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A Study on the Effects of Work-Related Training, Job Rotation, Performance Evaluation, and Career Progression on Human Resource Development for Employees at Ilam University of Medical Sciences

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A B S T R A C T

Introduction: Human resources are pivotal to the growth and success of any organization. The development of these resources is influenced by various factors, including training, job rotation, performance evaluation, and career advancement opportunities. This study aims to investigate how these elements affect human resource development among employees at Ilam University of Medical Sciences.

Materials & Methods: A cross-sectional study was conducted involving 200 employees from Ilam University of Medical Sciences. Data were collected using a self-report questionnaire designed to assess various aspects of human resource performance. Statistical analysis was performed using SPSS version 21, employing independent sample t-tests and Pearson correlation coefficients to analyze the data.

Results: The results indicated that the mean age, work experience, and training provided to new employees were significantly higher for staff employees compared to those in the Pardis unit ($P<0.05$). Pearson correlation analysis revealed a positive and significant relationship between human resource performance among staff employees ($P<0.05$). Among the factors influencing human resource development, education (mean score 2.48±0.98) and performance evaluation (mean score 2.41±1.33) emerged as the most significant for Pardis and staff employees, respectively.

Conclusion: The findings underscore the importance of effective job-related training and performance assessment in enhancing human resource development. To improve personnel productivity and efficiency, it is recommended that organizations conduct job-specific training needs assessments. This approach will not only foster human resource development but also contribute to overall organizational success.

Keywords: Work-Related Training, Job Rotation, Performance Appraisal, Career Advancement, Human Resource Development

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Introduction

Human Resource Management (HRM) is a crucial aspect of any organization, focusing on the effective management of its workforce. It encompasses a range of policies, practices, and systems that shape employee behavior, attitudes, and performance (1, 2). The primary objective of HRM is to leverage the collective efforts of employees to achieve the organization's core goals and desired outcomes (3).

In today's competitive landscape, employees are increasingly viewed as invaluable assets that contribute significantly to business success and serve as a source of sustainable competitive advantage (4). The development of human resources is a central process within HRM, requiring tailored strategies and approaches. Unlike tangible production technologies that can be readily acquired, the development of human knowledge and skills is complex and demands considerable time and investment (5).

To remain competitive, organizations must foster innovation and the development of new products. This necessitates the formulation and implementation of specific strategies aimed at enhancing human resources and employee knowledge while considering the capabilities and constraints of both internal and external environments (6).

Modern management systems acknowledge the critical importance of human resources, with contemporary approaches designed to empower employees. This empowerment allows individuals to seize opportunities, acquire relevant knowledge, and engage more actively in achieving organizational goals (7). Employee empowerment encompasses a variety of systems, methods, and initiatives aimed at developing individual capabilities and competencies. By enhancing productivity and fostering growth within both the organization and its workforce, employee empowerment aligns individual efforts with overarching organizational objectives (8).

Empowering human resources is a strategic initiative that yields significant advantages for organizations. Firstly, when employees are empowered, they exhibit heightened motivation and commitment, which translates into their ability to leverage their full potential in addressing organizational challenges. This intrinsic motivation fosters a proactive workforce that is more likely to take initiative and contribute innovative solutions (9). Secondly, empowerment serves as a preventative measure against various human resource management challenges. Many issues within organizations arise from employee incapacity or disengagement; by empowering employees, organizations can mitigate these risks and create a more resilient workforce.

Human resources represent a substantial component of an organization's assets and capital. As such, securing this human capital is imperative and requires systematic and continuous training activities across all levels of the organization. The significance of education in the development of a nation's human resources cannot be overstated. In an era characterized by rapid change, organizations must cultivate elite and skilled individuals—a process referred to as human resource development (10). An analysis of knowledge-based development indicators reveals that educational infrastructure is paramount in addressing the challenges of the modern world. Education stands out as the most effective tool for navigating the complexities of the third millennium and for advancing developmental goals (10).

Given that human resource development is a critical responsibility across various organizational units, particularly within the personnel department, it is essential to recognize that human capital is the organization's most vital and strategic asset. An organization equipped with state-of-the-art technology and facilities will only reach its full potential if it also possesses a skilled and well-trained workforce (11). In light of these considerations, this study aims to examine the current state of human resource development among the staff of Ilam University of Medical Sciences. By evaluating the effectiveness of the aforementioned approaches, the

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research seeks to identify areas for improvement and provide recommendations for enhancing the development of human resources within the institution.

Materials and methods

This cross-sectional descriptive-analytical study involved 200 employees from Ilam University of Medical Sciences, including those from both the main Pardis and the administrative headquarters (Setad). The participants, aged between 22 and 59 years (mean ± SD: 36.74 ± 8.52), were chosen through convenience sampling from a total staff population of around 500. Data were gathered using a general questionnaire to assess background variables of the participants, along with a specialized, standardized questionnaire aimed at evaluating human resource functions and the state of human resource development. This specialized questionnaire included 29 items divided into four categories: training (8 items addressing pre-employment and in-service training), job rotation (7 items), career advancement (8 items), and performance appraisal (6 items). It is important to highlight that this questionnaire has been used in various prior studies and has demonstrated established validity and reliability.

The study proceeded with a clear explanation of the research objectives to each participant, ensuring they understood the purpose and significance of the study. After providing instructions on how to complete the questionnaire, the researchers collected the responses along with relevant demographic information.

Once the data collection was complete, the researchers utilized SPSS-21 statistical software for data analysis. Descriptive statistics were calculated to determine the mean and standard deviation of the collected data, providing an overview of the participants' responses.

To further analyze the relationships between various human resource development variables and demographic factors such as work experience and age, the study employed several statistical methods. Descriptive statistics were used to summarize the data, independent t-tests were conducted to compare means between groups, and Pearson correlation tests were utilized to assess the strength and direction of relationships between continuous variables

Results

Participant Demographics

A total of 200 employees from Ilam University of Medical Sciences participated in the present study. The sample included 78 individuals from the Pardis unit, comprising 33 men and 45 women, and 122 individuals from the university Headquarters (Setad), consisting of 76 men and 46 women.

The mean and standard deviation for age and work experience among participants were 34.51 (7.45) years and 7.9 (8.81) years for the Pardis unit, and 38.97 (9.59) years and 15.16 (9.13) years for the university Headquarters (Setad), respectively.

The background variables of the participants are summarized in Table 1, providing an overview of the demographic characteristics relevant to the study's findings.

Table 1. Background characteristics of the study participants

Variable		Pardis		Headquarters (Setad)	
	Item	Number of personnel	Percentage (%)	Number of personnel	Percentage (%)
Marital Status	Married	54	70.13	100	81.3
	Single	23	29.87	23	18.7
	Total	77	100	123	100
	formal	25	32.05	70	57.38

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Employment Type	agreement	3	3.85	10	8.2
	contractual	50	64.1	42	34.42
	Total	78	100	122	100
Education Level	≥Master's degree	33	42.31	29	23.77
	Bachelor's Degree	32	41.02	62	50.82
	Associate Degree (Higher Diploma)	5	6.41	11	9.01
	≤Diploma	8	10.26	20	16.4
	Total	78	100	122	100
Type of training	Onboarding training	25	32.05	65	53.28
	In-service training	32	41.02	83	68.03

The results indicated that 47.5% of the total study population held permanent employment status, with the university Headquarters (Setad) recording the highest rate of permanent employment (35%) among the participants. Regarding educational attainment, individuals holding a bachelor's degree constituted the largest group, accounting for 47% of the total study population.

Table 2. Mean scores for questions regarding the domains of human resource performance development.

Variable	Pardis		Headquarters (Setad)	
	mean	SD	mean	SD
Training	2.34	0.98	2.48	0.98
Performance Evaluation	2.41	1.23	2.08	1.18
Career advancement	2.32	1.15	2.18	1.1
job rotation	2.05	0.93	2.14	0.98

The results of the study highlighted key insights into the factors influencing human resource performance within the university settings of Pardis and Headquarters (Setad):

• Pardis University: – The variable of training received an average score of 2.48 ± 0.98, indicating a strong perception of its importance among employees. – The performance evaluation variable followed closely with an average score of 2.08 ± 1.18, suggesting it is also viewed as a significant factor in human resource development.

• Headquarters (Setad): – Similar to Pardis, the performance evaluation variable had a notable average score of 2.41 ± 1.33, reflecting its relevance in assessing employee contributions and development. – Conversely, the variable of job rotation recorded the lowest average score of 2.05 ± 0.93, indicating it may be perceived as less impactful compared to other factors.

Overall, both universities identified training and performance evaluation as the most critical factors influencing human resource development, emphasizing the need for effective training programs and robust performance assessment mechanisms to enhance employee growth and organizational success.

The independent t-test results demonstrated significant differences in both the mean age and work experience of participants based on their respective work units, with a significance level of $P < 0.05$. Staff in the Headquarters (Setad) unit had a mean age of 38.97 ± 9.59 years, which was significantly higher than the mean age of staff in the Pardis unit, which was 34.51 ± 7.45 years. This finding suggests that the Headquarters unit has an older workforce compared

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to the Pardis unit. The analysis also revealed significant differences in work experience across the units. Staff in the Headquarters (Setad) unit had a mean work experience of 15.16 ± 9.13 years, which was notably greater than that of the Pardis unit staff, who had an average of 9.7 ± 8.81 years of work experience. This indicates that employees at the Headquarters unit are not only older but also more experienced in their roles compared to those in the Pardis unit.

The Pearson correlation test results indicated a significant relationship between pre-employment training and in-service training across different work units, with a significance level of $P < 0.05$. The findings from the study revealed several key points regarding the training received by staff members in the Headquarters (Setad) and Pardis units:

A notably higher number of staff members at the Headquarters (Setad) unit had completed both pre-employment and in-service training compared to their counterparts at the Pardis unit. This suggests that the Headquarters unit may have more robust training programs or higher participation rates in these training initiatives.

The analysis showed that the number of individuals who had received in-service training was significantly greater than those who had completed pre-employment training, with a significance level of $P < 0.05$. This indicates a trend where staff are more likely to engage in ongoing professional development once employed rather than receiving foundational training before starting their roles. Despite the higher completion rates in the Headquarters unit, it is important to highlight that a significant majority of staff—both in the Headquarters (Setad) and Pardis units—reported not having received any pre-employment training. Furthermore, many staff members indicated that their in-service training was either nonexistent or not relevant to their specific job functions and areas of expertise.

Discussion

To achieve progress and advancement, organizations must continuously enhance the knowledge, skills, abilities, and attitudes of their employees. This serves as a competitive tool that fosters creativity and innovation—both among staff and within the organization—thereby ensuring organizational survival and enabling the organization to keep pace with the constantly changing work environment (12–14). Various studies have identified factors such as training, performance appraisal, job rotation, and career advancement as key elements in human resource development and in the improvement of organizational performance and goal attainment (15–17). By focusing on these elements, organizations can create a dynamic and skilled workforce capable of driving innovation and adapting to the evolving demands of the marketplace (15–17).

The findings from the study highlight significant gaps in the training practices at both Pardis and Headquarters (Setad), indicating that the current training framework is inadequate for fostering employee development. The fact that 68.09% of Pardis staff and 46.67% of Headquarters staff reported receiving no initial training upon hiring underscores a critical deficiency in onboarding processes. Initial training is essential for equipping new employees with the foundational knowledge and skills necessary to perform their roles effectively, and its absence can lead to decreased job performance and employee satisfaction. Moreover, the data on in-service training reveals that 59.53% of Pardis staff did not receive relevant training during their tenure, which is concerning. While Headquarters staff had slightly better outcomes, the overall trend indicates a lack of ongoing professional development opportunities. The mismatch between the training received and employees' actual job responsibilities further exacerbates this issue. When training is not aligned with the specific needs of employees' roles, it fails to contribute to their professional growth or enhance organizational performance (3). These findings resonate with previous research, such as the study by Abili et al., where 67.7% of participants

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reported receiving no relevant in-service training (11). This suggests a broader trend across organizations where training programs are not sufficiently tailored to meet the unique needs of employees or the strategic objectives of the organization.

The findings of the study underscore a critical gap in the communication and dissemination of job-related knowledge within the organization. The reliance on individual interpretation rather than formal guidance for understanding job expectations can lead to a disjointed approach to performance, ultimately affecting overall organizational effectiveness. When employees derive their understanding of duties from personal experiences—often through trial and error—they may develop inconsistent practices that do not align with organizational goals or standards. This lack of clarity can result in varied perceptions among employees regarding what is expected of them, which can create confusion and conflict within teams. Without a shared understanding of job roles and responsibilities, the potential for misalignment increases, leading to performance discrepancies that can hinder collaboration and productivity. Moreover, the feedback process emerged as a significant concern among employees. The absence of constructive feedback mechanisms prevents individuals from recognizing their strengths and areas for improvement, stunting their professional growth (18-21). This aligns with the findings of Abili et al., emphasizing the need for organizations to establish robust feedback systems that facilitate ongoing dialogue about performance (11). To address these issues, organizations should prioritize the development of clear job descriptions and formal training programs that articulate expectations and standards. Additionally, implementing regular feedback sessions can empower employees to engage in continuous learning and development. By fostering a culture of open communication and clarity around roles, organizations can enhance performance consistency and drive overall success.

The study highlights a significant issue regarding career progression within the organization, indicating that the absence of a defined path for advancement leads to varied interpretations among employees about what career growth entails. This ambiguity results in a reliance on personal experiences and anecdotal information, which can vary widely among staff. Without a clear framework for career development, employees may struggle to envision their future within the organization, leading to decreased motivation and engagement (4). The findings align with those of Abili et al., reinforcing the notion that when employees lack clarity about potential career trajectories, they may feel disillusioned and less inclined to pursue opportunities for advancement. This situation can create a stagnation effect, where employees are unsure of how to improve their status or what steps they need to take to achieve their career goals (11).

The findings from the "Pardis" unit underscore a critical inconsistency in how career progression is approached within different units of the organization. In "Pardis," educational qualifications are viewed as the primary determinant for advancement, suggesting a more rigid and standardized approach to promotions based on formal education. This emphasis on educational credentials may create a clear but potentially narrow pathway for career growth, favoring those with higher academic qualifications. Conversely, the Headquarters (Setad) unit adopts a more multifaceted approach to promotion, considering a blend of work history, experience, quality of work, academic achievement, and work ethic. This variability in promotion criteria highlights a lack of coherence in the organization's overall career advancement framework. The absence of a defined set of criteria can lead to confusion among employees about what is required for promotion, resulting in different interpretations of what constitutes merit. Additionally, the barriers identified by employees—such as a lack of awareness regarding career paths and employment regulations, low motivation levels, jealousy and discrimination,

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and insufficient familiarity between supervisors and subordinates—further complicate the promotion landscape. These barriers can create an environment where employees feel disillusioned or undervalued, hindering their motivation to pursue advancement opportunities (11,18).

The objectives of job rotation include training, multi-skilling, enhancing employees' operational and functional knowledge, ensuring a supply of experienced and skilled personnel from within the organization when needed, boosting employee morale, fostering awareness of operational challenges across different departments, and introducing variety and change into the work environment (11, 21). The analysis of job rotation results within the organization highlights several critical insights regarding its implementation and effectiveness. The feedback indicates that job rotation is virtually non-existent in the Headquarters unit. When it does occur, it is infrequent and often reactive, stemming from staffing shortages rather than being part of a proactive strategy aimed at employee development or organizational efficiency. In contrast, the Pardis unit experiences a form of job rotation driven by necessity due to staffing shortages. Employees are often compelled to take on roles outside their standard responsibilities, which suggests a lack of strategic planning for job rotation. The compulsory nature of job rotation in Pardis has led to dissatisfaction among employees. Instead of fostering a positive work environment, this approach has resulted in resistance, chaos, and opposition to changes in job status. This indicates that employees may feel unprepared or unsupported when forced into unfamiliar roles. The findings suggest that the instances of job rotation observed lack clear strategic objectives. Employees are not aware of the intended benefits or goals associated with job rotation, which undermines its potential effectiveness. The forms of job rotation currently practiced yield little to no positive outcomes in terms of improving workplace conditions, enhancing job satisfaction, increasing productivity, or advancing organizational goals (2). This aligns with the broader observations made by Abili et al. in their study at the University of Tehran's faculties of Social and Behavioral Sciences, which echoed similar concerns regarding the execution and reception of job rotation practices (11).

Conclusion

The study identified key factors influencing human resource development, including the "nature of in-service training," the "alignment between performance evaluations and job requirements," and "opportunities for career advancement" based on criteria such as tenure, experience, education level, and work quality. Employees emphasized the importance of these elements in shaping their development within the organization. Additionally, integrating employee perspectives into job rotation decisions can enhance skill development and job performance, leading to improved outcomes in human resource development.

To address these findings, several recommendations were proposed:

- Orient New Employees: Implement comprehensive orientation programs to instill the organization's values and acceptable behaviors from the outset.

- Clarify Roles and Expectations: Clearly define the beliefs, behaviors, and responsibilities associated with each role to ensure mutual understanding between the organization and its employees.

- Design Succession Planning Processes: Establish structured succession planning to prepare employees for future roles, fostering career growth and talent retention.

- Tailor Training Programs: Provide training that is specifically designed for various organizational tasks and integrate this training into employees' daily work activities.

- Foster Ethical Standards: Promote ethical standards and values within the organization to cultivate a culture of integrity and accountability.

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- Communicate Vision and Goals: Ensure transparent communication regarding the organization's vision and goals to align employee efforts with overarching objectives.

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Conflict of interest

All authors have no conflict of interest, financial or otherwise.

Authors' contributions

Conceptualization & reviewed the literature: MK & NJ.

Methodology and Study Design: MK & MK.

Data Collection and Interpretation: MK & NJ

Writing and Editing of Manuscript: MK &MK & NJ.

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