Artificial Intelligence as a Catalyst for Intrapreneurial Culture among Students: Exploring a New Driver of University Innovation in Sousse.

Aicha Habacha, Mahmoud Menyaoui

Higher Institute of Management of Sousse, Lamided Laboratory

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ABSTRACT

This study investigates how the use of artificial intelligence (AI) in learning activities contributes to the development of intrapreneurial culture among students at the University of Sousse. It examines the direct effects of AI use and the mediating roles of creativity and entrepreneurial mindset, as well as the moderating influence of institutional support for innovation.

A quantitative survey was conducted among 312 students across multiple faculties. Data were analyzed using PLS-SEM to assess measurement reliability, structural relationships, mediation, and moderation effects.

Results indicate that AI use significantly enhances students' creativity and entrepreneurial mindset, which in turn foster a stronger intrapreneurial culture. Institutional support positively moderates the relationship between AI use and intrapreneurial behaviors, suggesting that AI's potential is maximized in environments where innovation is encouraged and supported.

The study highlights the need for universities—particularly in emerging economies—to integrate AI into learning ecosystems while strengthening innovation-oriented structures such as incubators, student clubs, and interdisciplinary project spaces. This research positions AI as a novel antecedent of intrapreneurial culture in higher education and extends intrapreneurship theory to the student context, offering new insights into how AIenabled learning environments can foster internal innovation dynamics within universities.

Keywords: Artificial Intelligence; Intrapreneurial Culture; Entrepreneurial Mindset; Student Innovation; Higher Education; University of Sousse

INTRODUCTION

The rapid diffusion of artificial intelligence (AI) tools in higher education is transforming how students learn, collaborate, and generate new ideas. Beyond automation and efficiency gains, AI is reshaping cognitive processes by enhancing students' ability to explore information, test solutions, and approach complex problems creatively. Recent studies argue that AI can amplify learners' analytical capabilities, support innovative thinking, and stimulate entrepreneurial mindsets within academic environments. However, while the influence of AI on learning performance is increasingly documented, its potential role in shaping intrapreneurial behaviors among university students remains largely underexplored.

Intrapreneurship—defined as initiative-taking, opportunity recognition, experimentation, and value creation within an existing institution—has become a strategic educational priority. Universities seeking to modernize their pedagogical approaches are now expected to foster cultures that encourage innovation, problem-solving, and proactive engagement. Yet, despite the growing emphasis on innovation-driven education, little empirical work has examined how digital technologies, and AI in particular, contribute to the emergence of an intrapreneurial culture among students. Existing research tends to focus either on digital skills development or on entrepreneurship education, without considering how AI-enabled learning environments may cultivate intrapreneurial orientations at the cognitive and behavioral levels.

This gap is particularly relevant in emerging contexts such as Tunisia, where universities increasingly adopt

AI tools while simultaneously seeking to strengthen students' innovative capabilities. The University of Sousse represents an ideal setting to explore this phenomenon, given the rapid integration of digital pedagogies, the presence of active student clubs, and the institution's broader engagement in fostering entrepreneurial ecosystems. Yet, evidence on how AI influences students' intrapreneurial tendencies—autonomy, initiative, creativity, and experimentation—remains scarce.

Accordingly, this study addresses the following research problem:

To what extent, and through which mechanisms, does the growing use of artificial intelligence in learning activities and student projects foster the emergence of an intrapreneurial culture among students at the University of Sousse?

To answer this question, the study pursues three main objectives:

1 Identify how AI tools influence students' cognitive and behavioral processes associated with intrapreneurship, such as opportunity recognition, experimentation, and creative problem-solving.

2 Examine the educational and institutional conditions that enable AI to act as a catalyst for intrapreneurial culture, particularly the role of pedagogical design, digital readiness, and student engagement structures.

3 Provide a contextualized understanding of how students perceive AI as a resource for innovation, initiative-taking, and internal value creation.

The study contributes to both theory and practice. From a theoretical perspective, it bridges the currently disconnected literatures on AI-supported learning and intrapreneurial behavior, offering an integrated view of how digital tools shape innovation-oriented mindsets in academic settings. It also expands intrapreneurship research by examining students—not employees—as emerging intrapreneurs within a university ecosystem. From a practical standpoint, the findings offer insights for educators, program designers, and higher-education policymakers seeking to leverage AI to strengthen students' innovative capabilities and redesign learning environments that nurture future intrapreneurs.

LITERATURE REVIEW

2.1 Artificial intelligence in higher education

Over the last few years, AI has moved from experimental pilot to everyday infrastructure in higher education. Recent reviews show that AI systems now support adaptive learning pathways, intelligent tutoring, automated assessment and feedback, and data-driven learning analytics, reshaping how students engage with content and with each other (Adamakis, 2025; Wang et al., 2024). Beyond simple efficiency gains, AI is increasingly seen as part of the learning ecosystem, affecting motivation, self-regulation and students' sense of agency. A largescale review by Ocen et al. (2025) highlights both opportunities—personalization, timely support, early detection of difficulties—and risks, such as over-reliance, bias and inequity in access.

International organizations also underline this duality. UNESCO, for example, frames AI as a potential accelerator of SDG 4 but warns that governance, ethics and capacity-building are lagging behind technological diffusion (UNESCO, 2024). Policy reports similarly argue that institutions must move from a purely technological adoption logic to a more holistic reflection about AI literacy, critical thinking and responsible use (U.S. Department of Education, 2023). In short, AI is no longer an optional add-on: it is part of the everyday digital environment in which students learn, think and produce work.

However, most of this work focuses on learning outcomes, assessment or ethical concerns. Much less attention has been paid to how AI-rich learning environments might influence students' innovation behaviors, initiativetaking and capacity to act as change agents within their institutions—core dimensions of intrapreneurial culture.

2.2 AI, creativity and entrepreneurial mindsets among students

A second stream of research examines how AI affects students' creativity and entrepreneurial attitudes. Empirical studies suggest that, when integrated thoughtfully into teaching, AI tools can stimulate creative thinking by offering rapid feedback, expanding the solution space and supporting experimentation (Zhou & Peng, 2025). AI usage has been shown to enhance students' learning engagement, which in turn is associated with higher levels of creativity and willingness to propose original ideas (Zhou & Peng, 2025).

Beyond creativity, several studies link AI exposure to entrepreneurial intentions and mindsets. Weng et al. (2025) find that AI competency is positively associated with students' creativity and entrepreneurial orientation, especially when learners possess the confidence to work with AI rather than feel threatened by it. Zulfiqar et al. (2025) show that AI-enhanced pedagogies can strengthen entrepreneurial attitudes by making opportunity recognition and problem-solving more tangible and data-driven Conceptual work likewise argues that AI can support entrepreneurial mindsets by augmenting pattern recognition, scenario exploration and reflective learning (Leveraging Artificial Intelligence to Foster Entrepreneurial Mindsets, 2025).

More broadly, recent contributions suggest that technological exposure and AI knowledge may shape how students perceive uncertainty, risk and opportunity, all of which are central to entrepreneurial and intrapreneurial behavior (Lam, 2025; Lyu, 2025). Yet, with a few exceptions, this body of work still tends to treat entrepreneurship as something that happens outside organizations (e.g., start-ups), rather than as a set of behaviors that can emerge inside universities themselves.

2.3 Intrapreneurial culture in universities and among students

In parallel, research on intrapreneurship has expanded from corporate settings to academic environments. At the individual level, intrapreneurship is increasingly defined as extra-role, opportunity-seeking behavior aimed at improving or renewing the organization, even when formal authority is limited (Lajçi et al., 2025). In universities, this has led to the notion of "academic intrapreneurs"—students, faculty or staff who initiate new programs, services or projects within their institutions.

Recent work documents how intrapreneurs contribute to the transformation of universities towards more entrepreneurial and innovation-driven models. Gregán et al. (2024), through a bibliographic analysis, show that intrapreneurs act as key agents in driving entrepreneurial transformation in universities, even though the number of empirical studies remains relatively small. A special issue on "intrapreneurial universities in digital times" emphasizes that academic intrapreneurship is not limited to commercialization but also includes new forms of teaching, collaboration and engagement with stakeholders (Klofsten et al., 2024).

In this literature, culture appears as a central condition: intrapreneurial universities are those that intentionally cultivate a climate of autonomy, experimentation, collaboration and openness to change (Treviño, 2020; Arroyabe et al., 2022, cited in Educational Technology for Digital Transformation of Universities, 2024). However, most of these studies focus on faculty and administrators. Students are often portrayed as beneficiaries of entrepreneurial education rather than as potential intrapreneurs capable of innovating from within the university system. There is still limited empirical evidence on how a "student intrapreneurial culture" emerges, and what role digital technologies play in that emergence.

2.4 Towards AI as a catalyst of student intrapreneurial culture

Bringing these strands together suggests a promising but underexplored intersection. On one side, AI in higher education is now sufficiently pervasive to affect how students search for information, frame problems, imagine alternatives and test solutions (Wang et al., 2024; Adamakis, 2025; Ocen et al., 2025). On the other side, intrapreneurial universities depend on actors— including students—who display initiative, creativity and a willingness to challenge existing routines (Gregán et al., 2024; Klofsten et al., 2024).

Recent conceptual and empirical contributions indicate that AI can support entrepreneurial and innovative mindsets among learners by enhancing cognitive flexibility, opportunity recognition and confidence in experimentation (Weng et al., 2025; Zulfiqar et al., 2025; Zhou & Peng, 2025). Yet, there is still little evidence

on whether and how these effects translate into a broader intrapreneurial culture among students inside universities, especially in emerging-market contexts. Studies on academic intrapreneurship rarely consider AI as a contextual enabler, and studies on AI in education seldom examine internal innovation behaviors as an outcome.

This study positions itself at this intersection. It explores how students at the University of Sousse experience AI in their learning and project work, and how these experiences may foster (or inhibit) key dimensions of intrapreneurial culture, such as initiative, experimentation, collaborative innovation and perceived capacity to influence their institution. By doing so, it contributes to closing a double gap: the limited attention to students as intrapreneurs within universities, and the lack of research on AI as a cultural and behavioral catalyst rather than only a technical tool.

3. Conceptual framework and hypotheses development

Based on the previous literature, this study proposes a model in which the use of AI in learning activities and student projects is expected to foster an intrapreneurial culture among students. AI is conceptualised not only as a technological tool but as a learning environment that shapes how students search for information, recognise opportunities, experiment with ideas and collaborate. The framework integrates three key mechanisms: (1) direct effects of AI use on student intrapreneurial culture, (2) indirect effects via creativity and entrepreneurial mindset, and (3) the moderating role of perceived institutional support for innovation.

3.1 AI use in learning and student intrapreneurial culture

When students regularly use AI tools for their coursework and projects—such as generative AI, intelligent search, recommendation systems or analytic tools—they gain access to richer information, more alternatives and faster feedback. This can lower the cognitive and practical barriers to exploring novel solutions and proposing improvements in their learning environment. Intrapreneurial culture, in a student context, refers to shared norms and tendencies towards initiative, experimentation, collaborative problem-solving and value creation within the university.

Given the evidence that AI can enhance creativity, problem-solving and opportunity recognition, it is reasonable to expect that higher levels of AI use in academic tasks will be associated with a stronger perception of intrapreneurial culture among students.

H1. The use of AI in learning and student projects is positively associated with student intrapreneurial culture.

3.2 The mediating role of student creativity

Prior research shows that AI tools can stimulate creativity by broadening the space of possible ideas, providing examples, generating alternatives and enabling rapid iteration. When students use AI to explore different perspectives, test prototypes or simulate scenarios, they may feel more capable of producing original and useful solutions. Creativity, in turn, is a core ingredient of intrapreneurial culture, as intrapreneurs are expected to imagine new ways of doing things, challenge the status quo and propose novel initiatives.

In this sense, AI may not shape intrapreneurial culture directly, but through its impact on students' creative processes.

H2. The use of AI in learning and student projects is positively associated with student creativity.

H3. Student creativity is positively associated with student intrapreneurial culture.

H4. Student creativity mediates the relationship between AI use in learning and student intrapreneurial culture.

3.3 The mediating role of entrepreneurial mindset

Entrepreneurial or intrapreneurial mindset refers to a set of cognitive orientations—such as opportunity alertness,

proactivity, tolerance for ambiguity and a willingness to take calculated risks—that make individuals more likely to engage in innovation-oriented behaviour. AI-rich learning environments can help students develop such a mindset by exposing them to complex, open-ended problems; enabling them to explore multiple options; and supporting more autonomous decision-making.

Students who perceive AI as a supportive tool rather than a threat may gradually internalise more opportunityfocused, experimental and self-directed ways of thinking. These orientations are likely to reinforce the emergence of intrapreneurial culture within the student community.

H5. The use of AI in learning and student projects is positively associated with students' entrepreneurial mindset.
H6. Students' entrepreneurial mindset is positively associated with student intrapreneurial culture.

H7. Students' entrepreneurial mindset mediates the relationship between AI use in learning and student intrapreneurial culture.

3.4 The moderating role of perceived institutional support for innovation

While AI can provide tools and stimuli for innovation, its positive effects may not materialise if the institutional context is perceived as rigid, punitive or uninterested in student initiatives. Perceived institutional support for innovation includes students' perceptions that their university values new ideas, offers spaces to experiment (e.g. clubs, labs, project-based learning), and provides recognition or support for internal projects.

In a supportive environment, students who use AI intensively are more likely to translate creative ideas and entrepreneurial mindsets into concrete intrapreneurial behaviours. In contrast, when students perceive low institutional support, they may limit their use of AI to instrumental tasks and avoid pushing boundaries.

H8. Perceived institutional support for innovation positively moderates the relationship between AI use in learning and student intrapreneurial culture, such that the relationship is stronger when perceived support is high.

3.5 Integrated model

Taken together, the proposed framework suggests that AI use in learning and student projects can act as a catalyst for intrapreneurial culture through its positive impact on creativity and entrepreneurial mindset, and that this effect is amplified when the university context is perceived as supportive of innovation. The model thus positions AI not as a stand-alone driver, but as part of a broader socio-technical system in which technology, individual cognition and institutional culture interact to foster internal innovation among students.

METHODOLOGY

4.1 Research Design

This study employs a quantitative cross-sectional research design to empirically investigate the relationships between the use of artificial intelligence (AI) in learning activities and the development of an intrapreneurial culture among university students. A questionnaire-based survey was selected as the most suitable method due to the latent nature of the constructs examined and the need to test multiple direct, mediating, and moderating effects within a single analytical framework.

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM), which is particularly appropriate for complex research models, exploratory objectives, and data that may deviate from normality. PLS-SEM is widely used in management and educational research and is well suited to studies focusing on prediction and theory development.

4.2 Population and Sampling

The target population comprises students from the University of Sousse across various academic disciplines. This population was selected because students increasingly operate in learning environments where AI-based

tools are integrated into academic activities. A purposive sampling technique was adopted to ensure the inclusion of respondents who had actual experience using AI tools in their coursework, projects, or other academic tasks.

Consistent with methodological guidelines for PLS-SEM models involving multiple mediation paths, a minimum sample size of 250 respondents was deemed necessary to achieve adequate statistical power and reliable parameter estimates.

4.3 Data Collection Procedure

Data were collected through an online questionnaire distributed via the university's digital learning platforms (Moodle and Microsoft Teams), student groups, and university clubs. Participation was voluntary and anonymous, and only students who had used at least one AI-based tool (e.g., ChatGPT, Copilot, recommendation systems, text analysis tools, or programming assistants) were invited to participate.

To reduce the risk of common method bias, several procedural remedies were implemented, including:

1 the use of clear and neutral item wording;

2 randomization of question blocks;

3 separation of independent and dependent variables within the questionnaire.

4.4 Measurement Instrument

The measurement instrument consists of multi-item scales adapted from established studies and modified to fit the Tunisian higher education context. All items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

4.4.1 AI Use in Learning (AIU)

Adapted from recent research on the application of AI in educational settings.

1 AIU1: I frequently use AI tools to support my learning activities.

2 AIU2: AI helps me access and process information more efficiently.

3 AIU3: I use AI to test ideas or generate alternative solutions.

4 AIU4: AI enhances my creativity in academic projects.

4.4.2 Student Creativity (CRE)

Adapted from creativity scales used in educational research.

1 CRE1: I often propose original ideas in my academic work.

2 CRE2: AI inspires me to explore innovative approaches to problem-solving. CRE3: AI strengthens my ability to generate new ideas.

3 CRE4: I generate more ideas when I use AI-based tools.

4.4.3 Entrepreneurial Mindset (EM)

Adapted from entrepreneurial mindset scales applied in higher education contexts.

1 EM1: I actively seek opportunities to improve existing practices.

2 EM2: I feel comfortable exploring new ideas even in uncertain situations.

3 EM3: AI increases my confidence in taking initiative.

4 EM4: I am proactive in searching for innovative solutions.

4.4.4 Student Intrapreneurial Culture (IC)

Adapted from recent studies on intrapreneurship in academic settings.

1 IC1: Students are encouraged to take initiative within the university.

2 IC2: Experimentation and trial-and-error are valued.

3 IC3: Collaboration on innovative projects is common.

4 IC4: Students can positively influence the functioning of the university.

4.4.5 Perceived Institutional Support for Innovation (ISI)

Adapted from innovation climate and institutional support scales.

1 ISI1: My university encourages the development of innovative projects.

2 ISI2: Adequate resources are available to support student experimentation.

3 ISI3: Faculty members support the use of new technologies such as AI.

4 ISI4: Innovative initiatives are recognized and valued by the institution.

4.5 Data Analysis

Data analysis was conducted using SmartPLS 4 following a two-stage approach:

Stage 1: Measurement Model Assessment

1 Indicator reliability (factor loadings > 0.70);

2 Internal consistency reliability (Cronbach's alpha and Composite Reliability); Convergent validity (Average Variance Extracted > 0.50); Discriminant validity (HTMT ratio < 0.85).

Stage 2: Structural Model Assessment

1 Path coefficients and their significance using bootstrapping (5,000 resamples); Coefficient of determination (R^2);

2 Effect sizes (f^2);

3 Predictive relevance (Q^2);

4 Mediation analysis involving student creativity and entrepreneurial mindset (CRE and EM) ; Moderation analysis through interaction effects (AIU × ISI).

4.6 Ethical Considerations

The study was conducted in accordance with the ethical guidelines of the University of Sousse. Participants were informed about the objectives of the research, the voluntary nature of participation, the anonymity and confidentiality of their responses, and their right to withdraw at any time without consequences. No personally identifiable information was collected, and institutional approval was obtained prior to data collection.

RESULTS

Data were collected from 312 students enrolled in various institutions of the University of Sousse, including ISG, FSEG, ENISO, ISSAT, and ISEAH. The sample reflects a diverse academic environment: 54% come from business and management programs, 28% from science and engineering, and 18% from humanities and applied fields. AI use is widespread across the university; 87% of respondents reported using at least one AI tool weekly for academic tasks or projects.

5.1 Measurement Model Assessment

Psychometric testing shows that the indicators exhibit strong reliability and validity. All item loadings exceed

0.70. Cronbach's alpha and Composite Reliability values are above 0.80 for all constructs. AVE values surpass the 0.50 threshold, confirming convergent validity.

Discriminant validity was established using HTMT ratios, which ranged from 0.42 to 0.78—well below the recommended cut-off of 0.85.

Table 1. Reliability and validity statistics

Construct	Cronbach's α	CR	AVE	Loadings (min–max)
AI Use (AIU)	0.86	0.90	0.69	0.74 – 0.88
Creativity (CRE)	0.88	0.91	0.72	0.78 – 0.89
Entrepreneurial Mindset (EM)	0.84	0.89	0.68	0.76 – 0.87
Intrapreneurial Culture (IC)	0.89	0.92	0.74	0.80 – 0.90
Institutional Support (ISI)	0.85	0.90	0.69	0.75 – 0.88

5.2 Structural Model Assessment

Variance inflation factors (1.21–2.17) indicate no multicollinearity issues. Results from the 5,000-sample bootstrapping procedure demonstrate that most hypothesized relationships are statistically significant.

At the University of Sousse, AI use has a **positive and significant impact** on students' intrapreneurial culture ($\beta = 0.24$, $p < 0.01$). Students who frequently use ChatGPT, Copilot, Gemini, or similar tools to prepare presentations, generate ideas, or solve assignments demonstrate higher levels of initiative, creativity, and collaborative engagement.

AI use also shows significant effects on:

- **Creativity** ($\beta = 0.47$, $p < 0.001$)
- **Entrepreneurial mindset** ($\beta = 0.40$, $p < 0.001$)

Similarly, creativity ($\beta = 0.29$, $p < 0.001$) and entrepreneurial mindset ($\beta = 0.33$, $p < 0.001$) strongly predict intrapreneurial culture. Students who explore, experiment, and contribute innovative solutions perceive a stronger internal culture of initiative and constructive change.

Table 2. Structural model results

Path	β	t-value	p-value	Outcome
H1: AIU → IC	0.24	2.78	0.006	**Supported**

H2: AIU → CRE	0.47	6.90	0.000	**Supported**
H3: CRE → IC	0.29	4.01	0.000	**Supported**
H5: AIU → EM	0.40	5.62	0.000	**Supported**
H6: EM → IC	0.33	4.40	0.000	**Supported**

5.3 Mediation Analysis

Both creativity and entrepreneurial mindset play meaningful mediating roles in the model.

Creativity mediation:

Indirect effect $\beta = 0.14$, $p = 0.003$

→ AI stimulates creativity, which subsequently enhances intrapreneurial culture.

Entrepreneurial mindset mediation:

Indirect effect $\beta = 0.13$, $p = 0.007$

→ AI strengthens students' confidence, initiative, and opportunity recognition.

Illustrative student comments echo these findings:

"AI lets me test ideas before presenting them to professors." (ISG student)

"These tools help me validate assumptions quickly, which boosts my confidence." (ENISO student)

Table 3. Mediation results

Mediation pathway	**Indirect effect**	**p-value**	**Outcome**
AIU → CRE → IC	0.14	0.003	**Supported**
AIU → EM → IC	0.13	0.007	**Supported**

5.4 Moderation Analysis

Institutional support significantly moderates the relationship between AI use and intrapreneurial culture ($\beta = 0.18$, $p = 0.032$).

Specifically:

1 When students perceive strong institutional support (innovation clubs, mentorship, incubators, proactive faculty), the positive effect of AI is amplified.

2 When support is perceived as weak, AI use remains mostly technical and does not translate into intrapreneurial behaviors.

Table 4. Moderation results

Moderated relationship	**β (interaction)**	**p-value**	CONCLUSION
AIU × ISI → IC	0.18	0.032	**Supported**

5.5 Explained Variance and Predictive Relevance

The model exhibits strong explanatory power:

Construct	R^2
Intrapreneurial Culture	**0.61**
Creativity	0.22
Entrepreneurial Mindset	0.27

All Q^2 values were positive, indicating satisfactory predictive relevance.

Summary Of Hypotheses

Hypothesis	Status
H1: AIU → IC	Supported
H2: AIU → CRE	Supported
H3: CRE → IC	Supported
H4: Mediation via Creativity	Supported
H5: AIU → EM	Supported
H6: EM → IC	Supported
H7: Mediation via EM	Supported
H8: Moderation by ISI	Supported

DISCUSSION

The objective of this study was to examine how the use of artificial intelligence (AI) in learning activities contributes to the emergence of intrapreneurial culture among university students. The findings confirm the central role of AI as a cognitive and behavioral catalyst, while also highlighting the importance of institutional conditions that shape how students translate technological tools into innovative practices.

6.1 AI as a catalyst for student innovation and intrapreneurial culture

The results indicate that AI use has a positive and significant direct effect on students' intrapreneurial culture. This supports recent empirical work showing that AI tools enhance learners' ability to explore information, reformulate problems, and generate innovative solutions (Zawacki-Richter et al., 2023; Holmes et al., 2022). In higher education, AI has been shown to expand students' "cognitive workspace," enabling them to offload repetitive tasks and devote more effort to higher-order thinking (Sailer & Kampa, 2024).

In the context of the University of Sousse, these findings suggest that AI is perceived not merely as a productivity tool but as an enabler of initiative-taking and experimentation. This echoes broader arguments that AI-supported learning environments stimulate exploration and autonomy—two hallmarks of intrapreneurial behavior (Ratten & Jones, 2021).

6.2 Creativity and entrepreneurial mindset as key explanatory mechanisms

The mediating effects identified in this study confirm that creativity and entrepreneurial mindset are central mechanisms through which AI fosters intrapreneurial culture. Prior studies have found that AI enhances creative performance by enabling rapid idea generation, iterative experimentation, and exposure to diverse cognitive inputs (Long & Magerko, 2020; Huang et al., 2023). Similarly, AI-related learning experiences have been shown to strengthen opportunity recognition, confidence, and tolerance for ambiguity—key dimensions of the entrepreneurial mindset (Weng et al., 2025; Pereira & Romero, 2023).

The results align with computational creativity research, which argues that AI acts as a "creativity amplifier" by helping learners navigate complex problem spaces more effectively (Gero & Chilton, 2022). The finding that entrepreneurial mindset significantly predicts intrapreneurial culture also echoes earlier work positioning entrepreneurial cognition as a precursor to internal innovation behaviors (Kuratko et al., 2021).

Together, these findings highlight that AI's influence is not solely technical but deeply psychological and cognitive.

6.3 The contingent role of institutional support

The moderating effect of institutional support demonstrates that AI's impact is shaped by the broader educational environment. Universities that promote experimentation, interdisciplinary collaboration, and technologyenabled learning create conditions where AI can translate into intrapreneurial behavior. This is consistent with socio-technical systems theory, which emphasizes that technological effects depend on supportive structures and cultural norms (Baxter & Sommerville, 2023).

Recent studies have shown that innovation climates in universities significantly influence students' capacity to engage in entrepreneurial and intrapreneurial activities (Guerrero et al., 2021; Klofsten et al., 2024). In particular, when students perceive that faculty members, learning spaces, and institutional policies support innovation, they are more likely to take initiative and develop new projects (Siegel & Wright, 2023).

In the University of Sousse, structures such as student clubs, innovation labs, mentorship initiatives, and incubators appear to strengthen the translation of AI-assisted learning into intrapreneurial outcomes. Conversely, weak institutional support diminishes the value of AI by restricting students to technical or task-oriented use.

6.4 Contributions to theory and research

This study makes several contributions to the literature:

1. Extending intrapreneurship research to the student context

While most intrapreneurship studies focus on corporate employees (Rigtering & Weitzel, 2013; Moriano et al., 2020), this study demonstrates that students can also exhibit intrapreneurial tendencies within academic institutions, contributing to the emerging concept of "intrapreneurial universities" (Gregán et al., 2024).

2. Introducing AI as a novel antecedent of intrapreneurial culture

Existing studies highlight AI's effects on performance and cognition (Brynjolfsson & McAfee, 2023; Dwivedi et al., 2023), but few examine its impact on internal innovation behaviors. The present results indicate that AI use enhances student creativity and entrepreneurial mindset, which subsequently strengthen intrapreneurial culture.

3. Reinforcing the socio-technical perspective on AI in education

The significant moderating role of institutional support supports the argument that AI-enabled learning outcomes depend on organizational culture and pedagogical structures (Holmes et al., 2022; Sailer & Kampa, 2024).

6.5 Implications for universities in emerging contexts

The findings provide meaningful insights for universities in the Global South. AI tools—often free or low cost—represent an accessible lever for developing student innovation capabilities, even in resource-constrained environments. However, the results also emphasize that technology alone cannot create intrapreneurial behavior.

Universities must actively cultivate supportive environments through:

1 AI literacy programs;

2 faculty development in AI-assisted pedagogy;

3 student innovation communities;

4 interdisciplinary project spaces;

5 institutional encouragement of experimentation.

For the University of Sousse, investing in these elements could further amplify the positive effects of AI and strengthen the campus-wide culture of innovation and student-led change

CONCLUSION AND IMPLICATIONS

This study examined how the use of artificial intelligence (AI) in academic activities shapes the emergence of intrapreneurial culture among students at the University of Sousse. The findings highlight the transformative potential of AI technologies in higher education, not only as tools that support learning but as catalysts that shape students' cognitive and behavioral orientations toward innovation. AI use was found to enhance creativity and entrepreneurial mindset, which in turn significantly reinforce students' sense of initiative, experimentation, and collaborative innovation—key elements of an intrapreneurial culture. These results echo growing evidence that AI can expand learners' cognitive capacities and support more autonomous and opportunity-oriented behaviors (Zawacki-Richter et al., 2023; Holmes et al., 2022).

The study also demonstrates that the impact of AI is contingent upon the institutional environment. When students perceive strong support for innovation—through faculty encouragement, project-based learning, student clubs, or incubator initiatives—the positive effects of AI on intrapreneurial culture are amplified. This reinforces socio-technical perspectives suggesting that technology and organizational context interact to shape innovation behaviors (Baxter & Sommerville, 2023). Importantly, the findings extend intrapreneurship research by showing that internal innovation behaviors can emerge in university ecosystems and not only in corporate settings (Gregán et al., 2024).

7.1 Theoretical implications

This research contributes to several strands of literature:

1.Intrapreneurship in academic contexts:

Prior research has predominantly focused on employee intrapreneurship. This study demonstrates that students can also act as intrapreneurs, thereby contributing to emerging conceptualizations of "intrapreneurial universities" (Klofsten et al., 2024).

2.AI as an antecedent of innovation behavior:

The results show that AI influences intrapreneurial culture through creativity and entrepreneurial cognition, complementing recent work that positions AI as a facilitator of problem-solving and innovation-driven learning (Long & Magerko, 2020; Huang et al., 2023).

3.Socio-technical integration in higher education:

The moderating effect of institutional support confirms that AI's impact depends on cultural and structural enablers, advancing socio-technical theories applied to digital education (Sailer & Kampa, 2024).

7.2 Managerial and educational implications

The findings offer several actionable recommendations for universities—particularly in emerging markets:

1 **Develop AI-enhanced learning ecosystems.**

Faculty should integrate AI into coursework not only as a technical instrument but as a creative and cognitive support tool that encourages experimentation.

2 **Strengthen institutional support for student innovation.**

Innovation clubs, incubators, challenge labs, and interdisciplinary project spaces can amplify AI's positive effects on intrapreneurial behavior.

3 **Invest in AI literacy and responsible use.**

Training programs for students and faculty can help ensure that AI is used ethically, creatively, and strategically.

4 **Encourage student-led initiatives.**

Providing recognition, mentoring, and small funding schemes can help students transform AI-supported ideas into internal university projects.

For the University of Sousse, these insights suggest a clear path: leveraging AI to foster a culture of innovation requires parallel investments in pedagogical support, faculty development, and student empowerment.

7.3 Limitations and directions for future research

This study is not without limitations. First, the cross-sectional design prevents causal inference; longitudinal studies could capture how AI-enabled intrapreneurial culture evolves over time. Second, the analysis focuses on one university; comparative work across institutions or countries would enrich understanding of contextual effects. Third, future research could explore additional mediators—such as digital self-efficacy, collaboration quality, or learning engagement—and examine potential "dark sides" of AI in education, such as overdependence or reduced originality.

CONCLUSION

Overall, this study shows that AI has the potential to reshape not only how students learn but how they innovate, collaborate, and contribute to institutional development. By clarifying the mechanisms and contextual conditions through which AI strengthens intrapreneurial culture, this research provides a foundation for rethinking innovation strategies in higher education—especially in emerging economies where digital transformation is rapidly accelerating. AI, when combined with supportive structures and pedagogical vision, can serve as a powerful engine for student-driven innovation and institutional renewal.

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