Ianna Journal of Interdisciplinary Studies, Vol. 8, No. 2 (June 2026).

E-ISSN: 2735-9891 DOI: https://doi.org/10.5281/zenodo.20250967

***IANNA JOURNAL OF INTERDISCIPLINARY STUDIES*, Vol. 8, No. 2 (June 2026).**
Journal's website: https://iannajournalofinterdisciplinarystudies.com
Article History: Received 1 February 2026; Revised, 8 March 2026; Accepted, 23 March 2026

Digital Human Resource Management Accessibility and Employee Retention: A Serial Mediation Analysis of Banking Professionals in Nepal

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Abstract

Background: While the adoption of digital Human Resource Management (HRM) systems is increasing, the relationship between Digital HRM Accessibility (DHRMA) and employee retention remains insufficiently explored. This study applies Social Exchange Theory (SET) and the Job Demands-Resources (JD-R) model to investigate how DHRMA influences employee retention through the mediating roles of Perceived Organisational Support (POS), Work-Life Balance (WLB), and Employee Engagement.

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Objective: The study aims to evaluate the direct and indirect effects of digital HRM accessibility on employee retention, specifically by testing a serial mediation model in the Nepalese banking sector.

Methodology: A cross-sectional survey was conducted among 504 employees from 10 commercial and 6 development banks in Nepal using convenience sampling. Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed to analyse the direct and serial mediating effects. The measurement model's validity and reliability were verified through Cronbach's alpha, composite reliability, factor loadings, and Average Variance Extracted (AVE).

Results: The findings indicate that DHRMA exerts a substantial and significant impact on retention ($\beta=0.708$, $p<0.001$), POS ($\beta=0.759$), and WLB ($\beta=0.804$). While the direct mediating effect of engagement on retention was insignificant, the serial mediation pathway (DHRMA • POS → WLB → Retention) was statistically significant. This suggests that digital HRM serves as a strategic resource that fosters organisational support and facilitates work-life balance, both of which collectively drive retention.

Conclusion: Digital HRM accessibility serves as a critical organisational resource that enhances employees' perceptions of support and work-life stability. Although engagement is positively influenced, it plays a secondary role compared to the cumulative effects of support and balance in ensuring long-term retention.

Unique Contribution: By integrating the SET and JD-R frameworks, this study demonstrates that retention in digitised workplaces is primarily driven by resource accumulation (support and balance) rather than engagement alone. This provides a theoretical shift towards human-centred digital HR systems.

Key Recommendation: Banking institutions should design digital HR platforms that prioritise accessibility and employee support functions. Management should leverage these tools not just for administrative efficiency, but as instruments to improve work-life balance and signal organisational care to retain talent in a competitive digital landscape.

Keywords: digital HRM, employee retention, perceived organisational support, work-life balance, PLS-SEM, Nepal.

Introduction

Digital transformation is not limited to operations and production; it is also influencing how companies manage their employees across the board. Digital human resource management (HRM) is increasingly viewed as a crucial organisational skill that enables HR processes to be more effective, more open, and more data-driven (Alexandro, 2025). Digital HRM systems enable companies to deliver HR services at their convenience, track workforce developments daily, and offer various HR functions to employees with ease (e.g., self-service platforms, digital feedback, online learning) (Wang et al., 2020).

Digital HRM, as it becomes more accessible, can easily be the very thing that brings about significant changes in employees' lives. One of these changes would be to retain employees,

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which remains a major issue in organisations, especially those heavily affected by turnover costs. Retaining a good workforce is not only good for the financials but also for the company's stability and reputation. Knowledge, in the long run, is the primary source of competitive advantage, as shown in the study (Menezes et al., 2025).

Due to the significant impact HRM has on digital access, an effective retention strategy has not yet been discovered. Psychosocial and attitudinal mediators are the areas that mainly support this scenario; employees' perceptions of organisational support, their work-life balance, and their engagement with work are the mediators here. The concept of perceived organisational support (POS) has been defined for a long time, and it essentially refers to the degree to which employees perceive that the organisation values their contributions and cares for their well-being (Caesens et al., 2017). Social exchange theory posits that when employees feel supported, they will reciprocate by being loyal and having lower turnover intentions (Allen et al., 2003; Cropanzano & Mitchell, 2005).

On top of that, digital HRM can take work-life balance (WLB) to the next level by offering various work options (e.g., remote work, digital communication, and flexible scheduling) to employees. Flexible digital platforms will eliminate most of the challenges associated with work-life balance, and reducing such conflicts will, in turn, lead to lower employee turnover. In this manner, digital HRM as a whole can be seen to improve WLB indirectly by positively impacting retention through relieving stress from work and non-work (Le et al., 2023; Bellini et al., 2025).

Moreover, employee engagement remains a vital attitudinal outcome. Studies indicate that the more positive the perception of HR practices, the greater will be the engagement. HRM practices that are technology-led in the digital context (e.g., remote performance feedback, online recognition, digital learning) can indeed further engagement. Workers with high engagement tend to perceive themselves as central to the organisation, thereby reducing their willingness to leave (Urbini et al., 2021).

Some studies looked at one mediator at a time (like POS mediating between HRM and retention; engagement mediating between HR practices and job outcomes), while others never did a serial mediation model that combined digital HRM accessibility → work-life balance → POS → engagement → retention. Explaining these relationships would provide insight into the impact of digital HRM on the employee experience and its contribution to developing a loyal workforce. As a result, a study based on social exchange theory and job demands-resources theory leads to the formulation of a serial mediation model whereby digital HRM accessibility impacts employee retention through work-life balance, perceived organisational support, and employee engagement. The proposed serial mediation framework is consistent with advanced mediation analysis approaches (Preacher & Hayes, 2008). Specifically, we propose that:
1. Digital HRM accessibility positively predicts employee retention,
2. Digital HRM accessibility positively influences work-life balance, perceived organizational support, and engagement,
3. Work-life balance, POS, and engagement each mediate the association between digital HRM accessibility and retention, in a serial manner.

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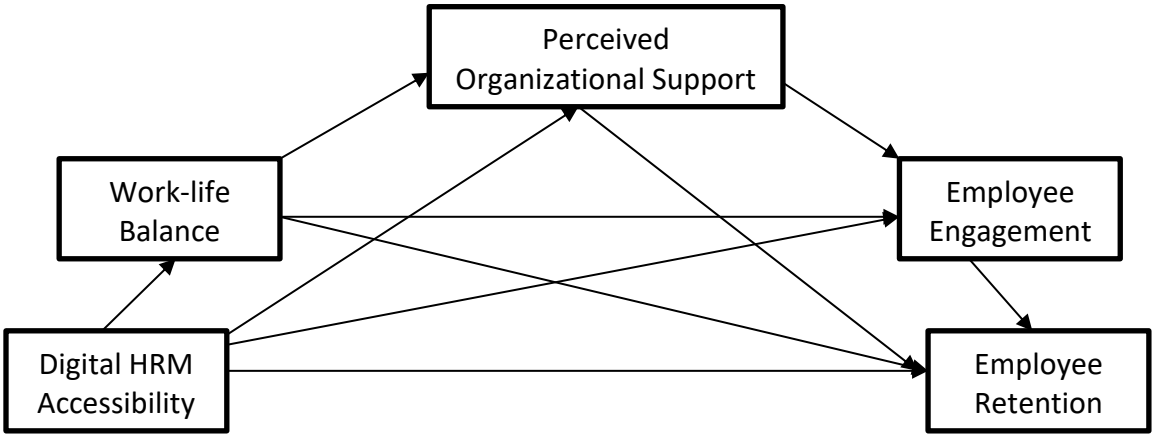

Figure 1: Research Framework

This research has different implications. First, it adds to the Digital HRM literature by focusing on digital accessibility and retention outcomes, rather than just the phases of adoption or efficiency. Second, the study shows the psychological and behavioural processes (WLB → POS → Engagement) through which digital HRM affects retention, examining a serial mediation chain. Lastly, it provides HR professionals and organisational leaders with practical implications: they can create digital HRM platforms that are both user-friendly and supportive, which can lead to a stronger work-life balance, increased employees' perceptions of support, improved engagement, and thus, ultimately, greater retention.

Supporting Theories

Digital HRM accessibility supports employee retention through the lenses of Social Exchange Theory (SET) and Job Demands–Resources (JD–R) theory. SET (Blau, 1964) suggests that employees see tools such as AI support and self-service portals as investments, thereby boosting perceived support and engagement. JD–R (Bakker & Demerouti, 2007) treats digital HRM as a job resource that improves work-life balance, flexibility, and positive psychological states. These mechanisms strengthen engagement and organisational support. Overall, digital HRM promotes retention by enhancing employee well-being and attitudes.

Literature Review

Digital HRM, Work-Life Balance, and Employee Retention

Digital Human Resource Management (DHRM) uses technology to automate HR processes, reduce administrative burdens, and improve transparency, thereby enhancing employee experiences and fostering retention. By providing flexible work arrangements, self-service portals, and remote HR access, DHRM helps employees manage their work and personal lives more effectively, improving work-life balance (WLB) (Bindra et al., 2025). Employees who experience better balance report lower stress and stronger attachment to the organisation, indirectly increasing retention intentions. Thus, DHRM acts as both a technological and strategic resource that strengthens loyalty while promoting well-being.

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Digital HRM, Perceived Organisational Support, and Engagement

Digital HRM also enhances Perceived Organisational Support (POS) by ensuring fair, transparent, and responsive HR processes, which signal to employees that their contributions and well-being are valued. This perception of support increases employees' engagement (EE), as smoother workflows, timely feedback, and professional development opportunities improve motivation, energy, and dedication to work. Engaged employees are more emotionally attached and less likely to leave, highlighting that POS and engagement act as mediators in translating digital HRM benefits into long-term retention outcomes (Wang et al., 2020).

Work-Life Balance, POS, and Engagement (Serial Mediation)

Work-life balance serves as an initial mechanism through which digital HRM influences POS, as employees perceive organisational concern when their personal and professional needs are supported. Increased POS then motivates higher engagement, as employees feel secure, valued, and emotionally connected to the organisation. This serial pathway WLB → POS → EE demonstrates how digital HRM indirectly enhances retention by first improving balance, then perceived support, and finally engagement (Osborne & Hammoud, 2017). Employees benefit psychologically and cognitively, creating a stable, committed workforce.

Work-Life Balance, POS, Engagement, and Retention (Double Serial Mediation)

The combination of WLB, POS, and EE forms a double serial mediation chain that illustrates the complete effect of digital HRM on retention. Digital HRM tools improve balance and reduce administrative burden, which increases the perception of organisational support. Elevated POS then strengthens engagement, leading to greater psychological attachment, motivation, and dedication. This sequential processWLB → POS → EE → Retention—reveals how technology-driven HR practices transform organisational resources into employee loyalty and long-term retention outcomes (Osborne & Hammoud, 2017).

Methods

Research Design

To determine the influence of digital HRM practices on employee retention, the study had a [cross-sectional, descriptive, and causal-comparative design] where the study met a double serial mediation model: [Work-Life Balance (WLB) → Perceived Organisational Support (POS) → Employee Engagement → Employee Retention].

Participants and Data Collection

The study population consisted of employees from commercial and development banks in Nepal. In 2022, the ten top-performing commercial banks and six leading development banks were selected. Participants were chosen via convenience sampling, and self-administered questionnaires were collected in hard copy from September 2023 to May 2024. Out of 600 distributed questionnaires, 526 were returned, and after data cleaning, 504 responses were analysed. Previous research suggests that a sample of around 500 is sufficient for serial multiple mediation analysis and for detecting indirect effects in complex mediation models.

The sample comprised 504 employees, including 191 males (37.9%) and 313 females (62.1%), indicating a higher proportion of female employees. Regarding education, 305 respondents (60.5%) held a bachelor's degree, 114 (22.6%) a master's degree, 79 (15.7%) completed +2 level, and 6 (1.2%) had PhD/MPhil qualifications. In terms of organisational category, 358

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participants (71%) worked in commercial banks and 146 (29%) in development banks. Regionally, most respondents were from Bagmati Province (32.9%), followed by Gandaki (18.7%), Lumbini (13.7%), Madhesh (13.3%), Koshi (13.1%), Sudurpaschim (5%), and Karnali (3.4%). Participants' ages ranged from 23 to 61 years, with an average of 31.52 years (SD = 7.98), reflecting a relatively young workforce. Although the current study used bootstrapping to test serial mediation effects, future research could extend the analysis with multi-group comparisons to assess the stability of path coefficients across age or digital literacy groups. To ensure data validity and reliability, the researcher allowed respondents with less than five years of experience in the banking sector to participate.

The selected commercial and development banks represent some of Nepal's most digitally advanced financial institutions, featuring mobile and internet banking, digital payment systems, and e-HRM platforms, including online leave management. While the cross-sectional design provides a convenient snapshot of employee attitudes and retention, it does not allow for causal conclusions. Therefore, the findings should be interpreted within the context of Nepal's technologically mature banking sector, and caution is advised when generalising to less digitally advanced industries.

Ethical Consideration

Informed consent was obtained from each participant after the study's objectives were explained, and the confidentiality of their responses was guaranteed. The study procedures were conducted before the questionnaires were given out and discussed with the respective bank branch or department heads, and verbal consent was obtained from authorised personnel. To ensure privacy and confidentiality, all collected data were securely stored on a password-protected laptop.

Measures

Data were collected using a structured questionnaire divided into three sections. First, participants provided written consent after being informed about the study's purpose and confidentiality. Second, demographic information such as age, gender, education, job position, and years of experience was recorded. Third, the main constructs Work-Life Balance (WLB), Perceived Organisational Support (POS), Employee Engagement, and Employee Retention were measured using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The data were initially cleaned in SPSS version 29 to remove incomplete responses and outliers, and the final dataset was analysed using SmartPLS version 4.1.1.6 to assess the measurement model and structural relationships.

Work-Life Balance (WLB) and Perceived Organisational Support (POS) were treated as key job resources in this study. It is acknowledged that digital HRM tools may have both motivating and potentially stressful effects. For example, increased digital autonomy may enhance engagement, whereas 24/7 accessibility could contribute to techno stress. Although techno stress was not measured in this study, future research could include it as a moderating variable to capture the dual effects of digital HRM practices on employee engagement and retention in highly digitised workplaces.

Results

This section presents the model's testing outcomes and the resulting serial mediation framework. In the model, DHRMA is the abbreviation for Digital Human Resource

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Management Accessibility, and WLB is the abbreviation for Work-Life Balance. POS is the abbreviation for Perceived Organisational Support, and ENGAGEMENT is the term used for Employee Engagement. Last but not least, RETENTION signifies the dependent variable, Employee Retention, in the complete serial route.

Table 1: Common Method Bias

Statistic	Value
Extraction Method	Principal Component Analysis
Number of Items	28
First Factor Eigenvalue	5.361
Variance Explained by First Factor	19.148%
Common Method Bias	Not Detected (< 50%)

Since the data were collected from a single source using self-reported questionnaires, common method bias (CMB) was assessed. Harman's single-factor test was conducted using principal component analysis. The results indicate that the first factor accounted for only 19.148% of the total variance, which is substantially below the critical threshold of 50%. This suggests that common method bias is unlikely to be a serious concern in this study.

Table 2: Construct reliability and validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
DHRMA	0.807	0.899	0.849	0.505
ENGAGEMENT	0.667	0.793	0.753	0.380
POS	0.935	0.935	0.951	0.794
RETENTION	0.900	0.901	0.923	0.668
WLB	0.900	0.902	0.923	0.667

Table 2 presents the reliability and validity of all constructs. Cronbach's alpha indicates very good to excellent internal consistency for DHRMA (0.807), POS (0.935), RETENTION (0.900), and WLB (0.900), exceeding the 0.70 threshold (Hair et al., 2017). ENGAGEMENT has a slightly lower alpha of 0.667, which is still acceptable for exploratory research. Composite reliability (rho_A and rho_C) further supports internal consistency, with DHRMA, POS, RETENTION, and WLB ranging from 0.849 to 0.951, and ENGAGEMENT showing moderate reliability (rho_A = 0.793; rho_C = 0.753). Convergent validity assessed via AVE shows that DHRMA (0.505), POS (0.794), RETENTION (0.668), and WLB (0.667) meet the recommended 0.50 threshold, while ENGAGEMENT (0.380) exhibits weaker convergent validity. Although the AVE of Employee Engagement (0.380) is below the recommended threshold of 0.50, prior studies suggest that constructs can still demonstrate adequate convergent validity when composite reliability exceeds 0.60. Since the engagement construct shows satisfactory composite reliability ($\rho C = 0.753$), it was retained in the model. Similar practices have been widely accepted in PLS-SEM research, in which theoretically important constructs are preserved to maintain the conceptual integrity of the model (Fornell & Larcker, 1981; Hair et al., 2017).

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Table 3: Model Fit Summary

	R-square	R-square adjusted
ENGAGEMENT	0.380	0.376
POS	0.577	0.576
RETENTION	0.652	0.649
WLB	0.707	0.706

The R^2 values indicate the variance explained by the model for each construct. ENGAGEMENT shows a moderate effect ($R^2 = 0.380$), POS explains 58% of its variance, RETENTION accounts for 65%, and WLB is the most explained with 71%. Overall, the model demonstrates moderate to substantial explanatory power, with WLB being the most explained and ENGAGEMENT the least, all within acceptable ranges for social science research (Hair et al., 2017).

Table 4: Discriminant validity

Heterotrait-Monotrait Ratio (HTMT)					
	DHRMA	**ENGAGEMENT**	**POS**	**RETENTION**	**WLB**
DHRMA					
ENGAGEMENT	0.640				
POS	0.759	0.579			
RETENTION	0.717	0.542	0.782		
WLB	0.834	0.612	0.838	0.862	
Fornell-Larcker Criterion					
	DHRMA	**ENGAGEMENT**	**POS**	**RETENTION**	**WLB**
DHRMA	0.711				
ENGAGEMENT	0.586	0.616			
POS	0.759	0.543	0.891		
RETENTION	0.708	0.523	0.722	0.817	
WLB	0.804	0.572	0.771	0.780	0.817

Discriminant validity was assessed using both the Heterotrait-Monotrait Ratio (HTMT) and the Fornell-Larcker criterion. All HTMT values were below the strict threshold of 0.90, with the highest being 0.862 (between WLB and RETENTION), indicating sufficient discriminant validity (Henseler et al., 2015). The Fornell-Larcker results further confirmed this, as the square root of the AVE for each construct was higher than its correlations with other constructs. For example, DHRMA had a square root of AVE equal to 0.711, exceeding its correlations with ENGAGEMENT (0.586), POS (0.759), RETENTION (0.708), and WLB (0.804). Similar patterns were observed for all other constructs. Overall, these results indicate that the constructs are related yet distinct, confirming the discriminant validity of the measurement model.

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Table 5: Cross loading and VIF

	DHRMA	ENGAGEMENT	POS	RETENTION	WLB	VIF
D1	0.513	0.189	0.169	0.112	0.202	1.438
D2	0.549	0.173	0.190	0.219	0.269	1.679
D3	0.597	0.324	0.327	0.317	0.339	1.642
D4	0.887	0.563	0.725	0.706	0.740	2.834
D5	0.879	0.537	0.702	0.652	0.732	2.693
D6	0.862	0.493	0.715	0.628	0.771	2.501
E1	0.540	0.848	0.523	0.502	0.522	1.644
E2	0.207	0.553	0.147	0.125	0.156	1.195
E3	0.423	0.747	0.390	0.332	0.388	1.486
E4	0.411	0.530	-0.055	0.011	-0.028	1.038
E5	0.542	0.596	0.444	0.402	0.454	1.160
E6	0.470	0.790	0.424	0.461	0.495	1.505
P1	0.695	0.477	0.906	0.662	0.697	3.654
P2	0.669	0.488	0.873	0.654	0.648	2.867
P3	0.688	0.498	0.914	0.589	0.705	3.925
P4	0.639	0.464	0.892	0.626	0.644	3.271
P5	0.688	0.491	0.868	0.681	0.736	2.683
R1	0.616	0.442	0.584	0.730	0.738	1.635
R2	0.518	0.359	0.562	0.837	0.640	2.644
R3	0.560	0.407	0.568	0.860	0.649	2.896
R4	0.526	0.366	0.516	0.798	0.528	2.252
R5	0.624	0.464	0.626	0.856	0.652	2.975
R6	0.603	0.507	0.665	0.817	0.585	2.570
W1	0.684	0.465	0.687	0.574	0.794	2.559
W2	0.717	0.478	0.685	0.600	0.829	2.893
W3	0.727	0.524	0.692	0.641	0.854	2.607
W4	0.654	0.464	0.608	0.696	0.854	2.751
W5	0.591	0.445	0.612	0.641	0.824	2.362
W6	0.552	0.422	0.481	0.678	0.740	1.934

Table 5 presents the cross-loadings and the Variance Inflation Factor (VIF) for all indicators. Each indicator loads highest on its respective construct, demonstrating reliability and confirming discriminant validity at the item level (Hair et al., 2017). For instance, DHRMA items (D1–D6) have the highest loadings on DHRMA (0.513–0.887), while ENGAGEMENT (E1–E6), POS (P1–P5), RETENTION (R1–R6), and WLB (W1–W6) items similarly show the strongest loadings on their intended constructs. Some cross-loadings, such as D4 on POS (0.725) and W3 on WLB (0.854), indicate minor correlations with other constructs but do not exceed the main loadings, supporting indicator specificity. VIF values range from 1.038 to 3.925, below the conservative threshold of 5, indicating no multicollinearity issues (Hair et al., 2017). Overall, the cross-loading and VIF results confirm strong indicator reliability,

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discriminant validity, and the absence of multicollinearity, validating the constructs for the structural model.

Table 6: Structural model analysis

	Original sample (O)	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**P values**
DHRMA -> ENGAGEMENT	0.586	0.590	0.036	16.396	0.000
DHRMA -> POS	0.759	0.760	0.023	33.311	0.000
DHRMA -> RETENTION	0.708	0.708	0.027	26.158	0.000
DHRMA -> WLB	0.804	0.804	0.018	44.520	0.000
ENGAGEMENT -> RETENTION	0.056	0.057	0.041	1.368	0.171
POS -> ENGAGEMENT	0.232	0.232	0.066	3.499	0.000
POS -> RETENTION	0.436	0.436	0.058	7.467	0.000
POS -> WLB	0.381	0.380	0.050	7.656	0.000
WLB -> ENGAGEMENT	0.219	0.221	0.068	3.232	0.001
WLB -> RETENTION	0.483	0.483	0.057	8.441	0.000

The structural model analysis presents the path coefficients, T-statistics, and significance levels for the hypothesised relationships among the constructs. The results indicate that DHRMA positively and significantly impacts all four dependent constructs: ENGAGEMENT ($\beta = 0.586$, $T = 16.396$, $p < 0.001$), POS ($\beta = 0.759$, $T = 33.311$, $p < 0.001$), RETENTION ($\beta = 0.708$, $T = 26.158$, $p < 0.001$), and WLB ($\beta = 0.804$, $T = 44.520$, $p < 0.001$), demonstrating the strong influence of digital HRM access on employee outcomes. POS also significantly affects ENGAGEMENT ($\beta = 0.232$, $T = 3.499$, $p < 0.001$), RETENTION ($\beta = 0.436$, $T = 7.467$, $p < 0.001$), and WLB ($\beta = 0.381$, $T = 7.656$, $p < 0.001$), highlighting the positive effect of perceived organisational support on engagement, retention, and work-life balance. Similarly, WLB significantly contributes to ENGAGEMENT ($\beta = 0.219$, $T = 3.232$, $p = 0.001$) and RETENTION ($\beta = 0.483$, $T = 8.441$, $p < 0.001$), indicating that work-life balance enhances employee outcomes. The direct effect of ENGAGEMENT on RETENTION is not significant ($\beta = 0.056$, $T = 1.368$, $p = 0.171$), suggesting that engagement alone may not directly drive retention but may operate through mediators like POS and WLB. Overall, the structural model confirms that digital HRM and organisational support are key determinants of employee engagement, retention, and work-life balance, supporting the proposed theoretical framework.

Table 7: Mediating, Serial Mediating Double serial mediating analysis results

	Original sample (O)	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics**	**P values**

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				(|O/STDEV|)	
DHRMA -> POS -> RETENTION	0.185	0.186	0.043	4.290	0.000
POS -> WLB -> RETENTION	0.179	0.178	0.030	6.007	0.000
DHRMA -> ENGAGEMENT -> RETENTION	0.017	0.017	0.014	1.212	0.225
DHRMA -> POS -> WLB	0.289	0.289	0.042	6.930	0.000
POS -> ENGAGEMENT -> RETENTION	0.008	0.008	0.007	1.126	0.260
WLB -> ENGAGEMENT -> RETENTION	0.012	0.013	0.010	1.181	0.238
DHRMA -> WLB -> ENGAGEMENT -> RETENTION	0.006	0.006	0.005	1.184	0.237
POS -> WLB -> ENGAGEMENT -> RETENTION	0.005	0.005	0.004	1.133	0.257
DHRMA -> POS -> ENGAGEMENT -> RETENTION	0.006	0.006	0.006	1.120	0.263
DHRMA -> POS -> WLB -> RETENTION	0.136	0.136	0.024	5.603	0.000
DHRMA -> POS -> WLB -> ENGAGEMENT	0.063	0.064	0.022	2.903	0.004
DHRMA -> POS -> WLB -> ENGAGEMENT -> RETENTION	0.004	0.004	0.003	1.118	0.264
DHRMA -> WLB -> ENGAGEMENT	0.113	0.114	0.037	3.048	0.002
DHRMA -> POS -> ENGAGEMENT	0.113	0.112	0.053	2.122	0.034
DHRMA -> WLB -> RETENTION	0.242	0.243	0.041	5.888	0.000
POS -> WLB -> ENGAGEMENT	0.083	0.084	0.028	2.990	0.003

The mediation analysis examined the indirect effects of DHRMA, POS, and WLB on RETENTION and ENGAGEMENT through single and serial paths. POS significantly mediates the effect of DHRMA on RETENTION (0.185, T = 4.290, $p < 0.001$), while WLB mediates the relationship between POS and RETENTION (0.179, T = 6.007, $p < 0.001$). Additionally, DHRMA's double serial mediation via POS and WLB on RETENTION is significant (0.136, T = 5.603, $p < 0.001$), highlighting the combined role of organisational support and work-life balance in enhancing retention through digital HRM.

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Some single and complex paths involving ENGAGEMENT were not significant, such as DHRMA → ENGAGEMENT → RETENTION (0.017, p = 0.225) and POS → ENGAGEMENT → RETENTION (0.008, p = 0.260), indicating that engagement alone has a limited direct mediating effect on retention. Similarly, most multi-step mediations, including engagement, like DHRMA → POS → WLB → ENGAGEMENT → RETENTION, were also non-significant.

However, certain paths involving engagement were significant, suggesting indirect influences on engagement: DHRMA → WLB → ENGAGEMENT (0.113, T = 3.048, p = 0.002), DHRMA → POS → ENGAGEMENT (0.113, T = 2.122, p = 0.034), and POS → WLB → ENGAGEMENT (0.083, T = 2.990, p = 0.003). These results imply that access to digital HRM and organisational support can indirectly enhance engagement through work-life balance.

Discussion

The study examined the impact of Digital HRM Accessibility (DHRMA) on employee retention, considering the mediating roles of Work-Life Balance (WLB), Perceived Organizational Support (POS), and Employee Engagement, grounded in Social Exchange Theory (SET) (Blau, 1964) and the Job Demands–Resources (JD–R) model (Demerouti et al., 2001).

First, DHRMA has a strong direct effect on retention (β = 0.708), indicating that digital HR systems enhance employees' intention to stay. Consistent with SET, employees perceive such digital investments as organisational support, reciprocating with loyalty and commitment.

Second, DHRMA significantly predicts WLB (β = 0.804) and POS (β = 0.759), showing that digital HR services help employees manage work-life responsibilities and feel supported. According to the JD–R model, these systems act as job resources, reducing administrative burdens and providing flexibility and control, which enhances psychological well-being.

Third, while DHRMA's direct effect on engagement is limited and non-significant as a mediator (DHRMA → Engagement → Retention), engagement is positively influenced via DHRMA → WLB → Engagement and DHRMA → POS → Engagement. This indicates that engagement primarily emerges from improved work-life balance and perceived organisational support, rather than serving as a direct channel for retention.

Fourth, the serial mediation pathway DHRMA → WLB → POS → Retention is crucial, illustrating that digital HR accessibility enhances work-life balance, which increases perceived organisational support, ultimately boosting retention. This chain aligns with theoretical expectations of resource provision, improved balance, and supportive work environments, leading to stronger retention outcomes.

Finally, complex serial mediation paths involving engagement also reflect similar patterns. For instance, DHRMA → WLB → Engagement (0.113, T = 3.048, p = 0.002), DHRMA → POS → Engagement (0.113, T = 2.122, p = 0.034), and WLB → POS → Engagement (0.083, T = 2.990, p = 0.003) suggest that digital HRM indirectly fosters engagement through enhanced balance and support.

To illustrate each stage of the mediation chain in practice, specific digital HRM features can be considered. For example, mobile leave management tools help employees manage time-off

E-ISSN: 2735-9891 DOI: https://doi.org/10.5281/zenodo.20250967

requests efficiently, enhancing work-life balance (WLB). Flexible scheduling platforms allow employees to adjust work hours according to personal needs, which further improves perceived organizational support (POS), as employees feel the organization is actively facilitating their well-being. Finally, easy access to benefits information or HR self-service portals reinforces retention, as employees recognize the organization's commitment to supporting them. These examples demonstrate how digital HRM features act as relational technologies across each stage of the mediation chain.

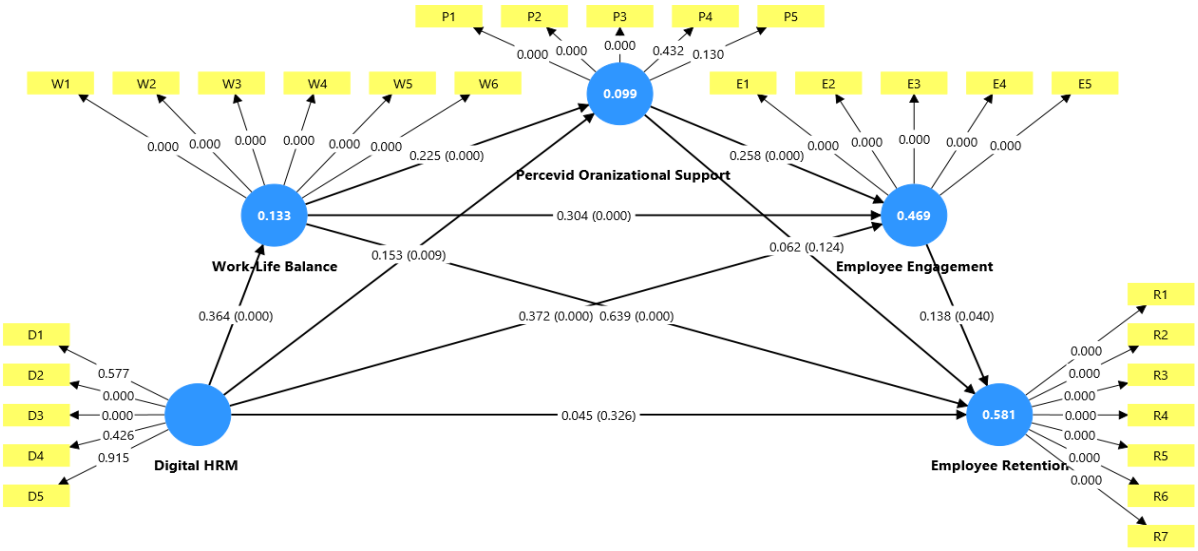

Figure 2: Result of Research Framework

Figure 2 illustrates the interaction of the three mechanisms: Work-Life Balance (WLB), Perceived Organisational Support (POS), and Employee Engagement within a single framework. Digital HRM accessibility (DHRMA) directly influences WLB and POS, which, in turn, interact to enhance employee retention. While Engagement is affected by both WLB and POS, its mediating role is comparatively limited. This visual representation helps clarify that resource-based routes, through WLB and POS, have a stronger and more consistent impact on retention than affective engagement alone. For HR practitioners, this underscores the importance of designing digital HRM features that strengthen employees' work-life balance and perceived support, as these resources are key drivers of retention.

Comparison with Relevant Literature

Our findings align with and extend previous research on digital HRM. Scholze and Hecker (2023) showed that digital HR tools reduce administrative complexity and enhance HR capacity ($\beta = 0.456$, $p < 0.001$), supporting the view that digital HRM improves not only operational efficiency but also higher-level organisational outcomes.

From a JD–R perspective, digital HRM provides valuable resources such as autonomy and efficiency, acting as a motivator and support mechanism rather than merely adding to techno stress.

The limited mediating role of engagement in our model is consistent with prior evidence showing that, while digital HR practices can boost engagement, this does not always translate into retention, highlighting the importance of contextual factors such as person–organisation fit.

E-ISSN: 2735-9891 DOI: https://doi.org/10.5281/zenodo.20250967

Theoretical Implications

Enhancing Social Exchange Theory (SET): Our study extends SET by showing that digital HRM accessibility signals organisational support, prompting employee loyalty and retention. Investments in technology thus carry relational significance beyond mere automation.

Advancing the JD–R Model: Digital HRM serves as a job resource, supporting a serial mediation chain in which digital access improves work-life balance, enhances perceived organisational support, and ultimately drives retention. This underscores the motivational pathway of the JD–R model in a digital context.

Re-conceptualising Engagement's Role: Engagement plays a limited mediating role compared to resource-based pathways. In highly digitised environments, the accumulation of resources such as balance and support may be more crucial for retention than engagement alone.

Practical Implications

Well, practically speaking, several clear strategic lessons can be drawn by HR practitioners and organisational leaders from our research results:

1. Design Digital HR Systems for Support: Digital HRM should not focus solely on automation but also on increasing perceived organisational support. Self-service tools, responsive HR interfaces, recognition, feedback, and accessible HR information make employees feel the organisation cares.
2. Integrate Work-Life Balance Policies with Digital HR: Digital HRM accessibility can support work-life integration. Examples include mobile leave management, flexible scheduling tools, and real-time HR communication channels, which enable employees to better manage work and personal life, leading to retention.
3. Use Engagement Strategically, Not as a Sole Retention Lever: Although engagement plays a limited mediating role, it can be strengthened when combined with resource-based strategies. For example, digital feedback systems can provide employees with recognition, timely guidance, and personalised support, thereby increasing perceived support (POS) and boosting engagement. To ensure that digital HRM remains human-centred, organisations should also focus on employee interaction with the platforms themselves. This includes conducting user-experience (UX) audits, optimising interfaces for accessibility and responsiveness, and collecting regular employee feedback. By maintaining engaging, easy-to-use digital HR tools, employees are more likely to experience the intended benefits for work-life balance and POS, ultimately enhancing retention.
4. Monitor and Measure Resource Outcomes: Organizations can implement a Digital Resource Audit framework to evaluate their HR tools systematically. This involves assessing digital features for their effectiveness in enhancing work-life balance (e.g., flexible scheduling, mobile leave management) and perceived organisational support (e.g., recognition, access to information), before measuring engagement. Such audits help ensure that HR systems function as strategic resources that foster employee retention.

Limitations and Future Research Directions

This research paper has several limitations, which suggest that future research should proceed along these lines. The cross-sectional study design limits causal inference; hence, longitudinal or experimental research is required to test the impact of variation in DHRMA on WLB, POS, engagement, and turnover over time. Moreover, the sample environment (industry, country, and digital maturity) can limit generalizability. Other moderators that need to be investigated

E-ISSN: 2735-9891 DOI: https://doi.org/10.5281/zenodo.20250967

in future studies include digital literacy, organisational culture, leadership support and technology acceptance.

Conclusion

This research not only adds to the existing theory by showing that Digital HRM Accessibility is a strategic organisational resource that promotes retention through the accumulation of psychological and work-life resources. The association of Social Exchange Theory and the Job Demands–Resources model leads to the recognition of perceived organisational support and work-life balance as the crucial mediators, while engagement, although affected by digital access, plays a limited mediating role in retention. From the manager's viewpoint, these findings indicate that digital HR implementations should focus not only on operational efficiency but also on human-centred design. Consequently, organisations would be able to harness the power of digital tools to provide support, maintain balance, and, eventually, retain their talent more efficiently.

Declarations

AI Use Statement: During the preparation of this work, the author(s) used ChatGPT in order to correct grammatical mistakes. After using this tool, the author(s) reviewed and edited the content as needed and take full responsibility for the content of the publication.

Data Availability Statement: The data that support the findings of this study are available from the corresponding author, Purushottam Subedi, upon reasonable request.

Funding Statement: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflict of Interest: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Ethical Approval: This study was conducted in accordance with the Declaration of Helsinki and was approved by the Institutional Review Board of Nepal Philosophical Research Center 011-21-2024 on July 2023.

Authors' Contributions: Dipak Mahat conceived and designed the study; Suman Kamal Parajuli and Purushottam Subedi performed the data collection; Sajeeb Kumar Shrestha, Ganga Thapa analysed the data; Dipak Mahat, Sajeeb Kumar Shrestha and Krishna Prasad Pandey wrote the paper. All authors have read and agreed to the published version.

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E-ISSN: 2735-9891 DOI: https://doi.org/10.5281/zenodo.20250967

Annex: Questionnaire Items

Table A1. Constructs and Questionnaire Items

Construct	**Code**	**Questionnaire Item**
Digital Human Resource Management Accessibility (DHRMA)	D1	I can easily access HR services through digital platforms.
	D2	HR systems are available to me anytime through digital tools.
	D3	The digital HR system helps me complete tasks quickly.
	D4	Online HR platforms provide clear HR policy information.
	D5	Digital HR systems are simple to use.
	D6	I can check my leave, attendance, benefits digitally without difficulty.
Employee Engagement (ENGAGEMENT)	E1	I feel energetic while performing my job.
	E2	I feel proud to work in this organization.
	E3	I stay focused on my work tasks.
	E4	My job gives me a sense of fulfillment.
	E5	I feel motivated to give my best effort.
	E6	I remain committed to my assigned duties.
Perceived Organizational Support (POS)	P1	My organization values my contribution.
	P2	My organization cares about my well-being.
	P3	My organization treats me fairly.
	P4	I receive required resources for my job.
	P5	My organization appreciates my effort.
Employee Retention (RETENTION)	R1	I plan to stay in this organization for a long period.
	R2	I feel loyal to this organization.
	R3	I rarely think about leaving my current job.
	R4	I believe my future is secure in this organization.
	R5	I feel satisfied with my career growth here.
	R6	I feel attached to this organization.
Work-Life Balance (WLB)	W1	I maintain balance between my job duties and personal life.
	W2	My work schedule allows time for family.
	W3	I manage personal responsibilities without work pressure.
	W4	I have enough time to relax after office hours.
	W5	My organization supports a healthy lifestyle.
	W6	I feel satisfied with my work-life situation.