

# AI for Business: NUS Mini-Hackathon by Innovlab.ai

*Where Business Meets Intelligence*

## About the Case Competition

### The Challenge

What if your next business idea could write its own code, analyse its own market, and design its own interface—all while you focus on strategy?

We're living through the biggest technological shift since the internet. AI isn't just changing how we work—it's rewriting the rules of what's possible in business. But here's the problem:

**Technical brilliance without business sense builds solutions nobody needs. Business vision without technical execution remains just an idea.**

*This hackathon bridges that gap.*

### The Opportunity

**One day. One challenge. Infinite possibilities.**

This isn't about who can code the fastest or who has the best slides. It's about:

- **Cross-pollination of ideas**  
What happens when a business major's market insight meets a CS student's technical capabilities and an engineer's systems thinking?
- **Real-world relevance**  
Solve actual business problems using AI, not just theoretical exercises
- **Speed and scrappiness**  
Learn to move fast, prototype quickly, and focus on what matters
- **Building your network**  
Connect with students from other schools you'd never normally meet
- **Hands-on AI experience**  
Stop reading about AI, start building with it

## Why This Matters?

For Business Students	<p>You understand markets, customers, and value propositions. But can you translate that into working AI solutions? This is your chance to:</p> <ul style="list-style-type: none"><li>• <b>See your strategies come to life</b> through actual AI prototypes</li><li>• <b>Learn the language of technology</b> by working alongside engineers and developers</li><li>• <b>Build your technical fluency</b> in the most important business tool of our generation</li><li>• <b>Stand out</b> in job markets where AI literacy is rapidly becoming non-negotiable</li></ul>
For Computing Students	<p>You can code, train models, and optimize algorithms. But can you identify problems worth solving? This is your chance to:</p> <ul style="list-style-type: none"><li>• <b>Build solutions that matter</b> guided by real business insights</li><li>• <b>Understand customer pain points</b> beyond technical specifications</li><li>• <b>Experience product thinking</b> from concept to market fit</li><li>• <b>Create portfolio pieces</b> that demonstrate business impact, not just technical prowess</li></ul>
For Engineering Students	<p>You solve complex problems and optimize systems. But can you frame solutions that create business value? This is your chance to:</p> <ul style="list-style-type: none"><li>• <b>Apply engineering rigor</b> to messy business challenges</li><li>• <b>Design scalable systems</b> that address real operational needs</li><li>• <b>Bridge the gap</b> between technical feasibility and commercial viability</li><li>• <b>Innovate with purpose</b> by understanding the "why" behind the "how"</li></ul>

# Themes

## TRACK 1: Operations & Efficiency - Quick Guide

*Make Business Faster, Smarter, Cheaper*

### Examples

#### **1. Process Automation - Remove human work from repetitive tasks**

- Auto-process invoices and receipts
- Review contracts automatically
- Generate reports without manual work
- Handle customer service inquiries
- Approve routine requests
- Transfers data to database and learns over the period

Example: AI system that reads invoices, validates data, checks against purchase orders, and processes payments automatically

ParkEasy (Operations Use Case): Real-time parking availability, dynamic pricing, automated payment, reservation system, reduce search time, optimize revenue

#### **2. Supply Chain & Logistics - Get things to the right place at the right time**

- Predict what to order and when
- Optimize delivery routes to save fuel
- Track inventory in real-time
- Forecast demand accurately
- Manage warehouse efficiently

Traditional Example: Courier company routes 1,000 packages daily with AI optimization  
- 30% more deliveries per driver, 20% fuel savings

Marketplace Example: Reverse bidding platform where customers post delivery requests with details and budget, available riders see requests and bid for jobs, AI ranks bids by price + rating + proximity, dynamic pricing based on demand

#### **3. Manufacturing Productivity /Efficiency – Build dark factories Automation**

- Digital twin with AI  
Digital twins are virtual replicas of physical manufacturing systems that sync in real-time with sensors, letting you "test the future" before it happens.

Four game-changing opportunities:

1. Predictive twins that forecast machine failures 2-4 weeks ahead, eliminating unplanned downtime,
2. What-if simulation that lets you test 1,000 process changes overnight risk-free to find optimal settings (traditional trial-and-error takes months),
3. VR training simulators that reduce operator training time from 12 months to 3 months with zero risk of damaging real equipment, and
4. AI assistants that guide operators in real-time with optimal actions for any situation.

## TRACK 2: Product & Innovation - Quick Guide

*Innovate to Enhance Current AI Limitations*

Identify a critical AI limitation and build a solution that demonstrably improves upon current state-of-the-art systems.

### **Project Ideas**

1. Persistent Memory AI Assistant
2. Long-Document Intelligence System
3. Enterprise Knowledge Memory System
4. Reasoning & Logic Gaps Self-Verifying AI Reasoner
5. AI with Tool Access ( AI model choose tools and uses as it needed)
6. Logic Solver Integration ( Pure logical reasoning problems that require formal verification)
7. Zero-Hallucination AI with Source Verification
8. Real-Time Fact Checker
9. Uncertainty-Aware AI(AI that knows what it doesn't know and communicates uncertainty clearly for enterprises)
10. Real-Time Subtitle & Translation System
11. Edge AI for Mobile Devices
12. Document Understanding with Mixed Content

Real documents have text, images, tables, charts, diagrams. AI should understand relationships between all elements.

## TRACK 3: Data-Driven Customer & Growth Intelligence – Quick Guide

*Harness Data and AI for New Growth Opportunities*

This category challenges teams to harness the power of data and AI to unlock new growth opportunities, improve customer experiences, and drive smarter decision-making across the business. Participants will explore how predictive models, generative AI, and

intelligent analytics can transform raw data into actionable insights that fuel revenue acceleration, customer loyalty, and go-to-market effectiveness.

### **Examples**

- Customer Intelligence: AI-powered segmentation, propensity modelling, churn prevention, and customer lifetime value prediction.
- Revenue Optimization: Dynamic pricing, sales forecasting, lead scoring, and revenue leakage detection.
- Decision Automation: Natural language-driven analytics, “what-if” simulations, and executive dashboards for real-time insights.
- Personalization Engines: Generative AI to create tailored content, recommendations, and campaigns that enhance engagement.
- Data Trust & Quality: Building intelligent systems that improve data accuracy, governance, and usability for business decisioning.

### **Goal**

Demonstrate how AI can turn data into decisions and insights into impact — powering measurable improvements in growth, customer experience, and business performance.

## **TRACK 4 - Financial and Regulatory Innovation - Quick Guide**

*Empowering Compliance and Cost Efficiency Through Intelligent Automation*

### **1. Data Quality and Data Lineage Automation**

Why it matters:

Banks and financial institutions spend billions on analytics, yet 60–80% of analysts’ time still goes into cleaning, mapping, and validating data.

Where AI helps:

- Detecting anomalies and breaks in financial data pipelines using ML.
- Auto-mapping data lineage for BCBS 239, MAS 610, APRA 723, etc.
- Using LLMs to generate lineage documentation automatically from SQL, Axiom SL, or ETL logic.

Why it’s ignored: It’s not “sexy” — seen as backend plumbing, though it’s the backbone of risk and regulatory compliance.

### **2. AI for Regulatory Interpretation and Policy Mapping**

Why it matters:

Rules like Basel III/IV, IFRS 9, and ESG disclosure are constantly changing and differ by region.

Where AI helps:

- LLMs can parse new circulars and automatically highlight deltas from existing policies.
- Fine-tuned models can tag which data fields or reports are impacted by each regulatory change.

Why it's ignored: Most firms still rely on manual legal interpretation or consultants; few have automated this "last-mile" policy-to-data link.

### **3. Predictive Controls in Finance Operations**

Why it matters:

Breaks in reconciliations, late submissions, or booking errors create operational risk.

Where AI helps:

- ML can predict which trades, clients, or products are likely to break in reconciliation before it happens.
- AI can auto-classify exceptions and route them to the right desk.

Why it's ignored: Ops teams see it as "too futuristic," and most budget goes to firefighting instead of prevention.

### **4. Intelligent Cost Optimization**

Why it matters:

Banks waste millions on duplicate infrastructure and overlapping vendors post-merger.

Where AI helps:

- AI can identify duplicate systems and under-utilized licenses from IT logs and access patterns.
- Predictive models can simulate impact of rationalization on service levels.

Why it's ignored: It cuts across multiple silos (Finance, IT, Ops), so ownership is unclear.

### **5. Personalization in Wealth and Retail Banking**

Why it matters:

AI-driven personalization can improve customer engagement and cross-sell by >30%.

Where AI helps:

- Predicting customer intent from behavioural and transaction data.
- Recommending next-best-actions or personalized portfolio rebalancing.

Why it's ignored: Legacy CRM and data privacy issues block implementation; most banks stop at basic segmentation.

## **6. AI-Driven Compliance Monitoring**

Why it matters:

Compliance breaches can result in legal penalties and reputational damage.

Where AI helps:

- Natural Language Processing (NLP) can analyze regulatory updates and identify applicable changes in compliance requirements across jurisdictions.
- AI can monitor transactions in real-time for compliance with local laws and international regulations, flagging any inconsistencies before they become issues.

Why it's ignored: Many organizations see compliance as a box-ticking exercise rather than a proactive risk management strategy, leading to a lack of investment in advanced monitoring solutions.

## **7. Intelligent Tax Optimization Strategies**

Why it matters:

Inefficient tax strategies can lead to significant financial losses through missed deductions, overpayments, or penalties.

Where AI helps:

- Machine learning algorithms can scan transaction data to identify optimal tax thresholds, deductions, and credits that may be overlooked.
- Predictive analytics can suggest adjustments in the timing of transactions to maximize tax benefits while maintaining compliance.

Why it's ignored: Companies often focus on current obligations and overlook the strategic planning required for future tax optimizations, viewing it as a complex and time-consuming process.

## **8. Automated Audit Trail and Compliance Documentation**

Why it matters:

Maintaining comprehensive, accurate audit trails across multiple jurisdictions is increasingly complex and resource intensive.

Where AI helps:

- Automated documentation generation
- Intelligent classification of financial transactions
- Continuous compliance documentation update
- Blockchain-integrated verification of financial records
- Predictive identification of potential audit inconsistencies

Why it's ignored: Most organizations view documentation as a necessary but low-value administrative task.

## Evaluation Rubrics

Submissions will be evaluated by a panel of investors from **Innovlab.AI**, using the following rubrics to identify the most innovative and well-rounded problem statements and solutions.

### Evaluation Criteria for Judging Hackathon for AI in Business

Detailed breakdown:

Criteria	Weight (%)	Description
<b>Idea/Innovation</b>	25	Originality and creativity in addressing a problem.
<b>Technical Feasibility</b>	25	Viability and complexity of the technical implementation.
<b>Scalability</b>	25	Potential for growth and adaptability of the solution.
<b>User Experience</b>	15	Usability and design of the product/service/interface.
<b>Presentation &amp; Team Collaboration</b>	10	Clarity and effectiveness of the final presentation and teamwork displayed.

### Evaluation Criteria Descriptions

#### 1. Idea/Innovation (25%)

This criterion focuses on the originality and creativity of the presented solution.



- **Uniqueness:** Does the solution introduce a novel concept or significantly improve upon existing ideas?
- **Problem Definition:** How well does the project identify and articulate the specific business problem it aims to solve?
- **Innovative Thinking:** Does the solution demonstrate outside-the-box thinking and provide a fresh perspective on conventional approaches?
- **Market Relevance:** Is the idea aligned with current market trends or unmet needs in businesses?

## 2. Technical Feasibility (25%)

This criterion evaluates the practicality and implementation complexity of the solution. Key factors include:

- **Technology Stack:** Are the technologies and frameworks chosen appropriate for the project?
- **Implementation Viability:** Is the solution feasible to build within the hackathon's time constraints?
- **Code Quality:** Is the code well-structured, documented, and maintainable?
- **Testing and Reliability:** Has the team demonstrated the reliability of their solution, such as with testing or proof of concept?

## 3. Scalability (25%)

Scalability assesses the solution's potential for growth and adaptability. Key aspects to consider include:

- **Growth Potential:** Can the solution handle increased usage or be expanded to serve a wider audience or different markets?
- **Flexibility:** Is the architecture adaptable to changes in technology or user demands?
- **Integration:** How easily can the solution integrate with existing business processes or tools in the market?
- **Future Development:** Are there clear strategies or plans for future enhancements and scaling up the solution?

## 4. User Experience (15%)

User experience assesses how intuitively and effectively users can interact with the product/service. Factors to evaluate include:

- **Usability:** Is the product/service user-friendly? Can users navigate and achieve their goals without confusion?

- **Design Aesthetics:** Does the visual design enhance the overall experience and appeal to users?
- **Accessibility:** Is the solution accessible to various user demographics, including those with disabilities?
- **Feedback Mechanisms:** Are there built-in features for user feedback and continuous improvement?

## 5. Presentation & Team Collaboration (10%)

This criterion evaluates the quality of the final presentation and the degree of collaboration among team members. Consider:

- **Clarity and Structure:** Is the presentation logically organized? Does it effectively communicate the project's vision, methodology, and results?
- **Engagement and Interaction:** How well does the team engage the audience? Are they responsive to questions and feedback?
- **Demonstration of the Solution:** Does the demo effectively highlight the key features and functionalities of the solution?
- **Team Dynamics:** Did team members display effective collaboration, clear role distribution, and conflict resolution during development?

## Registration & Submission Requirements

### Eligibility

Currently enrolled university students (undergraduate or postgraduate) from the following faculties below can participate in this case competition.

- NUS Business School
- School of Computing
- College of Design and Engineering

### Team Composition

Each team must consist of 4 to 6 students and can be made up of single discipline or interdisciplinary composition from the three faculties as listed above.

### Registration & Submission

To participate in the hackathon, all teams will have to submit the following in a 4-pager slide presentation format by **18 January 2026, 2359hrs (SGT)**.

1. Team Name and Members
2. Hackathon Theme
3. Problem Statement
4. Brief on Solution

Teams may register and submit their entries via this link:

<https://forms.office.com/r/QciyTYrysw>

## Prizes

Champion: \$1,500 in cash

Runner-up: \$1,000 in cash

Cash prizes will be disbursed to a representative from each winning team after the competition, via the bank account registered on EduRec.

In addition, internship opportunities at **Innovlab.AI** will be offered to three top-performing students from among the top ten finalist teams. Selection will be based on individual performance and potential and is not limited to members of the Champion or Runner-up teams.

## Key Dates

Date	Milestone
8 Dec 2025	Registration Open
8 Dec 2025	Virtual Briefing (Zoom), 1000hrs (SGT)
18 Jan 2026	Registration & Submission Deadline by 2359hrs (SGT)
26 Jan 2026	Announcement of Top 10 Finalist Teams
31 Jan 2026	Hackathon Day* (NUS Business School), 0900 – 1830hrs (SGT)

*\*All finalists are to be present in person.*

## FAQ

### **What is AI for Business: NUS Mini-Hackathon?**

AI is transforming business, but technical skill alone or business vision alone isn't enough. This hackathon brings together diverse talents to turn ideas into practical, AI-driven solutions, bridging the gap between strategy and execution.

### **Who can join?**

Currently enrolled university students (undergraduate or postgraduate) from the following faculties below:

- NUS Business School
- School of Computing
- College of Design and Engineering

### **How many students per team?**

Each team must consist of 4-6 students and can be made up of single discipline or interdisciplinary composition from the three faculties as listed above.

### **How do we register?**

Form a team of 4 to 6 students

Register and submit your pitch by 18 January 2026 (Sunday), 2359hrs (SGT).

Registration and submission link: <https://forms.office.com/r/QciyTYrysw>

### **Do I need to physically be at the Hackathon Day final event?**

Yes. The Hackathon will be held at NUS Business School, and all shortlisted teams and team members are required to be physically present for the final event.

### **What tools can we use for the submission?**

Teams are open to use any tools – AI / Vibe-coding.

### **What can we win?**

Cash prizes

Internship opportunities

### **Have questions?**

Reach out to us at [mba\\_programmes@nus.edu.sg](mailto:mba_programmes@nus.edu.sg)