AI-Based Entrepreneurship Living Lab Model

Design thinking and visual promotion in a vocational entrepreneurship class

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The educational and business problem

01. **Entrepreneurship requires decisions grounded in evidence**

Students need to connect customer needs with design choices and market feedback.

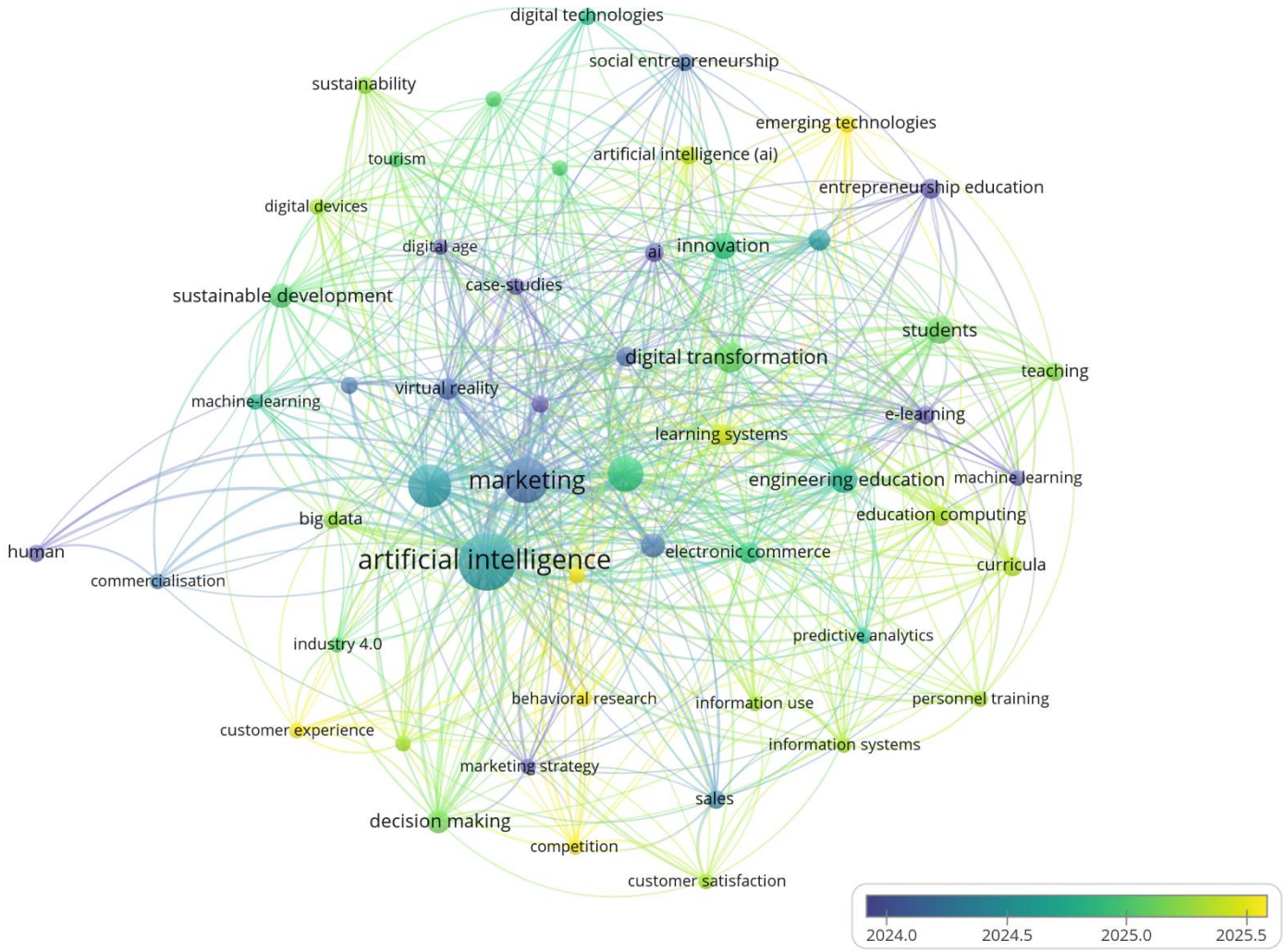
02. **AI changes the production process**

Faster visual production still requires product verification and human judgment.

03. **Promotion and learning need separate evidence**

Instagram performance alone cannot establish student competence or business benefit.

Bibliometric Analysis



Research positioning and gap

Research stream	Established focus	Extension in this study
AI visual marketing	Content quality and field performance	Link promotion to student learning
AI in education	Reflection and perceived outcomes	Assess individual performance
Living labs and design thinking	User involvement and iterative design	Trace decisions across one project
Manual–AI poster comparisons	Creativity and usability	Add organic Instagram response

Proposed gap: integrating process, artefact and market evidence within one vocational project

Research objective and questions

Develop and evaluate the feasibility of an AI-based entrepreneurship living lab in vocational education

01. Implementation

How does the living lab operate and evolve through iteration?

02. Comparative performance

How do manual and AI workflows differ in promotion, quality and time?

03. Learning and decisions

How do competence and the use of customer feedback change during the project?

The living lab learning cycle

1.	**Empathize**	Explore customer needs through interviews
2.	**Define**	Agree on the promotion problem and shared brief
3.	**Ideate**	Develop concepts and justify the selected message
4.	**Prototype**	Produce manual and AI-assisted visual materials
5.	**Test and iterate**	Review Instagram evidence and customer feedback

A shared brief for two production methods

Design element	Manual workflow	AI-assisted workflow
Production	Conventional tools without GenAI	Logged generative features
Human responsibility	Create and revise the design	Select, verify and edit outputs
Shared conditions	Same brief, product facts and offer	Same format and caption
Process evidence	Tools, versions, time and revisions	Prompts, outputs, edits and time

The visual output may differ. Both conditions receive comparable revision opportunities.

Pilot context and units of analysis

21
students

5
teams

5
Instagram accounts

Draft-reported project window: 31 August–20 October

Promotion: paired posts Learning: individual students
Mixed methods: production logs, assessments, Insights and interviews

Organic Instagram testing protocol

01. Comparable publication conditions

Use the same account, comparable time slots and balanced publication order.

02. Document external exposure

Apply consistent rules for reposts, tags and collaboration. Record disruptions.

03. A fixed observation window

Capture Insights at 24 hours, 72 hours and 168 hours after each post.

Outcome measures

Day-7 interaction-to-reach ratio (%)

(Likes + Comments + Saves + Shares) ÷ Reach × 100

Evidence level	Measures	Timing
Promotion	Reach and each interaction type	24 h, 72 h, 168 h
Design and efficiency	Rubric scores, active minutes, revisions, costs	During production
Individual learning	Customer diagnosis, AI verification, data interpretation	Before and after
Partner benefit	Use or revision of material, where applicable	End and follow-up

Analysis and integration of evidence

01. **Compare within each valid pair**

Estimate AI–manual differences in the primary ratio, design quality and production time.

02. **Assess individual learning separately**

Examine pre–post competence changes and account for team and account clustering.

03. **Explain differences through interviews**

Connect quantitative patterns with verification decisions, customer feedback and revisions.

Contribution and study limitations

An operational teaching model with traceable evidence for design decisions

Educational value

Individual assessment complements group production and reflection.

Business relevance

Workflow choices consider time, cost, brand fit and observed response.

Limits: organic audiences, small pilot, account dependence and no control group for learning

Conclusion and discussion

AI-assisted promotion becomes a learning opportunity when students justify decisions with evidence

The proposed model connects customer needs, verified prototypes, field response and individual assessment in one learning cycle.

Empirical conclusions await complete, verified outcome data.

Thank you

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