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ACADEMIC INTEGRITY AS A COMPLEX ECOSYSTEM: INTEGRATING PEDAGOGY, CULTURE, AND GOVERNANCE IN HIGHER EDUCATION

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ABSTRACT

Academic integrity is increasingly viewed as a cultural aspect rather than solely a regulatory one within higher education. This paper presents a qualitative thematic analysis informed by NVivo, focusing on how the culture of academic integrity is nurtured through the interaction of teaching methods, ethical environments, and research governance. Utilizing policy documents, academic literature, and interpretive qualitative insights, the study proposes an integrated Integrity Ecosystem Framework that frames academic integrity as a construct related to institutions, pedagogy, and research. Three interconnected themes emerge as fundamental components of integrity culture: Pedagogical Integrity, Ethical Climate, and Research Credibility. The findings emphasize that achieving lasting academic integrity extends beyond mere surveillance and compliance; it necessitates a cohesive alignment of educational practices, ethical leadership, and accountable research governance. The paper concludes by discussing theoretical, policy-oriented, and practical implications for institutions of higher education.

KEYWORDS: Academic integrity, Integrity culture, Higher education, Qualitative analysis, Pedagogy, Ethical climate, Research integrity, Institutional governance.

1. INTRODUCTION

Academic integrity serves as the foundation of higher education, essential for maintaining the credibility of scholarly work, the authenticity of academic credentials, and the confidence that society places in universities as centers of knowledge creation. It transcends being merely an ethical principle; it is a core tenet that upholds the reliability of research, ensures equitable assessments, and fosters the intellectual growth of both students and academics [1]. Universities are tasked with safeguarding standards related to honesty, transparency, accountability, and responsibility across teaching, learning, and research activities. Nonetheless, despite its recognized significance, academic integrity presents an ongoing and intricate challenge within higher education systems worldwide [2]. In recent decades, institutions have experienced a notable increase in instances of academic misconduct ranging from plagiarism to contract cheating, data manipulation to unethical authorship practices, alongside other forms of research and assessment violations. Factors such as the digitalization of education, easy access to online materials, the rise of essay mills, and increased performance pressures on both students and faculty have intensified these issues [3]. Concurrently, universities have turned to technological tools and regulatory frameworks like plagiarism detection software and surveillance-based proctoring to identify and prevent misconduct. While these strategies have improved institutional capabilities for detecting infractions, they have not addressed the foundational issues at play [4]. Often leading to a culture focused on compliance rather than genuine adherence to ethical standards in academia highlights a significant challenge: academic integrity is frequently viewed primarily as an individual obligation or procedural requirement rather than a collective ethos embedded within institutional culture [5]. The prevailing institutional response has been predominantly punitive and mechanistic; it emphasizes detection and enforcement rather than nurturing an environment where integrity is intrinsically valued and collectively embraced [6]. This perspective neglects the deeper structural, pedagogical, and cultural factors that influence ethical behavior in academic settings. Consequently, this paper aims to address the narrow interpretation of academic integrity as a holistic phenomenon rooted in systemic principles within higher education institutions [7]. There exists a lack of understanding regarding how integrity is constructed collaboratively through institutional norms, educational practices, leadership behaviors, and governance structures related to research. Furthermore, there is insufficient integration among these various elements into a cohesive framework designed for promoting sustainable academic integrity [8]. This study posits that ongoing issues with academic dishonesty stem not solely from individual moral failings but reflect institutional frameworks prioritizing compliance over character development a focus on performance instead of principles and surveillance rather than fostering socialization into ethical values in academia [9]. Academic integrity should be regarded as an evolving aspect of institutional culture shaped by pedagogical methodologies, principled leadership practices, transparent governance systems that encourage honesty alongside critical thinking skills necessary for responsible scholarship. With this viewpoint in mind, this research intends to examine how academic integrity is perceived and enacted within higher education institutions; how instructional approaches affect ethical climates; how governance influences cultivation initiatives; along with integrating these components into an overarching framework that advocates for enduring integrity instead of temporary compliance measures [10]. To achieve these aims effectively while employing rigorous qualitative methods supported by NVivo-based thematic analysis facilitates comprehensive exploration into stakeholder views along with institutional practices contributing toward developing what will be termed the Integrity Ecosystem Framework a conceptual model depicting academic integrity as an interconnected system instead fragmented policies or procedures alone.

2. LITERATURE REVIEW

Academic integrity serves as the foundation of higher education, essential for maintaining the credibility of scholarly work, the authenticity of academic credentials, and the confidence that society places in universities as centers of knowledge creation [11]. It transcends being merely an ethical principle; it is a core tenet that upholds the reliability of research, ensures equitable assessments, and fosters the intellectual growth of both students and academics. Universities are tasked with safeguarding standards related to honesty, transparency, accountability, and responsibility across teaching, learning, and research activities [12]. Nonetheless, despite its recognized significance, academic integrity presents an ongoing and intricate challenge within higher education systems worldwide [13]. In recent decades, institutions have experienced a

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2.1. Academic Integrity as a Cultural Construct

Academic integrity serves as the foundation of higher education, essential for maintaining the credibility of scholarly work, the authenticity of academic credentials, and the confidence that society places in universities as centers of knowledge creation [23]. It transcends being merely an ethical principle; it is a core tenet that upholds the reliability of research, ensures equitable assessments, and fosters the intellectual growth of both students and academics. Universities are tasked with safeguarding standards related to honesty, transparency, accountability, and responsibility across teaching, learning, and research activities [24]. Nonetheless, despite its recognized significance, academic integrity presents an ongoing and intricate challenge within higher education systems worldwide. In recent decades, institutions have experienced a notable increase in instances of academic misconduct ranging from plagiarism to contract cheating, data manipulation to unethical authorship practices, alongside other forms of research and assessment violations [25]. Factors such as the digitalization of education, easy access to online materials, the rise of essay mills, and increased performance pressures on both students and faculty have intensified these issues. Concurrently, universities have turned to technological tools and regulatory frameworks like plagiarism detection software and surveillance-based proctoring to identify and prevent misconduct. While these strategies have improved institutional capabilities for detecting infractions [26], they have not addressed the foundational issues at play. Often leading to a culture focused on compliance rather than genuine adherence to ethical standards in academia highlights a significant challenge: academic integrity is frequently viewed primarily as an

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2.2. Pedagogical Practices and Integrity Development

Academic integrity serves as the foundation of higher education, essential for maintaining the credibility of scholarly work, the authenticity of academic credentials, and the confidence that society places in universities as centers of knowledge creation [32]. It transcends being merely an ethical principle; it is a core tenet that upholds the reliability of research, ensures equitable assessments, and fosters the intellectual growth of both students and academics. Universities are tasked with safeguarding standards related to honesty, transparency, accountability, and responsibility across teaching, learning, and research activities [33]. Nonetheless, despite its recognized significance, academic integrity presents an ongoing and intricate challenge within higher education systems worldwide. In recent decades, institutions have experienced a notable increase in instances of academic misconduct ranging from plagiarism to contract cheating, data manipulation to unethical authorship practices, alongside other forms of research and assessment violations [34]. Factors such as the digitalization of education, easy access to online materials, the rise of essay mills, and increased performance pressures on both students and faculty have intensified these issues. Concurrently, universities have turned to technological tools and regulatory frameworks like plagiarism detection software and surveillance-based proctoring to identify and prevent misconduct [35]. While these strategies have improved institutional capabilities for detecting infractions, they have not addressed the foundational issues at play. Often leading to a culture focused on compliance rather than genuine adherence to ethical standards in academia highlights a significant challenge: academic integrity is frequently viewed primarily as an individual obligation or procedural requirement rather than a collective ethos embedded within institutional culture [36]. The prevailing institutional response has been predominantly punitive and mechanistic; it emphasizes detection and enforcement rather than nurturing an environment where integrity is intrinsically valued and collectively embraced. This perspective neglects the deeper structural, pedagogical, and cultural factors that influence ethical behavior in academic settings. Consequently, this paper aims to address the narrow interpretation of academic integrity as a holistic phenomenon rooted in systemic principles within higher education institutions [37]. There exists a lack of understanding regarding how integrity is constructed collaboratively through institutional norms, educational practices, leadership behaviors, and governance structures related to research [38]. Furthermore, there is insufficient integration among these various elements into a cohesive framework

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2.3. Ethical Responsibility and Institutional Climate

Ethical responsibility in higher education encompasses not only students but also faculty, administrators, researchers, and institutional leaders. Research consistently demonstrates that the institutional climate significantly influences ethical conduct. When faculty exemplify integrity through transparent grading practices, appropriate citation methods, and ethical research behaviors, students are more inclined to adopt these values. The importance of ethical leadership in fostering a culture of integrity is emphasized by [42], as leaders who focus on transparency, accountability, and fairness help to create environments where integrity is regarded as a fundamental principle rather than merely a bureaucratic obligation. Moreover, ethical leadership entails addressing systemic pressures such as high-performance metrics that might inadvertently encourage unethical conduct [43]. Nevertheless, neoliberal trends in higher education—characterized by a focus on rankings, competition, and productivity pose considerable challenges to the cultivation of an integrity-driven culture. Scholars contend that pressures associated with "publish or perish" mandates, performance-based funding structures, and market-oriented educational policies can foster conditions that lead to misconduct [44]. This situation highlights the necessity for governance frameworks that effectively balance excellence with ethical protections.

2.4. Research Integrity and Scholarly Credibility

Research integrity is a crucial component of academic credibility, scientific advancement, and public trust in higher education and knowledge-generating organizations. The validity of scholarly work relies not only on rigorous methodologies but also on ethical standards such as honesty, transparency, accountability, reproducibility, and responsible data management [45]. When these ethical principles are violated, the repercussions affect not just individual researchers but can also tarnish institutional reputations, skew scientific understanding, mislead policy-making efforts, and diminish public trust in academia [46]. In recent years, there has been growing concern over the reliability and integrity of scientific research due to high-profile incidents involving data manipulation, image falsification, plagiarism, predatory publishing practices, and other questionable research behaviors [47]. This increase in misconduct has led universities, funding organizations, and academic journals to enhance their governance structures related to research ethics and integrity. Many institutions have set up formal committees for research ethics or integrity offices as well as protocols for investigating misconduct [48]. There has also been a movement towards open science initiatives that promote open data policies, preregistration of studies, replication efforts, and transparent peer review systems. These initiatives aim to foster accountability, mitigate biases, and improve reproducibility in research endeavors. Furthermore, mandatory training programs focusing on responsible research conduct and data management have become more prevalent among doctoral students and early-career researchers [49]. However, despite these improvements, some scholars argue that relying solely on compliance mechanisms is inadequate for nurturing authentic research integrity. A regulatory emphasis on rules and audits may enhance procedural compliance without necessarily encouraging ethical reasoning or a strong commitment to scholarly values. Research integrity should be viewed as a cultural and social construct influenced by disciplinary norms, mentorship dynamics, and institutional reward systems rather than merely an individual moral duty [50]. Overreliance on monitoring and punitive actions

might foster an environment of fear or superficial compliance instead of genuine ethical engagement. Developing a robust culture of research integrity necessitates effective mentorship especially for early-career researchers who frequently encounter complex ethical scenarios with limited guidance. Good mentorship encompasses not just technical skills but also the socialization into responsible research practices including authorship conventions, conflict-of-interest disclosures, proper data stewardship practices, standards for reproducibility, and collaborative ethics [51]. Research indicates that positive mentoring relationships significantly lower the risk of misconduct while enhancing ethical awareness among researchers. Collaborative accountability—where teams collectively uphold ethical standards has emerged as a vital aspect of fostering an integrity-driven culture within research settings. In conclusion, it is essential to view research integrity as an interconnected ecosystem that encompasses individual researchers, teams conducting studies together, institutions supporting those efforts; funding agencies providing financial backing; along with the broader scholarly community [52]. Achieving sustainable integrity demands more than just compliance measures it requires fostering an ethical climate supported by strong mentorships alongside transparent governance frameworks that align institutional incentives with core scholarly values.

3. CONCEPTUAL FRAMEWORK: THE INTEGRITY ECOSYSTEM MODEL

Based on the synthesis of existing literature, this paper introduces the Integrity Ecosystem Model, which frames academic integrity as a cohesive system consisting of three essential components:

1. Pedagogical Integrity: This involves the design of curricula, assessment methodologies, and teaching strategies that foster ethical learning environments.
2. Ethical Climate: This encompasses the values upheld by institutions, behaviors exhibited by leadership, and norms within organizations that support integrity.
3. Research Governance: This refers to the policies, training programs, and mentoring frameworks that ensure responsible conduct in research.

These components interact with one another in a dynamic manner, influencing the overall culture of integrity within an institution. A deficiency in any single component can weaken the entire ecosystem.

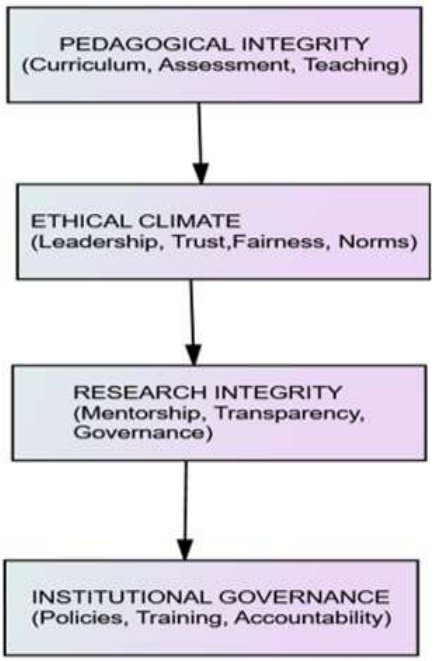

Figure 1: Dynamic Interaction Model

4. RESEARCH PHILOSOPHY AND APPROACH

This research is based on an interpretivist framework, which posits that academic integrity is a construct shaped by institutional practices, interactions, and power dynamics. A qualitative research methodology has been employed to delve into the meanings, perceptions, and experiences associated with academic integrity rather than focusing on statistical measurement of variables. The investigation emphasizes that the culture of academic integrity is constructed socially, reliant on context, and influenced by institutional norms, teaching methods, and ethical environments. The goal is not to quantify integrity but to gain insights

into the perspectives and lived experiences of stakeholders within higher education.

4.1. The study employs a combined inductive-deductive approach:

- Inductive: Themes are derived from the data through a process of iterative coding.
- Deductive: The findings are subsequently aligned with established theories related to integrity and governance.

5. RESEARCH DESIGN AND DATA SOURCES

Table 1: Document Corpus Overview

Source Type	Number of Documents	Purpose in Analysis
University Policies	12	Understand institutional framing of integrity
Global Frameworks	5	Benchmark ethical standards
Government Guidelines	4	Policy alignment and governance
Peer-Reviewed Articles	45	Theoretical grounding and comparison

Three main qualitative data sources were utilized to inform this study. The first involved a comprehensive document analysis of secondary data, which entailed the methodical review of various institutional and scholarly texts. This included academic integrity policies from twelve higher education institutions, as well as widely recognized integrity frameworks such as those provided by the International Center for Academic Integrity (ICAI), the Statement on Research Integrity, and guidelines from the Committee on Publication Ethics. Additionally, pertinent government and higher education policy documents, including directives from UGC and AICTE, were examined to gain insights into the regulatory and governance landscape surrounding academic integrity in India. This analysis was further enhanced by a critical evaluation of peer-reviewed journal articles focused on academic integrity, research ethics, and institutional governance, ensuring that the study is rooted in current scholarly discussions and theoretical frameworks.

5.1. Methodological Orientation: An Interpretivist and NVivo-Informed Qualitative Approach

Anchored in the belief that academic integrity is a phenomenon shaped by social constructs, contextual factors, and institutional influences, this research adopts an interpretivist qualitative approach. Instead of aiming to measure integrity or examine fixed variables, the study focuses on uncovering the meanings, interpretations, and experiences of individuals involved in academia. This methodology facilitates a comprehensive understanding of how academic integrity is understood, navigated, and implemented within higher education institutions, as well as how it integrates into the norms, practices, and governance frameworks of these organizations.

5.2. NVivo as an Analytic Lens

In this research, NVivo is viewed as a comprehensive analytic framework rather than merely a technical software tool, shaping the processes of coding, theme formulation, and conceptual synthesis through a three-phase interpretive cycle that aligns with its analytical capabilities. The first stage, akin to open coding, involved an interactive examination of the data to identify key concepts, patterns, and meanings related to academic integrity across diverse textual sources. The second stage, resembling axial coding, focused on organizing and grouping related codes into broader, analytically coherent themes, thereby revealing relationships, tensions, and overlaps among critical constructs. Finally, the concluding stage integrated these themes thematically to develop a comprehensive conceptual framework that highlights the systemic and relational dimensions of academic integrity within higher education institutions.

6. DATA ANALYSIS

The research employs a meticulously assembled qualitative data set derived from three interrelated sources to enhance analytical richness and academic rigor: first, institutional and policy documents, including university policies on academic integrity and global frameworks like those from the International Center for Academic Integrity; second, peer-reviewed scholarly articles that explore academic integrity, research ethics, and institutional governance, providing foundational theories and critical perspectives; and third, interpretive insights from empirical studies and scholarly analyses that reflect trends and narratives from faculty and students in qualitative investigations of academic integrity. This triangulated data set enables a comprehensive analysis that integrates policy considerations, theoretical frameworks, and interpretative insights.

6.1. Semi-Structured Interviews

A purposive sample of 18 participants was

selected:

Table 2: Interview Sample Composition (Reproduced)

Participant Group	Number (n)	Rationale for Inclusion
Senior Administrators	5	Macro-level policy, governance, and institutional strategy perspectives
Faculty Members	8	Pedagogical practices, classroom ethics, and assessment dynamics
Research Supervisors	5	Research integrity, mentorship, and scholarly norm transmission

The text describes a specific approach to selecting participants for a research study, focusing on gaining in-depth insights rather than trying to produce results that can be generalized to a larger population. This method aligns with an interpretivist qualitative framework, which emphasizes understanding human behavior and social phenomena through the experiences and perspectives of individuals. The participants in the study are selected purposefully, with an aim to represent different facets of academic integrity related to governance, teaching, and research. Here's a breakdown of the groups involved: Senior Administrators (n = 5): These individuals provide a broad perspective on how academic integrity is managed at the institutional level. They discuss policies, governance frameworks, and strategic goals that influence the definition and implementation of integrity within the institution. Faculty Members (n = 8): This group is the largest and plays a crucial role in upholding academic integrity. Their experiences shed light on how integrity is fostered through teaching practices, assessments, and interactions with students. They highlight the ethical challenges they face in their roles. Research Supervisors (n = 5): These participants focus on research integrity and mentorship, sharing their insights on how they communicate ethical standards to new researchers. Their involvement helps to illuminate the ethical considerations involved in guiding early-career researchers. Overall, the inclusion of these three groups allows for a rich and multifaceted exploration of the culture of integrity within the institution's governance, educational practices, and research activities. This diverse representation strengthens the study's analytical depth and its overall coherence.

Table 3: Interview Extracts with NVivo-Based Analysis

Question	Participant & Extract (Condensed)	NVivo Code	Brief Interpretation
How do you define academic integrity?	SA1: "Integrity means following policies and maintaining a clean reputation in audits and rankings."	Integrity as Compliance	Integrity is framed as a managerial, risk- and reputation-based requirement rather than a value.
	F3: "Integrity is a professional value students should internalize, not just follow to avoid punishment."	Integrity as Professional Identity	Emphasizes value internalization and pedagogical socialization over enforcement.
	RS2: "Integrity is honesty in data, fair authorship, and responsible mentorship—more cultural than procedural."	Integrity as Research Culture	Positions integrity as relational and community-based within research practice.

These responses highlight a difference in understanding among various stakeholder groups. Senior administrators usually perceive integrity in terms of regulations and reputation, while faculty members and research supervisors view it as an ingrained ethical principle. This observation bolsters the study's claim that perceptions of academic integrity vary significantly across different institutional tiers, underscoring the necessity for a culture-driven approach rather than one focused solely on compliance.

6.2. Interview Protocol and NVivo-Informed Qualitative Analysis

The semi-structured interview framework included four main components: Comprehension of Academic Integrity, Instruction and Integrity, Ethical Environment and Leadership, and Research Ethics. The inquiries aimed to draw out in-depth, thoughtful, and contextually relevant responses from senior administrators, faculty members, and research supervisors. Analysis of the data was conducted through a qualitative approach informed by NVivo, utilizing a three-phase process: open coding, axial coding, and thematic synthesis.

Table 4: First-Cycle Coding NVivo Nodes

Interview Section	Illustrative First-Cycle Codes (NVivo Nodes)
Understanding of Academic Integrity	Integrity as culture; integrity as compliance; professional identity; policy ambiguity; institutional contradictions; digital cheating; fairness perceptions
Pedagogy and Integrity	Authentic assessment; high-stakes exams; reflective learning; plagiarism awareness; formative feedback; misaligned assessment; student motivation
Ethical Climate & Leadership	Ethical leadership; mixed messaging; performance pressure; publish-or-perish; faculty role modeling; trust vs. surveillance; reputational concerns
Research Integrity	Mentorship quality; responsible authorship; data transparency; ethics training; power asymmetry; predatory publishing risks; compliance vs. ethics

Table 4 illustrates the first-cycle (open) coding framework employed in NVivo to encompass the variety and intricacy of responses from participants. The coding reflects an inductive approach to analysis, facilitating the organic emergence of themes from the data rather than imposing predetermined categories. The range of codes identified across different sections highlights that participants view academic integrity as a multi-faceted concept that includes personal values, institutional regulations, teaching methodologies, and research standards. Importantly, the presence of codes like "integrity as culture" and "integrity as compliance" points to a fundamental tension between developmental and regulatory strategies within academic institutions.

Figure 2: NVivo Coding Tree Representing the Hierarchical Thematic Structure of Academic Integrity in Higher Education.

Note. The figure depicts the NVivo-based hierarchical coding framework, illustrating the root node ("Academic Integrity in Higher Education"), four primary parent nodes (Pedagogy & Integrity; Ethical Climate & Leadership; Research Integrity & Scholarly Practice; Institutional Governance & Reputation), and their respective sub-nodes (A1–A3, B1–B3, C1–C3, D1–D3), reflecting the systematic organization of themes derived from qualitative analysis.

Table 5: Second-Cycle (Axial) Coding — Thematic Categorization

Axial Theme (NVivo Parent Node)	Related First-Cycle Codes (Child Nodes)
Integrity as Culture vs. Compliance	Policy ambiguity; trust vs. surveillance; mixed institutional messaging
Pedagogical Design and Ethical Learning	Authentic assessment; reflective learning; formative feedback
Leadership and Ethical Climate	Ethical leadership; faculty role modeling; reputational concerns
Mentorship and Research Socialization	Mentorship quality; responsible authorship; power asymmetry
Governance and Accountability	Ethics training; compliance mechanisms; institutional policies
Performance Pressure and Ethical Trade-offs	Publish-or-perish; rankings pressure; competitive funding

Table 6 illustrates the process through which first-cycle codes were organized into overarching axial themes, utilizing NVivo's node aggregation and relationship mapping capabilities. This phase facilitated the recognition of patterns, overlaps, and causal connections within participant responses. The identification of "Integrity as Culture vs. Compliance" as a prevailing theme supports the study's main assertion that academic integrity is frequently perceived more as a regulatory matter than a developmental one. Likewise, the theme "Performance Pressure and Ethical Trade-offs" underscores the systemic tensions that influence ethical decision-making in higher education.

Table 6: Thematic Integration — Alignment with Integrity Ecosystem Framework

Higher-Order Construct (IEF Component)	Corresponding NVivo Themes
Pedagogical Integrity	Pedagogical design and ethical learning
Ethical Institutional Climate	Leadership and ethical climate
Research Integrity Culture	Mentorship and research socialization
Developmental Governance	Governance and accountability

Table 7 presents the concluding phase of thematic integration, in which axial themes were aligned with the four core components of the proposed Integrity Ecosystem Framework. This correspondence reveals a conceptual consistency between empirical results and theoretical constructs. Pedagogical Integrity was identified as a crucial element, influencing ethical reasoning on a micro scale. Ethical Institutional Climate functioned as a mediating factor affecting both educational and research activities. Research Integrity Culture underscored the significance of mentorship and scholarly socialization, while Developmental Governance focused on the importance of fostering supportive institutional policies aimed at capacity building rather than relying solely on punitive approaches.

6.3. Qualitative Synthesis

The analysis of interview data, informed by NVivo, indicates that academic integrity is largely viewed as a component of institutional culture rather than simply a matter of compliance. Senior administrators frequently stressed the importance of adhering to policies and protecting the institution's reputation. In contrast, faculty members and research supervisors articulated integrity in terms of professional identity, ethical obligations, and scholarly values. This difference highlights the necessity for improved alignment between governance structures and academic practices. Participants consistently recognized that the design of assessments plays a crucial role in shaping student behavior. There was a correlation noted between high-stakes standardized evaluations and an increase in misconduct; conversely, authentic, process-oriented assessments were perceived as promoting ethical engagement. These observations support the view that pedagogical integrity serves as a vital mechanism for fostering ethical learning. Regarding leadership and institutional environment, respondents emphasized the critical influence of ethical leadership on cultivating a culture of integrity. They identified transparent decision-making processes, fair evaluation methods, and consistent messaging as fundamental to reinforcing shared ethical standards. However, many acknowledged that pressures related to rankings, funding, and publication metrics could lead to potential ethical compromises. In terms of research integrity, mentorship was identified as the most significant factor influencing the ethical orientations of early-career researchers. While formal ethics training was deemed important, participants argued that daily supervisory relationships exerted a stronger effect on ethical decision-making. Concerns about power imbalances and predatory publishing practices further underscored the need for enhanced developmental governance mechanisms. Overall, these findings strengthen the understanding of academic integrity as an interconnected ecosystem where pedagogy, ethical climate, research practices, and governance interact dynamically. The NVivo-informed analysis offers empirical support for the Integrity Ecosystem Framework (IEF), illustrating that sustainable integrity necessitates alignment within institutions rather than merely isolated compliance efforts.

7. FINDINGS

This research emphasizes that understanding academic integrity in higher education should be viewed as part of institutional culture rather than merely a compliance issue, highlighting four key findings: First, diverse perspectives on integrity among stakeholders' administrators, faculty, and research supervisors indicate a need for a cohesive approach rather than fragmented views. Second, pedagogical methods significantly influence integrity, with curriculum incorporation, authentic assessments, and reflective practices reducing misconduct and enhancing ethical engagement. Third, the ethical climate within institutions is crucial; transparency, fairness, and trust foster integrity, while performance pressures undermine it. Lastly, a strong connection exists between research integrity and effective mentorship, with ethical learning approaches proving more effective than compliance-based strategies. These findings support the Integrity Ecosystem Framework (IEF), which integrates pedagogy, ethical climate, research integrity, and governance as vital components of a holistic integrity system.

8. DISCUSSION

The results challenge conventional deterrence-based frameworks that perceive academic misconduct merely as individual wrongdoing. Rather, they advocate for a socio-cultural viewpoint that regards integrity as a construct shaped by pedagogy, leadership, and governance within institutions. Pedagogy serves not just as a preventive measure but also as a fundamental component in the development of ethical identities. The ethical climate operates as the "hidden curriculum," influencing behavior more effectively than established rules do. Leadership is vital in communicating institutional values through actions rather than mere words. In research contexts, integrity is better maintained through mentorship and transparency instead of

through oversight. The IEF incorporates these elements into an integrated systemic model, enhancing the theoretical comprehension of academic integrity as an ecosystem instead of simply a compliance framework.

9. CONCLUSION

This research redefines academic integrity as an evolving cultural phenomenon within institutions, rather than merely a set of regulations. It illustrates how teaching practices influence ethical learning, how an ethical environment upholds integrity standards, how research integrity is essential for institutional credibility, and how governance connects organizational structures with core values. The Integrity Ecosystem Framework presents a comprehensive model aimed at fostering enduring integrity in higher education. The findings suggest a transition from compliance focused on monitoring to approaches rooted in values and development that emphasize ethical education, transparent leadership, and supportive mentorship. Ultimately, academic integrity should be regarded not as a challenge to be managed but as a culture that needs to be nurtured.

10. FUTURE SCOPE

Future investigations could empirically evaluate the suggested Integrity Ecosystem Framework within various institutional environments by employing mixed methods and longitudinal approaches. Additionally, subsequent research should explore how generative AI and digital technologies influence the culture of academic integrity in higher education.

REFERENCES

Butt, A., & Rafique, S. (2026). Academic integrity in higher education: Challenges, opportunities, and policy directions. International Journal of Advanced Multidisciplinary Research and Educational Development, 2(1). https://www.ijamred.com/volume2/issue1/IJAMRED-V2I1P37.pdf

Maleki, A. (2026). Rethinking ethical academic integrity ecosystems in higher education in the age of artificial intelligence. Discover Artificial Intelligence. https://doi.org/10.1007/s44163-026-00887-

Roengtam, S. (2025). Development of an ecosystem to enhance academic integrity in Thai universities. Journal of Information Systems Engineering and Management, 10(49s). https://jisem-journal.com/index.php/journal/article/download/9893/4554/16514

Shrivastava, A., Suji Prasad, S. J., Yeruva, A. R., Mani, P., Nagpal, P., & Chaturvedi, A. (2025). IoT based RFID attendance monitoring system of students using Arduino ESP8266 & Adafruit.io on defined area. Cybernetics and Systems, 56(1), 21–32. https://doi.org/10.1080/01969722.2023.2166243.

Vaniya, J., Alizada, M., Nagpal, P., Kumar Dey, B. and Abbbasova, D. G. A. (2025). Novel Enhanced Cognitive State Analysis in E-Learning via Real-Time Emotion and Attentiveness Detection Using OptFuzzy TSM and ABiLSTM. Iranian Journal of Fuzzy Systems, 22(4), 57-75. doi: 10.22111/ijfs.2025.49950.8829

Bretag, T., Harper, R., Burton, M., Ellis, C., Newton, P., Rozenberg, P., Saddiqui, S., & van Haeringen, K. (2019). Contract cheating and assessment design: Exploring the relationship. Studies in Higher Education, 44(11), 1843–1856. https://www.tandfonline.com/doi/full/10.1080/03075079.2018.1462782

P. Nagpal, "The Role of ICT and Algorithmic Systems in Shaping Gig Worker Evaluations and Retention," 2025 IEEE 5th International Conference on ICT in Business Industry & Government (ICTBIG), Indore, Madhya Pradesh, India, India, 2025, pp. 1-6, doi: 10.1109/ICTBIG68706.2025.11323582.

Fishman, T. (2014). The fundamental values of academic integrity. International Center for Academic Integrity.https://academicintegrity.org/resources/ fundamental-values/

McCabe, D. L., Treviño, L. K., & Butterfield, K. D. (2001). Cheating in academic institutions: A decade of research. Ethics & Behavior, 11(3), 219–232. https://www.tandfonline.com/doi/abs/10.1207/S15327019EB1103_2

Eshet, Y., Dickman, N., & Ben Zion, Y. (2023). Academic integrity in the HyFlex learning environment. Heliyon, 9(1), e13301. https://doi.org/10.1016/j.heliyon.2023.e13301

Muthuraman, S. (2025). Fostering a Culture of Academic Integrity in Higher Education: A Critical Review. Asian Journal of Education and Social Studies, 51(10), 64–72. https://doi.org/10.9734/ajess/2025/v51i102475

Bittle, K. (2025). Generative AI and academic integrity in higher education. Information, 16(4), 296. https://doi.org/10.3390/info16040296

BK Kumari, VM Sundari, C Praseeda, P Nagpal, J EP, S Awasthi (2023), Analytics-Based Performance Influential Factors Prediction for Sustainable Growth of Organization, Employee Psychological Engagement, Work Satisfaction, Training and Development. Journal for ReAttach Therapy and Developmental Diversities 6 (8s), 76-82.

Rajput, N., Das, G., Kumar, C., & Nagpal, P. (2021). An inclusive systematic investigation of human resource

management practice in harnessing human capital. Materials Today: Proceedings, 80(3), 3686–3690. https://doi.org/10.1016/j.matpr.2021.07.362

Balalle, H. (2025). Reassessing academic integrity in the age of AI. Education and Information Technologies. https://doi.org/10.1016/j.edurev.2025.100026

Rettinger, D. A., & Kramer, Y. (2009). Situational and personal causes of student cheating. Research in Higher Education, 50(3), 293–313. https://link.springer.com/article/10.1007/s11162-008-9116-5

Treviño, L. K., Weaver, G. R., & Reynolds, S. J. (2006). Behavioral ethics in organizations: A review. Journal of Management, 32(6), 951–990. https://journals.sagepub.com/doi/10.1177/0149206306294258

Kumar, S., & Nagpal, P. (2018). A study on drivers and outcomes of employee engagement: A review of literature approach. Asia Pacific Journal of Research, 2320, 5504.

Nagpal, P. (2022). Organizational commitment as an outcome of employee engagement: A social exchange perspective using a SEM model. International Journal of Biology, Pharmacy and Allied Sciences, 11(1), 72–86.

G. Gokulkumari, M. Ravichand, P. Nagpal and R. Vij. (2023). "Analyze the political preference of a common man by using data mining and machine learning," 2023 International Conference on Computer Communication and Informatics (ICCCI), Coimbatore, India. doi: 10.1109/ICCCI56745.2023.10128472.

Nagpal, P., Kumar, S., & Ravindra, H. V. (2019). The road ahead of HR–AI to boost employee engagement. Journal of Emerging Technologies and Innovative Research.

Fanelli, D. (2018). Opinion: Is science really facing a reproducibility crisis, and do we need it to? Proceedings of the National Academy of Sciences, 115(11), 2628–2631. https://www.pnas.org/doi/10.1073/pnas.1708272114

ALLEA – All European Academies. (2017). The European Code of Conduct for Research Integrity. https://allea.org/code-of-conduct/

Balalle, H., & Pannilage, S. (2025). Reassessing Academic Integrity in the Age of AI: A Systematic Literature Review on AI and Academic Integrity. Social Sciences & Humanities Open, 11(1), 101299. https://doi.org/10.1016/j.ssaho.2025.101299

Committee on Publication Ethics. (2019). COPE Core Practices. https://publicationethics.org/core-practices

National Academies of Sciences, Engineering, and Medicine. (2017). Fostering integrity in research. The National Academies Press. https://nap.nationalacademies .org/catalog/21896/fostering-integrity-in-research

Pooja Nagpal, (2025). Leveraging artificial intelligence and machine learning for gaining competitive advantage in business development. AIP Conference Proceedings, 3327(1), 020002. AIP Publishing LLC. https://doi.org/10.1063/5.0289438

Karkoulian, S., Sayegh, N., & Sayegh, N. (2024). ChatGPT Unveiled: Understanding Perceptions of Academic Integrity in Higher Education - A Qualitative Approach. Journal of Academic Ethics, 22(3), 543–567. https://doi.org/10.1007/s10805-024-09543-6

N. M. V. N., Y. V. N. S. S. Charan, D. S. Narayana, R. Patil, S. Sudhin and P. Nagpal, "AI-Powered Predictive Analytics: Enhancing Customer Experience Through Intelligent Solutions," 2025 International Conference on Technology Enabled Economic Changes (InTech), Tashkent, Uzbekistan, 2025, pp. 533-537, doi: 10.1109/InTech64186.2025.11198566.

Salwén, H., et al. (2025). Teaching Research Integrity: A Manual of Good Practices: An Outline. International Journal for Educational Integrity, 21(1), 186. https://doi.org/10.1007/s40979-025-00186-7

P. Nagpal, A. Pawar and S. H. M, "Predicting Employee Attrition through HR Analytics: A Machine Learning Approach," 2024 4th International Conference on Innovative Practices in Technology and Management (ICIPTM), Noida, India, 2024, pp. 1-4, doi: 10.1109/ICIPTM59628.2024.10563285

Bargavi, N., Irfana, S., Ramana, A. V., Shankar, G., Nagpal, P., & Dhote, S. (2023). Circular economy towards sustainable businesses: Exploring factors shaping adoption and implementation barriers. Educational Administration: Theory and Practice, 30(3), 813-819.

N. Inamdar, N. Inamdar, R. Paranjpye, P. Nagpal, N. K.B. and A. Adarsh, "Exploring the Transformative Role of Generative AI in Financial Forecasting and Advanced Fraud Detection Strategies," 2025 International Conference on Technology Enabled Economic Changes (InTech), Tashkent, Uzbekistan, 2025, pp. 834-839, doi: 10.1109/InTech64186.2025.11198409.

Resnik, D. B., & Shamoo, A. E. (2017). The Singapore Statement on Research Integrity. World Scientific. https://www.singaporestatement.org/

Rajagopal, N. K., Anitha, L., Nagpal, P., & Jitendra, G. (2024). Green HR techniques: A sustainable strategy to boost employee engagement. In Advancements in business for integrating diversity and sustainability:

How to create a more equitable and resilient business world in the developing world (pp. 104-107). Routledge.

Patil, U. S., Amutha, T., Paranjpye, R., Andre Jorge Bernard, A. G., Mangrulkar, A. L., Sudhin, S., & Nagpal, P. (2024). Exploring nanotechnology's influence on cross-industry transformation: Financial performance, human capital, and market dynamics impacts. Nanotechnology Perceptions, 14, 707-718

Udayakumar, S., Awari, M. B., Sharma, T., Nagpal, P., Joseph, A., & Madhavi, T. (2025). Integrating environmental science and green energy for sustainable development through ecological protection and restoration. International Journal of Environmental Sciences, 11(11s), 207–216. https://doi.org/10.64252/fd36sp73

P. V. Purna Kumari, V. Arvindbhai Radadiya, V. Rana, M. Lourens, P. Nagpal and V. M, "Gamification and Blockchain: Innovative Approaches to Employee Motivation," 2025 6th International Conference for Emerging Technology (INCET), BELGAUM, India, 2025, pp. 1-5, doi: 10.1109/INCET64471.2025.11139982.

Bittle, K., & El-Gayar, O. (2025). Generative AI and Academic Integrity in Higher Education: A Systematic Review and Research Agenda. Information, 16(4), 296. https://doi.org/10.3390/info16040296

International Center for Academic Integrity (ICAI). (2021). The Fundamental Values of Academic Integrity. https://academicintegrity.org/images/pdfs/20019_ICAI-Fundamental-Values_R12.pdf

Mulenga, R., & Shilongo, H. (2024). Academic Integrity in Higher Education: Understanding and Addressing Plagiarism. Asia Pacific Journal of Academic Integrity, 3(1), 30–43. https://doi.org/10.53623/apga.v3i1.337

Zhu, W. (2025). The importance of promoting a culture of academic integrity in higher education institutions in China. Psicologia: Reflexão e Crítica, 38(30). https://doi.org/10.1186/s41155-025-00367-w

Lukash, O., & Szikura, A. (2025). Educational Discipline "Academic Integrity in Higher Education Institutions" for Training Future Biologists, Ecologists and Public Health Specialists. International Journal of Research Publication and Reviews, 6(8), 5706–5708. https://ijrpr.com/uploads/V6ISSUE8/IJRPR52271.pdf