting employment within the HR sector itself. Organizations need to strike a balance between leveraging AI for efficiency and preserving the human touch in HR. There is also a social responsibility to retrain employees whose roles might be affected by AI-driven automation.

Invasion of Employee Privacy: AI tools used for monitoring employee productivity and behavior can sometimes cross ethical lines, leading to an invasion of privacy. For example, AI systems that track keystrokes, time spent on applications, or even social media activity may be seen as overly intrusive. There is a fine line between using AI to enhance productivity and violating employee privacy. Ethical concerns arise when AI monitoring becomes invasive or leads to micromanagement.

AI Decision-Making vs. Human Judgment: While AI can analyze data quickly and make decisions based on patterns, it often lacks the emotional intelligence and nuanced understanding of human behavior that HR professionals bring to decision-

making. This raises concerns about the over-reliance on AI in HR processes that require empathy, ethical judgment, or the consideration of context. AI should complement, not replace, human decision-making, especially in areas like conflict resolution, employee development, or terminations, where human judgment and empathy are critical.

Employee Trust and Acceptance: Implementing AI in HR can sometimes lead to resistance from employees who fear job displacement or do not trust the AI's fairness. Building employee trust in AI systems is crucial for their successful adoption in HR processes. Companies must foster a culture of transparency, where employees understand how AI is used and how it benefits them. Without clear communication, employees may feel that their autonomy and job security are threatened.

Lack of Regulation and Standardization: The rapid development of AI in HRM has outpaced the creation of comprehensive regulatory frameworks, leaving ethical gaps in areas such as accountability, data protection, and fairness. While some regions, such as the EU, have made strides with AI regulations, many countries, including the UAE, are still developing comprehensive AI-specific regulatory frameworks. Without clear regulations, organizations must adopt ethical guidelines proactively to ensure responsible AI use in HR. Failure to do so can lead to ethical breaches, legal risks, and damage to an organization's reputation.

This article explores the adoption of AI in HRM in the UAE, focusing on the critical challenges of fairness, bias, and privacy in recruitment processes. The study aims to understand how AI is transforming HR practices in the UAE, highlighting the issues of bias and privacy while examining real-world applications of AI in recruitment, employee engagement, talent management, and learning and development. Further, this paper develops tables that capture the distinct yet overlapping challenges and strategies these companies face and develop in integrating AI into their HRM processes, reflecting the broader context of AI adoption in the UAE's HR landscape.

4. Methodology

This paper employs a case study method and comparative analysis based on secondary data available methodology to investigate the integration of AI into HRM practices within the UAE, with a focus on recruitment, employee development, and workforce analytics. The methodology explores AI's role in HRM practices in leading UAE organizations. These organizations are recognized for their progressive adoption of AI technologies, making them ideal candidates for this study.

Comparative analysis: A comparative analysis of the HRM practices at Etihad Airways, Etisalat, and Careem was conducted to understand how these companies integrate AI into their HR processes, and **Table 1** is developed. This analysis also compared these practices with international examples, providing a broader perspective on global trends and regional variations in AI adoption.

Case study method: The four leading UAE-based organizations were selected for in-depth case studies:

- 1) **Emirates Group:** Known for its AI-driven recruitment processes and employee development programs, particularly in the aviation sector. This case study

explores how Etihad leverages AI for candidate screening, onboarding, and talent management. Additionally, it examines the company's AI tools for monitoring employee performance, engagement, and retention.

- 2) Etisalat: As a major telecommunications company, Etisalat has integrated AI into its HRM to enhance recruitment processes, employee training, and workforce analytics. This case study investigates Etisalat's use of AI for skill gap analysis, personalized employee development, and fostering diversity and inclusion.
- 3) Careem: As a leading UAE-based tech company in the ride-hailing industry, Careem has adopted AI technologies in its HR practices, particularly in employee training, performance management, and retention. The study analyzes how Careem uses AI to personalize learning experiences, track employee performance, and enhance employee satisfaction and well-being.
- 4) Etihad Airways: Known for its AI-driven recruitment processes and employee development programs, particularly in the aviation sector, Etihad Airways exemplifies how AI transforms HRM. The use of AI for candidate screening, onboarding, and talent management ensures a streamlined and efficient hiring process. Implementing AI tools to monitor employee performance, engagement, and retention enables proactive HR interventions.

The selection of Etihad Airways, Etisalat, Careem, and Emirates Group was based on the following criteria: Industry Leadership in AI Adoption: These organizations are recognized as pioneers in AI-driven HRM in their respective sectors (aviation, telecommunications, technology, and transportation). Diversity in Sectors: The study includes companies from different industries to provide a comprehensive view of AI applications in HRM across various business environments. Availability of Secondary Data: The companies were selected based on the availability of public reports, company disclosures, and industry insights that provide valuable information on AI-driven HR practices. The inclusion of companies from different industries allows for a broader understanding of how AI adoption in HRM varies across sectors while identifying common trends and challenges.

This study relies on secondary data sources to examine AI integration into HRM. The data was collected from annual reports and HR policy documents from Etisalat, Careem, Emirates Group, and Etihad Airways. Whitepapers on AI-driven HR transformations were released by these organizations. Reports from consulting firms on AI adoption in HRM in the UAE. Government and policy documents related to AI regulations in HR practices (e.g., UAE's Artificial Intelligence Strategy 2031). Media sources detailing AI-driven HR innovations within the selected companies.

5. Evidence from the UAE challenges

Several UAE companies have begun adopting AI in their HRM practices to enhance efficiency, streamline recruitment, and support employee development. These examples highlight how AI is transforming HR functions in various organizations:

Emirates Group: The Emirates Group, one of the largest aviation conglomerates in the UAE, utilizes AI to enhance its HR processes, particularly in recruitment. AI-powered tools are employed to screen thousands of resumes quickly and efficiently,

identifying the best candidates based on predefined criteria. By leveraging AI, Emirates ensures it can handle large volumes of applications without sacrificing speed or accuracy. The system also helps reduce bias by focusing on specific skill sets and qualifications rather than relying on subjective judgments made by human recruiters. While the Emirates Group has embraced AI to streamline its HR processes, particularly in recruitment, the implementation of AI in HRM is not without challenges. Some of the key challenges faced by Emirates Group in implementing AI in HRM include:

Bias and fairness: Although AI is designed to reduce bias by focusing on objective criteria such as skills and qualifications, it can still unintentionally perpetuate biases present in the training data. If the historical data used to train AI models reflects biased hiring practices, such as favoring certain nationalities or genders, the AI system may continue to replicate these biases, leading to unfair recruitment outcomes. Ensuring that the AI models are free from bias and capable of fair decision-making is an ongoing challenge. The claim that AI removes subjective human judgment by making data-driven decisions and ensuring fair and objective hiring is often challenged by the reality that AI models are only as unbiased as the data they are trained on. If historical hiring data contains inherent biases related to gender, nationality, or other demographic factors, AI systems may inadvertently learn and perpetuate these patterns, leading to discriminatory hiring outcomes (Mehrabi et al., 2021). To mitigate this risk, organizations must prioritize the use of diverse and representative datasets that accurately reflect fair hiring practices. Additionally, conducting regular bias audits allows HR teams to identify and rectify any disparities in AI-driven decision-making processes. Implementing fairness-aware algorithms further ensures that AI models actively detect and adjust for bias, promoting more equitable hiring outcomes. By adopting these strategies, organizations can harness AI's efficiency while minimizing its potential for reinforcing discriminatory practices in recruitment.

Data privacy and security: AI systems used in HRM require vast amounts of personal data, including candidates' resumes, performance records, and other sensitive information. In a country like the UAE, where data privacy regulations are evolving, Emirates Group faces the challenge of ensuring compliance with data protection laws while using AI for HR processes. Any data breach or misuse of personal information could lead to reputational damage and legal consequences.

Transparency and accountability: One of the significant challenges of using AI in HR is the lack of transparency in how AI-driven decisions are made. The "black box" nature of many AI algorithms makes it difficult for HR teams and candidates to understand why certain decisions were made, such as why a particular candidate was rejected. Ensuring transparency in AI decisions and maintaining accountability in the recruitment process can be challenging.

Workforce resistance and change management: The introduction of AI in HRM can lead to concerns among HR staff and employees about job displacement or changes in their roles. Some employees may be resistant to adopting AI technologies, fearing that AI will replace their jobs or make human intervention less relevant. Effective change management strategies are needed to address these concerns and ensure that employees understand how AI will complement rather than replace their roles.

Skill gaps in HR teams: Implementing AI in HRM requires HR professionals to have a certain level of technical proficiency to work with AI tools effectively. The Emirates Group may face challenges in upskilling its HR staff to understand and operate AI systems, interpret the results, and make informed decisions based on AI-driven insights. Bridging the skill gap between traditional HR roles and technology-oriented roles can be a significant challenge.

Cost of implementation: AI systems are expensive to develop, implement, and maintain. The Emirates Group, like many large organizations, may face high initial costs in integrating AI into its HRM processes. Moreover, continuous updates and monitoring are required to ensure that AI systems are functioning optimally and staying aligned with regulatory requirements, further adding to operational costs.

Cultural sensitivity: The UAE's diverse and multicultural workforce necessitates the design and implementation of AI systems that are sensitive to varied cultural contexts. The Emirates Group must ensure that AI tools do not inadvertently prioritize or disadvantage certain cultural groups. For example, an AI system may interpret communication styles or work experiences differently across nationalities, which can lead to unintended exclusion in recruitment and performance assessments.

Etisalat: Etisalat, the UAE's leading telecommunications company, uses AI and machine learning to support various HR functions. The company has implemented AI-driven solutions to forecast workforce needs, enabling more precise HR planning. Predictive analytics help Etisalat determine which skills will be needed in the future, allowing the organization to tailor its recruitment strategies accordingly. Moreover, AI assists in performance management and employee development, where data is used to assess employee progress and recommend personalized training programs.

As the UAE's leading telecommunications company, Etisalat has embraced AI and machine learning to optimize its HR functions. However, like any organization implementing AI in Human Resource Management (HRM), Etisalat faces several challenges. These include:

Data quality and bias: AI systems rely heavily on high-quality data for effective decision-making. In HR, data such as employee performance records, recruitment histories, and skill assessments are used to train AI models. However, if the data is incomplete, inaccurate, or biased, the AI-driven predictions and recommendations may be flawed. Bias in data—whether related to gender, age, nationality, or other factors—could lead to unfair recruitment decisions or skewed performance assessments, perpetuating systemic inequalities.

Privacy and data security: AI-driven HR solutions require access to sensitive personal data about employees and candidates. Etisalat must navigate stringent data privacy regulations in the UAE, ensuring that the AI systems comply with data protection laws such as the UAE Personal Data Protection Law (PDPL). Unauthorized access, data breaches, or mishandling of personal information could lead to legal liabilities, reputational damage, and erosion of employee trust.

Algorithm transparency and accountability: One of the significant challenges in AI-driven HRM systems is the lack of transparency in how AI algorithms reach their decisions. For example, AI tools may recommend certain candidates or suggest personalized employee training without providing clear explanations as to why those choices were made. This "black box" issue can create a lack of trust among employees

and HR teams. Ensuring that AI models are explainable, accountable, and auditable is critical but often challenging.

Workforce resistance to AI: Introducing AI-driven systems can create anxiety among employees, who may fear job displacement or reduced control over HR decisions. HR professionals may also feel uncertain about the role of AI, worrying that AI could replace traditional HR functions or marginalize human decision-making. Managing employee expectations, addressing concerns, and implementing change management strategies to foster acceptance of AI tools are challenges Etisalat needs to navigate.

Skills and training gaps in HR teams: For AI to be effectively integrated into HR processes, HR professionals at Etisalat must have the technical skills to understand and work alongside AI systems. This includes interpreting predictive analytics, managing AI tools, and ensuring the technology aligns with organizational goals. Upskilling HR personnel and closing the gap between traditional HR functions and AI-based methods is a significant challenge, particularly as AI technologies continue to evolve.

Cost of implementation and maintenance: The development, integration, and ongoing maintenance of AI systems in HR can be costly. While AI can bring long-term efficiency, the initial setup involves significant financial investments in technology infrastructure, data collection, and system customization. Additionally, ongoing costs related to software updates, data management, and compliance with regulatory changes are factors Etisalat must consider when implementing AI in HRM.

Ethical concerns: AI systems in HR raise ethical questions about the balance between automation and human oversight. Etisalat must ensure that AI does not dehumanize the HR process, especially in sensitive areas such as employee development, performance evaluations, and workforce planning. One of the major ethical dilemmas in AI-driven HR is ensuring that automation does not replace human empathy, intuition, and fairness in decision-making.

AI-based tools assist in resume screening, candidate matching, and employee monitoring, but relying solely on AI may depersonalize HR processes. Ensuring that AI systems maintain a balance between efficiency and empathy is an ongoing challenge, requiring clear ethical guidelines and human oversight.

Adapting AI to a multicultural workforce: The UAE's highly diverse workforce includes employees from various nationalities and cultural backgrounds. AI systems in HR must account for this diversity, ensuring that recruitment, performance assessments, and employee development programs do not favor one group over another. Developing AI tools that can understand and respect cultural differences while providing fair and inclusive outcomes is crucial but difficult to implement effectively.

Careem: As one of the UAE's fastest-growing tech companies, Careem uses AI to enhance its HR operations. Careem leverages AI to streamline recruitment, utilizing algorithms that analyze job applicants' skills and qualifications to identify the best-fit candidates. Moreover, AI assists the company in managing its large workforce by predicting employee attrition and helping the HR team intervene early to retain valuable talent. AI-driven tools at Careem also support employee engagement and development, offering tailored career growth opportunities for employees.

As one of the UAE's leading tech companies, Careem has effectively integrated AI into its HR operations to improve recruitment and manage its workforce. However, implementing AI in HRM comes with its own set of challenges. Some of the key challenges Careem may face include:

Data privacy and compliance: Careem's use of AI relies on collecting and analyzing significant amounts of personal data from employees and candidates. Compliance with data privacy regulations, such as the UAE's Personal Data Protection Law (PDPL), is crucial to avoid legal issues and reputational damage. Careem must ensure that it manages personal data responsibly and transparently, safeguarding against potential data breaches that could undermine employee trust.

Bias in AI algorithms: Despite the aim to create a fair recruitment process, AI algorithms can unintentionally perpetuate existing biases present in training data. If historical data reflects biased hiring practices, AI systems may replicate those biases in candidate selection, disadvantaging qualified individuals from certain backgrounds or demographics. Careem needs to continuously audit its algorithms to identify and mitigate any biases that may arise.

Change management and employee buy-in: The introduction of AI-driven processes may lead to concerns among employees regarding job security and the potential for reduced human interaction in HR functions. Employees may resist adopting AI technologies, fearing that it will diminish their roles or replace them entirely. Careem must implement effective change management strategies to educate employees about the benefits of AI and foster acceptance of new tools.

Skill gaps in HR teams: To leverage AI effectively, HR professionals at Careem must possess a certain level of technical proficiency. The integration of AI tools may require HR teams to develop new skills to understand and interpret AI-driven insights, which could be challenging if the workforce lacks the necessary expertise. Careem may need to invest in training and development programs to upskill its HR staff.

Algorithm transparency: AI algorithms can be complex and difficult to interpret. For HR decisions, it is vital to provide transparency and explainability to ensure that candidates and employees understand how decisions are made, particularly in recruitment and performance evaluations. Careem faces the challenge of ensuring that its AI tools are transparent and that the rationale behind AI-driven decisions is clear and understandable.

Cost of implementation and maintenance: While AI can lead to increased efficiency in HR processes, the initial costs associated with developing and implementing AI systems can be significant. Careem must balance the upfront investment in technology with the long-term benefits. Additionally, ongoing costs related to software updates, system maintenance, and data management should be accounted for in the budgeting process.

Cultural sensitivity: Given the diverse workforce in the UAE, Careem must ensure that its AI-driven HR practices are culturally sensitive and inclusive. The algorithms used in recruitment and employee development need to account for different cultural backgrounds and communication styles to avoid alienating or excluding certain groups.

Employee engagement and personalization: While AI can enhance employee engagement by offering tailored career growth opportunities, the challenge lies in

ensuring that these recommendations resonate with individual employee aspirations and career paths. Careem must ensure that AI-driven solutions are not only data-driven but also take into account the unique motivations and preferences of its workforce.

These examples demonstrate how UAE companies are increasingly relying on AI to optimize HR functions, from recruitment and workforce planning to employee development. By integrating AI, these companies can operate more efficiently while addressing challenges related to talent acquisition and management in a rapidly changing business environment.

As mentioned, refer to **Tables 1** and **2** which capture the distinct yet overlapping challenges and strategies these companies face and develop in integrating AI into their HRM processes, reflecting the broader context of AI adoption in the UAE's HR landscape. **Tables 1** and **2** explore how companies integrate AI into their HR processes.

Table 1. Comprehensive table summarizing the challenges faced by Emirates Group, Etisalat, Careem, and Etihad Airways in integrating AI into their HRM practices.

Company	Challenges	Details
Emirates Group	Bias and fairness	AI models may perpetuate biases in training data, affecting recruitment outcomes.
	Data privacy and security	Compliance with the UAE's evolving data privacy laws and safeguarding sensitive personal data is critical.
	Transparency and accountability	Difficulty in explaining AI-driven recruitment decisions due to the "black box" nature of algorithms.
	Workforce resistance and change management	Employees fear job displacement or role changes due to AI adoption.
	Skill gaps in HR teams	HR staff require upskilling to operate AI tools effectively and interpret their insights.
	Cost of implementation	High costs for AI development, integration, and ongoing updates.
	Cultural sensitivity	Ensuring AI systems accommodate diverse cultural backgrounds in the UAE workforce.
Etisalat	Data quality and bias	Flawed or incomplete data may lead to inaccurate predictions or recommendations.
	Privacy and data security	Complying with data protection laws and preventing data breaches.
	Algorithm transparency and accountability	Lack of clarity on how AI reaches decisions undermines trust.
	Workforce resistance to AI	Employees may resist AI adoption due to fears of marginalization or replacement.
	Skills and training gaps in HR teams	Need for technical expertise in HR teams to interpret AI-driven insights.
	Cost of implementation and maintenance	Significant upfront and ongoing costs for AI integration and compliance.
	Ethical concerns	Balancing automation with human oversight to avoid dehumanizing HR processes.
	Adapting AI to a multicultural workforce	Ensuring AI systems provide fair and inclusive outcomes across diverse nationalities.
Careem	Data privacy and compliance	Managing sensitive employee data responsibly while adhering to the UAE's PDPL.
	Bias in AI algorithms	Risk of replicating biases from training data in recruitment decisions.
	Change management and employee buy-in	Addressing employee concerns about AI replacing human roles.
	Skill gaps in HR teams	HR professionals need training to work effectively with AI systems.
	Algorithm transparency and explainability	Providing clear explanations for AI-driven decisions to build trust.

Table 1. (Continued).

Company	Challenges	Details
	Cost of implementation and maintenance	Balancing high initial costs with long-term benefits while managing ongoing expenses.
	Cultural sensitivity	Creating AI systems that respect diverse cultural and communication styles.
	Employee engagement and personalization	Ensuring AI recommendations align with individual career aspirations and motivations.
Etihad Airways	Bias and fairness	Recruitment tools risk prioritizing certain groups over others due to biased training data or unintended algorithmic behavior.
	Data privacy and security	Handling sensitive employee and applicant data securely, especially in compliance with aviation and UAE-specific regulations.
	Transparency in decision-making	Difficulty explaining AI decisions in recruitment and performance reviews, leading to potential mistrust.
	Employee adaptability and change management	Resistance from staff to AI adoption due to concerns about job security and the relevance of human roles.
	Skills gap in HR departments	HR teams require specialized training to interpret AI analytics and incorporate them into decision-making processes effectively.
	Cost of AI integration	Substantial investments in AI systems for HRM, including software development, hardware, and ongoing updates.
	Ethical considerations	Ensuring AI systems respect diversity and inclusivity while maintaining fairness in decision-making for a globally diverse workforce.
	Employee engagement and monitoring	Proactively addressing disengagement risks highlighted by AI while balancing human-centered approaches in a heavily regulated industry.

6. Strategies supported by AI in recruitment, selection, training, and development

6.1. Recruitment and selection

AI-Powered Recruitment: The company has adopted AI solutions, particularly for recruiting new staff at Etihad Airways. These tools facilitate resume screening and candidate assessment, significantly reducing the time spent on initial evaluations (Singh and Shaurya, 2021). For example, in 2022, the airline implemented software for resume parsing and skill mapping, allowing them to align candidates' skills with job requirements and enabling HR staff to focus on other activities such as interviews and engaging candidates. This efficiency is crucial, particularly in an industry where the speed of hiring impacts overall operational performance.

Challenges of Bias and Fairness: Using AI in recruitment has a problem with fairness and the possibility of bias. Should the algorithm be trained on data encompassing previous discriminations like the preferred candidates' demography or educational attainment, then the algorithms will extend discriminations (Manroop et al., 2024). A recent example reported in the tech industry was Amazon launching an AI recruitment tool that was later abandoned because it was biased against female candidates. For Etihad, it is crucial to make a point that there must be safeguards against the use of AI with biases of the society entrenched in them. The recruitment process is also likely to be influenced by bias, and therefore, AI algorithms require periodic checks to remove any bias.

6.2. Training and development

Commitment to employee development: Another important element of Etihad Airways' operations is the company's understanding of its personnel as the main resource and its focus on training and skill development. Introduced in 2023, the AI Academy, in collaboration with Microsoft, provides online and instructor-led courses to increase AI understanding throughout the organization (Etihad Airways, 2022). This is appropriate in an industry that heavily depends on technology and data analysis to work efficiently.

Upskilling for future needs: Upskilling employees with AI technologies will help Etihad prepare its workforce for the future and give it a competitive advantage. The training programs cover aspects that will enable the employees to use AI tools optimally, enhancing organizational performance. Such commitment to learning is crucial, especially with high technology innovation and customer needs dynamics.

Analyzing employee contributions: The AI component of the platform improves the written ideas and feedback to ensure that the most valuable and beneficial suggestions are highlighted for further evaluation and consideration. Implementing this strategy effectively empowers employees and will contribute to Etihad's strategic goals of enhancing operational efficiency and customer satisfaction. Nonetheless, for these initiatives to succeed, it's essential to have the backing and involvement of employees throughout the process. Consequently, Etihad must guarantee that the platform remains accessible and that employees feel encouraged to share their perspectives, regardless of whether those ideas might challenge existing norms and processes within the organization.

Innovative AI-driven strategies in HRM

AI is gradually disrupting the HRM models by changing how organizations manage human capital, attract and select talents, and develop and recruit them (Krović and Krović, 2023). Since organizations continue encountering new and complex issues in these spheres, applying AI solutions may improve performance while considering diversity. This paper reviews current practices, strategizes future activities, and uses best-performing UAE organizations such as Etihad Airways and Emirates Airlines.

Current challenges in HRM:

- i. **Talent acquisition:** The job market in the UAE is relatively stiff, and the major issue of talent acquisition arises from the following: The new reality is that the workforce is diverse, as organizations have to deal with skills deficits, most sharply where start-up businesses need it, for instance, in technology and digitalization. Employment and staffing techniques are inadequate when it comes to identifying the best talents in the market, resulting in long periods of hiring and expenditure.
- ii. **Continuing education:** Because industries are fast-changing, it is pivotal for employees to keep learning and developing. However, most organizations find it difficult to deliver training programs that address all their employees' requirements. Insufficient creation plans could result in lower employee participation and increased staff turnover (Malik et al., 2020).
- iii. **Workplace diversity and inclusion practice:** Diversity and inclusion within the workplace are the right things to do and the right things to do for business. This

means that firms' recruitment and selection procedures must be fair, and the workplace must embrace diversity. However, achieving this goal is still difficult for many organizations (Roohani, 2023).

- iv. Data privacy and security: Employee data has become sensitive and needs protection as more organizations implement AI. Every business has to ensure the protection of the data and meet the regulatory requirements that are in place, like GDPR and other laws (Almesafri and Habes, 2022).

6.3. Continuous employee learning and development

Human resource management AI-driven learning platforms talent development is essential to keep good employees around and improve the workforce's skills. Companies can use intelligent learning solutions and present employee training options depending on their skills deficiency and career path. For example, Etihad Airways has incorporated a digital learning program incorporating artificial intelligence to deliver content that is most relevant and interesting to the employees through training sessions. Virtual Reality and augmented reality training using VR and AR in training can allow learners to engage in interactive and effective training modalities.

6.4. Fostering diversity and inclusion

AI-enhanced bias detection AI requires further advocacy for diversity and inclusion, especially in recruiting and selecting employees. Thus, AI algorithms can study recruitment patterns and detect possible discrimination. For instance, AI systems in Etihad Airways were launched to analyze recruitment strategies and determine their adherence to diversity and inclusion policies. Diversity hiring AI can also help write diverse job descriptions to encourage the best talent to apply. Thus, organizations can make their job advertisements more inclusive by analyzing the language used and determining which terms may be discriminatory. These measures can assist companies in drawing talent from different fields, which improves organizational diversity (Al Ali and Badi, 2021).

6.5. Measures of data privacy and security

Effective data management standards as employee data plays a crucial role in organizational operations, organizations need to establish robust and sound data management standards, particularly when they utilize AI to handle and manage this data. Companies need to establish benchmarks and standards for collecting, processing, and storing data, as well as ensuring legal compliance. Etihad Airways implements robust data management policies and utilizes advanced security technologies to protect the information of its customers and employees. Employees ought to receive training on data privacy and security. Organizations ought to promote data privacy by educating and training their employees on security-related issues. As individuals increasingly recognize the importance of safeguarding confidential information, companies can foster a culture of data protection. Some areas that need to be covered in this training could include detecting phishing scams, managing sensitive security information, and understanding data protection regulations.

6.6. Employee development

The implementation of AI-driven strategies will also be beneficial to employee development. Etisalat can introduce such learning platforms that can be tailored to employee requirements of skill sets, benefiting their performance in the department (Kulkov et al., 2024). These may suggest learning modules based on organizational needs and employees' career goals. Likewise, the use of AI can help in tracking skill gap analysis across the workforce. Etisalat's HR can assess the existing skills of employees against skills that may be required in the future with technological advancement and emerging business needs.

The use of predictive recruitment analytics leverages insights on strategies related to the recruitment side. Etisalat must ensure AI in its systems for HR practices but also establish guidelines prioritizing transparency, fairness, and accountability. Such concerns as data security, bias, and privacy can be controlled through regular audit checks. Adopting AI-driven innovative strategies for workforce management, talent acquisition, employee development, and recruitment raises efficiency while encouraging constant development and fairness in HR systems, refer to **Table 2**.

Table 2. Table of AI-driven strategies for HRM.

HR Area	AI-Driven Strategy	Impact	Example/Implementation
Recruitment & Selection	AI Resume Screening & Skill Matching	Reduces time for initial candidate evaluation; better alignment with job requirements.	Etihad Airways uses software for resume parsing & skill mapping.
	AI-Powered Candidate Assessment (Cognitive/Behavioral)	Ensures more accurate selection and reduces human bias.	Etisalat uses facial recognition & language pattern analysis.
	AI Chatbots & Virtual Recruitment Assistants	Enhances candidate experience through timely updates and personalized communication.	AI-driven chatbots at Etisalat for real-time engagement.
Training & Development	AI-Powered Learning Platforms & Personalized Training Programs	Facilitates continuous learning, addresses skill gaps, and supports career growth.	Etihad Academy with Microsoft: Personalized AI-driven training modules.
	VR/AR-Based Training for Real-Life Simulations	Improves practical skills and readiness through immersive training.	VR-based training for Etihad cabin crew and pilots.
	AI for Skill Gap Analysis & Career Path Recommendations	Helps employees improve their performance based on data-driven insights into skills and needs.	AI is assessing skill gaps in Etisalat employees.
Diversity & Inclusion	AI for Bias Detection in Recruitment & Selection	Ensures fair hiring practices and promotes diverse candidate pools.	AI analysis of Etihad's recruitment strategies for diversity adherence.
	AI for Inclusive Job Descriptions & Recruitment Messaging	Attracts a broader, more diverse range of candidates.	AI tools at Etisalat to write inclusive job descriptions.
Employee Engagement	AI-Powered Employee Wellness Programs (Mental Health & Work-Life Balance)	Supports employee well-being through personalized stress management and work-life balance tools.	AI-driven wellness programs and employee satisfaction monitoring.
Ethical Use of AI	AI Transparency, Fairness, and Bias Prevention Measures	Prevents the use of biased algorithms and ensures ethical decision-making in HR processes.	Regular audits of AI systems to ensure fairness and accountability.
Data Privacy & Security	AI-Based Data Management & Privacy Compliance	Ensures that employee data is securely stored and compliant with privacy regulations.	Etihad Airways is implementing advanced data protection technologies.

To evaluate the strategic implications of training in the effective management of international human resources (HR) for Etisalat UAE, various concerns are highlighted. Firstly, training programs need to be focused on developing global competence, which incorporates cross-cultural communicational skills, cultural compassion, and knowledge about international HR practices. Moreover, efficient international HR management knows how to adapt to business environments, customs, and laws on account of local practices. For this, training on cultural sensitivity and local regulations to safeguard compliance and effective operations is held abroad.

Leadership development is also crucial when implementing global roles (Song et al., 2024). Such programs are needed to train managers, helping them to lead teams globally. Further, there is also a need to integrate technology into international HR training for constant learning experiences. Lastly, key performance indicators are to be used to know about employee retention rates and cultural integration, helping Etisalat polish strategies with strategic HR objectives, which ensures growth and success in competing markets.

7. Practical implications

The practical implications of integrating AI into HRM are significant and transformative for organizations such as Etihad Airways and Etisalat. By leveraging AI technologies, HR departments can streamline recruitment processes, reduce the time spent on resume screening, and enhance candidate selection accuracy. This leads to faster hiring cycles, improved employee fit, and reduced turnover rates. AI-powered tools also support personalized employee development by identifying skill gaps and suggesting targeted training programs, ensuring employees' growth aligns with organizational needs.

Additionally, AI can play a pivotal role in fostering diversity and inclusion by eliminating biases in recruitment and selection processes. With AI systems continuously analyzing hiring patterns, organizations can ensure a fairer and more inclusive hiring process. AI also helps in providing real-time feedback, enhancing employee engagement, and facilitating continuous learning through personalized training experiences. However, the adoption of AI in HRM requires organizations to implement robust data protection measures and establish guidelines for transparency and fairness to avoid ethical issues. Continuous monitoring of AI algorithms for bias and discrimination is necessary to maintain fairness in recruitment and selection practices. Furthermore, organizations must ensure that AI does not replace the human element of decision-making (Upadhyay, 2023), particularly in areas such as employee relations and leadership development.

8. Societal implications

The adoption of AI in HRM in the UAE has significant social implications, particularly about fairness, diversity, and privacy.

One of the most profound social benefits of AI in HRM is its potential to promote diversity and inclusion in recruitment. AI can help mitigate human biases that often influence hiring decisions based on nationality, gender, or ethnicity. In the UAE, where the workforce is highly diverse due to the large expatriate population, AI can

foster a more equitable hiring process, ensuring that all candidates are evaluated fairly based on their skills and experience. This can contribute to creating more inclusive organizational cultures and a workforce that better reflects the diverse demographic landscape of the UAE. AI can help reduce the impact of unconscious bias in recruitment and performance evaluation processes, which is a key social concern in the UAE. By utilizing data-driven algorithms that are regularly tested for bias, HR departments can ensure a more objective approach to candidate selection and employee assessments. This promotes fairness and equal opportunities, regardless of a person's background, thereby enhancing social mobility and creating more socially inclusive work environments. As AI systems in HRM handle large amounts of personal data, there are significant social implications regarding privacy and security. With increasing concerns over data breaches and misuse, it becomes essential for organizations to implement AI solutions that prioritize data protection. In the UAE, where data protection laws are evolving, AI tools that ensure compliance with regulations such as the UAE Data Protection Law help safeguard employees' personal information. This fosters trust between employees and employers, contributing to a healthy social environment within organizations.

AI can help level the playing field for employees by offering personalized learning experiences based on their individual needs, career goals, and skill gaps. In the context of the UAE's vision for a knowledge-based economy, AI-driven training and development platforms provide employees with access to continuous learning, irrespective of their backgrounds. This ensures that all employees, regardless of their current skill set, have the opportunity to grow and advance in their careers, thus promoting social equality in the workplace.

9. Limitations

The study relies primarily on secondary data, which may limit the ability to capture firsthand accounts or nuanced perspectives from HR professionals directly involved in AI integration.

The study is geographically limited to the UAE, and the findings may not be fully applicable to other regions with different cultural or regulatory contexts. Due to the relatively recent integration of AI in HRM, some data might be in the early stages of implementation, which could affect the comprehensiveness of the findings.

10. Conclusion

In conclusion, AI has become a transformative force in HRM, offering significant benefits to organizations like Etihad Airways and Etisalat in areas such as recruitment, training, and employee development. AI-powered tools enhance efficiency, reduce biases, and improve candidate experiences, ultimately contributing to more effective workforce management. The use of AI for personalized learning and development ensures that employees can adapt to rapidly changing technological landscapes, fostering a culture of continuous improvement. Furthermore, AI can drive diversity and inclusion by analyzing recruitment patterns and supporting fair hiring practices.

However, as AI continues to shape HR practices, organizations must address the associated challenges, including the risk of biased algorithms, data security concerns,

and the ethical implications of AI deployment (Nawaz et al., 2024). Regular audits, transparent processes, and employee involvement in decision-making can mitigate these risks (Malin et al., 2024). Additionally, HR professionals must be mindful of the ethical considerations around AI use to ensure that these technologies serve the broader goal of fairness, accountability, and employee well-being. As companies like Etihad Airways and Etisalat lead the way, the strategic integration of AI in HRM can be a key enabler of organizational success, improving both operational efficiency and employee satisfaction in the long term.

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Article

Equality at work: Exploring the voices of female librarians in Punjab, Pakistan

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Abstract: The study aimed to investigate the concept of workplace equality as experienced and perceived by female librarians of Punjab, Pakistan. Through this investigation, the study aimed to contribute to the broader discourse on creating equitable and inclusive workplaces for women in the field of library and information science. A qualitative research method based on semi-structured interviews was employed to meet the objectives of the study. The interview guide was used to collect data from female librarians working in the Higher Education Commission's (HEC) recognized public and private sector universities of the Punjab, Pakistan. According to the results, female librarians shared that they have faced gender-based discrimination in job allocation as male librarians were favored for tasks with additional wages or representation at corporate events. Private sector candidates reported issues related to career development opportunities as managers often restrict participation in seminars, conferences, and higher education pursuits. The study also highlighted that inequalities or discriminations affect employees motivation and enthusiasm. This study highlights issues of inequality from a female perspective in the library and information science field, contributing to a deeper understanding of the key factors to ensure equitable workplaces. This study may be a useful contribution to the body of research literature, as well as the findings may help in sensitizing the management and authorities to control the work environment to facilitate females, and to make female-oriented policies.

Keywords: workplace; equality-workplace; libraries as workplace; female librarians; librarians-Pakistan

1. Introduction

Pakistan Vision 2025 had an ambitious goal of increasing women's participation in the national workforce. The twelve-year vision possesses seven pillars and twenty-five goals: "People first; growth; governance; water, energy, and food security; entrepreneurship; knowledge economy; and regional connectivity". Goal three of the first pillar (people first) states, "TO increase the country's female labor force ratio from twenty-four percent to forty-five percent by 2025" (Ministry of Planning, Development and Reform, 2025, p. 101). Therefore, to increase the labor force ratio of females, it is crucial to provide them with needed facilities at the workplace. Pakistan's government has been taking initiatives to provide a safe environment for females to ensure the equal, safe, and unbiased participation of females in every walk of life. The state and its administration are effectively playing their role in empowering Pakistani females by providing them equal and exceptional rights regardless of the field they choose to work in. However, women's workforce participation is still meager and statistics are not encouraging. Women's labor force participation in

Pakistan is significantly lower than men's, at 20.73% compared to 78.08% (Zulfiqar et al., 2024). Similarly, according to the International Labor Organization, the ratio of Pakistani women in the workforce was 21.6 percent in 2018, which was increased to 24.3 percent by 2025 (ILO, n.d.). Therefore, considering the importance of women's inclusion in the workforce, it is imperative to identify the factors that affect females joining the workforce.

2. Literature review

Workplace equality ensures fair treatment and equal opportunities for all employees, regardless of gender, age, race, religion, or educational background. One of the most common variables associated with workplace inequalities is gender. Though various policies and initiatives have been taken to ensure gender equality, disparities still persist. The World Economic Forum (2023) highlighted that women face barriers in hiring, promotion, and compensation compared to their male counterparts. Similarly, ILO (2022) highlighted a gender pay gap with women earning less than men for similar roles and qualifications (International Labour Organization, 2022). Ryan (2022) also discussed gender-based inequalities such as women's underrepresentation in leadership roles and the gender pay gap. Hing et al. (2023) highlighted some organizational factors such as workforce demographic diversity and HR policies that significantly affect gender inequities in hiring and promotions. Based on age, Drydakis et al. (2023) reported that older White British men and women, as well as older Black British men and women, face barriers in accessing job opportunities and are often placed in lower-paid positions compared to younger White British men. In relation to this, Khan et al. (2023) opined that occupational segregation is highest among elderly males and females, with elderly females experiencing the most pronounced segregation across all groups. For this study, workplace equality is an umbrella term that further deals with inequalities based on gender, age, educational background or experience. Though gender has been widely discussed in literature, the value of other factors cannot be denied.

Literature highlights various professions and work environments where employees encounter discrimination or inequalities. Inequalities create dissatisfaction among employees about their jobs and compel them to leave their position in the organization (Ghiselli et al., 2001). The major challenges faced by females at workplaces include discrimination, difficulties in promotion, long working hours and physical job conditions, and fewer opportunities for promotion (Abdin, 2008; Li and Leung, 2001; Okumus et al., 2010).

Hussain et al. (2016) have studied the gender discrimination and career mobility of female bank employees and reported that female bank employees faced gender discrimination when it came to job promotions. In a qualitative study, Johnson (2018) conducted in-depth interviews to investigate the experiences of female administrators to understand the gender inequalities they faced during their careers. The participants highlighted that they encountered major challenges in pay and promotions. Eva et al. (2021) demonstrated that women earn less as compared to their male counterparts, as well as women were ranked in lower ranks as compared to their male colleagues. These inequalities in terms of salary and promotions were identified in the context of

librarianship. Similarly, Howard et al. (2020) also concluded that males make more money as compared to females in librarianship. Zhu et al. (2012) highlighted that Pakistani working women faced issues of inequality in the workplace. Jafri and Ali (2021) highlighted wage discrepancies and gender discrimination as key factors affecting the workplace experience and performance of female librarians working in Karachi. Ashiq et al. (2021) also reported gender discrimination as one of the many challenges that hinder the career progression of female librarians in Pakistan. Ashiq et al. (2025) reported the predominance of male librarians for leadership positions in academic libraries of Punjab, further emphasizing the structural challenges women face in the profession. Kumari and Saroja (2023) highlighted organizational issues that hinder women librarians; the issues include gender discrimination, harassment, and lack of recognition.

Cornwall and Aniyidoho (2010) reported that the major obstacles for empowering women are violence and gender discrimination. A diverse group of 350 female employees from thirty different ready-made garment manufacturers in Bangladesh participated in a study by Fatema (2019) that contrasted gender equality and women's empowerment. According to the findings, women's empowerment was hampered by gender inequity. Therefore, in order to improve the job satisfaction and performance of female employees, gender equality should be prioritized over women's empowerment. According to Trinkenreich et al. (2022), bias against women in the workplace still occurs on the ground, and gender-based stereotypes and prejudices, gender orientation, workload participation, and work and family are the main contributing factors.

Zulfiqar et al. (2024) also noted that women face significant gender bias and discrimination, limiting their access to leadership roles. Cultural stereotypes associate leadership with traits like assertiveness and decisiveness, often linked to men, while women are perceived as more nurturing. This bias contributes to their underrepresentation in management. Noreen et al. (2024) also reported that working women face persistent challenges, including gender-based discrimination, the dual burden of job and domestic responsibilities, and limited institutional support. Additionally, the fear of retaliation discourages reporting of workplace harassment, which further reinforces gender disparities.

The above-cited literature highlights the systemic barriers that continue to impact women's professional experiences. This also shows that there are barriers that affect women's participation in various professional sectors, including academic libraries. This study aims to explore the concept of workplace equality among female librarians in Punjab, Pakistan, shedding light on their experiences and the structural inequalities they navigate. This study will contribute to the existing body of literature on workplace equality, librarianship and gender studies as this will amplify the voices of female participants within the local context of Pakistan. By identifying key factors influencing workplace equality in this context, the research contributes to fostering more equitable and inclusive workplaces within the library and information science field. The objectives of this study were to:

- Examine demographical disparities faced by female librarians,
- Investigate inequalities faced by female librarians in:
 - Recruitment, and hiring processes;

- Promotions, increments, and evaluations;
- Vacations and time relaxation;
- Training and career-wise progress.
- Explore the response of female librarians to the inequalities.
- Highlight the role of workplace equality in fostering a congenial and supportive environment for female librarians.

3. Theoretical framework

This research employs fundamental principles of feminist standpoint theory to inform its methodological framework. The feminist standpoint theory asserts that knowledge is contextually grounded, suggesting that individuals from marginalized groups possess distinct insights into social realities shaped by their lived experiences. Consequently, this approach posits that research addressing power dynamics ought to commence with the voices of these marginalized populations, thereby yielding both descriptive and normative insights regarding the influence of power structures on knowledge generation. Within this framework, the research emphasizes the lived experiences of participants while recognizing the role of social and demographic factors—including gender, age, and professional status—in shaping their perceptions. By embracing a diverse array of perspectives, this methodology resonates with the core tenets of feminist standpoint theory, which advocate for initiating research rooted in the realities faced by individuals who may be disadvantaged within particular professional or societal systems. Furthermore, this standpoint correlates with the notion of situated knowledge (Haraway, 1988), which posits that all knowledge is molded by the sociocultural contexts surrounding the knower. Utilizing this lens enables the study to uncover nuanced insights, acknowledging that participants' experiences are inevitably shaped by their unique social standings and professional contexts.

4. Research methodology

Qualitative research, as defined by Creswell (2014), focuses on understanding the meanings individuals or groups attribute to social or human problems. It involves studying people in their natural settings to comprehend how their experiences and behaviors are influenced by various contexts (Hennink et al., 2011). Therefore, qualitative research is employed to carry out the study. Furthermore, interviews are the primary method of data collection, chosen for their ability to explore specific incidents or viewpoints in detail (Tenopir, 2011). The interviews are semi-structured, allowing for flexibility while maintaining a basic framework (Gray et al., 2007). Interviews were selected to gain in-depth insights of female librarians regarding workplace equality. Additionally, interviews allow the researcher to probe deeper into specific issues, ensuring a comprehensive understanding of the issues at hand. For further smooth interviews, a self-developed interview guide was utilized, which undergoes revision based on feedback from the coauthor and experts. Mcgrath et al. (2019) recommend conducting a pilot study prior to the main interviews to refine the questions for clarity and language. Thus, a pilot study was conducted with six female librarians from Lahore, Pakistan. These pilot interviews helped in refining the

interview guide by identifying redundant or unclear questions. These interviews also helped in improving question sequencing and enhancing the overall structure of the interviews to ensure a more focused and meaningful data collection process.

The main sample for the study includes female librarians from the public and private sector university libraries of Punjab, Pakistan. Punjab is one of the largest provinces of Pakistan, and is also known as an education hub with the highest number of academic institutes. Public universities are government-funded, and private universities function independently. The distinction between these often influences workplace policies, resource allocation, and employment practices, which can impact the experiences of employees. However, both sectors are regulated by the guidelines of HEC. The Higher Education Commission is an independent, autonomous, and constitutionally established institution of primary funding, overseeing, regulating, and accrediting the higher education efforts in Pakistan.

At the time of data collection, there were 69 public and private sector universities with 102 female librarians. Female librarians were specifically considered for this study due to the long-standing perception of librarianship as a women-oriented profession, dating back to the 1850s (Rubin, 2017). For future procedures, the researcher prepared a detailed contact list of female librarians. A consent email was randomly sent to forty female librarians, of whom twenty responded positively and agreed to participate. They were then contacted for interview scheduling, but only fourteen could participate due to their personal and professional commitments. Interviews were conducted online and via telephone using Zoom and mobile phones, with recordings made with permission from participants (Jamshed, 2014). The interviews were conducted online due to geographical distance. Additionally, interviews with nearby librarians were also conducted online because of the COVID-19 outbreak and subsequent post-COVID lockdowns. Each interview lasted from 35 to 40 min. Transcripts of the interviews are prepared, translated, and checked for accuracy, with insignificant utterances removed during transcription (McGrath et al., 2019). Data analysis follows Creswell's (2014) recommended steps of preparation, exploration, and analysis. Transcripts are coded to identify categories and themes, with thematic analysis aiding in understanding emerging patterns (Braun and Clarke, 2006). Nvivo software is employed for data analysis. To ensure validity, procedures for data collection and analysis are transparently described to participants, and their identities are kept confidential (Creswell, 2014). Member checking is utilized, where participants review transcripts for accuracy, enhancing the credibility of the findings (O'Connor and Gibson, 2003). The researcher ensured participants' anonymity by keeping the data confidential and using coded identifiers instead of personal details in transcripts and reports. A thematic analysis was conducted using a deductive approach, guided by predefined themes based on the study's objectives and existing literature. The interview questions were designed around these themes to ensure focused data collection.

5. Data analysis

This section presents the analysis of data collected during the qualitative phase through interviews.

5.1. Respondents' demographic and professional characteristics

The demographical details of the participants show that half of the participants belonged to the private sector while half of the participants belonged to the public sector. According to **Table 1**, eight librarians are working under male supervision, while 5 participants are working under female supervision. However, one participant shared that her manager has an additional charge for the library.

Table 1. Respondents' demographic and professional characteristics.

Tags	Age	Qualification	Experiences in years	Organizational sector	Manager's gender
P1	32	MPhil	8	Public	Male
P2	24	Masters	3	Private	Female
P3	25	Masters	4	Private	Female
P4	35	MPhil	10	Public	Male
P5	35	Masters	12	Private	Male
P6	28	Masters	5	Private	Male
P7	29	MPhil	7	Private	Female
P8	32	MPhil	9	Public	Female
P9	29	Masters	6	Public	Male (Dean)
P10	32	MPhil	8	Public	Female
P11	27	Masters	5	Private	Male
P12	38	MPhil	14	Public	Male
P13	33	Masters	9	Public	Male
P14	26	Masters	4	Private	Male

5.2. Workplace equality

The participants were asked to share if they faced any discrimination or inequality;

- Based on demographic variables;
- For recruitment and hiring;
- For promotions, increments, and evaluations;
- For vacations and time relaxation;
- For training and career-wise progress;
- Participant's response to discrimination or inequalities;
- Role of equality in making workplace congenial.

a) Inequalities at workplace based on demographics

The interviews with librarians revealed notable disparities in their workplaces based on their demographics. The results didn't report any inequalities or discriminations based on age, experience. However, some issues related to gender, and educational background were reported. Gender discrimination was a common concern among participants. It was noted that men were often preferred for certain tasks and roles that came with extra benefits. P1 mentioned that, "I have experienced workplace inequalities repeatedly. Despite being equally capable, tasks that both men and women can perform are consistently assigned to male colleagues. Even when I contribute just as much to a task, a male colleague is chosen to present it. At university gatherings

and events, men are preferred, and the same bias applies to evening duties”. Despite equal contributions, males were favored for leadership positions and presentations. P4 elaborated that, “During the hiring process, factors like educational background and past experiences play a crucial role in evaluations”. P2 shared that the boss showed a clear preference for males, indicating gender bias in the workplace. Despite occasional exceptions for highly qualified females, gender discrimination persisted in various aspects of their professional lives. These accounts highlight the ongoing challenges faced by librarians in navigating workplace inequalities, particularly concerning gender biases and favoritism based on personal connections and perceived abilities.

b) Discrimination or inequalities for recruitment and hiring

Seven participants stated that they hadn’t personally observed any discrimination or inequality during the hiring procedures in their respective departments. Those working in the private sector noted that the final decision often rested with the manager. P7 explained that, “Sometimes the nature of the job or its designation influenced hiring decisions. In our university, males were often preferred for evening duties because of safety concerns related to women traveling at night. On the other hand, females were favored for roles in the library’s reference section, as their presence was believed to create a softer and more approachable impression for users”. P4 shared that, “During the hiring process, the team places significant importance on the institute we graduated from. If it’s a well-known or prestigious university, candidates are given preference, while those from lesser-known institutions often struggle to get the same opportunities, regardless of their skills or experience”. Both P2 and P3 emphasized that success in interviews often depended on making a favorable impression, implying that personal rapport with decision-makers could influence hiring outcomes. Employees in the government sector highlighted the presence of formal boards overseeing hiring procedures, suggesting a more structured approach that minimized potential biases.

c) Discrimination or inequalities for promotions, increments, and evaluations

Employees from the public and private sectors expressed contrasting perspectives on promotions, increments, and evaluations. In the private sector, there was a prevalent belief that favoritism played a significant role in these processes. Employees felt that those who were favorites of managers enjoyed promotions and increments (P11), while those who were their favorites faced challenges. For instance, P2 shared that, “My manager withheld my salary raise because she had some issues with me”. P12, P13, and P14 echoed this sentiment, highlighting favoritism in increments. Additionally, P5 and P6 noted that employees with adept flattery skills tended to receive promotions. P3 shared that, “Gift-giving also played a role in promotions. I have noticed that those who give gifts to the manager on special occasions are more likely to be considered for promotions. It seems like their gestures are remembered, and they get preference over others, regardless of their actual performance”. Conversely, participants from the public sector emphasized the presence of formal boards and procedures governing increments and promotions. Consequently, it can be inferred that employees in the private sector faced more discrimination in terms of promotions and increments due to the absence of standardized procedures or merit-based criteria. One participant (P7) mentioned that, “When it came to yearly raises, managers tended to favor employees they were closer to”. P5 added that those who

were proactive and sharp tended to excel, while others were left behind.

d) Discrimination or inequalities for vacations and time relaxation

Female participants from both the public and private sectors expressed that they did not encounter discrimination regarding vacations and flexibility in their schedules. They reported being able to take vacations as needed without facing obstacles. In the private sector, females typically sought approval from their immediate managers before taking time off, while those in the public sector followed established procedures. Participants noted that they occasionally enjoyed flexibility in their schedules, such as arriving late to work without facing criticism from managers. However, this flexibility did not extend to taking time off for further education. Instead, they were required to liaise with the human resources department or corporate development office at their respective institutes for such matters.

e) Discrimination or inequalities for training and career-wise progress

Many participants expressed dissatisfaction with the training and career progression opportunities provided by their managers. P1 reported that, “Manager prefer to nominate male colleagues for trainings and career progression opportunities”. They felt that they were often required to attend seminars, conferences, and workshops at their own expense. P6, and P7 highlighted instances where their managers did not attend such events themselves but permitted their subordinates to attend at personal cost. P3 added that, “I wanted to pursue further studies, but my manager didn’t allow me to continue my education. It felt unfair as I was held back”. P2 recounted a particularly disappointing experience where their manager neither attended nor allowed the team to participate in such events, whether personally or professionally. However, there were a few participants who had more positive experiences. P4 shared that, “My manager not only allowed but actively encouraged and supported us in attending training sessions and workshops. He even accommodated and facilitated our efforts to pursue higher education, making it easier for us to balance work and studies”. These contrasting experiences underscored the variability in managerial support for professional development among the participants.

f) Participant’s response to discrimination

When asked how they would respond if they felt discriminated against, the majority of participants from the private sector expressed reluctance to take any action due to fear of termination. Consequently, they indicated a willingness to endure and overlook discriminatory situations. Female participants echoed this sentiment, stating that they felt powerless to address discrimination and would simply endure it (P12, P10, P14). Participants highlighted the pervasive influence of male dominance in society as P9 commented that, “In higher education institutions, most authoritative positions are held by men. It feels like no matter what we say, it won’t make a difference.” In the same way, P2 reported that, “The dominance of males in our society is so strong that speaking up feels pointless, especially in workplaces where men hold most of the power. However, three participants mentioned that they would communicate their grievances to their immediate managers, although they harbored doubts about the effectiveness of such action. Despite their reservations, they felt compelled to express their perspectives, albeit with little expectation of meaningful change.

g) Effects of inequalities on the workplace's congeniality

Inequalities or discrimination in the workplace invariably have detrimental effects on employees. P1 stated that, "inequalities and discrimination demotivate employees, making them feel overlooked and disengaged from their work". Discrimination and inequalities affect the enthusiasm and work efficiency of employees (P4), loyalty (P6), employees creative capabilities (P7), and personal, departmental, and organizational work performance (P11). Participants shared their perspective and emphasized on the importance of female employees actively engaging in departmental activities to showcase their capabilities, asserting that they are equal to their counterparts (p6). Similarly, it is also suggested by P8, that, "females should actively highlight their contributions and accomplishments to gain recognition. It is important to showcase their work with confidence—just as men do—to bridge the gap and ensure their efforts are acknowledged".

6. Discussion

In the workplace, equality is making sure that people are given equal opportunities to learn and grow and are paid equally. In this study, it is observed that age, and educational background were neither significantly highlighted nor required further exploration. However, gender-based discrimination was reported by the participants. It was noted by managers while assigning weekend duties or duties with extra/additional wages. It was also highlighted that managers preferred to nominate male librarians to represent the library in any corporate event. Most participants reported no discrimination in hiring procedures. The employees from the private sector were of the view that the final selection decision depended upon the manager. However, a participant shared that sometimes the hiring depended upon the nature of the job, for example, "My manager would prefer to hire male colleagues for the evening shift as it is easy for them to travel or stay late at work as compared to females". Similarly, they would prefer female librarians for the library's reference section or front desk to give a soft impression to library users. This shows that gender stereotypes influence role assignments within library settings. The employees from the public sector mentioned that there was a procedure for hiring for the public sector and it was important to follow the protocols.

Promotions, increments, and evaluations in the private sector solely depended upon the managers, while the public sector followed through proper boards by following a defined criterion. Librarians explained that they rarely faced any such discrimination in terms of vacations and time relaxation. Employees could avail vacations whenever they needed after getting approvals from the concerned authorities. However, many librarians were disappointed with training and career-wise progress. They shared that, managers do not nominate employees to attend seminars or conferences on behalf of organizations. It is also observed that managers do not allow employees to continue their studies while being on the job; though managers should appreciate and create career development and personal grooming opportunities for employees. It is imperative to highlight that such limitations hinder professional growth and discourage female librarians from involving themselves in lifelong learning activities.

Participants revealed that their organizational policies are not supportive of employee career developments or new learnings. Khan and Ahmed (2013) suggested that opportunities should be given to professionals to improve their qualifications. Agrela et al. (2008) discovered that a lack of professional development opportunities is a cause of labor turnover. Continuing Professional Development (CPD) provides a way through which professionals can keep themselves updated with social and technological developments. As a practitioner of a service-oriented profession, librarians need to stay updated with the latest trends in the profession especially related to technology (Saleem and Ashiq, 2020). Therefore, organizations, especially managers, should encourage librarians to participate in such events.

Responding to the questions related to discrimination, barely any LIP shared that they would communicate informal feedback about the discrimination if faced. Nonetheless, fear of job loss and societal pressures, particularly within a male-dominated culture, contributes to their silence. Discrimination and inequalities affect the work motivation and enthusiasm of employees; therefore, such activities should be avoided in workplaces. Ensuring equality not only motivates employees but also fosters a congenial and supportive environment that enhances productivity and job satisfaction.

Workplace inequalities and discrimination discourage employees, particularly when undeserving individuals receive preferential treatment. Participants emphasized the importance of ensuring freedom of expression so that every employee can share their thoughts openly. Female librarians also highlighted the need for awareness regarding their rights and encouraged women to actively participate in work activities to demonstrate their competence alongside their male counterparts. Organizations should implement female-oriented policies to ensure equal opportunities for women.

In conclusion, while age-based discrimination was not evident, gender-based disparities remained prevalent in task assignments, promotions, and career development opportunities. The study underscores the importance of fostering a supportive and equitable work environment for female librarians by encouraging participation, ensuring fair promotions, and promoting professional development. Organizations should actively create an environment that empowers female librarians through inclusive policies and equal opportunities for growth and recognition.

6.1. Limitations of the study

The study has several limitations in terms of sample, generalizability, and bias. The study was limited to only one province (Punjab) due to the limitations of time and finances. Therefore, the concerns of generalizability arise, as the sample may not fully represent the experiences of female librarians across the country. Also, the responses might be overstated or understated by the participants. The perception of employees may vary among individuals thus affecting the responses. The less participation of female librarians is also a limitation that may have affected the depth and diversity of the data.

6.2. Recommendations of the study

Organizations can take proactive steps to address issues of discrimination and

inequality, fostering a workplace culture that values diversity, inclusion, and fairness. Based on the insights gleaned from participants and researchers, the following recommendations emerge:

- Cultivate an environment where employees feel empowered to voice concerns without fear of reprisal. Establishing open communication channels can effectively address issues of discrimination and inequality.
- Establish and enforce policies tailored to address the needs and challenges faced by female employees. Ensuring awareness and understanding of these policies among all staff members is crucial for creating a more equitable workplace.
- Offer seminars, workshops, and training programs specifically designed to address the needs of female employees. Providing them with the necessary skills and opportunities for career advancement is essential.
- Ensure equal opportunities for female employees to represent academic libraries. Addressing biases that favor male representation at corporate events can help uplift and involve female staff in decision-making processes.
- Structured decision-making processes and anonymous hiring practices can mitigate biases to enhance women's representation in the workforce.
- Address concerns regarding training and career progression opportunities by providing frequent learning opportunities domestically and internationally. Offering higher education opportunities in modern library and information science practices empowers professionals to meet evolving user needs effectively.

By implementing these recommendations, organizations can create a workplace culture that fosters inclusivity, supports career growth, and maximizes the potential of all employee

7. Conclusion

The importance of equality at workplaces cannot be denied as it fosters a fair, inclusive, and productive environment where all employees have equal opportunities. This study explored workplace equality perceptions of female librarians, in results no major issues of workplace equality were reported. However, the findings highlight persistent challenges such as unequal opportunities in recruitment, promotions, and career advancement. Therefore, there is a need for a systematic approach, focusing on eliminating discriminatory practices and creating policies that empower women to thrive in their careers. This has been a new and timely addition to the literature on equality, female employees, and librarianship. Evidence-based policies can be developed to cater to the needs of female professionals in workplaces. Future research including male librarians could provide a comparative perspective on workplace perceptions, further enriching the discourse on gender equality in librarianship.

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Review

Review of the development of research themes in human resource management: A bibliometric co-citation analysis of the 1970s and 1980s

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Abstract: This study aims to explore the evolution of the human resources field in Western academia during the 1970s and 1980s, focusing on the trends in research topics across different decades. The analysis utilizes citation co-citation analysis, multivariate statistical analysis, and social network analysis. The research data were drawn from the Web of Science (WoS) database, comprising 1278 documents. By distinguishing between different time periods, the study identifies shifts in the field across two distinct time frames, visualized through multidimensional scaling maps. The results indicate that the 1970s were dominated by seven major research streams, while the 1980s introduced eight research streams, with “human resources” emerging for the first time as a prominent research frontier. The volume of literature, co-citation frequency, and citation counts all increased over time, reflecting the growing vibrancy and expanding scope of research in the field. Although citation co-citation analysis provides objective quantitative insights, issues such as the purpose of citations, the extent to which cited documents influence citing documents, and the varying layers of citation impact may introduce potential errors in the co-citation analysis results.

Keywords: human resources; bibliometric co-citation; knowledge mapping; discipline evolution; research frontier

1. Introduction

The concept of human resources was first introduced and clearly defined by Drucker in 1954 (Drucker, 2007). However, it was not until the 1990s that human resource management (HRM) theory made significant strides in practice and became widely accepted by business organizations. Over time, HRM gradually replaced traditional personnel management, leading to the continuous development and maturation of new theories. This evolution underscores the discipline’s growing impact within the social sciences (Marciano, 1995). HRM has evolved through several stages: traditional personnel management, HRM, human resource development and management, and strategic HRM. Contemporary organizations emphasize management practices such as talent recruitment, selection, development, utilization, and retention, viewing employees as human capital and strategic resources, which enhances organizational competitive advantage (Barney et al., 2001; Ulrich, 1998). Additionally, Casey and McMillan (2008) found in their review of industrial development and labor relations from 1974 to 2006 that the importance of HRM has steadily increased.

As any discipline matures, new branches typically emerge within its research field. In exploring these branches, two common research approaches are often observed. One approach involves qualitative research methods to review the literature, while the other employs quantitative methods, such as bibliometrics, scientometrics, or informetrics, to analyze literature, authors, publications, keywords,

and other knowledge carriers. These methods help analyze the internal mechanisms of the discipline's system, track its growth and evolution, reveal its development, identify key research frontiers, and predict trends and activity patterns (Fang and Fang, 2022; Liu et al., 2008; Trujillo and Long, 2018).

The purpose of this study is to review HRM in the 1970s and 1980s by creating a knowledge map and analyzing the academic sources cited during that period. The study aims to uncover the development processes, structures, trends, and relationships between various node networks, using both static and dynamic diagrams to extract implicit or potentially useful knowledge. This approach is dual in nature, serving as both a visualized knowledge graphic and a serializable knowledge lineage. It reveals the activities between knowledge flows or clusters in HRM while illustrating the networks, interactions, intersections, and evolution of the discipline's structural changes. This reflects the key components of knowledge inheritance and diffusion (Liu et al., 2008). The graphical representation concretely reflects the discipline's characteristics and inherent value, complementing and enhancing the results derived from qualitative research.

Thus, the knowledge map generated through co-citation analysis will assist the HRM discipline in understanding the areas, responsibilities, professions, and academic positions it has rapidly developed over time. These findings have significant academic value. The research results will reveal evolutionary processes across different periods, identify the most influential research fronts and emerging subfields, and reflect the discipline's knowledge structure, theories, issues, and changes. They will also provide insights into future research trends in the field and offer a comprehensive knowledge map for newcomers to quickly grasp the overall body of knowledge in this domain. Therefore, the objectives of this study are as follows:

To explore the evolution of the clustering distribution (research themes) within the HRM discipline in the 1970s and 1980s.

To identify the most influential research fronts and newly active subfields during that period through knowledge mapping.

To provide a rapid understanding of the HRM discipline's knowledge system from a macro perspective for entry-level researchers or non-HRM scholars and experts.

2. Literature review

2.1. Current research status of HRM

As the field of HRM continues to grow rapidly, it becomes increasingly difficult to explore the dynamic evolution of the discipline using traditional methods such as literature reviews and content analysis. HRM is not a static field; new research areas are constantly emerging. Therefore, to investigate its evolution and predict future development trends, a scientific, objective, and effective approach is required. Bibliometrics offers valuable data on the transmission of academic networks and the circulation of knowledge concepts, highlighting the fundamental drivers behind a discipline's internal innovations, external branching, or widespread dissemination. Co-citation analysis, a key tool in bibliometrics, plays a significant

role in quantitative research. It uncovers the relationships between newer and earlier literature based on mutual citation patterns. By examining these citation and co-citation relationships, one can better understand the connections and developments between different disciplinary areas and the process of literature dissemination. This, in turn, helps to elucidate the current state of research and predict future trends (Trujillo and Long, 2018).

Previous HRM research has commonly focused on reviews and prospects (Liu and Deng, 2009; Wang and Zhang, 2017), organizational culture and group characteristics (Song et al., 2018), enhancing organizational performance (Cui et al., 2020), strategic human resource management (She and Zhang, 2016), and competency analysis (Zhao et al., 2019), among others. In recent years, there has been a growing trend of research specifically utilizing bibliometric methods. For example, studies have focused on the relationship between artificial intelligence (AI) and human resource management (HRM) (França et al., 2023). García-Lillo et al. (2016) analyzed journal articles published in the *International Journal of Human Resource Management* from 2000 to 2012 to explore HRM's knowledge structure during that period. Contreras et al. (2024) examined 284 academic papers published between 2001 and 2022, discussing HRM and digitalization, with the aim of analyzing the development, status, and trends of HRM's digital transformation. Kişi (2023) analyzed 786 articles published between 2002 and 2022 concerning the antecedents and consequences of employee engagement. Chae et al. (2020) employed co-citation analysis with keywords to examine 1158 research papers published in three major HRM journals in Korea from 2007 to 2018. Interestingly, co-citation analysis methods are frequently applied in other research fields, reflecting the strength of those fields. The use of bibliometric methods in HRM to explore the evolution of the discipline over different periods is widely recognized as an essential and indispensable method for contributing to the field's development. It is also an innovative approach that helps reflect the core knowledge within the discipline.

From the above discussion, it is evident that the research samples primarily stem from two approaches. The first involves searching for journals and literature indexed in a specific academic database, defining a time frame for the search, and using keyword searches. The second approach focuses on analyzing articles published within a particular time frame in a specific HRM journal indexed in an academic database. The first approach employs keyword searches across the entire academic database, spanning multiple journals, to gather samples related to a specific topic in the research design. However, these samples may cover a broad HRM domain and will require further filtering. In contrast, the second approach directly analyzes articles published within a defined time frame in a dedicated HRM journal, thus reducing the need to filter out non-HRM-related articles. Both methods have their advantages. However, to date, we have not come across any earlier research that uses bibliometric methods to analyze the development process and knowledge structure of HRM during periods such as the 1970s and 1980s. This research fills that gap.

2.2. Co-citation analysis

Co-citation analysis helps reveal the knowledge structure of a specific research field, offering insights into how literature evolves over time and identifying potential emerging trends. It encompasses two main aspects: first, it relates to the impact of scientific advancements, with contributions evaluated based on the frequency of citations; second, it is presented graphically, using visual representations to depict the scientific structure of the research field, including its theories and knowledge (Noyons et al., 1999).

The co-citation theory in bibliometrics was proposed by Small (1973) and Marshakova (1973) while studying the citation structure and classification of literature. This theory is a scientific mapping technique used to show whether cited publications, authors, or journals are referenced by other publications in a database. The more frequently they are co-cited, the stronger the connections in the scientific map. It refers to the relationship between two (or more) documents when they are both cited by another document. In this case, the two documents (the cited documents) share a thematic or conceptual relationship. Specifically, if documents A and B, regardless of their publication dates, are both cited by later works, they are said to have a co-citation relationship. The more frequently they are co-cited, the higher the relevance of their content. By comparing them over different periods, changes in the development patterns of disciplinary themes can be identified. This creates a measurable connection between the two articles (Trujillo and Long, 2018).

Co-citation analysis is a quantitative technique that analyzes the co-citation relationships of representative literature within a discipline. Typically, co-citation matrices are formed using scientometric software, and tools such as SPSS for multivariate analysis and UCINET for calculating centrality are employed to visualize the relationships between documents through multidimensional scaling (MDS) and social network diagrams (Jiang and Chen, 2010; Sainaghi et al., 2019; Wang and Zhu, 2019). This process simplifies the complex co-citation relationships among numerous objects into fewer relationships within clusters and calculates the connection values between clusters, creating a cluster knowledge map. It provides researchers with a clear and efficient way to visualize potential and hidden knowledge structures, evolution, and progress within a particular subject, as well as the development trends of academic thought (Small et al., 1985).

Co-citation analysis involves three main entities: Documents, authors, and journals. This method is typically divided into Document Co-citation Analysis (DCA), Journal Co-citation Analysis (JCA), and Author Co-citation Analysis (ACA). DCA involves examining co-citation-related clusters, network groups, and their evolution, highlighting the structural relationships between co-cited references. It reflects the research fields, development trends, and core literature within a discipline. JCA focuses on journals as the basic unit, establishing co-citation relationships and their intensity to determine the disciplinary nature of journals and identify core journals. ACA helps in understanding the authors within a given field, tracking changes in author groups, and inferring the development trends of the discipline (White and McCain, 1998). Therefore, co-citation analysis emphasizes the similarities between co-cited documents, authors, or journals, making it a powerful

tool for identifying the core literature, authors, and research topics within a discipline, as well as for mapping the knowledge structure of that discipline (McCain, 1990).

However, ACA and JCA primarily treat individuals and publishing institutions as the basic units of analysis, which leads to viewing them as independent knowledge production entities. This approach makes it more difficult to observe the status of community activities and the dialogical relationships between different clusters within an entire discipline (Su, 2004). In contrast, DCA establishes co-citation network relationships based on cited documents as the basic unit, grouping a large number of documents into clusters through citation relationships. This forms a disciplinary cluster network that reflects the connections and structural characteristics of disciplinary knowledge, revealing the development trends and changes in the relationships between different areas of knowledge within a field. This method has been widely applied across various disciplines to clarify their development, including HRM (Yang et al., 2022), strategic management (Rollnik-Sadowska and Grabińska, 2024), talent training, and employee engagement (Espina-Romero et al., 2023; Kişi, 2023).

3. Research design and methods

3.1. Sample data source

Data were collected from the Web of Science (WoS) database, focusing on HRM literature published during the 1970s and 1980s. Three authoritative, long-established, and representative journals in the field were selected: *Human Resource Management*, *Personnel Review*, and *Public Personnel Management*. The earliest publication year was 1972, from *Public Personnel Management*, followed by *Personnel Review* in 1975, and *Human Resource Management* again in 1985. A total of 1278 journal articles were retrieved, including 542 articles from the 1970s (1970–1979) and 736 articles from the 1980s (1980–1989), as shown in **Table 1**.

Table 1. Year of publication and number of journal articles indexed in the three sample journals.

Journal Name	Database Coverage	1970–1979	1980–1989	Total
Human Resource Management (HRM)	1985-present		115	115
Personnel Review (PR)	1975-present	132	217	349
Public Personnel Management (PPM)	1972-present	410	404	814
Total		542	736	1278

Note: The count includes only article publications.

These three journals provide an objective and comprehensive reflection of HRM's development during the respective periods. The 2023 Impact Factors for these journals were 7.59, 5.35, and 4.99, respectively (Resurchify, 2024a, 2024b, 2024c). To capture the evolution across two distinct periods (the 1970s and 1980s) and facilitate the dialogue between the literature, this study divides the timeframes into the commonly accepted decade units: 1970–1979 as the 1970s and 1980–1989 as the 1980s.

3.2. Data analysis methods

The first step involved using scientometric software Bibexcel to compute the co-citation matrix, which measures the strength of co-citation between articles. Subsequently, SPSS software was employed for Pearson correlation analysis, cluster analysis, MDS, and factor analysis. These methods were used to reveal the spatial relationships and degrees of association between the analyzed objects. Specifically, cluster analysis and MDS were applied to represent the analyzed objects as nodes on a plane. Based on the results of factor analysis, these nodes were grouped into clusters. The final analysis examined the relationships between the nodes, clusters, and sub-clusters (Andrews, 2003).

Factor analysis is used to identify the underlying structure of variables and simplify the observations while explaining the interrelationships among variables. It also uncovers latent variables that may influence observed changes. In this study, principal component analysis (PCA) was employed as part of the factor analysis, with the maximum variance method used for rotation. This method is suitable for the co-citation analysis matrix and helps generate thematic profiles, which highlight the distribution density of the study subjects (Chen et al., 2005).

Cluster analysis groups samples with similar characteristics into the same cluster, based on their proximity. Samples that are closer together are considered more similar. The number of clusters is typically determined by the number of principal factors extracted from the factor analysis. This remains an unresolved challenge in cluster analysis, as the aim of co-citation analysis is not to test the number of clusters, but to provide information for further discussion. Consequently, most studies use the number of factors extracted from the factor analysis to determine the number of clusters (Andrews, 2003). In this study, hierarchical cluster analysis, cluster variables, and Euclidean distance were used to group similar objects into different categories.

MDS is used to calculate distance data (i.e., dissimilarity data) to identify the consistency between similar or dissimilar events. By applying cluster analysis, MDS assigns higher similarity or variance within the same cluster, representing the degree of similarity in statistical terms. Based on this, variables or individuals are grouped into different categories, with nodes representing their relative positions. The closer the distance between two nodes, the more closely they are related, and the more central their position in the map. Conversely, more dissimilar objects will be placed further apart on the periphery (Chen, 2005).

MDS analysis must ensure that the stress and RSQ values fall within a reasonable range to successfully explain the similarity between objects. Stress refers to the stress coefficient, and the lower the value, the better the fit. According to Kruskal (1964), when the stress coefficient is 0, the fit between the dimensions is perfect. A value of 0.025 indicates an excellent fit, 0.05 indicates a good fit, 0.10 indicates a fair fit, and values greater than 0.20 indicate a poor fit. Therefore, the smaller the stress coefficient, the better the fit between the map and the original data. RSQ represents the square of the correlation coefficient between distances (R-squared), which indicates the proportion of variance explained. A higher RSQ value signifies better explanatory power of the dimensions (Huang, 2001). In other words,

the stress coefficient and the dimensional fit are inversely related: a higher stress coefficient indicates a poorer dimensional fit.

Through this aggregated two-dimensional spatial map, the closeness and relative positions of the objects can be intuitively observed. Relationships that are more closely associated are grouped together, and the types of connections between variables can be explained. This method aggregates similar objects into distinct groups, helping to identify the fields of each research cluster.

3.3. Data execution steps

First, for the 1278 articles, any inconsistencies in author names and references were identified and corrected to ensure the accuracy of both author and document names, thereby improving the precision of the analysis data. The bibliometric co-citation matrix was then constructed using the scientometric software Bibexcel, which analyzes the co-citation frequency matrices of literature across different time periods. There are generally three methods for determining the threshold: the researcher's own experience, the recommendations of Price (1965), and the upper and lower bounds of Zipf's law (Donohue, 1974). After conducting multiple tests with these methods and considering the differences in cumulative co-citation frequency distributions and the specific research context for the two time periods (the 1970s and 1980s), this study ultimately selected 27–51 high-frequency keywords as the basis for determining the sample size.

Since the focus of co-citation analysis is not on citation counts but on the similarity between documents, the co-citation frequency matrix was transformed into a similarity matrix using Pearson correlation coefficients in SPSS. This transformation resulted in the co-citation analysis matrix, which guided cluster analysis and eliminated discrepancies caused by citation frequency differences. This ensured that high-frequency and low-frequency citations did not disproportionately influence the analysis, facilitating easier visualization and interpretation of the knowledge graph (McCain, 1990). The correlation coefficients were then used to conduct cluster analysis, MDS, and factor analysis, the most commonly used methods in co-citation analysis. Similarity is measured by the correlation coefficient, where a stronger positive correlation indicates that two journals have more similar research fields or perspectives, suggesting a closer disciplinary knowledge background.

Following the application of cluster analysis, MDS, and factor analysis, MDS maps of the HRM discipline during different periods were generated. Additionally, UCINET and NetDraw software were used to calculate the centrality of the literature, identifying the key clusters and core articles within the discipline. Frequency and centrality are not always strongly correlated (Chen, 2011). From a knowledge theory perspective, key nodes are articles or topics that significantly influence other nodes within a specific period. These works present major theories or innovative concepts and play an important role in shaping new research frontiers.

4. The evolution of the HRM discipline and discussion

4.1. HRM in the 1970s

In the 1970s, a total of 542 papers and 5,206 references were published, with the highest citation frequency reaching 10. Of these, 27 papers, each with a citation frequency greater than 4, were selected for analysis. This analysis revealed seven principal component factors, which formed seven clusters. The clusters were further analyzed using MDS, resulting in a knowledge map of human resource studies for that period. The Stress and RSQ values of the graph were 0.16983 and 0.85882, respectively (as shown in **Figure 1**). The seven principal components together explained 86.788% of the variance, with the first factor explaining 19.261%, the second 18.801%, and the third 14.626%. The fourth through seventh factors accounted for 12.561%, 9.626%, 6.614%, and 5.30%, respectively. The first three factors cumulatively explained 52.688% of the variance, indicating that the research frontiers they represented were the most prominent during the 1970s.

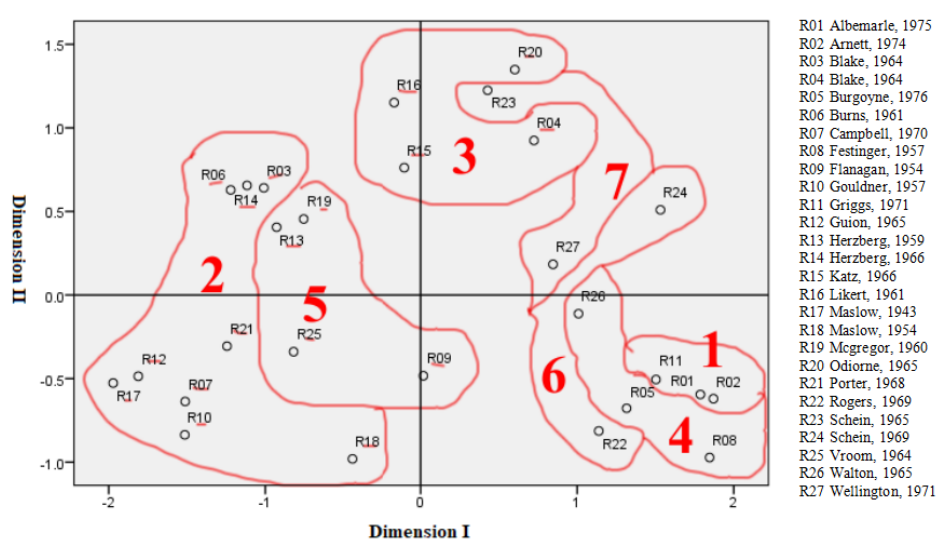


Figure 1. Knowledge map of HRM discipline in the 1970s.

Note: The points in the figure are simplified with the code “R” followed by a number to avoid overlapping text due to long document titles.

The MDS map clearly illustrates the co-citation relationships among the literature, forming seven distinct clusters. During this period, due to the relatively low number of co-citations, the spatial distribution on the map appears more scattered. Based on the clustering results, the top three clusters are “Cluster 2”, which includes 9 nodes, and “Cluster 3” and “Cluster 5”, each containing 4 nodes. From the perspective of related disciplines, “Cluster 1” focuses primarily on topics such as employment discrimination, industrial relations, and addressing racial discrimination within companies. “Cluster 2” pertains to effective management and includes fields like business, management, and applied psychology, addressing issues such as behavior, motivation, attitudes, and performance. “Cluster 3” centers on goal management. “Cluster 4” covers cognitive and behavioral theories, as well as labor negotiations. “Cluster 5” focuses on work motivation. “Cluster 6” pertains to training and development, while “Cluster 7” deals with organizational psychology and the study of public sector organizations.

It is evident that the main research topics in HRM during the 1970s included labor relations and racial discrimination, effective management, goal management,

cognitive and behavioral theories, labor negotiations, work motivation, training development, organizational psychology, and public sector organizations. The number of papers in “Cluster 2”, “Cluster 3”, and “Cluster 5” was notably higher than in the other clusters, suggesting that effective management, goal management, and work motivation were the primary knowledge sources during the 1970s. From the perspective of centrality, core literature, and the network’s edge perspective, the top five works in “Cluster 2” and “Cluster 5” contributed more than those from other clusters.

The 27 representative co-cited papers from this period included 20 books, 4 journal articles, and 3 legal documents, with books being the primary source of knowledge references. The top five central works were R13 and R25 from “Cluster 5”, and R07, R03, and R14 from “Cluster 2” (as shown in **Table 2**). These works had the strongest connections and were core documents that helped construct the entire network. They also represent the most important literature and research frontiers in human resources during the 1970s.

Table 2. Top five core articles from the 1970.

Centrality	Frequency	Literature	Author(s)	Publication Year	Cluster	Code
16	10	The motivation to work.	Herzberg, F.	1959	5	R13
12	5	Work motivation.	Vroom, V. H.	1964		R25
11	10	Managerial behavior, performance, and effectiveness.	Campbell, J. P. et al.	1970	2	R07
10	5	The managerial grid.	Blake, R. R. and Mouton, J. S.	1964		R03
8	4	Work and the nature of man.	Herzberg, F.	1966		R14

4.2. HRM in the 1980s

In the 1980s, a total of 736 papers and 12,974 references were published, with the highest citation frequency reaching 36. A total of 51 papers, each cited more than six times, were selected for analysis. Using the same analytical approach as in the previous period, eight principal component factors were identified, forming eight clusters. These clusters were then combined with MDS to create the knowledge map for the discipline during this period. The Stress and RSQ values of the graph were 0.12770 and 0.92425, respectively (as shown in **Figure 2**). The eight principal components together explained 85.498% of the variance. The variance explained by each factor was as follows: the first factor accounted for 30.954%, the second for 19.830%, the third for 9.595%, the fourth for 7.219%, the fifth for 5.569%, the sixth for 5.250%, the seventh for 3.926%, and the eighth for 3.154%. The first three factors cumulatively explained 60.379% of the variance, indicating that the research frontiers they represented were the most prominent during this period. The node density in **Figure 2** is much more concentrated than in the previous period, with greater similarity between the domains of the literature. Over time, the research topics gradually shifted from being diverse to more focused.

During the 1980s, the number of co-citations increased significantly compared to the previous period. From the perspective of related disciplines, the clusters are as follows: “Cluster 1” primarily explores topics such as corporate culture,

organizational change, innovative management, business process reengineering, strategic HRM, career development, compensation, behavioral theory, and labor negotiations. “Cluster 2” focuses on excellence, innovative management, action-oriented organizations, corporate culture, production efficiency, organizational structure, change management, cross-cultural issues, and work motivation. “Cluster 3” involves innovation management, public administration, flexible organizations, and employee performance evaluation. “Cluster 4” addresses HRM, performance evaluation, competency grading, compensation, and organizational effectiveness. “Cluster 5” is concerned with effective management, leadership decision-making, organizational management, and work motivation. “Cluster 6” focuses on gender segregation and gender equality. “Cluster 7” deals with competitive strategy. “Cluster 8” pertains to public sector organizations.

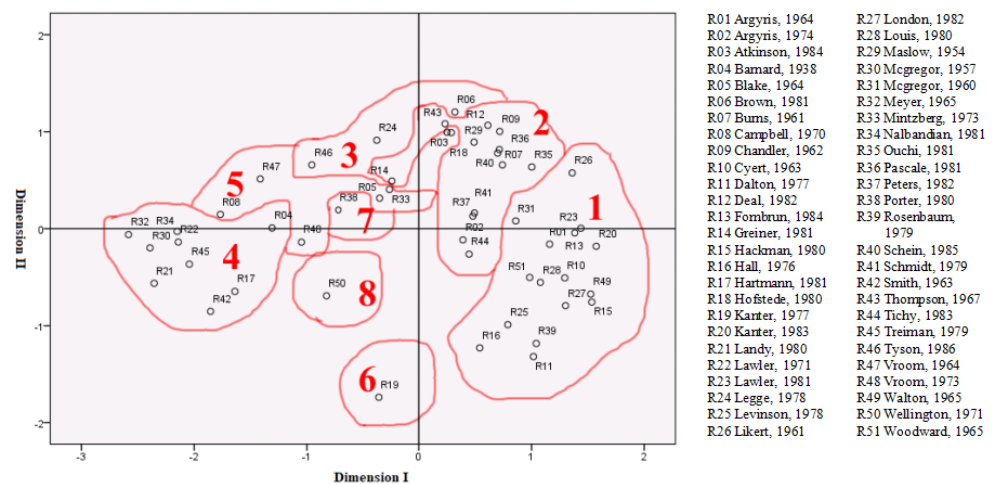


Figure 2. Knowledge map of HRM Discipline in the 1980s.

Note: The points in the figure are simplified with the code “R” followed by a number to avoid overlapping text due to long document titles.

The research results map shows that many clusters represent cross-subfield research, focusing on specific topics or theories. Many scholars concentrated on areas such as organizational management, organizational structure, corporate culture, production efficiency, employee performance, behavioral theory, and labor negotiations. These clusters were formed based on research in these areas.

The significant increase in co-citations during this period created a more complex co-citation network. This suggests that the research content of the discipline became more active and enriched, with the scope of research continually expanding. Comparing this with the MDS map in **Figure 2**, it is evident that the clusters were not static but rather dynamically interconnected. The number of articles in “Cluster 1”, “Cluster 2”, and “Cluster 4” was notably higher than in the other clusters, indicating that these were the major sources of knowledge and research frontiers at the time.

During this period, the focus of research shifted. The dominant topic of “effective management”, which had been the most influential in the 1970s, dropped to fourth place. The scale of “Cluster 1”, “Cluster 2”, and “Cluster 4” was significantly larger than that of other clusters, indicating substantial progress

compared to the previous phase. The content covered a broader range of disciplinary theories. For example, the term “human resources” made its first appearance, contributing to the rapid development of the field and becoming the central research frontier of the 1980s. Furthermore, the research area of “racial discrimination”, which had been prominent in the 1970s, was no longer present. Instead, new areas such as “gender equality”, “competitive strategy”. and “public sector organizations” emerged. This shift signifies a clearer focus on the core research areas of HRM, establishing a foundational knowledge base for the discipline and highlighting its importance within the network. These areas also represented the most active and significant parts of human resource research at the time, with their academic ideas increasingly cited as forward-thinking literature within the field.

The 51 representative cited works from this period consist of 41 books and 10 journal articles, with books being the primary source of knowledge citations. From the perspective of the centrality of the literature network and core and edge perspectives, the top five core articles in “Cluster 2” (R37, R35) and “Cluster 1” (R31, R16, R26) suggest that these articles were the most influential and contributed significantly to human resource research, representing some of the most important literature in the field at that time (as shown in **Table 3**).

Table 3. Top five core articles from the 1980s.

Centrality	Frequency	Literature	Author(s)	Publication year	Cluster	Code
84	36	In search of excellence: Lessons from America’s best-run companies.	Peters, T. J. and Waterman, R. H., Jr.	1982	2	R37
53	14	Theory Z: How American business can meet the Japanese challenge.	Ouch, W. G.	1981		R35
40	11	The human side of enterprise.	McGregor, D.	1960	1	R31
39	10	Careers in organizations.	Hall, D. T.	1976		R16
32	7	New patterns of management.	Likert, R.	1961		R26

4.3. Discussion

The evolution of the knowledge map in HRM reveals the research topics represented in the co-citation clusters of literature across different periods. In terms of co-citation, literature with higher centrality has a greater impact, while literature with lower centrality can be considered as research frontiers. Price (1965) found that the peak of a paper’s citations typically occurs in the second year after its publication, suggesting that the data in this study exhibits a certain time lag. From this perspective, low centrality does not necessarily indicate outdated content, and a high co-citation frequency does not automatically imply a central position within the literature network. However, highly central literature generally comes from popular research clusters of the time and plays a significant role in driving new research frontiers. In contrast, research frontiers with low centrality do not exhibit a significant positive correlation with those having high centrality.

In the knowledge construction of the HRM discipline, the research topics of interest primarily involve interdisciplinary knowledge cited between “clusters.” The top three academic fields are management, applied psychology, and business studies. Other relevant fields include interdisciplinary psychology, social psychology, labor

relations, sociology, employment discrimination, training and development, employee selection, economics, and both quantitative and qualitative research. These areas have laid the foundational knowledge for HRM.

The mapping characteristics in **Figures 1** and **2**, along with the clustering distribution of research topics, highlight the breadth and diversity of the HRM field. The research topics of the 1970s and 1980s form primary clusters of interconnected visual patterns, with topics located at the edge of the map or those with fewer nodes within clusters representing emerging research areas. These newly emerging topics are likely to attract the interest of researchers. Regarding the main evolutionary paths, it is clear that some clusters are more focused on social psychology, with psychology gradually integrating into the HRM discipline and shifting toward the use of psychological research methods to validate findings.

The majority of these publications come from the United States and the United Kingdom. While contributions are made by researchers from many different countries, the most frequently cited works predominantly originate from the U.S. and the U.K., where they hold a dominant position in both the quantity and impact of academic research. For example, *The Motivation to Work*, first published in 1959, continues to influence the field today.

4.4. Research limitations

First, the research sample is limited to articles published in three journals indexed by the WoS academic database: *Human Resource Management*, *Personnel Review*, and *Public Personnel Management*. Articles from other relevant journals are not included in this study. As a result, the research findings are constrained by the scope of these selected journals and their associated citation data. Secondly, the WoS database used in this study is affected by the publication years available through school library subscriptions, and it undergoes regular updates. Additionally, bibliometric co-citation analysis itself evolves over time, which may lead to differences in the findings of this study when compared to future analyses. Third, while bibliometric co-citation analysis offers objectivity in quantitative research, this study does not explore the purposes of citations, the scope and impact of the cited works, or other factors that could influence the citation process. These factors might introduce errors into the results of the bibliometric co-citation analysis. Despite these limitations, the findings of this study remain representative and reliable within its defined scope.

5. Conclusion

This study employs bibliometric co-citation methods, utilizing multivariate statistical analysis (including factor analysis, cluster analysis, and MDS), along with social network analysis through UCINET and NetDraw software to examine centrality. It presents a knowledge map of academic clusters in the field of HRM from the 1970s to the 1980s, highlighting the primary knowledge sources cited within each cluster. Based on these findings, the study further analyzes the research directions of each cluster and identifies the main research trends in HRM during this period. From the perspectives of specialized fields and dedicated journals, the results

indicate that HRM research was highly active during this time, with significant growth in the number of publications, citation counts, and citation frequencies. These highly cited works had a considerable impact on the HRM field, serving as core knowledge sources of the era. This study provides researchers with a comprehensive overview of past research topics, including influential research clusters and potential future research directions.

In academia, HRM is generally divided into several key areas: human resource planning, recruitment and staffing, training and development, performance management, compensation and benefits management, and labor relations management. These areas help business owners understand the core principles of employee and HRM. Throughout the research process, it becomes clear that many scholars base their studies on business management theory, focusing on topics such as organizational management, corporate culture, production efficiency, organizational structure, employee performance, career development, compensation, behavioral theory, and labor negotiations. These research areas collectively form co-citation groups.

In the 1970s, the major research clusters in HRM were: “Cluster 1”, which explored racial discrimination in corporations; “Cluster 2”, which focused on effective management; and “Cluster 3”, which examined management by objectives. Together, these three clusters accounted for 52.688% of the accumulated information. In the 1980s, the main research clusters included: “Cluster 1”, which studied corporate culture, organizational change, and innovative management; “Cluster 2”, which examined action-oriented organizations, production efficiency, and organizational structure; and “Cluster 3”, which explored flexible organizations and employee performance evaluation. These three clusters accounted for 60.379% of the accumulated information. Within the field of HRM, there were no distinct factions. However, several scholars were particularly active and made significant contributions. These scholars represent some of the most influential authors in the literature of the time, including Herzberg, Vroom, Campbell, Blake and Mouton, Peters and Waterman, Ouchi, McGregor, Hall, Likert, and others.

Finally, since this study primarily uses bibliometric co-citation analysis to trace the evolutionary history of HRM, future research could expand the sample by including journal articles from additional academic databases, such as Scopus and Google Scholar, to enhance the comprehensiveness of the sample. Alternatively, methods such as content analysis, meta-analysis, and further bibliometric techniques could be applied to explore the relationships between cited and citing works, as well as the transitions between research paradigms. This approach would provide a more complete and detailed knowledge map of HRM and its related disciplines. Additionally, employing other bibliometric analysis tools—such as CiteSpace, CoPalRed, IN-SPIRE, Leydesdorff’s Software, Network Workbench Tool, Science of Science (Sci2) Tool, VantagePoint, and VOSViewer—could further investigate the development process of the field, new concepts, emerging research trends, and other aspects. Furthermore, in HRM professional education and training programs, it is recommended to offer a diverse range of courses in management, applied psychology, and business studies to cultivate students’ ability to integrate theory and practice across disciplines.

Conflict of interest: The author declares no conflict of interest.

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