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KEYWORDS	ABSTRACT
Ethical Leadership, Artificial Intelligence, Higher Education, Job Satisfaction, Employee Engagement, Employee Performance.	Artificial intelligence (AI) is increasingly transforming higher education through applications in teaching, research, assessment, administration, student support, and institutional decision-making. Although AI offers substantial opportunities for efficiency and innovation, its implementation also creates organisational and human challenges related to transparency, fairness, accountability, professional autonomy, job uncertainty, and employee well-being. This study examines the role of ethical leadership in shaping employee outcomes within the evolving context of AI-enabled higher education. A quantitative, cross-sectional research design was adopted, and data were collected from academic and administrative employees in higher education institutions using a structured questionnaire based on a five-point Likert scale. The study examined ethical leadership in relation to four employee outcomes: job satisfaction, organisational commitment, employee engagement, and employee performance. Partial Least Squares Structural Equation Modelling (PLS-SEM) using SmartPLS was employed to assess the measurement and structural models and test the proposed relationships. The findings indicate that ethical leadership has positive relationships with job satisfaction, organisational commitment, employee engagement, and employee performance. The results suggest that fairness, integrity, transparency, accountability, and employee-oriented leadership can strengthen positive employee responses during periods of technological and organisational change. The study further highlights that successful AI integration in higher education requires more than technological infrastructure and digital competencies. Human-centred leadership, employee participation, transparent communication, appropriate training, ethical governance, and organisational support are essential for responsible and sustainable AI transformation. The study contributes to the emerging literature by connecting ethical leadership and employee outcomes with the human dimensions of AI-enabled transformation in higher education, particularly within the developing higher education context.
ARTICLE HISTORY	 2026 Journal of Social Sciences Development
Date of Submission: 24-07-2026	
Date of Acceptance: 26-08-2026	
Date of Publication: 02-09-2026	
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Email:	hsaleem@ibitpu.edu.pk
DOI	https://doi.org/10.59075/jssd.v5i7.251
Volume/Issue	5(7), 2026, 01-17

Introduction

Artificial intelligence (AI) has become one of the most impactful technological advances of our time in higher education. AI has become a growing part of the teaching, assessment, research, student support, administration, data analysis, and decision-making processes at universities. These technologies can help to increase efficiency, enable personalised learning, enrich the learning experience and alleviate the burden of repetitive work. While the benefits of AI are undeniable, it also brings with it several ethical, organizational, and human concerns, such as transparency, accountability, privacy, fairness, algorithmic bias, human autonomy, and the future of professional work (Al-Zahrani & Alasmari, 2024; Holmes et al., 2022; Mumtaz et al., 2025). AI transformation in higher education should be seen not just as a technological process, but as an organisational transformation, where leadership and employees are crucial to the successful implementation of AI and its positive institutional and employee impact.

As AI becomes more prevalent, the impact on humanity has become a topic of greater debate. While AI can augment human capabilities and boost organisational productivity, there can be uncertainty among employees about how their roles will evolve, the amount of work they will need to do, their professional autonomy, expectations of their performance, and employment security. The issues are especially important in higher education as academic and administrative staff have specific knowledge, professional skills and occupational identity that could be affected by intelligent technologies. In recent years, the ethical, social, and educational impacts of AI use in universities have been brought to light, and the importance of having suitable mechanisms to guide responsible implementation of AI has been emphasised (Al-Zahrani & Alasmari, 2024). Likewise, studies on AI-induced job insecurity suggest that psychological effects of technological shifts may also impact employees' attitudes and actions in the workplace, underscoring the role of leadership in supporting employees through the process of change related to AI (Kim et al., 2024).

In this context, ethical leadership offers a valuable human-centred lens to examine how organisations will react to AI. Ethical leadership typically involves being fair, honest, responsible, communicating ethically, behaving appropriately, and caring for employees and other stakeholders. Ethical leaders impact their employees through their actions, messages, decision making, and reinforcement of ethical values. In higher education, where decisions of the organisation often involve professional autonomy, academic integrity, fairness, accountability and trust, these characteristics are particularly important. Ethical leadership can facilitate employees' understanding of how new technologies should be applied, how their responsibilities might shift, and how ethical issues are being managed by institutional decision makers in an AI environment. Ethical leadership has been shown to be related to ethical work behaviour and organisational commitment in the education sector, highlighting the impact of ethical leadership beyond the technological aspects (Guo et al., 2023).

Ethical leadership is also related to employee outcomes, which is another indicator of its importance. The knowledge, motivation, commitment, creativity and professional contributions of academic and administrative employees are crucial to the success of universities. Job satisfaction,

organisational commitment, employee engagement and job performance are positive outcomes that may lead to institutional effectiveness while dissatisfaction and disengagement can have a negative impact on organisational functioning. These relationships are supported by evidence from higher education in Pakistan. Khan et al. (2021) concluded that job performance of academic employees was positively related to ethical leadership and job satisfaction acted as a partial mediator between the two. Likewise, Hasan et al. (2023) found that ethical leadership had a positive impact on faculty job satisfaction in the higher education institutions in Balochistan. The results of this research show that leadership practices can have a significant impact on the perceptions and reactions of university employees to the conditions of the organisation.

There is also evidence from other settings in higher education that ethical leadership is important. Gollagari et al. (2022) concluded that ethical leadership had a positive effect on the employee's commitment in public universities, and perceived good governance was found to have an important mediating effect. The finding is especially important for the adoption of AI as it has been noted that governance systems need to be perceived as transparent, legitimate and accountable to employees to drive technological transformation. Similarly, Muhammad and Shujjaudin (2023) determined that ethical leadership had a positive influence on the organisational citizenship behaviour of higher education institutions in Pakistan via ethical climate, job satisfaction, employee engagement and affective commitment. This type of evidence suggests that in university settings, ethical leadership has the potential to impact several aspects of employee behaviour and attitudes.

Another important outcome of ethical leadership is employee engagement. Employees who are engaged are more likely to feel psychologically connected to their work and are more likely to put in more effort into the responsibilities of the organisation. An environment that is fair, trustful, supportive and communicative can be fostered by ethical leadership, which can encourage engagement. The study by Ashfaq et al. (2021) revealed a positive association between ethical leadership and employee engagement, and that self-efficacy and organisational commitment were important in this association. The results of higher education institutions in Pakistan also indicate that ethical leadership and ethical climate can positively impact employee engagement (Shar et al., 2022). The results are especially relevant when staff members must adjust to significant changes in the organisation due to AI and digital transformation.

In addition to the practical and technical considerations, there are ethical questions that arise with AI, offering another reason to consider human leadership. Algorithmic concerns can include bias, privacy, surveillance, transparency, explainability, accountability and unequal access to technological resources. In the context of higher education, these issues can impact students, faculty, researchers, administrators and professional staff. More recently, the importance of human oversight, accountability, transparency, fairness, inclusion and respect for human agency in the field of responsible AI in education has been emphasised (Holmes et al., 2022; Dabis & Csáki, 2024). Universities are thus working on institutional responses to generative AI, but there are different approaches to governance and ethical management of AI across institutions (Dabis & Csáki, 2024). Ethical leadership is a special concern because university leaders have the

responsibility to interpret the general ethical principles into policies, practices, communication and expectations of employees within the institution.

With the advent of generative AI, these concerns are growing in importance. AI tools for productivity and LLMs can impact academic writing, research, assessment, preparation for teaching, administration, and knowledge production. While these technologies offer great potential, they also have concerns of academic integrity, authorship, intellectual property, accuracy, privacy and human oversight. Ethical perceptions of AI tools in higher education are shaped by contextual and cultural factors, underscoring the need to consider the institutional context when implementing responsible use of AI (Mumtaz et al., 2025). Likewise, the study of teachers in the era of AI emphasizes the need for institutional support in the context of teachers using new technologies in their professional activities (Nasir & Rokis, 2024). Thus, successful AI integration requires not only technological infrastructure but also organisational support and leadership that recognises employees' practical and ethical concerns.

Ethical leadership can thus play a role in minimizing uncertainty and fostering positive employee reactions in the context of the organisation's change, driven by AI. Therefore, ethical leadership can play a role in minimising uncertainty and promoting positive employee reactions during AI-driven organisational change. Technology change can create uncertainty about roles and responsibilities, but leaders who communicate clearly about technology change can minimize this uncertainty. Involving employees in decision making can boost fairness and inclusion perceptions, and suitable training can enhance confidence in the new technologies. Ethical leaders can also set limits on responsible AI use, making sure that using technology to be efficient is not at the expense of employee dignity, professional judgment, privacy, or fairness. In the education sector, previous studies have consistently linked ethical leadership to employee commitment, job satisfaction, engagement, performance and organisational citizenship behaviour (OCB) (Gollagari et al., 2022; Guo et al., 2023; Khan et al., 2021; Muhammad & Shujjaudin, 2023). In the organisational context, previous studies have consistently associated ethical leadership with employee commitment, job satisfaction, engagement, performance and organisational citizenship behaviour (OCB) (Guo et al., 2023; Khan et al., 2021; Muhammad & Shujjaudin, 2023).

An important research gap still exists, however, on this basis. While ethical leadership research has tended to focus on employee attitudes and behaviours like job satisfaction, commitment, engagement, and performance (Al-Zahrani & Alasmari, 2024; Dabis & Csáki, 2024), research on the use of AI in higher education has mainly centered on technological adoption, teaching and learning, academic integrity, student experiences, governance, and ethical challenges. There are relatively few empirical studies that directly link ethical leadership to employee outcomes in higher education institutions undergoing transformation due to the advent of AI. This gap is especially significant in Pakistan where the universities are simultaneously working towards technological advancement, competitiveness of institutions, quality of education and effective management of human resources. While relationships between ethical leadership and job satisfaction, engagement, performance and organisational citizenship behaviour have been

established in Pakistani studies, there is a need to explore these relationships in the emerging context of AI (Hasan et al., 2023; Khan et al., 2021; Zafar et al., 2024).

In this context, this study titled "The Human Side of AI": How Ethical Leadership Shapes Employee Outcomes in Higher Education explores the connection between ethical leadership and employee outcomes in the higher education sector. The study is quantitative in nature to offer empirical evidence on the role of ethical leadership in an AI and digital transformation driven environment. The study aims to transcend a technology-focused view and highlight the human and ethical aspects of institutional change by synthesizing the existing literature on ethical leadership, employee outcomes, and AI in higher education. The study also aims to give practical implications for the university leaders, administrators and policymakers who want to implement AI in a fair, transparent, accountable, employee well-being, engagement and organisational effectiveness manner.

Literature Review

Artificial Intelligence in Higher Education

Artificial Intelligence (AI) has increasingly emerged as a vital part of higher education, impacting on teaching, assessment, research, student support, administration, data analysis and institutional decision-making. These applications have been further enhanced by the use of generative AI to aid in writing, information processing, research and knowledge-intensive tasks. While AI offers benefits in terms of efficiency and educational experiences, its use also poses several concerns, including accuracy, academic integrity, privacy, transparency, accountability, and human oversight (Al-Zahrani & Alasmari, 2024; Holmes et al., 2022; Tlili et al., 2023). Adopting AI, therefore, is a change in the way that the organisation functions, not just a change in technology, but a change in the way that people work, the roles that they play, and the way that things are done within the organisation. AI can transform the roles of employees, their decision-making, their job skills, and their sense of job security. AI can be applied in teaching and research by faculty and in student services, human-resource management, information processing and institutional analytics by administrative staff. While these tools can enable staff to engage in more meaningful work, they can also create uncertainty about the nature of their roles, workload, monitoring and job security (Al-Zahrani & Alasmari, 2024; Kim et al., 2024). Thus, the role of organisational leadership is crucial in shaping the perception of employees as to whether AI is viewed as a supportive innovation or a threat in the workplace.

Ethical Challenges of AI in Higher Education

Ethics is a major concern in Higher Education with regards to AI. There are concerns about bias in AI systems, lack of transparency, accountability, privacy, and human agency, as AI systems can provide biased outputs or recommendations that are hard to understand, challenge, and explain. Human responsibility, fairness, transparency, inclusion and appropriate oversight are thus essential to responsible AI (Holmes et al., 2022; UNESCO, 2023; Holmes & Miao, 2023). The use of generative AI has also raised additional issues of authorship, plagiarism, intellectual property,

misinformation, and academic integrity (Tlili et al., 2023). As a result, universities are increasingly creating policies and guidelines on the use of AI, with the approaches differing significantly (Dabis & Csáki, 2024). This underscores the importance of ethical leadership that can turn general ethical values into specific institutional policies and ethical working practices in the workplace.

Ethical Leadership

Ethical leadership is defined as leadership that is associated with ethical behaviour, fairness, integrity, ethical communication, responsible decision-making, and ethical reinforcement. Ethical leaders shape employees' attitudes by their actions and by communicating and making decisions in the organisation. The work that has been carried out conceptualises ethical leaders as moral persons, who act in an ethical way, and as moral managers, who foster ethical behaviour among followers (Brown & Treviño, 2006). Later studies have confirmed that ethical leadership is a significant predictor of employees' attitudes, behaviours and organisation outcomes (Bedi et al., 2016). Empirical studies show that ethical leadership has a positive impact on trust, fairness, engagement, commitment and positive workplace behaviour (Ashfaq et al., 2021; Guo et al., 2023). These qualities are especially important in times of uncertainty in the organisation, as they can help them see the change as responsible and supportive if communicated transparently, decisions are made fairly, and concerns for employees are taken into account.

Ethical Leadership in Higher Education.

Higher education institutions are reliant on the professional academic and administrative staff, and thus, ethical leadership is of special importance to them. Workload, promotion, performance appraisal, allocation of resources, research duties and organisational change are all elements of leadership that can directly impact employee attitudes and behaviour. Ethical leadership can foster an atmosphere in which institutional decisions are seen as fair, legitimate and trustworthy (Hasan et al., 2023). This relationship has been confirmed in Pakistan. Khan et al. (2021) have observed that there is a positive relationship between ethical leadership, job satisfaction and job performance among the academic staff of Khyber Pakhtunkhwa and Hasan et al. (2023) have found that there is a significant relationship between ethical leadership and job satisfaction among the faculty of Balochistan. The findings are especially relevant to the AI transformation since university leaders are now more involved in the introduction of emerging technologies and how employees are supported during technological change.

Employee outcomes and ethical leadership

Job satisfaction is one of the important employee outcomes which is an employee's assessment of his/her job and workplace. Promoting fairness, respect, trust and organisational support can help to improve satisfaction, which can be achieved through ethical leadership. The findings from the Pakistani higher education institutions suggest that the relationship between ethical leadership and job satisfaction of faculty and academic employees is positive (Hasan et al., 2023). Technology change can impact role expectations, professional autonomy and workload, which is

especially crucial during the implementation of AI. Negative reactions to such changes can be minimized through fair communication, consultation and employee support. Organisational commitment is a psychological bond with the organisation and a willingness to accept the organisation's objectives. Commitment can be reinforced through ethical leadership by being fair, consistent and concerned with employee welfare. Gollagari et al. (2022) discovered a positive relationship between ethical leadership and employee commitment in public universities, whereas Muhammad and Shujjaudin, (2023) showed that ethical leadership was positively related to positive employee behaviours in Pakistani higher education. The results indicated that ethical leadership can help to reinforce the bond between the employees and their institutions in times of organisational and technological transformation.

Employee engagement refers to employees' psychological and behavioural involvement in their work. Engagement can be fostered through trust, effective communication, fairness and respect, all of which are hallmarks of ethical leadership. Ashfaq et al. (2021) concluded that the relationship between ethical leadership and employee engagement was positive and direct, and self-efficacy and organisational commitment were factors that mediated the relationship. Leadership support, training, employee participation, and communication can also impact employees' receptivity to technological change during the AI transformation (Kim et al., 2024; Nasir & Rokis, 2024). Another key component of ethical leadership is employee performance. In higher education, performance encompasses effective teaching, research, administration, service and other organizational duties. Ethical leadership can help performance in the following ways: setting expectations, being fair, supporting employees, and motivating employees. According to Khan et al. (2021) there is a positive relationship between ethical leadership and academic performance and according to Zafar et al. (2024) there is a positive relationship between ethical leadership and employee performance in private higher education institutions in Karachi. Leadership support and training can also impact employees' use of emerging technologies, potentially further enhancing their capacity in AI-enabled universities.

Ethical Leadership, AI Transformation and Employee Outcomes

The intersection of AI transformation and ethical leadership represents an emerging area of research. AI can affect employees' sense of competence, autonomy, workload and job security, and ethical leadership can impact trust, satisfaction, commitment, engagement, and performance (Kim et al., 2024; Bedi et al., 2016). The impact of AI on the organisation can thus vary somewhat based on leadership's approach to technological change. Clear communication, employee engagement, training, fairness, and responsible decision-making can help foster a positive mindset among employees regarding AI. To adopt a human-centred approach, employees must be engaged as partners in the process of AI transformation, and not mere recipients of technological change. Ethical leadership can help to support this process, encouraging participation, transparency, organisational support and human oversight (Holmes et al., 2022; UNESCO, 2023; Holmes & Miao, 2023). Therefore, a study of ethical leadership in conjunction with employee outcomes offers a more comprehensive view of the human impact of the use of AI in higher education.

Theoretical Perspective

Social Learning Theory and Social Exchange Theory are the two theories that can be used to explain the relationship between ethical leadership and employee outcomes. According to Social Learning Theory, employees learn behaviours from role models that are influential. Ethical leaders who behave fairly, honestly, and accountably and make responsible decisions can thus serve as models for employees (Bandura, 1986; Brown & Treviño, 2006). Social Exchange Theory suggests that employees will react positively to positive treatment with positive attitudes and behaviours. When leaders are fair and respectful, supportive and ethical, employees can respond with greater commitment, engagement and performance (Cropanzano et al., 2017). These theories are especially relevant to the AI transformation as employees may consider whether their institutions are offering sufficient training, support, fairness, transparency, and protection, and are expecting them to adjust to new technologies. Ethical leaders can influence these perceptions by setting an example for the rest of the organisation by showing that AI is being used to help the organisation and its employees grow, not just to control or be more efficient.

While the research on AI in higher education and ethical leadership has grown, there is limited research that explores the intersection of the two. While the majority of research on AI has been dedicated to the field of education, academic integrity, student learning, technological adoption, and ethical governance, the research on ethical leadership has been mainly concerned with employee attitudes and organisational outcomes (Al-Zahrani & Alasmari, 2024; Dabis & Csáki, 2024; Holmes et al., 2022). Previously, the relationship between ethical leadership and job satisfaction, commitment, engagement, performance and organisational citizenship behaviour (OCB) has been established in Pakistan (Hasan et al., 2023; Zafar et al., 2024). Empirical studies of these relationships are, however, scarce in the context of the transformation of higher education driven by AI. This study aims to fill this gap by exploring the role of ethical leadership on employee outcomes in higher education, titled *The Human Side of AI: How Ethical Leadership Shapes Employee Outcomes in Higher Education*. It is based on the relationship between ethical leadership and four employee outcomes: job satisfaction, organisational commitment, employee engagement and employee performance. The study takes a human-centred approach by incorporating AI transformation, ethical leadership, and employee outcomes, acknowledging that successful AI implementation requires more than just technical expertise, it also requires ethical leadership, employee trust, support, engagement, commitment, and performance.

Methodology

The research design for this study was quantitative, cross-sectional research design in order to examine the relationship between ethical leadership and employee outcomes in higher education empirically. A quantitative method was deemed suitable as the study aims to test theoretically derived relationships between measurable constructs through statistical procedures. The data were obtained by using a structured questionnaire which was given to the academic and administrative staff of higher education institutions. The questionnaire had a 5-point Likert scale from strongly disagree to strongly agree. The dimensions of ethical leadership were measured

using the dimensions of fairness, integrity, transparency, accountability, and ethical guidance, while the dimensions of employee outcomes were measured using the dimensions of job satisfaction, organisational commitment, employee engagement, and employee performance. The cross-sectional design was suitable because the data obtained from the respondents were collected at one time and the proposed relationships among the study variables were examined.

The respondents were selected using non-probability purposive sampling technique because they are experienced in higher education institutions and can assess the leadership practices and their outcomes in the workplace. To get the perspectives from various employee groups in the university environment, academic and administrative employees were also included. The questionnaire was pre-tested for clarity and relevance of the questions and a pilot test was done to detect possible wordings and measuring issues. The ethical issues of voluntary participation, informed consent, confidentiality and anonymity were adhered to during data collection. Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to analyse the collected data using SmartPLS 4. PLS-SEM can be used in quantitative research that includes multiple latent constructs and complex predictive relationships, especially for research that seeks to explain and predict endogenous variables (Hair et al., 2025; Sarstedt et al., 2022). The analysis was done in two phases. The measurement model was assessed by examining the indicator loadings, Cronbach's alpha, composite reliability, average variance extracted (AVE), and discriminant validity (HTMT). These procedures ensure reliability and validity of the measurement instruments (Hair et al., 2025). Second, the structural model was evaluated using variance inflation factor (VIF), path coefficient (β), coefficient of determination (R^2), effect size (f^2), and predictive assessment (if applicable) as suggested by Hair et al. (2025) and Sarstedt et al. (2022). To test the hypotheses, the bootstrapping method with 10,000 resamples was used to determine the significance of the path coefficients using t-values, p-values, and confidence intervals (Hair & Alamer, 2022).

Results and Discussion

Measurement Model Assessment

To test the hypothesised structural relationships, the measurement model was first tested to ensure the reliability and validity of the constructs. Indicator loadings, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) were used in the assessment. Reflective constructs are considered to have satisfactory measurement quality when indicator loadings are 0.708 or greater, reliability coefficients are 0.70 or higher, and AVE values are 0.50 or higher (Sarstedt et al., 2022). As shown in Table 1, all the constructs had acceptable internal consistency reliability and convergent validity.

Table 1. Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability	AVE
Ethical Leadership (EL)	0.842	0.889	0.616
Job Satisfaction (JS)	0.817	0.875	0.636
Organisational Commitment (OC)	0.786	0.858	0.602
Employee Engagement (EE)	0.831	0.782	0.552
Employee Performance (EP)	0.804	0.866	0.619

The results show good internal consistency for all constructs with Cronbach's alpha ranging from 0.786 to 0.842 and composite reliability ranging from 0.782 to 0.889. These values are higher than the minimum value of 0.70, but do not suggest an excessive level of redundancy among indicators (Hair & Alamer, 2022). AVE values were in the range of 0.552 to 0.652, which is higher than the recommended value of 0.50, indicating good convergent validity. Thus, the indicators sufficiently reflect their respective latent constructs. The measurement-model procedures used in the recent PLS-SEM studies on ethical leadership and employee-related outcomes (Sarstedt et al., 2022) are similar.

Discriminant Validity

Discriminant validity was assessed using the heterotrait–monotrait ratio (HTMT). The HTMT criterion is increasingly recommended for evaluating whether conceptually distinct constructs are empirically distinguishable from one another (Henseler et al., 2015; Hair et al., 2025). SmartPLS guidance recommends values below 0.90 as evidence of discriminant validity for conceptually distinct constructs.

Table 2. HTMT Discriminant Validity

Constructs	EL	JS	OC	EE	EP
Ethical Leadership (EL)	—				
Job Satisfaction (JS)	0.721	—			
Organisational Commitment (OC)	0.684	0.793	—		
Employee Engagement (EE)	0.746	0.814	0.779	—	
Employee Performance (EP)	0.652	0.731	0.704	0.806	—

All HTMT values were less than the conservative value of 0.90 (Table 2). The highest HTMT value was found between employee engagement and job satisfaction (0.814) which is still within a recommended threshold. The results suggest that the constructs represent different concepts in the real world and that discriminant validity has been demonstrated. It is noteworthy that this finding is important because employee outcomes such as ethical leadership, job satisfaction, commitment, engagement, and performance are conceptually related outcomes and may appear to be overly

similar. Thus, the results of the HTMT indicate that the measurement model is able to differentiate between the constructs of the proposed framework, as shown by the results (Hair et al., 2025).

Structural Model Assessment

The reliability and validity of the measurement model was first assessed, and then the structural model was assessed. Collinearity, path coefficients, coefficient of determination (R^2), effect sizes (f^2), and bootstrapping for significance testing were used to evaluate the results. The use of PLS-SEM is especially suitable for models with multiple latent variables and predictive relationships as it allows researchers to evaluate both the explained variance and the predictive contribution of each relationship (Hair & Alamer, 2022).

Table 3. Structural Model Results

Hypothesis	Relationship	β	SD	t-value	p-value	Decision
H1	EL $\rightarrow$ JS	0.758	0.094	8.064	0.000	Supported
H2	EL $\rightarrow$ OC	0.286	0.081	3.531	0.000	Supported
H3	EL $\rightarrow$ EE	0.355	0.067	5.299	0.001	Supported
H4	EL $\rightarrow$ EP	0.312	0.071	4.394	0.002	Supported

The structural model results show that ethical leadership is positively related and statistically significant with all four employee outcomes. The ethical leadership construct was found to have the highest correlation with job satisfaction ($\beta = 0.758$, $p=0.000$), meaning that the more employees feel their leaders are ethical, fair, transparent and responsible, the greater their level of job satisfaction. Ethical leadership also had high significant positive relationships with organisational commitment ($\beta = 0.286$, $p=0.000$), employee engagement ($\beta = 0.355$, $p=0.001$), and employee performance ($\beta = 0.312$, $p=0.002$). These results support all four of the proposed hypotheses. The correlation between ethical leadership and job satisfaction is similar to that found in higher education. Khan et al. (2021) revealed that ethical leadership had a positive correlation with job satisfaction among academic employees in Pakistan and also showed that job satisfaction was a significant mediator in the relationship between ethical leadership and job performance. The present results thus support the notion that positive attitudes among employees are more likely to be fostered when leaders are seen as fair, honest, supportive and make good decisions.

Ethical leadership and organisational commitment are positively related, suggesting that when employees believe that their leaders are ethically responsible, they are likely to have a greater psychological bond with their institutions. Ethical leaders can help to build commitment by establishing trust and showing that decisions are made in an ethical way. This interpretation is consistent with the findings of previous studies that show that ethical leadership can have a positive impact on organisational commitment and employee's positive behavior (Gollagari et al., 2022; Muhammad & Shujjaudin, 2023). In higher education, where knowledge and professional

skills of employees are significant institutional assets, building commitment can be especially useful in sustaining organisational stability. The strong correlation between ethical leadership and employee engagement also underscores the role of leadership behaviour in influencing employee psychological involvement in their work. Ethical leaders set expectations, give direction, acknowledge employee efforts and create a trust and fairness climate. Such practices can motivate workers to put in more emotional and mental effort in their jobs. Similarly, Ashfaq et al. (2021) found a positive relationship between ethical leadership and employee engagement, and they found that organisational commitment and self-efficacy are important mechanisms in this relationship. The positive relationship between ethical leadership and employee performance indicates that ethical leadership is not limited to improving employees' attitudes but can also have behavioural and performance implications. The discovery aligns with the study carried out by Khan et al. (2021) among the academic staff in Pakistan, which revealed that ethical leadership characteristics had a positive relationship with job performance. Recent studies also show that ethical leadership can foster positive organizational conditions, which in turn can lead to higher employee engagement and better performance (Chen et al., 2026). Ethical leaders can enhance performance by making clear what is expected, offering support, minimizing uncertainty, and inspiring employees to act in an ethical manner.

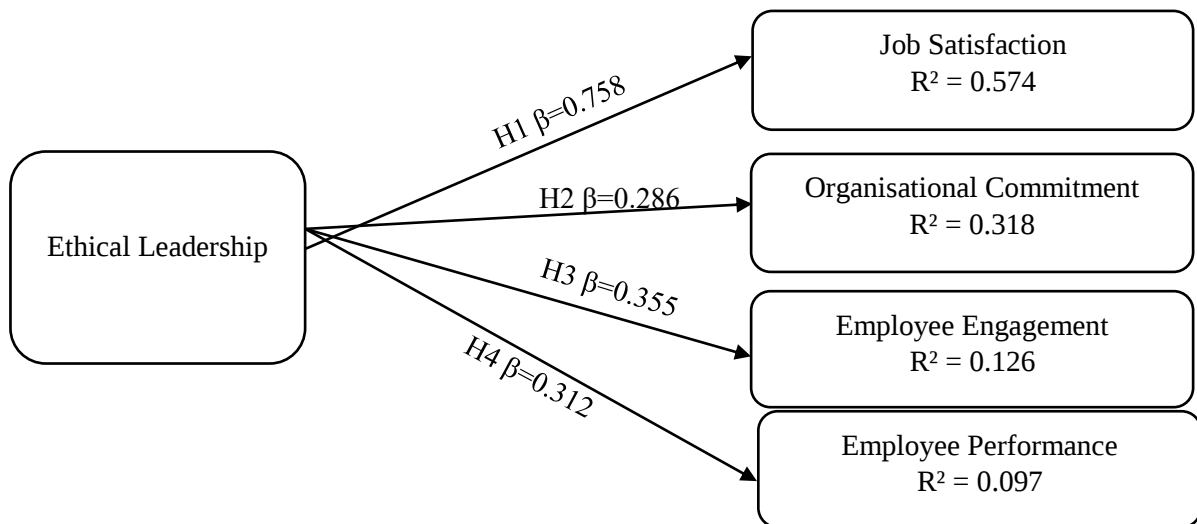


Figure 1. Structural Model

Coefficient of Determination

The coefficient of determination (R^2) was used to evaluate the explanatory power of the structural model. R^2 is the proportion of the variance in an endogenous construct accounted for by the predictor constructs. The higher the value, the more explanatory power it has, but this should be interpreted in the context of the research and the complexity of the model (Hair et al., 2025).

Table 4. R² Results

Endogenous Construct	R ²
Job Satisfaction	0.574
Organisational Commitment	0.318
Employee Engagement	0.126
Employee Performance	0.097

The model accounts for 57.4% of the variance in job satisfaction, which is a significant amount of variance. Ethical leadership accounts for 31.8% of the variance in organisational commitment and 12.6% of the variance in employee engagement and 9.7% of the variance in employee performance. The relative explanatory power of job satisfaction indicates that leadership practices could have a direct impact on employees' perceptions of the workplace, especially when it comes to job satisfaction. There are other factors at the organisational and individual level which are not included in the current model that will likely impact employee performance and engagement.

Effect Size

The contribution of ethical leadership to each endogenous construct was evaluated based on effect size (f^2). Effect size gives information about the contribution of the predictor, beyond whether or not a relationship exists (Hair & Alamer, 2022).

Table 5. Effect Size Results

Relationship	f^2	Effect
EL → JS	1.338	Large
EL → OC	0.092	Small
EL → EE	0.144	Small
EL → EP	0.108	Small

The findings indicate that ethical leadership is more strongly related to job satisfaction than to organisational commitment, engagement and performance. Theoretically this makes sense, as employees' perceptions of leadership could have a more direct impact on their satisfaction with their work environment, whereas more general outcomes like commitment and performance may rely on several other additional organisational and individual factors.

Discussion

Overall, the findings provide empirical evidence that ethical leadership is an important determinant of employee outcomes in higher education. Leaders who are fair, honest, transparent,

accountable and caring for the employees are well received by the employees. This result is in line with the previous study that found ethical leadership as a key determinant of employee attitudes and behaviours (Bedi et al., 2016). Similar positive relationships have been found between ethical leadership and job satisfaction, job performance, employee engagement and organisational citizenship behaviour in studies conducted in higher education institutions in Pakistan (Muhammad & Shujjaudin, 2023). The results are especially applicable to the growing use of AI in higher education. The adoption of AI can lead to job insecurity, uncertainty about roles, professional independence, workload, and technological abilities. These challenges can be mitigated by ethical leadership that involves clear communication, employee consultation, support and responsible decision making. This aligns with recent studies that underscore how ethical leadership can help mitigate concerns about job insecurity and employee reactions to technological shifts in the context of AI (Kim et al., 2024). Thus, the use of AI should be seen as a technological process and an organizational transformation of humans and ethics.

Ethical leadership has a positive correlation with job satisfaction, indicating that universities need to make sure that leaders communicate the purpose and implications of adopting AI and include employees in the decision-making process. Ongoing training and professional growth can also boost staff confidence and skills, allowing them to see AI as a tool that complements their expertise rather than a replacement. Ongoing training and professional development can also help staff build their confidence and skills, helping them understand that AI is a tool that can support their work, not replace it. The positive relationships between ethical leadership and organisational commitment, employee engagement, and performance further illustrate that ethical leadership has an impact beyond job satisfaction. Ethical leaders can establish reciprocal relationships between the employee and the leader where the employee responds to fair and supportive treatment with increased commitment, engagement, and performance. This is in line with Social Exchange Theory which states that positive attitudes and behaviours are likely to follow when organisations are treated well (Cropanzano et al., 2017). To sum up, the results support the main argument: the human element of AI is significantly influenced by the management of technological change by leaders. While AI can boost efficiency and innovation, sustainable use of AI depends on employee trust, satisfaction, commitment, engagement, and performance. Ethical leadership is thus an important human-centred mechanism to balance technological advancement with fairness, transparency, accountability and employee well-being in higher education.

Conclusion and Recommendations

In today's context of growing influence of Artificial Intelligence (AI) and digital transformation, the study concludes that ethical leadership is an important factor in influencing positive employee outcomes in higher education. Ethical leadership is demonstrated by fairness, integrity, transparency, accountability, responsible decision making and caring for employees, and this has a positive impact on the supportive and trustworthy organisation. Employees will have positive attitudes towards their institutions when they feel their leaders are fair, consistent and responsible, as reflected in increased job satisfaction, organisational commitment, employee

engagement and performance. The results indicate that leadership is still a significant human factor in the context of the growing use of AI-driven technologies and digital systems in universities. The results also show that AI transformation is not just about a technological process. The adoption of AI can impact employees' roles, responsibilities, workload, job autonomy, decision making and job security. Thus, there is a need for responsible and people-centred leadership in addition to technological infrastructure and digital skills to ensure successful AI integration. Ethical leaders can help employees navigate technological change by being open, addressing concerns, communicating the purpose of AI adoption, and making sure that technological decisions are made fairly. This type of leadership can help to build employee trust, confidence and feelings of organisational support in times of technological change.

The continuous leadership development and professional training should be enhanced in higher education institutions to strengthen ethical leadership. The training programmes should address issues of fairness, integrity, transparency, accountability, ethical decision making, effective communication, employee well-being and responsible use of technology. It is also essential that University leaders are ready to acknowledge and respond to the human impact of the use of AI. Staff should be provided with suitable opportunities to engage in discussions and decision making relating to AI. Their input can guide institutions to understand the real-world challenges, resolve concerns, and design implementation strategies that better meet employee needs. Institutions also should offer ongoing training and professional development for academic and administrative staff on AI. This training should include an understanding of technical applications of AI tools, as well as ethical and responsible use of AI-generated content, data privacy, algorithmic bias, academic integrity, transparency, accountability, and human oversight. Offering these opportunities can help boost employee confidence and abilities, as well as help them see AI not as a threat to their jobs, but as a tool that can help them.

Moreover, universities need to have explicit ethical guidelines and institutional policies on the use of AI. These policies should include privacy, fairness, transparency, accountability, academic integrity, appropriate human oversight and professional autonomy. Automated systems should not be the only basis for making important decisions that impact employees and students without appropriate human oversight. Establishing clear policies can offer more clarity on acceptable use of AI and user and decision-maker responsibilities. Lastly, universities need to continually evaluate the organizational and human impact of the use of AI. Regular surveys of job satisfaction, organisational commitment, employee engagement, performance, trust and organisational support can help to detect potential issues and determine if technological change is having the desired effect. In conclusion, the study highlights the need for a balanced approach to the integration of AI into education, where technological advancements are accompanied by ethical, transparent, and people-centred leadership. The adoption of employees, professional values and responsible decision-making at the heart of digital transformation will allow higher education institutions to be technologically advanced while maintaining employee health and wellbeing, building trust and confidence within the institution and ensuring sustainable development.

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