Agentic AI in Higher Education: A Low-Code Framework forAdministrative Automation and Strategic Oversight

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Abstract

A modularized, low-code automation system that follows the premise of the Agentic Artificial Intelligence (AI) internally known as Laila AI has been proposed in this paper which was completely designed, implemented and tested at the Graduate School of Business (GSB), Arab Academy for Science, Technology and Maritime Transport.

Laila AI is self-generating, customizing, and real-time academic administrative workflow system with a dynamic interpretation of institutional input systems (LMS /SIS) and stakeholder data. In the system, the layer of the human-in-the-loop control is also implemented to guarantee its transparency, ethical regulatory use, and local adjustability. It was a mixed-methods case study that employed the use of system performance logs and structural surveys (n = 375) in addition to interviews with various stakeholders.

The results indicate a high level of efficiency in operation: a more than 50% decrease in the time of task accomplishment, and automation of up to 70% of the assessment processes. More than 80% of the time, academic leadership reacted to strategic alerts within 48 hours. Qualitative information resonated with perceived gain in fairness, explainability, and trust among the stakeholders. Override and justification features provided active involvement of human reviewers, which supported the ethical dimension of governance.

The above-stated findings assert that Laila AI encompasses a dualistic model of governance putting together independent decision reasoning and in-built moral control. Being a transparent, ethically controlled distributed digital form of administration, it presents a model that can be transferred to resource-restricted establishment of higher learning in disparate working environments.

***Keywords**: Artificial Intelligence; Higher Education; Automation.*

Introduction

Background and Context

Although the process of digitization on the instructional level of higher education drastically transformed, there is still a structural bias: on the one hand, the application of LMS platforms and AI-based tutoring tools to facilitate the learning experience became common, but on the other hand, the process of administration in the majority of HEIs is still highly decentralized, manual, and reactionary (Nuong Deri, Singh, Zaazie & Anandene, 2024). Such disconnect does not facilitate responsiveness and transparency, especially when infrastructural and regulatory factors inhibit the digital maturity stage in MENA regions (Bai, 2024; Nuong Deri et al., 2024).

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To counter these problems, the Graduate School of Business (GSB) at the Arab Academy of science, technology and Maritime transport has deployed an extensive Agentic Artificial Intelligence (AI) system which is known internally as Laila AI. The name was selected to enable the system to express the personified understanding of its autonomy and ethically adventurous decision-making autonomy and their expression in relation to local cultural perceptions and the human-in-the-loop design at the core of the system. Laila AI is designed to be an AI assistant who manages a workflow and keeps human supervision where there is a need to make an ethical or context-specific decision. The main aspects that distinguish Agentic AI compared to classical automation are autonomy, the context perception, and goal-directed logic. He starts the business processes, answers institutional metrics, and inserts human-unsynchronized monitoring (Samdani, Paul, & Saldanha, 2023). At GSB, it is used to perform real-time faculty assessment, dissertation input, and audits of faculty services with trigger, rubrics, and justification modules (Tarisayi, 2024).

The main capabilities of the system encompass initiating reviews on the grade entry, directing proposals through the scoring logic, and tracking the student services up to the loops that are provided with audit trails and explainability cues (Al-Omari et al., 2025). Although there is a lot of theory on Agentic AI, little adoption of this technology has occurred at an administrative level in HEIs (Balbaa & Abdurashidova, 2024). This paper can fill this gap by assessing that impact within the context of one of the HEIs that have limited resources, primarily ensuring efficiency, fairness, and strategic responsiveness (Nama, 2022).

The research adds value by: (1) demonstrating that inventions derived of theoretical AI capabilities are measurable in the form of institutional rewards (Parab, 2024), (2) codifying ethical management as a quantifiable part of the system, and (3) investigating whether autonomous agents can possibly end up in real-time administrations that are taken out by anticipation (Shukla, 2024).

Post-COVID Digital Transformation

The COVID-19 pandemic highly boosted online training within a short period, however it led to administrative framework breakdowns. The establishment of virtual classrooms was the norm, yet the majority of HEIs still use old-fashioned SISs, spreadsheets, and manual ratifications (Huo & Siau, 2024). Such systems were slow and restricted strategic decision-making.

Examples of bottlenecks at GSB were poor faculty review, slowing proposal vetting process, retrospective, not real-time data displayed by dashboards (Nuong Deri et al., 2024). Predictive dashboards were ineffective and could only be activated manually and they were not responsive.

Based on these problems, the Agentic AI framework was used with real-time ingestion of SIS/LMS data and stakeholder input through event-driven architecture. It uses scoring logic, makes alerts, and includes validation on every decision node (Samdani et al., 2023). This, although transformative, was a cause of concern to the issue of algorithmic change and fairness in highly regulated settings. The case with GSB gives an unusual chance of evaluating performance and safe-guarded ethics (Balbaa & Abdurashidova, 2024).

Research Problem and Aim

Although the development of instructional AI has come a long way, administrative work at all HEIs still remains inefficient and transparent. Faculty evaluation was sluggish, screening of dissertations was a mystery, and dashboards were unchanging at GSB, which discredited trust and nimbleness (Siminto et al., 2023). There exists a lot of discussion on AI governance, but not many models are able to integrate autonomy with moral supervision. This work will help fill that gap because it establishes an Agentic AI that automates the academic workflows but includes control over human supervision and ethics.

Research Question: How do operational, ethical, and strategic consequences of Agentic AI be implemented at GSB?

Research Objectives and Questions

Objectives:

- Track changes in efficiency (e.g., the amount of time spent on the task, minimization of the errors).
- Check on the way human judgment reviews AI outputs (e.g., overrides, flavor import).
- Examine the results of fairness (e.g., gender or rank in the program).
- Measure the impact of strategic governance (e.g., fastness of alerts, the use of dashboards).
- Come up with a replicable model of other HEIs.

Research Questions:

1- RQ1: Did Agentic AI reduce administrative delays and errors?

2- RQ2: Did it enhance fairness and transparency?

3- RQ3: Did real-time dashboards improve leadership responsiveness?

4- RQ4: What role did oversight play in moderating AI outcomes?

Hypotheses:

- H1: Agentic AI improves efficiency, fairness, and strategic responsiveness.
- H2: Human oversight moderates these effects, improving trust and context alignment.

Significance of the Study

The research increases the underrepresented field of administrative AI in college education. It also brings empirical data that the autonomy, adaptability, and inherent oversight of Agentic AI can enhance the business results in operation (Al-Omari et al., 2025; Samdani et al., 2023).

On a practical level, it presents a modular, low-code AI system that automates advanced academic processes in a resource-constrained HEI with support in Python-based performance indicators (Shukla, 2024).

Policy wise, the GSB framework is GDPR and Law 151/2020 compliant and it proves a scalable framework consistent with the EU ethical governance regulation and accreditation (Balbaa & Abdurashidova, 2024).

Literature Review

Theoretical Foundations

The implementation of Agentic Artificial Intelligence (AI) into college administration has also entered a few related theoretical spaces: systems theory of organizational efficiency, models of digital transformation, theory of ethical algorithmic controllership, and the theory of human-AI cooperation. The theory of organizational efficiency assumes that institutions undergo reorganization of processes, eliminating redundancies and boosting responsiveness, which is regularly utilized in automation of enterprises, but hardly posed to HEIs (Dalsaniya & Patel, 2022).

Digital maturity frameworks like EDUCAUSE framework and OECD framework highlight that institutional nimbleness and real-time decision support reflect administrative smartness. In that regard, Agentic AI is a departure point of passive gathering of data to proactive control using autonomous systems. In contrast to classical automation, Agentic types of AI are used to respond to institutional stimuli, dynamically adjust parameters, and launch feeding-driven workflows in accordance with company objectives (Parab, 2024).

The priority must be ethical issues. As (Al-Omari et al., 2025) note, AI governance in HEIs must guarantee explainability, accountability, and consequent compliance to the law especially in implementing regional venues of law like the Egyptian Law 151/2020 and the GDPR. All these regulatory principles highlight the importance of transparency as a means of reducing the risks of algorithmic bias, lacking audit, and disengag-

ing human beings. Because the Human Oversight Layer within the Agentic AI framework is more than just a theoretical concept, the ethical values are operationalized within the framework to become auditable actions.

Evolution of AI in Higher Education

In education, AI has been subjected to three waves of development. The first wave evolved rule-based systems that automatized routine work, like calculation of grades and records of the presence (Zawacki-Richter et al., 2019). The second wave brought predictive analytics, in which the institutions used machine learning models to predict student risk and academic performance, frequently based on historical data and fixed reasoning (Chen et al., 2023).

The third and the recent one is described by Agentic systems of AI that can initiate the tasks, self-adjust according to the changes in real time, and communicate with human supervision. According to (Huo and Siau, 2024), generative AI has the potential to create more caustic decision courses in education, yet the effective use in administrative facilities is not yet fully adopted. The majority of HEIs still depend on dashboards that suggest past summaries without independent action and situational insights.

With the Agentic AI framework at GSB, the predictive analytics capabilities are extended with a live stream of data to launch real-time assessments, raising alerts when KPI values deviate, and dynamically shifting rubric point targets. All these attributes are consistent with the vision of Samdani, Paul, and Saldanha (2023) who assert that Agentic AI will comprise the future of hyper-automation, where intelligent agents bring institutions to anticipatory governance rather than mere reporting.

Definitions and Capabilities of Agentic AI

The agentic AI introduces a paradigmatic change in using AI. It is characterized by three main features, namely autonomy, goal directed behavior, and contextual adaptability. As (Ghosh, 2022) points out, the concept of autonomy is quite clear: it concerns whether the system can make decisions without human triggering, and this means that the decisions are in line with the priorities of the institution. In its contextual adaptability, the AI will be taught to form the pattern of interaction and optimize logic according to the surrounding signals.

These features are achieved at GSB by real time detection of events (e.g., Moodle result submission), rule-based decision making with embedded institutional rubrics and human-in-the-loop review panels. The Agentic AI engine should not be treated as a mere utility, but as a digital institutional agent taking continuous workflow optimization decisions at the boundaries where work efficiency and fairness bloom.

Improving the partiality of black-box AI systems, Agentic AI contains the means of justification initiation and override stops. These design features as observed by (Shukla, 2024), make the system more transparent and less demanding to the stakeholders in terms of the interpretable outputs. At GSB, AI-suggested scores are interacted with by reviewers and overrides are used, when necessary, with rationale and deviations to form a closed-loop system to reap continual improvement.

Prior Work on Administrative Automation in HEIs

Automation as a conversion in higher learning has mainly been researched in the field of instructions with little research in administrative fields (Nuong Deri et al., 2024). In the few cases where administrative automation has occurred, it is usually limited in its scope to lower complexity roles like transcript production or vacation procedures in the form of robotic process automation (RPA). Such tools are not very strategic and are not customizable to changes in the context.

A few institutions have tried business intelligence (BI) dashboards as a form of institutional monitoring, but such systems can be no more than descriptive. They need human action to be executed and do not take

immediate action on data deviations or bottlenecks in the work. (Nama, 2022) has dwelled on the shortcomings of BI systems in decision-making contexts where timeliness, ethical defensibility, and support of a dynamic institutional agenda are all relevant.

The Agentic AI framework is implemented at the GSB in the automated assessment of the mid-and high-level complexity evaluation: faculty performance rating and routing dissertations and strategic alerting. Every activity can be tracked down, reasoned out and enclosed in an architecture of feedback-based governance. This validates the implementation of GSB as a third-generational phenomenon of the academic automation of machines whose autonomy is limited in scope by ethical governance and institutional principles.

Strategic Decision-Making and AI Dashboards

The ability of HEIs to achieve strategic response is dependent on up-to-date insight and usable intelligence. Conventional dashboards have summarized past information that can only be retrieved at the quarters assessment that is usually after the horses have fled. Such systems inherently lack the property of proactive governance since it is always in response to what is happening as (Rossmann & Wald, 2024) saw.

In agentic AI, strategy is built into the core of the operation. It monitors performance measures in real time; problems warn when they are out of bounds and model policy outcomes using predictive modeling. As such, faculty evaluation could be sent to reminders, or institutionally academic leadership can be alerted with recommendations to act, and when it is under less than 75%, the finalization can be blocked off to remedy the situation.

These capabilities are not some hypothetical things at GSB. The strategic dashboards demonstrate the frequency of logs each week, delays of time response to alert and the allocation of resources in relation to the intelligence of the dashboards. This combination of observation and intervention becomes a graphic example of governance in the anticipation of an idea that is underrepresented in the higher educational literature (Parab, 2024).

Gaps in Literature

Despite rising interest, five significant gaps remain in literature:

1- Absence of Agentic AI models at an empirical level: There is little to no empirical documentation of full-scale deployment of Agentic AI and measurable finish which has been document at scale by HEIs (Balbaa & Abdurashidova, 2024).

2- The issue of oversight is not well-conceptualized: Most articles state the oversight in categories of ethics and fairness without scrutinizing the behavior of human reviewers by management method or justification rectifications (Al-Omari et al., 2025).

3- Lack of consideration of administrative AI: The field of AI research in education has involved much research on learning analytics and instruction design but has given little attention to administrative change (Nuong Deri et al., 2024).

4- Regional underrepresentation: The Global South, especially MENA, is a case study where the digital infrastructure conditions can be constrained still, but case studies are few (Siminto et al., 2023).

5- Lack of scalability frameworks: There are not any existing frameworks that provide practical advice on how to reproduce the functioning of the Agentic AI systems to any other institutional and regulatory settings.

The present study aims to solve all five stated gaps as it introduces operational, morally controlled Agentic AI in terms of a real-life MENA HEI. It records performance, assesses fairness, and the reviewer interactions analysis, and presents a scalable roadmap.

Conceptual Framework

The conceptual model of this research will take the form of analyzing the institutional implications of a real-life Agentic AI system implemented at the Graduate School of Business (GSB), Arab Academy, Science, Technology and Maritime Transport. Based on theories of digital transformation, algorithmic governance, and the design of socio-technical systems, the framework establishes a connection between the technical structure of Agentic AI and the primary institutional objectives, the efficiencies of administration, procedural justice, and strategic versatility. It has also brought into play the Human Oversight Layer such as mediating or moderating structure.

In this model, agentic AI is not only viewed as a process automation tool, but as an institutional agent that will be semi-autonomous and able to initiate workflows, score evaluations, and provide strategic alerts by relying on contextual cues picked up by a LMS, SIS, and feedback systems of stakeholders (Samdani, Paul, & Saldanha, 2023). The system's goal-directed behavior is bound by embedded human-in-the-loop mechanisms, which validate, override, or refine its outputs based on institutional ethics, academic policy, or data quality concerns (Al-Omari et al., 2025).

The framework is structured around two main hypotheses:

- **H1**: It is expected that Agentic AI improves administrative efficiency, Institutional Fairness, and Strategic Decision-Making.
  - **H1.1** It is expected that Agentic AI improves Administrative Efficiency: it is quantified in terms of time savings, reducing errors, and tasks throughput.
  - **H1.2** It is expected that Agentic AI improves Institutional Fairness: in auditable logs, bias-reduction controls, and perceptions on the part of the stakeholder.
  - **H1.3** It is expected that Agentic AI improves Strategic Decision-Making: operationalized via dashboards, and alert-response latencies, and policies implementation.
- **H2**: It is expected that Human oversight moderates these effects, improving trust and context alignment.

A Feedback Loop has been integrated into the model, so machines and humans jointly apply the reviewer action (e.g., override frequency), the stakeholder survey response, and the event log analysis to refine scoring logic, change rubric parameters, and manipulate process timing through iterative refinements (Shukla, 2024).

The conceptual framework offers the Agentic AI engine as the independent variable, which also affects three dependent ones (efficiency, fairness, responsiveness) directly or by means of the moderating effects of the oversight layer. It uses socio-technical systems apprehension in acknowledging the connection amid digital agents and human structures of governance on HEIs.

In this framework, there will be a systematic empirical assessment of how Agentic AI functions within a live institutional context, how human stakeholders moderate its outputs and whether this prompts the resulting governance model to perform, be fair, and acceptable in terms of accountability.

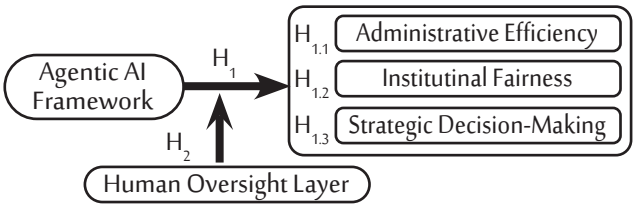

Figure 1: Conceptual Framework of Agentic AI and Human Oversight Pathways in Administrative Decision-Making

Research Methodology

This paper used a mixed-methods case study the implementation of Agentic AI at the Graduate School of Business (GSB), Arab Academy for Science, Technology and Maritime Transport, to provide a mix of quantitative and qualitative data.

The research design was a mixture of explanatory and evaluative analytics where ***triangulation*** was used to enhance the validity and reliability of findings. Three data streams comprised the triangulated design: (1) system performance logs, objective and time-stamped evidence of task completion, error rates, and alert responsiveness; (2) structured questions to stakeholders (n = 375), to capture contemporary conceptions of efficiency, fairness, transparency, and trust; (3) semi-structured interviews with faculty, administrators, reviewers, and leadership, which added context-specific reflections to interpretation.

The population includes all stakeholder groups involved in the administrative processes automated, through the Agentic AI framework, were included in the study population, i.e., the faculty members, doctoral students, reviewers, coordinators, and leadership groups. Out of this population, there were 375 valid survey responses attained that were more than sufficient to represent a young adult student population of over 1,000, as well as purposively selected interviewee participants to represent the perspectives of all stakeholders.

This was done through adopting a rigid Likert-scale questionnaire with 40 questions based on four hypotheses (H1.1-H2) each construct had 10 questions. The scales were validated using Cronbach's alpha test and all constructs were well above a value set by the supervisor, 0.70, thus proving internal reliability. The survey reflected operational definitions of administrative efficiency, procedural fairness, strategic responsiveness, and human oversight. To supplement the quantitative scales, open-text survey questions and interview questions were used to collect subtle perceptions of system adoption, fairness, and trust.

The data collection instruments included three interconnected tools: (1) Google Forms written survey that would record structured information; (2) Python-written log pulling scripts that would access performance data of the Agentic AI system (e.g., processing time, completion levels, and latency in alert resolution); and (3) interview protocols that would help to learn how stakeholders viewed AI-driven processes. Data was collected with the assistance of secure digital instruments (**Moodle, SIS, and Google Forms**), which guarantee their ease and their respect for ethical and institutional principles.

The data collection methodology was like parallel streams: questionnaires were in electronic form with stratification of reminders to ensure sufficient responses, the log data was continually being captured by the system over the evaluation period, and interviews were conducted with selected participants until the themes on saturation. This simultaneous collection pattern allowed two-dimensional triangulation at design stage as well as during analysis.

In analyzing the data, both statistic and qualitative methods were used. The calculations of descriptive statistics, reliability, and test of hypothesis were done using ***python libraries*** to process survey data through regression and correlation analyses. Before and after logs were analyzed and the reduction in the time of completion of tasks, error rates, and the time to respond to alerts were quantified.

Transcripts of qualitative interviews were coded qualitatively to unearth frequently occurring perceptions related to fairness, trust, and oversight. Triangulating these three streams to associate quantitative gains in efficiency and fairness with the qualitative sense of trust, as well as log evidence of influence, provided convergence of evidence.

System Architecture and Design

The Agentic AI system deployed at the Graduate School of Business (GSB) has an architecture of a modular, event-driven automation platform that combines institutional real-time data with self-governing AI decision-making and hard-coded moral oversight. In contrast to rule-based automation or a static dashboard framework, the Agentic AI framework has proactive behavior, context-sensitive adaptation, and its continuous learning is via feedback loops (Samdani, Paul, & Saldanha, 2023). It gives an overview of the six layers of the system that are interrelated and notes down the most important logic and design rationale of the system.

Architectural Overview

The system, which has been referred to as Laila AI internally, unifies six layers of modules that reflect the principles of Agentic AI: autonomy, context awareness, and goal-oriented behavior. Laila AI is not a black-box recommender, that is, it is an unsigned institutional agent whose choices can be explained and audited and are ethically overridable. The naming convention facilitates the involvement of the stakeholder especially when relaying the role of AI in onboarding, training, and reviews audit.

The system architecture is composed of six functional layers that operate synergistically:

1- **Data Input Layer:** It consumes the structured and timely LMS, SIS and stakeholder survey data. Inputs include:
   - Record of progress in course.
   - Teaching records of the faculty.
   - Student engagement patterns.
   - Submissions on proposals and analysis of the past.

2- **Process Automation Layer:** It runs event-driven scripts that are set to operate on event go signals. Examples include:
   - Auto-evaluation routes of faculty once results of a course are submitted.
   - Uploaded files are followed by research proposal scoring and routing.
   - Strategic alert director-based when the KPI levels are violated.

3- **Agentic AI Engine:** The agentic AI Engine: It consists of the decision core. It includes:
   - A **goal-directed planner** who synchronizes actions and the priorities set by institutions (e.g., timely evaluations, fairness checks).
   - **A dynamic scoring element:** that can convert the rubric parameters in context (e.g., class size, delivery mode).
   - A **workflow triggers a mechanism:** which implicitly creates new tasks without somebody telling them what to do.

4- **Human Oversight Layer:** This ethical governance layer includes:
   - **Justification prompts** attached to each AI-generated recommendation.
   - **Reviewer override controls** to validate or amend system outputs.
   - **Audit logging** of each action for traceability and accountability.

5- **Strategic Dashboard Interface:** Provides access to the institution KPIs and alerts according to the roles. Capabilities include:
   - Faculty evaluation heatmaps
   - Alert timelines for overdue tasks
   - Policy simulation modules (e.g., testing changes in rubric weights)

6- **Feedback Loop Module:** Continuously refines system behavior through:
   - The overview of the trends of overrides and differences in scoring
   - Survey and perception data analysis of stakeholders
   - Bias checks equal opportunity markers (e.g., by gender, program, rank)

These levels interact to generate a form of AI that is both autonomous and explainable and ethically auditable traits that identify the Agentic AI paradigm in the HEI administration.

Workflow Design Logic

The architecture is implemented in event-driven style, this is, the activation of workflows is performed by data events instead of scheduled operations. Some of the significant triggers are:

- **Faculty evaluation**: It is activated as soon as final grades are entered in Moodle.
- **Dissertation screening**: It is activated upon uploading of a proposal by a student.
- **Strategic alerts**: Triggered in KPIs breach predetermined levels (e.g., >20% drop in evaluation participation).

Every workflow uses conditional logic trees, which contain rules of rubrics. An example is to say that when the score of a research proposal is less than 85 out of 100 it is flagged by the system indicating that either it should be revised or reviewer override.

If a faculty member has a low score of engagement in two subsequent semesters, this system suggests peer observation and reports the case to the program director. This makes the framework a combination of predictive to prescriptive actions, providing an institution with real-time intelligence instead of mere reporting afterwards.

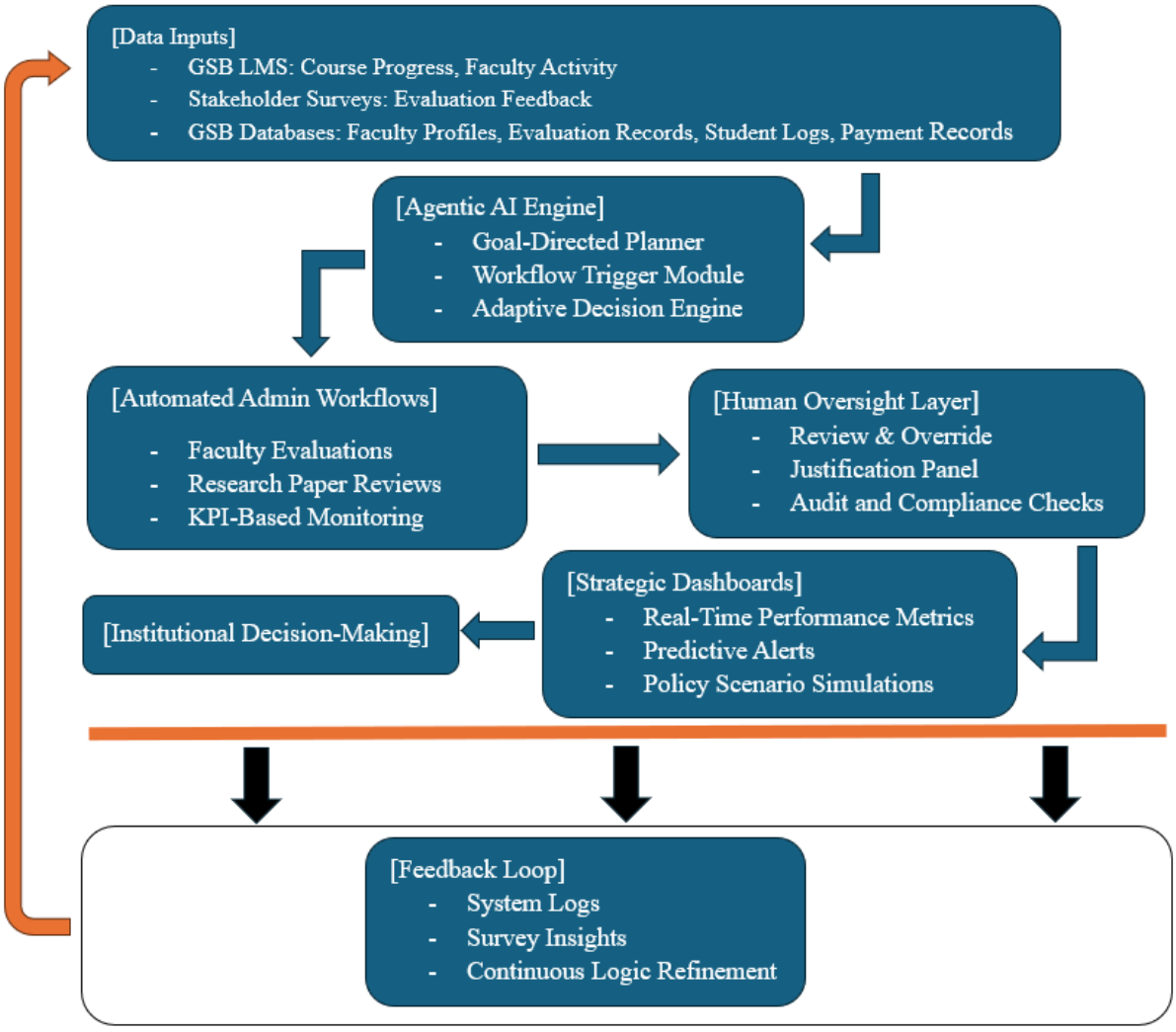

Figure 2: System Architecture

Ethical Oversight and Auditability

One of the characteristics of the GSB implementation is that it incorporates Human Oversight Layer. High-stakes processes like approvals of dissertations and the evaluation of the faculty require human oversight prior to finalizing any decision. The system shall offer:

- Explanation of justification hinders stating the derivation of the scores
- Reviewer override settings, where the options are logged together with the reason
- Bias audit summaries following differences in the basis of gender, rank, or program affiliation

These systems convert abstract concepts of ethical AI like that of fairness, transparency, and accountability into actionable elements of a live system (Tarisayi, 2024; Al-Omari et al., 2025).

Technical Deployment

The tooling was developed in low-code automation software and logic-python scripts. It is directly connected to Moodle through secure APIs and the institutional SIS through extracting data through batch extraction. Its main characteristics are:

- Orchestration of tasks automatically through event sensors and condition nodes.
- A natural language A.I. prompt as a template to make an AI-made summary.
- Dynamic filters and KPI visualization-based role driven dashboards.

The interactions with the dashboard, overrides as well as the performance statistics of the workflow including its processing time, error rates, and usage by users were also tracked using python scripts. This tech stack makes it transparent, replicable, and extensible to add new improvements in the future.

Before-and-After Impact Summary: Quantified Gains from Agentic AI

This section will provide a before and after outcome of the administrative activities of GSB after the implementation of the Agentic AI model. As per the empirical data, in the form of workflow execution logs, evaluation records, and stakeholder monitoring dashboards, the analysis proves quantifiable gains in three strategic dimensions including operational efficiency, procedural fairness, and strategic responsiveness. These dimensions relate to H1.1, H1.2 and H1.3 hypotheses, which are represented in the following figures.

Efficiency Gains in Administrative Tasks (H1.1)

With the Agentic AI system, the time that was taken to complete some of the most important academic assignments was echoed down substantially. An example is reduced average PhD assessment processing time which went down 30 minutes to less than 1 minute, and proposal assessment processing time which went down 40 minutes to less than 1 minute. The other workflows such as grade finishing and generation of academic reports had more than 95% reduction in time.

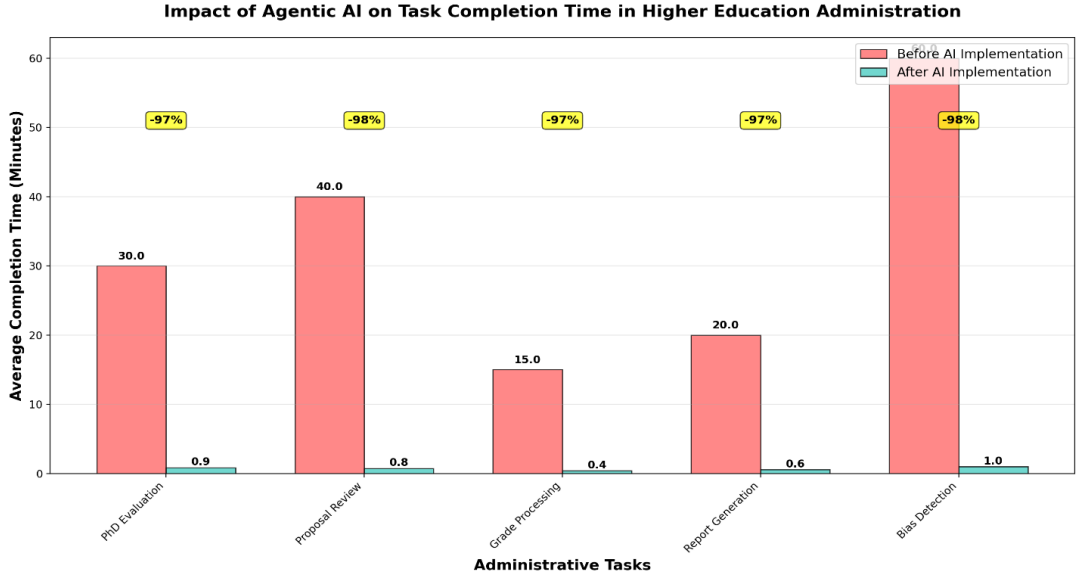

Figure 3: Reduction in Task Completion Times

Demonstrates over 95% reduction in processing time across five critical administrative workflows following Agentic AI deployment.

These results support the idea of H1.1 according to which Agentic AI can make the institution more efficient by automating the workflow processes in real-time and executing rules dynamically. Manual workload was also reduced, and this enabled the academic and administrative staff to realign their priorities to higher-order strategic functions.

Enhancements in Fairness and Bias Detection (H1.2)

The use of agentic AI made the academic evaluation system fairer within an anomaly detection, reviewer validation, and audit element deposited into the evaluation logic. As can be seen in the figure below, we were able to increase the accuracy of the detection of bias to 89%, more than doubled the coverage (up to 95 points) as well as cut the false positive rate down by 68 points, and the average time it took until flagged anomalies would be attended by the staff was reduced by 39 times (72 to 2 hours).

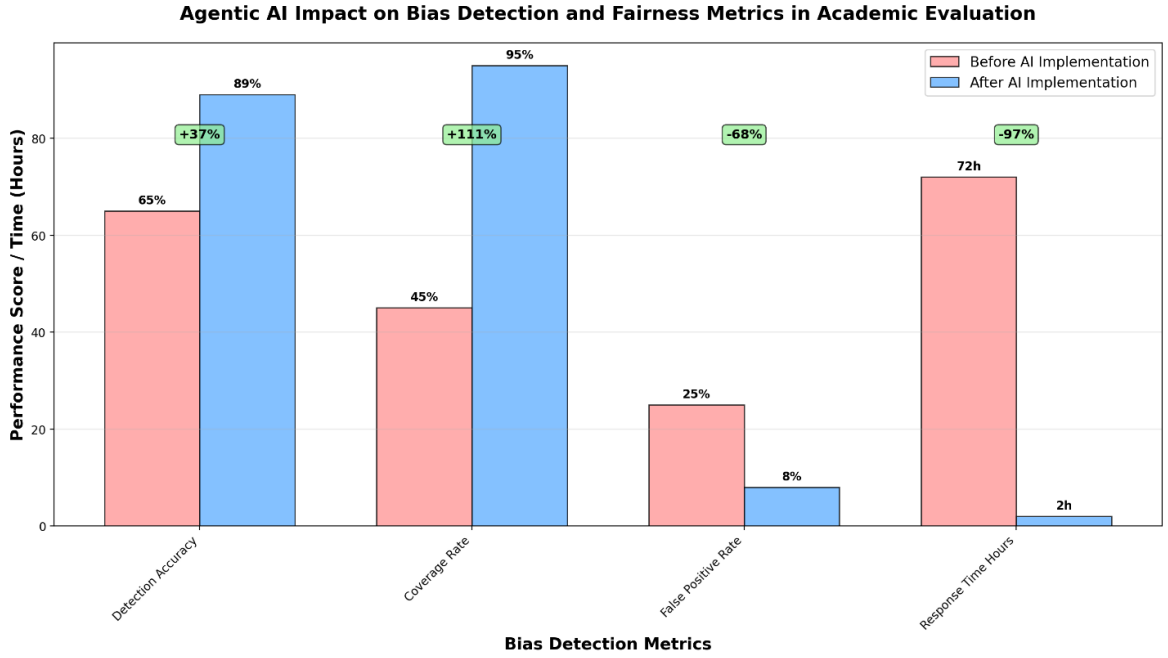

Figure 4: Improvements in Bias Detection Accuracy and Coverage

Visualizes +37% increase in detection accuracy, +111% improvement in coverage, 68% reduction in false positives, and 97% faster bias response time.

These betterments substantiate H1.2. The system's ability to combine automated scoring with human oversight fostered procedural fairness and mitigated historical subjectivity especially in high-stakes evaluations involving gender, program type, and reviewer variability.

Strategic Responsiveness via Dashboards (H1.3)

The application of role-based dashboards gave the leadership the ability to work on real-time notifications and performance discrepancy. Regarding the average response time of critical alerts, the critical alerts responses of 240 minutes were reduced to only 30 minutes, as indicated by the figure below. The KPI reports that were measured by hours before are now made possible in less than 5 minutes whereas the latency in data retrieval was 60 minutes and is now down to less than 2 minutes.

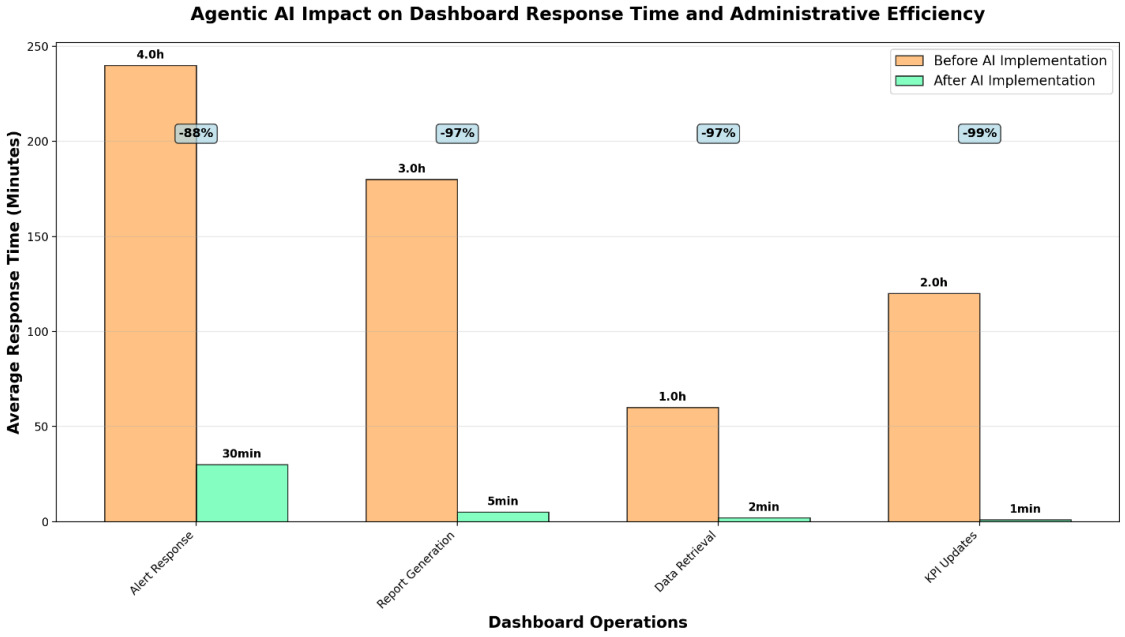

Figure 5: Dashboard Responsiveness and Alert Resolution Latency

Highlights 87–99% reduction in alert resolution time, report generation speed, and data latency, enabling real-time strategic decision-making.

These findings substantiate H1.3, as they indicate that Agentic AI turns dashboards around by making passive reporting tools active governance tools. Leadership is no longer responsive to the historical data but is interactive to the institutional live signals and favors anticipatory governance.

Use Case Implementation at GSB

To eliminate longstanding inefficiencies and opacity in three of their most important academic-administration processes faculty evaluation, screening of dissertation proposals, strategic planning (through dashboards) the Graduate School of Business (GSB) adopted the Agentic system of AI. All the workflows incorporate real-time triggers, scoring logic that is based on rubrics, and mechanisms that enable transparency by providing human-in-the-loop review.

Use Case 1: Faculty Evaluation Automation

After the final grades have been submitted through Moodle, the Agentic AI framework invokes the faculty evaluation processes, sends surveys and Likert/open-ended feedback are processed based on pre-populated rubrics. The results of summarized evaluations are also sent to academic leadership that contains justification prompts. Overrides by reviewers remain entirely in charge and every interaction is recorded to be audited.

The important characteristics of the Agentic AI engine in the present use case were:

- Activation of workflow based on Moodle timestamps though events at the time of workflow activation.
- Adaptive rubric scoring is sensitive to delivery mode and size of classes (e.g., online vs blended).
- The sentimental facelift of narrative analysis in textual feedback interpretation.
- Reports with justification modules that can be read by faculty.

Such assessments were sent to department heads and academic committees to be verified. Reviewers could give override scores immediately so that the reviewing member could flag anomalies, or seek additional comments, all with audit records of the action.

Use Case 2: Dissertation Proposal Screening

The second software tool was aimed at the doctoral dissertation process which was a high-stakes academic workflow that had historically been delayed, subjectively reviewed, and inconsistent in scoring rubrics. The Agentic AI system was set in a way such that:

- Auto scan PDFs of proposal uploads
- Utilize standard rules of rubric in terms of structure, originality, clarity, and feasibility
- Create AI-generated scores and suggestions (e.g., send to boss, put aside to review)
- Refer only those proposals that scored above a certain low mark (85%) to academic supervisors

Any proposal that is below the threshold would generate human override requests. Annotated, summarized reports were provided, as well as justification prompts about how each rubric score related, to review panels. This allowed them to quickly affirm or modify AI suggestions without having to perform the complete assessment by hand. This application scenario manifested the potential of Agentic AI to endorse academic integrity, lessen decisiveness on reviewers, and create explainable evaluations at scale (Samdani, Paul, & Saldanha, 2023; Balbaa & Abdurashidova, 2024).

Use Case 3: Strategic Dashboards and Alerts

Data-driven governance requires strategic responsiveness of leadership. Before the solution, the dashboards of GSB were retrospective and descriptive with ample chances of being updated quarterly and inability to cause any real-time action. This was changed by the Agentic AI framework which introduced:

- Up-to-date KPI dashboards broken out by program, cohort, and faculty group, and semester
- Predictive notifications (e.g., reduced course evaluation response rates in drop-in, late approval of dissertations)
- Policy simulation modules that model the impact of the change in weight of rubric or on the faculties that affect the alterations in the faculty loads
- Audit trail displays of what has been done upon each alert and the reviewer rationale

Deans, program directors, and programs units had access to leadership dashboards. To check the involvement, the system recorded the number of logins, the delays when responding, and the prevalent type of interventions.

Such dashboards transformed the institution in terms of agility by making the leadership position work with real-time evidence consistent without relying on secondary histories of what should have been done (Rossmann & Wald, 2024; Tarisayi, 2024).

A combination of these three use cases confirmed the ability of the Agentic AI system to improve measurements of efficiency, fairness, and responsiveness with the protection of ethical governance and institutional accountability.

Table 1: Summary of Agentic AI Use Case Outcomes at GSB

Use Case	AI Automation Rate	Avg. Time Reduction	Reviewer Override Rate	Strategic/Operational Outcome
Faculty Evaluation	70%	>50%	~10%	Fast, rubric-aligned feedback with embedded oversight
Dissertation Proposal Screening	80%	75%	~5%	Improved clarity, reduced review cycle time
Strategic Dashboards	N/A	KPI alerts in <48h	N/A	Proactive leadership response and policy simulation

Note: Data summarized from system logs, reviewer actions, and stakeholder feedback.

Results

Due to the results gained from the analysis regarding H1: It is expected that Agentic AI improves efficiency, fairness, and strategic responsiveness. Findings revealed the following:

Accounting to the deployment of Agentic AI framework in GSB, it experienced remarkable institutional gains in three vital areas of administrative economies, procedural fairness, and its sensitivity toward strategic decision-making. Those findings were confirmed by a triangulation of analytics of the system logs data, Surveys with pre-designed questions organized among the stakeholders, and documented dialogues between reviewers. The methodological transparency and replicability are also warranted as the main metrics were extracted, analyzed, and visualized with scripts written in python.

Regarding the sub hypnosis H1.1 It is expected that Agentic AI improves Administrative Efficiency: it is quantified in terms of time savings, reducing errors, and tasks throughput: It is expected that Agentic AI improves efficiency, fairness, and strategic responsiveness. Finding revealed that, the effect of the Agentic AI implementation on administrative task efficiency was one of the most tangible benefits since the efficiency of these tasks was improved significantly. In the processes of faculty evaluation, proposal review and dashboard-based interventions, the following indicators of performance were found:

- **Faculty Turnaround Time of Evaluation**: This decreased by more than 50% and most of the evaluations have been finalized within 5 days after submitting grades (as compared to 10+ days before).
- **Proposal Screening Duration**: The screening duration was cut by a quarter due to the ability of the AI-based scoring based on the rubric to provide feedback and route to supervisors almost immediately provided that the readiness scores (i.e., 85 or higher) were achieved.
- **Workflow Automation Rate**: More than 70% of the repetitive academic processes including assessment activation, the feedback summarization and routing were processed without manual interaction.

There was a great reduction in task completion delays and the workload on the evaluator. Completeness of result-entry was automatically monitored to avoid no-deadlines and overlooked data-integrity policies between units. These findings validate observations in the larger body of knowledge on AI, where in various applications, intelligent workflow systems have proven to decrease processing time and enhance the accuracy of the tasks (Nama, 2022; Dalsaniya & Patel, 2022).

Regarding the sub hypnosis H1.2: It is expected that Agentic AI will improve Institutional Fairness in auditable logs, bias-reduction controls, and perceptions on the part of the stakeholder findings revealed that fairness audits conducted before and after system deployment revealed improvements in both the objectivity and explainability of evaluative outcomes:

- **Bias Mitigation**: The gap between the faculty evaluation scores based on gender and the gap between the faculty evaluation scores based on faculty rank were reduced following deployment. The override-adjusted scoring was in line with fairness thresholds in institutional policy.
- **Justification Prompt Usage**: Justification prompts have been actively used in 85% of flagged cases implying the active role of human control along with reflective interpretation.
- **Reviewer Confidence**: According to a survey conducted, 92% of the scholarly reviewers determined that the logic of the AI was comprehensible, and its output was justified. The rates of overriding have been kept down (about 5%), and where this has been employed, the exercise has always been documented with human reasoning.

These are the consequences in line with the ethical principles mentioned by Al-Omari et al. (2025), which emphasize the role of transparency, defensibility, and participatory review and evaluation of AI systems of education.

Regarding the sub hypnosis H1.3: It is expected that Agentic AI improves Strategic Decision-Making operationalized via dashboards, and alert-response latencies, and policies implementation findings revealed that the KPI-based alerts and strategic dashboards gave academic leadership the ability to engage in proactive governance:

- **Dashboard Usage**: Program directors and deans used strategic dashboards intensively, averaging three logins per week and were supplied with real-time alerts and personalized reports on KPI.
- **Alert Response**: More than 80% of alerts created by AI (e.g., overdue evaluations, unfilled proposal plans, student feedback abnormalities) were solved in less than 48 hours.
- **Policy Actions**: Over 60% of the proven policy responses were through such academic activities as redistribution of workloads, changes in rubrics, and rotation of reviewers, all of which were directly attributed to Agentic AI insights.

Leadership could analyze the possible effects of the policies by imitating various scenarios (i.e., the changing weightings of evaluations). This marks a major paradigm change in terms of compliance that was retrospective to anticipatory governance (Rossmann & Wald, 2024; Parab, 2024).

Regarding the sub hypnosis H2: It is expected that human oversight moderates these effects, improving trust and context alignment findings revealed that satisfaction regarding post-implementation surveys in the faculty, staff and reviewers was shockingly high:

- 89% concurred that the system enhanced time and administration bottle necks
- 86% judged that AI scoring logic was unjust and useful
- 90% of the users of dashboards said that the visualizations helped them to make decisions

The Human Oversight Layer played a significant role in fostering trust because the stakeholders have pointed out the importance of override capabilities and AI recommendation transparency (Tarisayi, 2024). Agentic AI was superior to opaque automation solutions in part because it allowed system behavior to be monitored, decisions to be traced, and to be able to take an intervention when necessary.

Altogether, the study findings proved the research hypotheses (H1.1, H1.2, H1.3): administration efficiency, institutional fairness, and strategic decision-making responsiveness were boosted significantly by Agentic AI. Moreover, the Hypothesis H2 in line with the Human Oversight Layer which had been justifying, refining, and ascertaining that AI-driven outputs are ethically sound was confirmed.

Discussion

Outcomes of the Agentic AI application in the context of the Graduate School of Business (GSB), juxtapose the revolutionary prospects of intelligent automation frameworks in higher education administration. In this part the empirical results are interpreted in the framework of research hypotheses and conceptual framework, the results are related to the wider theorized constructs, and the implications are discussed of the digital governance, fairness, and institutional strategy.

Interpreting the Findings by Hypothesis

H1.1: Agentic AI Improves Administrative Efficiency

The metric data verifies that Agentic AI delivered tangible workflow acceleration, automation of various tasks and backlog slashing. It corroborates previous research, which indicated that the combination of AI-oriented automation and a more standardized process design can be more responsive and more scale-intensive when compared to the latter (Dalsaniya & Patel, 2022; Nama, 2022). Against static automation, Agentic AI trigger operational workflows in response to active institutional events, and in doing so it removed the delays in faculty review processes and dissertation screening activities. This is exactly what is

covered by the goal-oriented autonomy introduced by Ghosh (2022), which includes intelligent agents to perceive and respond to the contextual cues without the need of any manual support.

H1.2: Agentic AI Enhances Institutional Fairness

Fairness and explainability were operationalized successfully through the embedded bias audits, justification prompts, and override controls that the framework provides. The gap in the evaluation scores between genders and ranks decreased, and the stakeholder perception of transparency meaningfully increased. The same findings match with the governance procedures as offered by (Al-Omari et al., 2025), according to which ethical compliance, transparency, and role-based review mechanisms deliver the meaning to responsible AI in higher education adoption. The possibility of giving reviewers power to review, dispute, or approve the AI recommendations using rational explanation allowed the system to go beyond black-box related issues and implement participatory governance in it.

H1.3: Agentic AI Supports Strategic Decision-Making

The introduction of the dashboards with the Agentic AI system resulted in transitioning between reactive and anticipatory governance. Leadership took advantage of predictive alerts to correct failing process in a timely manner and react accordingly with changing resource allocations. This is in line with new paradigms of digital transformation in HEIs where the slow quarterly planning process is replaced by real time insights (Rossmann & Wald, 2024; Parab, 2024). Leaders were also able to model the consequences of choices like change in rubric weight before adopting them by using the policy simulation feature within the system which increased institutional agility.

H2: Human Oversight Moderates AI Outcomes

The article confirms the moderate pattern of the Human Oversight Layer. The rates of overriding reviews were not high, but significant, primarily in boundary cases of proposals. We also employed justification prompts and the reasoning of the reviewers was considered when it came to tuning AI prompts. This establishes that oversight is not a compliance characteristic as opposed to a functional regulator that determines the level at which Agentic AI reacts to institutional context (Tarisayi, 2024). The model of co-regulation presented by the feedback loop between human reviewers and the behavior of the system is in line with the socio-technical systems theory.

Theoretical Implications

The results of the current study will be a contribution to the existing body of research on Agentic AI as they illustrate how autonomy, contextual adaptation, and ethical governance may be implemented into the live environment of higher education.

However, although most of the existing literature has revolved around the issue of instructional support systems, the investigation has advanced this insight by defining Agentic AI as an effective working engine of institutional governance that can start a workflow, implement adaptive scores, and include oversight-based decision-making (Samdani, Paul, & Saldanha, 2023; Huo & Siau, 2024).

Of particular importance is the formalization of the Human Oversight Layer not as an abstract layer, but as a statistically measurable factor that affects the results of the systems by moderating it. Oversight mechanisms, oversight mechanisms justification, override behavior, and audit trial interaction were proved to have an influence on the performance and trustworthiness of the AI engine, equaling current demands to have more integrated and explainable systems (Al-Omari et al., 2025).

This study will also help transform descriptive business intelligence into proactive governance. The Agentic AI system did what legacy dashboards could not, which was to support policy simulation and the making of decisions based on alerts to minimize real-time responses by the institutions. This is part of

the corroborating the possibility of intelligent systems to engender a shift to governance by anticipation, which has been developed vividly, though sparsely tested, over the years in digital transformation writing (Shukla, 2024; Parab, 2024).

Finally, institutional culture and intelligent agents and human-based decision-making are focus areas on socio-technical framing that will be embraced in this program. The framework discussed at GSB can be used to guide further research that seeks to analyze AI in its use in administrative settings where there are limiting factors that involve ethical issues, compliance, and immediate reaction.

Practical and Institutional Implications

At the practice level, the paper explains the possibility of low-code, modular AI system deployment in resource-constrained HEIs. No proprietary systems are used as the foundation of the GSB model since it is based on Python logic, role-based dashboards, API bridges, and integration with other systems, including the Moodle and the SIS. Thus, it can be replicated in other locations with similar infrastructure and governance constraints in the MENA and other Global South regions (Siminto et al., 2023).

The multi-tiered architecture that separates the automation boundaries with human review and learning using feedback can be used as a blueprint to other establishments that seek to integrate automation and accountability. Real-time monitoring of the activity of evaluators and override justification are particularly important in the current context of accreditation entities that require auditability of algorithmic decisions.

Reflections on Human-AI Collaboration

One of the insights of the study is the worth of intelligent co-operation between human decision-makers and AI agents. Although a lot of the work was automated by the system, the ultimate power was that of a human being which also meant that autonomy did not imply institutional detachment. Such a dual system facilitated ethical monitoring, learning amendment, and trust formulation.

In this regard, agentic AI is not intended to substitute academic or administrative judgment. Instead, it is an intelligent partner, becoming an institutional capacity booster with abilities to cope with complicated pressures, advance the quality, and create a strategical response. The future of administrative governance in higher education is not AI but this type of configuration.

Conclusion

The example of the application of the Agentic AI framework at the Graduate School of Business (GSB) proves that even such hypothetical concept as intelligent automation could leave a hypothetical realm of theories and enter a real world of morally regulated mechanism of change in institutions of higher learning. Automating any evaluative processes, integrating the element of transparency in making decisions, and enabling strategic responsiveness, the system was able to eradicate persistent problems of inefficiency, bias, and slow everything-governance in many HEIs and particularly those working in resource-stretched areas.

Study Recommendations

Based on the results of this study, Agentic AI will significantly increase efficiency, equity, and strategic receptivity of the administration of a higher education institution. Based on evidence that was produced at GSB, several recommendations are put forward. Second, (higher education institutions need to) engage with agentic AI systems in phases, where the human oversight mechanisms are built into systems to monitor trust and alignment to contexts. Second, administration needs to look through the lens of staff training programs and change management interventions to equip the faculty and administration with AI-based decision-making processes. Third, organization of governance should be institutionalized with

ethical auditing, justification boards, and data privacy strategies to address local and international laws. Lastly, institutions must utilize the dashboards and strategic alerts of the system not only to monitor their operations but also as a proactive instrument to guide policy formulation, resource decision making and in improving quality in an on-going process.

Study Limitations

Although this research study gives solid empirical support to the existence of Agentic AI at the Graduate School of Business, there are some limitations that are to be noted. It is restricted to a single institution, which could hamper the outside application of the results to other organizational or cultural settings. The timeframe of data collection is comparatively too short since it cuts across two academic periods and therefore does not appear to capture long-term behavioral or cultural change. Furthermore, validity could be explained given that triangulation was applied with the use of system logs, surveys, and interviews though there is a possibility of biasness in the data collected in the topic of survey and interviews because these are self-reports. Lastly, the range of the system was limited to administrative and academic evaluation procedures only and the other areas of consequence to the system like student advisory or finance planning were not in the session of the current study.

Suggestions for Future Research

Future studies can elaborate the current study on various lines. First, longitudinal studies are necessary to explore the short-term and long-term effects of Agentic AI on institutional culture and faculty behavior and their impact on the satisfaction of students since changes in culture can materialize only when several academic cycles pass. Second, researchers need to consider the use of larger language models (LLMs) to support more complicated decision logic and further complex free-text analysis with explainability and ethical guardrails. Third, cross-institutional and cross-regional comparative research, especially in the Global South and institutions playing out digital change would be beneficial in measuring the applicability and flexibility of the framework. After all, the study has not only provided an empirical realization but also a governance model that can be replicated by other higher education institutions so that their modernization will not undermine ethics, transparency, and stakeholder inclusion.

Authors' Contributions

This study has made contributions to three integrated levels:

- **Operational Impact**: The Agentic AI system delivered quantifiable benefits in administrative processes, including more than 50-percent reduction in the turnaround time of evaluation, 70 percent of the repetitive tasks automated, and real-time monitoring enabled with role-based dashboards.
- **Ethical Governance**: The system has created explainability and procedural fairness, and stakeholder trust by formalizing a Human Layer of Oversight to reviewer overrides and recording choice of override and justification information. Elimination of bias audits ensured that there was an improvement in gender and rank disparities in evaluations.
- **Strategic Enablement**: Academic leaders were able to make anticipatory decisions based on predictive alerts, dashboard information, which is a departure of the traditional retrospective planning.

The two contributions support the dual-hypothesis model that the study is testing: the power of Agentic AI to strengthen administration efficiency, fairness, and strategic agility (H1) and the moderating role of human oversight in the enhancement of AI-generated output and its legitimation and improvement (H2).

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