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# AI-ENABLED HR ANALYTICS AND WELL-BEING OF EMPLOYEES: AN EVIDENCE FROM ISLAMIC BANKING SECTOR

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**Abstract**
*This paper looks at how AI-based Human Resource (HR) analytics impacts the wellbeing of employees in the Islamic banking sector in Pakistan. Based on the Job Demands-Resources (JD-R) and Self-Determination theory (SDT) paradigms, the study seeks to evaluate the effects of AI-enabled HR analytics on the wellbeing of employees. Quantitative design is used to gather data from 317 employees, where a structured questionnaire was distributed, and analyzed using PLS-SEM in SmartPLS 3. Findings showed a strong positively significant correlation between AI-driven HR analytics and employee well-being. Findings evidenced that AI systems improved fairness, transparency, and engagement, which proved that AI-based systems are organizational and psychological resources that help employees flourish. In practice, the research informs HR managers and policymakers about the use of AI ethically in order to increase efficiency and well-being. Theoretically, it progresses JD-R and SDT by placing AI as a motivational and technological tool. This study adds an empirical evidence to the existing knowledge on human-centered implementation of AI to enhance employee well-being in work environments that are ethically and technologically based, namely the Islamic banking sector in Pakistan.*

## INTRODUCTION

The introduction of Artificial Intelligence (AI) into organization operations in the current digitalization period has transformed the manner in which decisions are made, the efficiency and variety of operations as well as the management of human resource. Human Resource (HR) analytics is one of the most important areas transformed by AI, reconciling information science, machine learning, and human capital management to improve the decision-making related to workers (Ekuma, 2024). As more organizations integrate talent acquisition, performance appraisal, and staff engagement based on AI tools, concerns arise about the consequences of these developments on employee wellbeing, a multidimensional construct involved in psychological, emotional, and job health (Paramita, Okwir & Nuur, 2024). The nexus of AI-based HR analytics and employee welfare has thus become one of the most salient areas of research, with scholarly and managerial interest all over the world. AI-focused HR analytics is the methodical application of machine learning algorithms, predictive analytics, and big data to produce meaningful insight into employee related data. The technological change allows the HR professional to make evidence-based recruitment, retention, and performance management decisions (Madanchian, 2024). The topicality of such a change is supported by the trend

toward the digitalization of HR ecosystems worldwide, during which AI technologies like predictive turnover modeling, sentiment analysis, and skill-matching algorithms are actively used to streamline the workforce results (Cavescu and Popescu, 2025).

Nevertheless, as the efficiency of organizations and data-driven insights have been welcomed, the ethical and psychological implications of such technologies on employees have been raised in the past. The high dependency on algorithmic decision-making can cause anxiety, the perception of job instability, and feelings of less autonomy, which are associated with lower well-being (Felix, Dourado & Nossa, 2023). In addition, HR systems that use AI may present the challenge of fairness and transparency, which might undermine employee trust in organizational systems (Jabagi, Croteau, Audebrand and Marsan, 2025). Therefore, identifying the equilibrium between the efficiency and the psychological comfort of the employees due to the use of AI in HR has emerged as a paramount issue of concern among scholars and practitioners.

Digitization, and AI application in the field of Islamic banking in Pakistan have become increasingly rapid over the past years as financial institutions aim to achieve excellence in their operations without breaching the Shariah requirements. Islamic banks have a two-fold task of remaining ethical in their HR and using technological innovation. Nevertheless, as AIs-based analytics are becoming more and more advanced to apply to workforce management, there is still a scarcity of empirical research on the effects of such applications on employee well-being in this area. Such a deficiency of a localized insight is a fundamental gap in the HR and organizational behavior studies. International research has investigated the impact of AI on the workplace experience, but the majority of studies concentrate on the global sector, mainly on the Western or technology-centric background, and disregard service industries in developing countries (Zhang, 2024). Moreover, in spite of researchers exploring how AI has positively influenced HR decision-makers and performance, few studies have directly associated these innovations with employees subjective wellbeing outcomes (Taslim, Rosnani and Fauzan, 2025) e.g. job satisfaction, engagement and psychological safety. This gap leaves a knowledge gap in research in the reactions and perceptions of the employees towards AI-based HR systems, especially in culturally and ethically sensitive industries such as Islamic banking.

The challenges mentioned in the foregoing argument that this study seeks to solve is the lack of an empirical research on the effects of AI-powered HR analytics on employee wellbeing within the Islamic banking industry of Pakistan. Although AI can provide materials to make more optimal decisions and increase equity in HR practices, opaque algorithmic decisions may put employees under stress, or make them less certain or less in control. This contradiction between technological progress and human welfare is one of the urgent concerns of organizations nowadays. Although the current research exudes increasing scholarly attention to AI and HR, the empirical contribution that examines how these technologies influence attitudes and well-being outcomes among non-Western, value-dominant settings is lacking. This study therefore aim to address this gap by exploring the dynamic connection between AI-based HR analytics and employee wellness in Pakistani Islamic banking organizations.

The study is based on Self-Determination Theory (SDT) and the Job Demands-Resources (JD-R) Theory. These theories can be considered an effective way to explain the impact of the technological intervention in human outcomes. Self-Determination Theory is a motivation theory, which argues that well-being is well-met when psychological requirements of autonomy, competence, and relatedness are satisfied (McAnally, & Hagger, 2024; Ahmad, Edwin, & Bamber, 2022). These needs can be fulfilled or not through AI-driven HR analytics, which may offer transparent and personalized feedback to employees, allowing them to develop professionally, or they may lead to dehumanization and a sense of losing control. Job Demands-Resources (JD-R) model is a model describing the interaction between work demands (e.g., technology-related stress) and resources (i.e. support, autonomy) in influencing the well-being of the employees. HR analytics available through AI can at once minimize some of the demands (e.g., bias, workload) and create

new ones (e.g., surveillance, fear of automation) (Battal, S. (2025). In this way, AI can either be an enabler or an inhibitor of the well-being, which depends on the balance of these factors. The combination of these theoretical views justifies considering the ways in which AI-based HR analytics could be developed and aimed at improving the welfare of employees in ethically based and technologically advancing organizations.

Thus, the main objective of the research is to explore how AI-based HR analytics impacts the well-being of employees working in the Islamic banking field of Pakistan. To be more precise, the study is expected to address the connection between the process of AI-enabled decision-making and the psychological and emotional well-being of the employees. The research is designed to advance a human-oriented approach to AI implementation that should not only improve HR performance but also support staff trust, satisfaction, and psychological well-being. This study also advances the current field of research in the nexus of AI, HR analytics, and employee well-being in various significant respects. It serves as a context-specific evidence of the Islamic banking sector in Pakistan, which adds new literature, which is largely Western-focused. It contributes to the knowledge base by integrating the use of the STS and JD-R models on the socio-technical balance variability that supports well-being at work in AI-enabled organizations. The results will provide practical solutions that can guide HR managers to implement AI technologies in an ethical and humane manner that balances the efficacy of technologies with the Islam-based ethical values and employee interests.

## Literature Review and Hypothesis

### AI-Driven HR Analytics

Human Resource Management (HRM) is the field that is transformed by the emergence of artificial intelligence (AI) and data analytics to the extent of introducing a paradigm shift in the field that used to focus on intuition and made decisions rather than evidence-based and, including data-driven ones. AI-related HR analytics combines machine learning, natural language processing and predictive modelling to derive actionable insights out of large volumes of HR data, thus streamlining staffing, talent management and employee engagement (Manoharan, 2024). Predictive AI systems are applicable in HR throughout the career cycle, including the recruitment and selection process, as well as performance management and retention. Recent researches point out that AI raises efficiency, objectivity, and precision of HR-related operations, by automating repetitive activities and enhancing predictive decision-making (Madanchian, 2024). As an example, AI-related analytics solutions presuppose the algorithms to predict attrition, recognize the high potential employees, generate optimal workforce planning (Vhora, Bhandwalkar & Rege, 2024). Additionally, the transition to AI-based decision-making makes HRM practices consistent with the overall organization strategy since it enhances accuracy, transparency, and accountability (Popo–Olaniyan et al., 2022). The result of these systems is a culture based on evidence-based management, in which HR professionals make essential decisions regarding the allocation of workforce, promotions, and training requirements based on data insights, excluding intuition (Ajiga, Ayanponle & Okatta, 2022).

Nevertheless, though the technological opportunities of AI to HR analytics are already quite clear, the recent conversation has shifted to discussing its human and ethical outcomes. Social biases can be strengthened by the use of AI systems, even though they are meant to eliminate them, as a result of erroneous data or obscurity in algorithms (Shenbhagavadivu, Poduval & Vinitha, 2024). In addition, the adoption of AI in HR is fast, which necessitates well-developed governance systems to maintain transparency, fairness, and inclusivity (Chandratreya, 2024). The implementation of AI-based HR analytics in the emerging economy setting of Pakistan is still at an early stage. Research indicates that the banking industry especially the Islamic banks have special problems embracing these technologies disregarding privacy issues, insufficient digital infrastructure, and cultural barriers (Abu-Karsh & Badarin, 2024). However, AI-based analytics are getting more frequently acknowledged as strategic instrument to improve decision-making and organizational performance as competition grows and employee demands develop (Rajan and Nagajothi, 2024).

**Employee Well-Being**

Employee wellbeing has risen to be a pillar of modern day organizational performance (Ahmad, Shah, Memon, Kakakhel, & Mirza, 2023) and it involves both physical, psychological and social aspects of employee experiences in their work places. It is directly related to job satisfaction, involvement, and effectiveness. The increased awareness of employee well-being as a strategic agenda has made organizations include well-being metrics to their HR analytics systems (Suvarna, 2025). Recent studies highlight the fact that, as a growing necessity in caring and safeguarding the well-being of employees, technological progress, especially AI, gains an increasing significance in monitoring (Soulami, Benchekroun & Galiulina, 2024). Using predictive analytics and sentiment analysis, AI systems can identify tendencies in staff involvement data, absenteeism, or performance indicators that indicate burnout or discontent. As an example, communication tones and workload allocation can be monitored through AI-driven services and made aware of HR teams with possible well-being risks before they deteriorate (Keong, Vui & Ling, 2025).

It is becoming more and more evident that experts should approach the issue of employee well-being within a holistic framework, where technological, organizational, and psychological factors are considered in their complex interrelation. Strong organizational support, equitable working habit and good communication are some essential mediators that lead either to improvement or deterioration of well-being with the implementation of AI-based HR systems (Taslim, Rosnani & Fauzan, 2025). To use the example, necessary automation helps to lighten the workload and burden on administrators and reduce stress levels, yet over-monitoring and algorithmic assessment may destroy the sense of autonomy and trust in the employees (Popo–Olaniyan et al., 2022). Evidence suggests as well that when AI is effectively used in HRM, the outcome is a positive correlation with increased engagement, satisfaction, and perceived fairness among the employees (Vhora et al., 2024). Yet, researchers warn that AI and well-being have one-way relationship. The policies opposing AI or the improper implementation of the technology may impose stress, uncertainty, and job insecurity, especially in cultures with skepticism towards the use of technology (Nyathani, 2021).

Employee welfare in Islamic banking practices acquires new ethical and spiritual dimensions. Maslahah (public interest) is a principle of the Islamic ethic that focuses on the holistic welfare, which implies that the technological advancements like AI should have their positive impact on human dignity and social justice. Therefore, the implementation of AI-based HR analytics should be based on the values of Shariah, which are fair, transparent, and trusted by employees (Shalhoob, 2025).

**Impact of AI-Driven HR Analytics on Employee Well-Being**

The place where AI-enabled HR analytics and employee well-being meet is a newly developed and emerging crucial line of study. The development of empirical evidence allows regarding the idea that AI-based HR systems can generate well-being through increased engagement, equity, and work-life balance (Selvamohana, Sahu, Singh, Mohanraj & Sharma, 2025). AI enables the continuous observation of the workload trends, which enables HR departments to prevent burnout in advance. As an illustration, AI-based dashboards can recognize those employees who are under stress at work and prescribe additional measures like redistributing workloads or psychological assistance (Assumang, Umah, Vincent, Abolade & Shasere, 2025). Additionally, predictive analytics will allow the managers to design personalized career development programs that will boost motivational and psychological well-being (Cavescu & Popescu, 2025). Still, AI-driven HR analytics and well-being have a complicated relationship. Research has also identified potential negatives such as employees worrying about information privacy and algorithms being biased (Zhou, Wang & Chen, 2023). The lack of human empathy of algorithmic decision-making can reduce trust and perceived organizational support (Li & Bitterly, 2024). These concerns highlight the importance of implementing ethical models that are both technology efficient and human sensitive. In spite of these issues, the overwhelming evidence suggest that AI-based HR systems, when applied in a responsible manner, can lead to significant benefits

in the well-being of the employees and help lower the administrative burden, increase fairness, and provide personalized developmental opportunities (Soulami, Benchekroun & Galiulina, 2024).

Although the literature gives a background of the role of AI in HRM and employee performance, there are still a number of gaps. To begin with, there is little empirical literature on the direct relationship between AI-based HR analytics and employee welfare, especially in the developing world and industry-specific applications such as Islamic banking. Second, operational advantages of AI have been considered in the majority of studies but not its psychosocial implication. Third, cultural and ethical dimensions that may moderate the relationship have not been well investigated, particularly those related to situations conditioned by the Islamic orientations. Based on the analyzed literature and theoretical principles, this paper hypothesizes that AI-based HR analytics have a positive impact on employee well-being by enhancing transparency, efficiency, and personalization within the HR processes. Thus the following hypothesis is suggested:

**H1:** AI-Driven HR Analytics significantly influence Employee Well-Being.

### Theoretical Foundation

The literature utilized in the study is based on the Job Demands-Resources (JD-R) Theory and the Self-Determination Theory (SDT), which propose an integrative approach to the comprehension of the effects of AI-driven HR analytics on the well-being of employees. JD-R Theory in connection to extended digital and algorithmic job demands states that wellbeing of employees is dependent on the association amidst job demands (including technological stressors, algorithmic monitoring, or pressure to perform) and job resources (including autonomy, fairness, and support of the organization) (Scholze & Hecker, 2023). In the context of the HR system operated by AI, the analytics may mitigate some of the needs (e.g., manual workloads, bias), yet introduces new psychological pressures regarding privacy and transparency. Well-being of employees would depend on the ability of AI integration to increase or decrease these resources. As a supplementary framework Self-Determination Theory (SDT) postulates that wellbeing may thrives when individual psychological needs of autonomy, competence, and relatedness are met (Ryan et al., 2022). AI-based HR analytics may contribute to these requirements, such as offering transparent, individual feedback and development, or frustrate these requirements as a result of excessive automation and the loss of a sense of control (Liu et al., 2024). By combining both the JD-R and SDT approaches, it becomes possible to have a multidimensional view of employee well-being at the digital workplace. JD-R describes the structural equilibrium between demands and resources whereas SDT describes the psychological mechanism behind AI in stimulating motivation and well-being. Combined, the theories offer a strong conceptual framework to analyze the influence of AI-driven HR analytics on employee well-being in the context of ethics and organization of the Islamic banking environment in Pakistan.

## Methods

### Methodology and Procedures

The research design and survey approach is quantitative and cross-sectional in nature in order to investigate the effects of the use of AI-based HR analytics on employee well-being in the Islamic banking industry of Khyber Pakhtunkhwa (KP), Pakistan. The quantitative methodology permits objective measurement and statistical investigation of the connections between variables (Creswell & Creswell, 2018). A structured questionnaire was used to collect data among employees at banks, aimed at perceptions of AI-driven HR practices and the outcomes of well-being. The cross-sectional character of the study allows considering the pattern of analysis in one-time frame, which will be helpful to understand how employees experience AI in the HR processes. Sound ethics, such as informed consent and secrecy of data, were upheld to facilitate the confidence that respondents would place in the study and the reliability of the results of the studies.

### Population and Sample

The study population comprises employees of Islamic banks based in Khyber Pakhtunkhwa, Pakistan. A convenience sampling method was used to collect data on 317 respondents, which was also a

wide representation of the various positions, and the period of tenure serving in different branches. The convenience sampling was selected based on the accessibility and time factors typical to the organizational field researches (Etikan, Musa & Alkassim, 2016). The sampling technique enable the researcher to obtain the results of people who are directly affected by AI-enabled HR practices, hence making samples relevant to the study aims. The required minimum sample size that is recommended to conduct PLS-SEM analysis is met (Hair, Hult, Ringle, and Sarstedt, 2021).

**Measures**

The questionnaire applied two standardized scales to determine the study variables. The HR Analytics based on AI was measured with a five-item scale adapted from Chatterjee, Chaudhuri, Vrontis, and Siachou (2022) scale, which reflects the perceptions of employees in the use of AI in HR-related decisions. The PERMA Profiler as a measure of Employee Well-Being was a 15-item scale created by Butler and Kern (2016) and includes five dimensions of well-being: Positive emotion, Engagement, Relationships, Meaning, and Accomplishment. All the items included in it were measured with 5-point Likert scale with the range 1 (strongly disagree) to 5 (strongly agree). The instrument was pretested to maintain clarity, internal consistency and relevance. The alpha values of scales were greater than 0.70, meaning that there was acceptable reliability.

**Data Analysis Techniques**

The data were analyzed by means of Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 3.0 software (Ringle, Wende & Becker, 2015). This method was chosen because it is appropriate to investigate complex predictive models having many constructs that include small samples (Hair et al., 2021). It involved the evaluation of measurement model validity and reliability, and subsequently the structural path analysis was employed to test the hypothesized relationships. To support the structural findings, SPSS was used to perform descriptive statistics and demographic analyses.



**Table 1: Sample Demographics**

| Demographic Variables | Group/Category | Occurrence (n) | Percentage (%) |
|---|---|---|---|
| Gender | Male | 197 | 62.1 |
| | Female | 120 | 37.9 |
| Age (years) | Below 25 years | 36 | 11.4 |
| | 26–35 years | 171 | 54.0 |
| | 36–45 years | 93 | 29.3 |
| | Above 45 years | 17 | 5.4 |
| Education Level | Bachelor's Degree | 69 | 21.8 |
| | Master's Degree | 216 | 68.1 |
| | MPhil/Doctorate | 32 | 10.1 |
| Job Position | Junior/Operational Staff | 128 | 40.4 |
| | Middle Management | 142 | 44.8 |
| | Senior Management/Executives | 47 | 14.8 |
| Experience (years) | Less than 3 years | 36 | 11.4 |
| | 3–8 years | 184 | 58.0 |
| | More than 8 years | 97 | 30.6 |
| Employment tenure in current bank | Less than 2 years | 41 | 12.9 |
| | 2–5 years | 148 | 46.7 |
| | More than 5 years | 128 | 40.4 |

N=317

**Data Analysis and Results**

The data was analyzed with PLS-SEM in SmartPLS 3, one of the most robust methods to use in predictive models and non-normal forms of data distribution (Hair et al., 2021). PLS-SEM suits exploratory research and theory building the most when the goal of the research is to ensure the maximization of the explained variance of the endogenous constructs, not model fit (Subhaktiyasa, 2024). This analysis has been done in two broad phases. Assessment of construct reliability and construct validity (indicator loadings, composite reliability, average variance extracted, discriminant validity) using measurement models. Hypothetical relationship analysis to evaluate structural models to test the relationships between constructs such as path coefficients, coefficient of determination ($R^2$), effect sizes ($f^2$), predictive relevance ($Q^2$), and significance through bootstrapping (5,000 subsamples).

**Sample Characteristics and Demographics**

Table 1 gives the demographics of the respondents at 317 people in the Islamic banking Industry of Khyber Pakhtunkhwa in Pakistan. The sample was evenly distributed between males (62.1) and females (37.9) with the balance of gender representation also being moderate (representative of the local banking staff). Most of the respondents (54%) fell in the 26-35 years group with the next 29.3% falling in the 36-45 years bracket. Most of the participants secured master degree (68.1%), indicating a high-quality employee base, with 21.8% and 10.1% having a bachelor and MPhil or doctorate respectively. In terms of job position, 44.8 percent were in the middle management, 40.4 percent were in the operational positions and 14.8 percent were in senior management positions. Over fifty-eight percent (58) of those with 3-8 years of work experience and 46.7 percent of those with tenure of 2-5 years in the present bank. All of these elements point to a highly skilled, experienced, and professionally diverse workforce in the Islamic banking industry.

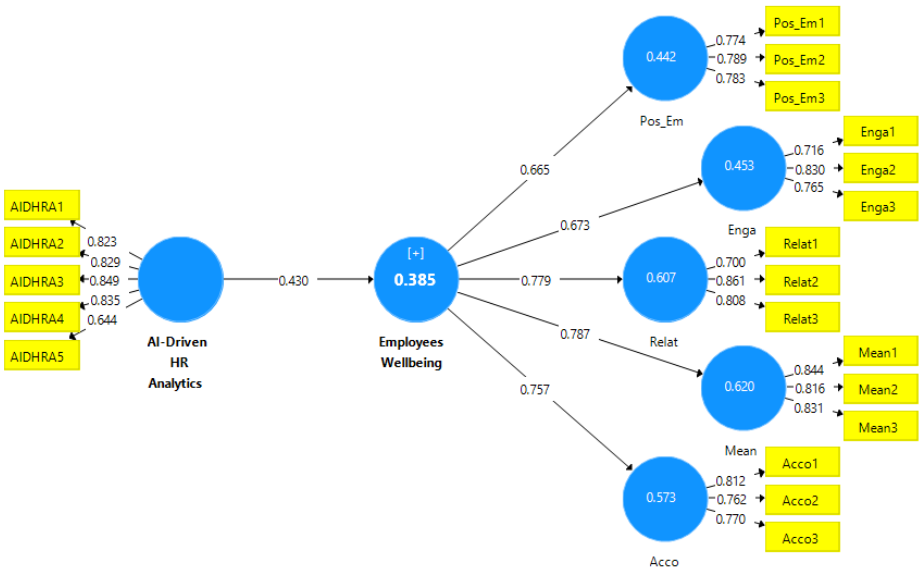


**Figure 1: Outer and Inner Model**

**Assessment of Assumptions and Common Method Bias (CMB)**

The assumptions of regression analysis involving linearity, multicollinearity and normality were studied before the model was being estimated. All indicator Variance Inflation Factor (VIF) values were found to be less than the critical value of 3.3, which does not indicate any significant problems (Hair et

al., 2021). Procedural and statistical controls were used, to determine common method bias. Anonymity of responses, wording simplicity and item randomness were procedurally maintained. Statistically, the Harman single-factor test meant that this factor explained less than 40 percent of the variance implying that there is no serious CMB. Moreover, the full collinearity test in SmartPLS showed VIF values less than 3.3 of all constructs, which indicated that the issue of CMB was not of much concern (Kante and Michel, 2023).

**Table 2: Loadings and Reliability**

| Constructs | Items | Loadings | T Statistics | CA | CR | AVE |
|---|---|---|---|---|---|---|
| AI-Driven HR Analytics | AIDHRA1 | 0.823** | 39.206 | 0.856** | 0.898** | 0.639** |
| | AIDHRA2 | 0.829** | 39.219 | | | |
| | AIDHRA3 | 0.849** | 41.048 | | | |
| | AIDHRA4 | 0.835** | 42.861 | | | |
| | AIDHRA5 | 0.744** | 19.248 | | | |
| Positive Emotions | Pos_Em1 | 0.774** | 30.160 | 0.782** | 0.825** | 0.611** |
| | Pos_Em2 | 0.789** | 32.414 | | | |
| | Pos_Em3 | 0.783** | 32.121 | | | |
| Engagement | Enga1 | 0.716** | 18.174 | 0.763** | 0.815** | 0.595** |
| | Enga2 | 0.830** | 46.920 | | | |
| | Enga3 | 0.765** | 25.917 | | | |
| Relationships | Relat1 | 0.709** | 19.173 | 0.791** | 0.835** | 0.629** |
| | Relat2 | 0.861** | 46.941 | | | |
| | Relat3 | 0.808** | 34.179 | | | |
| Meaningfulness | Mean1 | 0.844** | 50.344 | 0.815** | 0.869** | 0.689** |
| | Mean2 | 0.816** | 40.755 | | | |
| | Mean3 | 0.831** | 47.796 | | | |
| Accomplishments | Acco1 | 0.812** | 41.098 | 0.771** | 0.825** | 0.611** |
| | Acco2 | 0.762** | 32.393 | | | |
| | Acco3 | 0.770** | 33.763 | | | |

Notes: ** p<0.00

**Measurement Model Assessment**

Measurement model was evaluated to ensure the reliability and validity of all constructs of the study. Table 2 findings indicate high psychometric properties of all constructs. The observed indicators were above the lowest possible standardization loading of 0.70 and varied between 0.709 and 0.861, implying that the studied indicators have been effective to reflect their latent constructs. Internal consistency reliability was established using Cronbach alpha (CA) and Composite Reliability (CR) which exceeded the cutoff of (0.70). In particular, CA values were spanning between 0.763 and 0.856, CR between 0.815 and 0.898 and this indicates that the items representing each construct measure what they intend to measure and lack measurement error. Convergent validity was determined because the average variance extracted (AVE) of all constructs was above the 0.50 criterion and the values ranged between 0.595 and 0.689 which indicated that over half of the variance of the indicators were explained by the constructs to which they were attributed. In totality, these findings support that the measurement model showed reasonable values of reliability, convergent validity, and significance of the indicators, hence a solid empirical basis to continue with the assessment of the structural model. The results are consistent with the methodological standards that Hair et al. (2021) and Subhaktiyasa (2024) recommend proving the

fact that the measurement model is not only statistically sound but also makes sense in the context of the study.

**Table 3: Fornell-Larcker Test**

| Constructs | AIDHRA | Acco | Enga | Mean | Pos_Em | Relat |
|---|---|---|---|---|---|---|
| AIDHRA | **0.800** | | | | | |
| Acco | 0.251 | **0.782** | | | | |
| Enga | 0.203 | 0.423 | **0.772** | | | |
| Mean | 0.269 | 0.545 | 0.374 | **0.830** | | |
| Pos_Em | 0.235 | 0.385 | 0.497 | 0.393 | **0.782** | |
| Relat | 0.312 | 0.517 | 0.367 | 0.661 | 0.456 | **0.793** |

**Notes: Square root of AVE on the diagonal**

**Table 4: Heterotrait-Monotrait (HTMT) Ratio**

| | AIDHRA | Acco | Enga | Mean | Pos_Em |
|---|---|---|---|---|---|
| Acco | 0.322 | | | | |
| Enga | 0.258 | 0.620 | | | |
| Mean | 0.324 | 0.750 | 0.510 | | |
| Pos_Em | 0.302 | 0.563 | 0.725 | 0.538 | |
| Relat | 0.405 | 0.747 | 0.520 | 0.891 | 0.655 |

Both the Fornell-Larcker and Heterotrait-Monotrait (HTMT) ratios were used to test discriminant validity as shown in Tables 3 and 4. The Fornell-Larcker findings showed that the square roots of the Average Variance Extracted (AVE) of the constructs in all cases had more value than their respective inter-construct correlations. In the case of AI-Driven HR Analytics, the square root of AVE (0.800) was higher than correlations with other constructs, which establishes that all the latent variables have more variance with its own indicators than the other constructs. All other constructs, such as Accomplishments (0.782), Engagement (0.772), Meaningfulness (0.830), Positive Emotions (0.782) and Relationships (0.793), also satisfied this requirement. As these findings are complemented all the values of the HTMT that were below the conservative value of 0.85, which means high discriminant validity. Combined, these results prove that the constructs are conceptually differentiated and well-differentiated empirically and fit the recommended criteria (Hair et al., 2021; Henseler et al., 2015).

**Table 5: Results of data analysis**

| Path | β | T Stat | Confidence Interval | | R2 | F2 | Q2 |
|---|---|---|---|---|---|---|---|
| | | | LL | UL | | | |
| AIDHRA→Emp_WB | 0.430** | 9.579 | 0.341 | 0.510 | 0.38** | 0.23** | 0.332 |
| AIDHRA→Pos_Em | 0.286** | 9.141 | 0.228 | 0.344 | | | |
| AIDHRA→Enga | 0.289** | 9.312 | 0.232 | 0.355 | | | |
| AIDHRA→Relat | 0.335** | 9.352 | 0.265 | 0.404 | | | |
| AIDHRA→Mean | 0.338** | 9.680 | 0.272 | 0.407 | | | |
| AIDHRA→Acco | 0.325** | 9.646 | 0.260 | 0.389 | | | |

Notes: ** p<0.00, AIDHRA=AI-Driven HR Analytics, Emp_WB=Employees Wellbeing, Pos_Em=Positive Emotions, Enga=Engagement, Relat=Relationships, Mean=Meaningfulness, Acco=Accomplishments

**Evaluation of Structural Model and Hypothesis Testing**

To measure the hypothesized relation among AI-Driven HR Analytics (AIDHRA) and Employee Well-Being (Emp_WB), the structural model was tested. The findings in Table 5 showed that there was a strong and statistically significant positive relationship between AIDHRA and Emp_WB (β = 0.430, t = 9.579, p = less than 0.001). The 95 percent confidence interval of between 0.341 and 0.510 does not contain zero which ensures that the coefficient of the path is robust and stable. This result empirically confirms the hypothesis made, which is that the proper implementation of AI-based HR analytics can contribute greatly to the wellbeing of employees in the KP, as an Islamic bank, in the Pakistani region. The $R^2$ of Employee Well-Being was 0.38, that is, about 38 percent of the variation in employee well-being can be attributed to AI-based HR analytics. That is an indication of moderate explanatory capability based on the accepted standards of the PLS-SEM studies (Hair et al., 2021). Moreover, the value of the effect size ($f^2$) of 0.23 represents a large effect, which proves that AI-based HR analytics significantly affect variations in outcomes observed in the condition of employees. The predictive relevance ($Q^2$) score (0.332 obtained through the blindfolding procedure) exceeds zero significantly, indicating that the model possesses a large predictive utility and external validity (Henseler et al., 2015). Taken together, these findings support the premise in the theory that AI-based analytics has the potential to lead to the favorable employee outcomes by increasing decision accuracy, transparency, and fairness, which subsequently boost psychological and emotional well-being. The statistical data, therefore, confirms the idea as a strategic instrument of organizational effectiveness as well as the mechanism to facilitate the prosperity of the employees, which corresponds to the current empirical evidence in the field of AI-based human resource management and organizational behavior research (Chatterjee et al., 2022; Vrontis et al., 2023).

**Discussion on Results**

The main aim of this research was to explore how AI-based HR analytics affects the wellbeing of employees in the Islamic banking industry (Pakistan). Based on the paradigms of the Job Demands-Resources (JD-R) and Self-Determination Theory (SDT), the study was designed to find out whether AI-driven HR systems boost psychological and emotional aspects of employee well-being. The observed results of the current study demonstrated that there was a strong and statistically significant positive correlation between AI-driven HR analytics and employee well-being. The implementation of AI in HR has a valuable contribution to employee overall well-being, experiences of positive feelings, engagement, relations, meaning, and achievements. The findings affirm the conclusion that HR analytics defined by AI evidently increases the well-being of employees. This is in line with the earlier empirical findings that AI-mediated HR practices enhance employee satisfaction, engagement, and perceptions of fairness (Vhora, Bhandwalkar, and Rege, 2024). Equally, Selvamohana, Sahu, Singh, Mohanraj, and Sharma (2025) discovered that AI-based HRM improves workforce engagement and productivity owing to predictive analytics and employee insights. The current research builds upon them by revealing that the responsible implementation of AI-driven HR analytics do not only comply with the organizational efficiency but also ethical and human-based values that are highly important in Islamic banking institutions. Recent studies help to draw the conclusion that AI in HRM improves employee experiences and well-being. To illustrate, Dadheech (2024) noted that AI-infused HR analytics increase transparency and ethical governance, which causes greater employee trust and satisfaction. On the same note, Basnet (2024) concluded that AI-based predictive analytics has the ability to enhance employee retention and satisfaction via the detection of risks affecting well-being and the ability to intervene proactively.

Nonetheless, some literature does not concur with the findings of the current study. A number of researchers have put into the limelight the possible

dangers and adverse consequences of using AI in HR. Indicatively, Nyathani (2023) warned that the absence of transparency and algorithmic prejudice can destroy the trust of the employees and aggravate job insecurity. Equally, Chandratreya (2024) suggested that employees can feel stressed or feel less autonomous when the AI systems take over the evaluation or promotion process, which relies on human discretion. The results somewhat go against the current study, indicating that contextual and ethical implementation plays a vital role in defining whether AI will improve or harm well-being. These opposite outcomes highlight the need to make the application of AI conform to Shariah-compliant ethical principles that focus on fairness (Adl), welfare (Maslahah), and trust (Amanah) in the context of Islamic banking (Khoso and Pathan, 2024). The optimistic outcomes of this study might be due to the fact that the employees perceived that AI-based HR analytics, when used openly, complement Islamic ethical values as they are likely to ensure equity and fairness in HR decision making.

Lastly, the moderate rate of explaining (R2 = 0.38) which was observed in the given research indicates that AI based HR analytics can play a key role in determining the well-being of employees yet it does not make it alone. The other factors of an organizational culture and organizations are probably complementary to each other. Again the JD-R model predicts that well-being is a result of offsetting technological demands against the supportive resources (Scholze & Hecker, 2023). The affirmative correlations in all dimensions of well-being, in particular, meaningfulness and relationships, can be seen as a sign that AI tools in HR can reinforce employees about their meaning and social belonging through equitable treatment and growth prospects.

**Implications of the Study**

This study provides substantial theoretical implications to the Job Demands-Resources (JD-R) Theory and Self-Determination Theory (SDT) through empirical validation of AI-enhanced HR analytics as a two-way avenue to promote as well as to control employee well-being. The correlation in the variables of AI-driven HR analytics and staff well-being is positive, which means that AI, in its ethical and transparent application, is mostly a job resource (as AI supports it as the source of autonomy, fairness, and support, enhancing psychological well-being). This is an extension of the JD-R model, which incorporates the use of technological resources as an important dimension of new job resources that reduces work stressor and increases employee involvement. (Vhora et al., 2024). Using an SDT lens, the findings support the notion that AI-based HR analytics should build on fundamental motivating necessities, such as giving employees tailored feedback, fair assessments, and open HR procedures. This coincides with the current findings that AI-based HR systems have the potential to increase intrinsic motivation and psychological prosperity when used in a morally sound and humanity-controlled way (Selvamohana et al., 2025). These theoretical assumptions empirically tested through a non-Western ethically grounded Islamic banking environment reveal a non-Western variant of SDT, with cultural and moral aspects of motivation enhanced.

This study has significant implications on the HR practitioners, organizational leaders, scholars and policymakers aiming at integrating artificial intelligence in human resource management effectively and in a morally sound manner. The results show that in cases of responsible design and implementation of AI technologies, they can increase transparency, fairness, and accuracy of decisions, which are major contributors of employee trust and satisfaction. To HR practitioners and managers, the findings underscore the need to consider AI not only as a tool of efficiency but also as a strategy to help employees well-being. Managers would need to adopt AI-based analytics that offer clear performance feedbacks, equitable evaluation measures, and individualistic growth experiences. Moreover, training programs must be created to increase the AI literacy of employees, alleviating technological stress (Saeed, Xigen, Ahmad, Dukhaykh & Khan, 2025), as well as perceived control, which is a key factor in maintaining the well-being of the digital working environment. As an academician, the research paper provides empirical evidence in the context of a developing economy and Islamic banking, increasing the cultural breadth of the studies on AI and HRM. These lessons can inform policymakers to establish

national standards of HR technology and foster the cause of AI ethics informed by Islamic and organizational values.

**Limitations and Future Research Directions**

Regardless of its worthy contributions, this research has a number of limitations that can be employed in future researches to curb or improve them. To begin with, the research design was cross-sectional, meaning that it involved the collection of data at a point; as such, causal correlation between AI-based HR analytics and employee well-being cannot be established conclusively. Longitudinal or experimental design would be more effective in demonstrating the temporal and causal dynamics. Second, convenience sampling restricts the internal validity of the results to the great beyond the Islamic banking industry of Khyber Pakhtunkhwa, Pakistan. External validity can be enhanced by using random or stratified sampling in various industries and geographic locations in future research. Third, data were based on self-reported survey and it could be subject to social desirability or common method bias although the procedures and statistics have been controlled. Objective HR performance data or multi-source measures might address this restriction. Fourth, without investigating the possible mediating or moderating processes, like trust in technology, perceived organizational support, or ethical climate, the research concentrated mainly on the direct correlation between AI-driven HR analytics and employee well-being. Lastly, the elements of culture and context, especially regarding Islamic banking and emerging markets, can also affect the attitude to AI and well-being, thereby excluding the possibility of generalizing the findings to other cultural or industrial environments.

There are some key directions in which this study can be extended in the future. To begin with, researchers might utilize longitudinal or combined methods to measure the changing attitudes regarding the use of AI and its long-term influence on the state of well-being. Second, the moderating factors may be investigated to include AI literacy, leadership style, organizational culture or ethical governance to gain deeper insights about when and how AI-based HR analytics have a positive or negative impact on well-being. Third, cross-industry and cross-cultural comparative research such as non-Islamic financial institutions, Western economies, etc. may indicate the cross-cultural variability of AI acceptance and reaction of employees. Fourth, new technologies (like Generative AI in HRM) (Ahmad, Wadood and Khan, 2024), adaptive learning architectures, and emotion-recognition analytics represent new areas of research. Lastly, future studies are to combine the learning of AI ethics, behavioral analytics, and organizational psychology and provide a big picture that guarantees the consistency of AI innovation with the dignity of employees, their trust, and their long-term organizational wellbeing.

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