

GROWING & EMPOWERING



A LOOK INTO LLM'S & MARKET EXPANSION

CaseCatalyst 2025 Competition
Team Vision

EXECUTIVE SUMMARY

KEY QUESTION

What is the most effective **AI-driven** growth strategy for Curacel to address **systematic inefficiencies** and increase **insurance penetration**?



ISSUES	SOLUTIONS
Pricing, claims, and fraud inefficiencies are limiting insurance penetration in Curacel's core markets.	Curacel should integrate LLMs like Mistral 7B and BlockGPT to address these core issues.
Uncertainty between expansion into high-potential, regulation-heavy markets and refining current operations.	Evaluating cost-efficiency, ROI, etc. shows that a improvement in existing markets outperforms new market expansion.



IMPACT

Curacel will achieve **sustainable growth**, increased **profitability**, and stronger **leadership** in it's current markets.

INEFFICIENCIES

Inaccurate Pricing: Curacel's premiums are based on personal demographics, not by driving behavior. This creates unfair prices that are bad for both insurers and the insured.

Slow Claims Processing: Insurers have outdated paper systems and rely on manual evaluation. This leads to long delays which frustrates customers and reduces insurance penetration.

Fraud Exposure: Insurance companies are prone to fraud exposure because of manual processing, increasing the rate of errors in verifying that claims are not fake or inflated.

Fragmented Workflows: Outdated systems and siloed data makes it hard to access information quickly, slowing down decisions and limiting the ability to grow efficiently and scalability.

LLM SOLUTIONS

Inaccurate Pricing:

- Deploy **Mistral 7B** for analysis on Curacel's infrastructure
 - Fine-tune with structured telematics data (via partnerships) from OBD-II sensors

Fraud Exposure:

- Use **BlockGPT's** blockchain technology with smart contracts + multi-oracle consensus systems.
 - Can compare claims with trusted data sources.

Slow Claims Processing:

- Use **Mistral 7B** to process unstructured data.
 - This can automate verification (using BlockGPT) to reduce delays.

Fragmented Workflows:

- Use **BlockGPT's** API orchestration
 - Can combine IoT feeds and legacy systems a unified platform
 - Streamlines data access and scalability

SWOT ANALYSIS OF LLMS

	Mistral 7B	BlockGPT
Strengths	Local setup; SFT for raw data	Blockchain fraud checks; API orchestration
Weaknesses	Complex setup; needs MLOPs	Integration complexity
Opportunities	Telematics integration	IoT-based automation
Threats	Regulatory shifts	Legacy system incompatibility

ROADBLOCKS TO **INTERNATIONAL EXPANSION**

Saudi Arabia

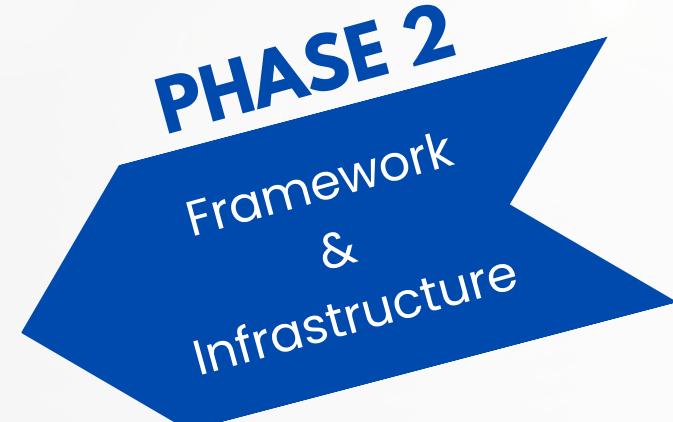
Egypt

<p>AI Governance Frameworks</p>	<ul style="list-style-type: none"> • Saudi Data and Artificial Intelligence Authority (SDAIA) enforces AI Ethics Principles. • Global AI Hub Law <ul style="list-style-type: none"> ◦ <u>Stricter oversight</u> 	<ul style="list-style-type: none"> • National AI Strategy (2019) and the Egyptian Charter for Responsible AI (2023) emphasize <u>human-centered design</u> and <u>transparency</u>. • Curacel must design its AI systems to be explainable and fair in case of future classification requirements.
<p>Data Protection Laws</p>	<ul style="list-style-type: none"> • The Personal Data Protection Law (PDPL) • All insurance related personal data must be stored inside Saudi Arabia unless it is anonymized in a way it can't be reversed. • Curacel can either anonymize data or store it locally (sequential fallback). 	<ul style="list-style-type: none"> • Personal Data Protection Law (PDPL) (Law No. 151 of 2020) demands <u>explicit user consent for data use</u>. • Appointment of a Data Protection Officer (DPO) and limits on cross-border data transfers to countries lacking equivalent protection.
<p>Digital Infrastructure Regulations</p>	<ul style="list-style-type: none"> • National Cybersecurity Authority (NCA) requires cloud providers to comply with the Telecommunications Act of 2022. • So cloud infrastructure used by Curacel must <u>pass cybersecurity audits</u> and meet the technical requirements. 	<ul style="list-style-type: none"> • Digital Egypt initiative, the MCIT and NTRA enforce security standards under Law No. 10 of 2003 • Curacel must <u>harden its backend systems and ensure regulatory alignment</u> on data encryption, infrastructure audits, and network transparency.

We **do not** recommend expansion into other countries however, if necessary, **Saudi Arabia** and **Egypt** are the best options.

PHASES OF EXECUTION (ASSUMING EXPANSION)

OVERVIEW



IN-DEPTH

PHASE 1

ENGAGE LOCAL LEGAL AND COMPLIANCE EXPERTS (SEE NEXT SLIDE)

CONDUCT A REGULATORY GAP ANALYSIS

PHASE 2

DEVELOP AN INTEGRATED COMPLIANCE FRAMEWORK

IMPLEMENT A SEQUENTIAL FALLBACK DATA PROTECTION STRATEGY

ESTABLISH CROSS-BORDER DATA TRANSFER MECHANISMS (CONTINGENT)

PHASE 3

ALIGN AI SYSTEMS WITH ETHICAL GUIDELINES

ENSURE DIGITAL INFRASTRUCTURE COMPLIANCE WITH COST ANALYSIS

DEVELOP CONTINGENCY PLANS FOR REGULATORY DELAYS

PHASE 4

LEGAL TRAINING FOR STAFF AND ENGAGE STAKEHOLDERS

INITIATE PHASED MARKET ENTRY WITH PILOTS

LOCAL TALENT & PARTNERSHIPS

SAUDI ARABIA



Tawuniya is a leading insurer that can serve Curacel as a **distribution partner**, allowing Curacel to enter the market quickly while deploying PDPL-compliant AI.



King Abdulaziz University produces skilled graduates in machine learning, offering Curacel a **talent pipeline** to strengthen MLOps capacity and local product customization.



Bupa Arabia is another large insurer that can provide **regulatory expertise** and a mature digital infrastructure, helping accelerate the integration of Mistral 7B.



SCAI is a proponent of AI that can support Curacel by providing **structured processing of telematics data**, allowing for Mistral 7B to undergo risk assessments.



SDAIA

الهيئة السعودية للبيانات والذكاء الاصطناعي
Saudi Data & AI Authority

Saudi Data and Artificial Intelligence Authority (SDAIA) has regulatory oversight, so they can enable Curacel to **secure ethical AI certification** and gain access to national data frameworks.

EGYPT



Misr Insurance is Egypt's leading general insurer. They can offer **market insights and customer access**, accelerating Curacel's penetration and claims automation.



Cloud Analyzer is a regional leader in Arabic-language Natural Language Processing (NLP) and social intelligence. They can integrate **social analysis tools** into Curacel's fraud and pricing workflows, offering rich consumer insights in low-data markets.



AXA Egypt Insurance is a private international insurer. They can offer Curacel a **modern and compliant IT environment** for deploying AI solutions under Financial Regulation Authority (FRA) regulations.



Cairo University is Egypt's premier public university. They support research on prompt engineering and can contribute **engineering interns** to backend development in Curacel.



Financial Regulatory Authority (FRA) is Egypt's financial services regulator. They can guide Curacel through **licensing, privacy regulations, and ensure PDPL compliance**.

LOCAL TALENT & PARTNERSHIPS

METHODS TO ESTABLISH PARTNERSHIPS

Commercial Integration Partnerships

How to Establish

Conduct pilot deployments via InsureTech and Vision 2030 forums. Use joint ventures or MoUs to formalize partnerships, focusing on deploying Curacel's LLMs.

Relevant Partners



Technical AI Development Partnerships

How to Establish

Engage through AI and startup events. Form tech transfer or licensing deals to co-develop AI modules integrated into Curacel's core engine.

Relevant Partners



Talent and Academic Partnerships

How to Establish

Build pipelines through job fairs and research sponsorships. Offer internships and scholarships for AI talent and skilled graduates in model deployment and orchestration.

Relevant Partners



Regulatory Alignment Partnerships

How to Establish

Take part in regulatory workshops and submit AI systems for sandbox testing. Adjust operations to comply with standards and use secure data environments.

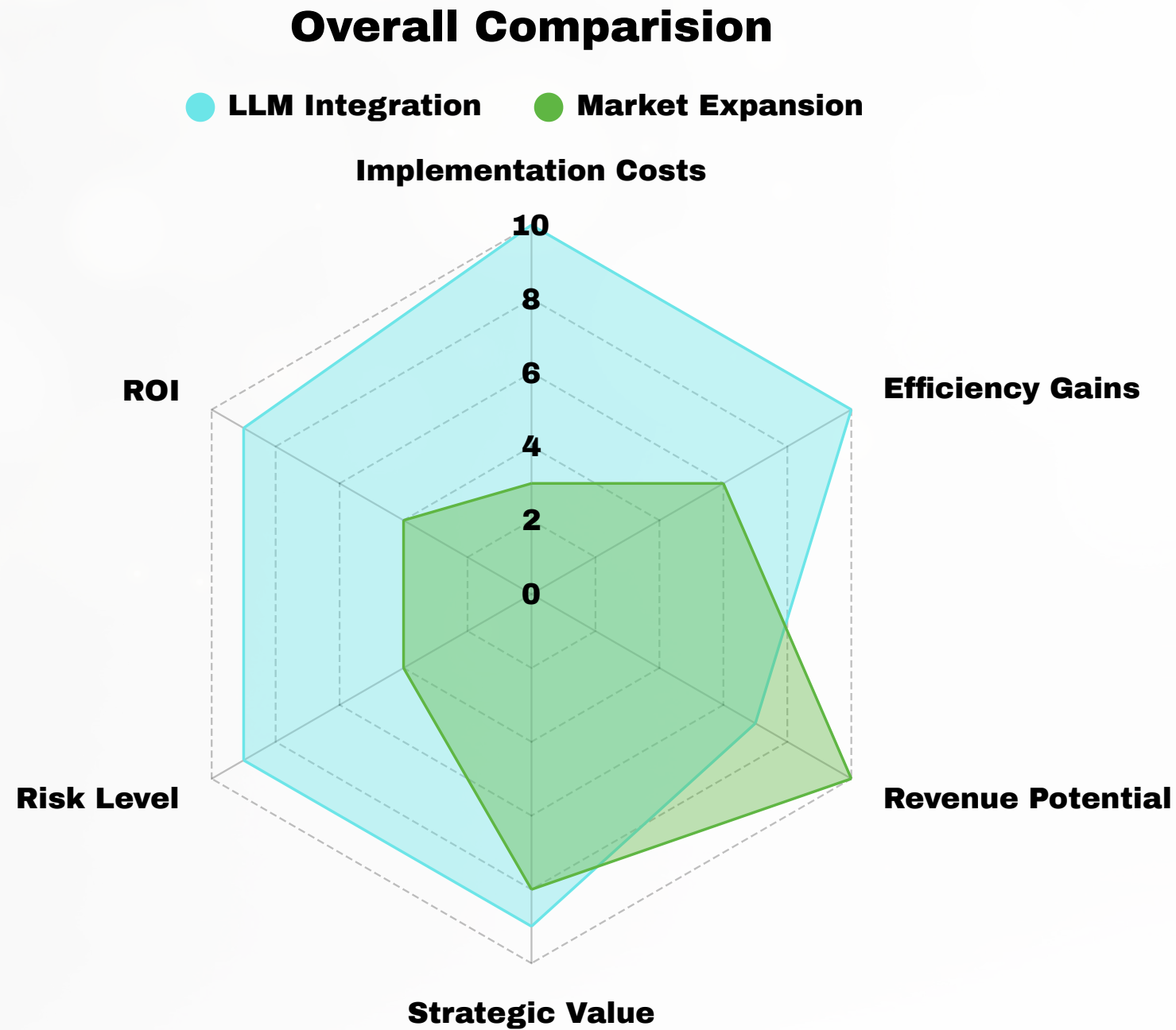
Relevant Partners



MARKET EXPANSION vs. LLM INTEGRATION

	LLM Integration	New Markets
Implementation Costs	\$3M for cloud, fine-tuning, and AI engineering	~ 10M per market for local set up and compliant infrastructure
Expected Efficiency Gains	4× faster claims ; \$40M annual benefit from year 1	Up to 80% faster claims ; benefits start year 2"
New Revenue Potential	\$50M revenue annually ; limited by current market size	\$184M (Saudi) + \$18M (Egypt) at 1% share ; 5M per market during year 1
Long-term Strategic Value	\$2.1–3.2B potential from proprietary data advantage	Access to \$200M per market ; PDPL restricts data use
Risk Levels	Low risk; existing expertise and regulatory familiarity	High risk; PDPL fines up to \$1.3M , cultural barriers, etc.
ROI Analysis	$NPV_{LLM} = 40 \sum_{t=1}^5 \frac{1}{(1.10)^t} - 3 = 148.63 \text{ million}$ <p>(Using constant cash flow model because of existing establishment and faster deployment).</p>	$NPV_{\text{New Markets}} = \frac{5}{1.10} + 23.48 \sum_{t=2}^5 \frac{1}{(1.10)^t} - 10 = 62.21 \text{ million}$ <p>(Using step function because of initial regulatory and setup requirements).</p>

MARKET EXPANSION vs. LLM INTEGRATION



	LLM Integration	Market Expansion
Implementation Costs	✓	
Expected Efficiency Gains	✓	
New Revenue Potential		✓
Strategic Value	✓	
Risk Levels	✓	
Return on Investment (ROI)	✓	

NOTE: NUMERICAL VALUES ARE ESTIMATES BASED ON FACTUAL DETAILS (SEE REPORT/PREVIOUS SLIDE).

TAKEAWAY: CURACEL SHOULD FOCUS ON LLM INTEGRATION IN THEIR EXISTING MARKETS INSTEAD OF MARKET EXPANSION.