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CASE STUDY · MARLUC SYNOPSIS

Nubank nuFormer and AI customer support agents

IMPLEMENTED 2025–2026 · FINANCIAL SERVICES AND INSURANCE · BRAZIL · BAND C · CLAIMED ONLY

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Nubank says its nuFormer model, built on customer transaction history, is in production for credit cards in Brazil and Mexico and for unsecured lending in Brazil, and that AI agents handle more than 60 per cent of customer support conversations in Brazil at or above human parity. The results are the company's own; no regulator or outside body has checked them in the sources opened.

ABOUT THIS SYNOPSIS

This is MarLuc's summary and grading of publicly available sources, for information only. It is not investment, legal, financial or professional advice, and should not be relied on for any decision. Readers must validate it against the original sources and, where appropriate, challenge its conclusions.

Facts and figures are as reported by the sources listed below, which may be incomplete, self-reported or out of date. Check the original source before relying on any figure.

The impact band, proof marker and SEAM view are MarLuc's opinion. The organisation is not a MarLuc client and has not reviewed or endorsed this synopsis. Names and trademarks belong to their owners.

NOTICE WORDING LAST UPDATED 16 NOVEMBER 2026

AT A GLANCE

AI used: Custom transformer foundation model (nuFormer) and LLM-based customer support agents.

Implemented: 2025–2026. Grade: band C, Process change, Claimed only.

Headline result, as reported: Company reports nuFormer in credit underwriting and AI agents handling over 60% of Brazilian support conversations; no independent check

1 · The case

The facts, as reported by the 5 sources listed at the end. Where a source is silent, the field says "Not reported".

Organisation

Nu Holdings Ltd. (Nubank). Latin America's largest digital bank by its own description: 131 million customers at the end of 2025 across Brazil, Mexico and Colombia, and 139 million by mid-2026. Canvas block: 4. Operations and process. Also 6. Data and technology.

Business challenge

The challenge. Nubank says it holds over a decade of transaction history across more than 100 million customers and that it uses AI to optimise decisions across credit, deposits and growth. Its research team says improving support agents in a regulated industry is difficult: agents must

Who implemented it

In-house (In-house): Built nuFormer and the support agents and ran the simulation work. Snowglobe (Software vendor): Simulator used to screen candidate agents before deployment. The model providers behind the support agents are not named in the sources opened.

Technology (SEAM pillar E)

SEAM types: T4 RAG / vector search over your own data, T5 Custom / fine-tuned models, T6 Open-source / locally hosted models, T7 AI agents. Deployment: Not reported. Vendors and products: nuFormer (in-house transformer model), Snowglobe simulator, DSPy (prompt optimisation, per Nubank blog).

Where it was built in: nuFormer inside credit underwriting and growth decisions; customer support agents calling deterministic tools such as card delivery actions, grounded with retrieval over customer context.

What changed

Before: Not reported. After, by Nubank's account: nuFormer runs in three portfolios, with SME and Colombian cards in testing, and agents handle more than 60 per cent of Brazilian support conversations. [1] [2] [3] [4] [5]

What it cost

Not reported. Q2 2026 release: the latest nuFormer generation quadrupled context length, training speed and inference speed while reducing the cost of running models in production; no money figures are given.

What it saved

Not reported as a cost or time saving. Company research reports a 36.69-point tNPS gain and an 8.82 percentage-point self-service gain in live tests on one agent. Cost to serve was $0.8 per active customer a month in Q4 2025, which the company does not attribute to AI. [1] [2] [3] [4] [5]

Governance and control

Nubank says it audits conversations with a secondary model judge, keeps business logic in deterministic tools instead of letting the model reason through fixed sequences, tests agents in simulation and red-teaming for data leaks and off-mandate behaviour before launch, and then runs live A/B tests. The sources opened name no accountable executive for AI risk, no regulator review of the AI systems and no human escalation rules.

S2 · Accountable owner · Not reported
The sources opened do not name an accountable executive for AI risk; the founder and CEO frames AI as a company vision. [2]

A1 · Safe use · Claimed
The blog says prompts are split into modules including Tone, Tooling and Safety, and simulation checks that agents do not leak personal data or deviate from their financial mandate. [5]

A2 · Human in the loop · Not reported
Human review of agent conversations and handoff rules are not described; the blog says agents are meant to free human staff for complex cases. [5]

A3 · Monitoring and assurance · Evidenced
Nubank's preprint reports that simulated and production evaluator scores correlated across four deployed versions and that changes were confirmed in live A/B tests. [3]

A4 · Vendor AI · Not reported
No vendor oversight is described; the simulator vendor is not named in the preprint abstract. [3]

A5 · Agent controls · Claimed
The blog describes agents acting through defined tools and moving fixed logic into deterministic tools, with pre-launch red-teaming. [5]

A6 · Standards and regulation · Not reported
No regulator review or AI-specific compliance process is described in the sources opened.

What worked, what did not, what is unproven

WORKED

– By the company's account, nuFormer is in production for credit cards in Brazil and Mexico and unsecured lending in Brazil.

– Simulation-guided iteration raised tNPS by 36.69 points in a live A/B test, per the company's preprint; simulated and production evaluator scores correlated highly across four deployed versions.

– A model chosen by simulation screening raised the self-service rate by 8.82 percentage points to the highest level observed at Nubank.

– Bloomberg reported the CFO saying underwriting had brought the biggest impact so far.

DID NOT

– The second live test showed no statistically significant change in tNPS, per the company's preprint.

– The company's engineering blog says moving to newer frontier models can break existing agents, and that an agent chaining three tools often hallucinated the sequence until the logic was moved into one deterministic tool.

– Nubank says SME and Colombian card use of nuFormer is still in testing.

UNPROVEN

– Whether agents at "human parity" match human agents on resolution and customer outcomes: the company does not define parity in the release.

– How much of the market-share gain and credit performance comes from nuFormer rather than pricing, limits and other changes: the sources do not separate these.

– Cost savings from the agents, and any independent audit of the models: Not reported.

Timeline

Nov 2025 Bloomberg reports Nubank saying AI features helped raise some clients' credit-card limits

Feb 2026 Q4 2025 results: Nubank reports deploying nuFormer in credit underwriting in Brazil [1]

Mar 2026 Nubank AI Research blog sets out how it builds and tests customer support agents [5]

Aug 2026 Q2 2026 results: nuFormer in three portfolios; agents handle over 60% of Brazilian support conversations [2]

Sept 2026 Nubank researchers post a preprint on simulation-based testing of support agents (revised 2026-11) [3]

2 · Grade and SEAM assessment

MarLuc's opinion, made on the evidence above. How cases are graded: marluc.co.uk/case-studies/how-we-rate

Level of change and impact

Claimed: Not applicable. Grade: C, Process change. Proof: Claimed only. Level of change: Process change.

Process change (Level 2, band C). Underwriting and support are redesigned around models and agents, by the company's account. Roles, structure and sourcing are not reported as rebuilt.

Nubank describes two process changes: underwriting decisions made with a model trained on its own transaction data, and support conversations handled end to end by agents with tools. That is process change across high-volume processes, band C. Neither the underwriting gains nor the agent parity claim is checked by an outside party, so the marker is Claimed only. The company's AI-first vision is a stated aim; the sources do not show roles, structure or suppliers rebuilt around AI.

The SEAM view and lessons learnt

The strongest evidence is the preprint, which uses live A/B tests and notes where a test showed no significant change. That is better than a bare headline, but it is still the company reporting on itself. The transferable point for a mid-sized or larger organisation is the sequence: score agents in simulation first, keep fixed business logic in tools, then prove the gain in a live test.

1. Test agents on simulated customers before live exposure, then confirm in a live A/B test.
2. Keep fixed business steps in deterministic tools, and let the model decide only what to call.
3. Define human parity before you claim it, and publish the measure.

Evidence

Score 1 of 4. Company disclosures: results releases and an engineering blog, plus a company preprint with live A/B tests. Bloomberg reports the CFO's remarks. No audit, regulator or independent evaluation found.

Evaluation method. Company statements and a company-authored preprint reporting live A/B tests on one agent; results releases give headline outcomes without methods. No independent check.

3 · Original sources

Read these in full. To challenge a fact or a grade, use the contact form at marluc.co.uk or the link on https://marluc.co.uk/case-studies/nubank-nuformer-underwriting-and-ai-agents

[1] Nu Holdings: Nu Holdings Ltd. Reports Fourth Quarter and Full Year 2025 Financial Results
https://international.nubank.com.br/company/nu-holdings-ltd-reports-fourth-quarter-and-full-year-2025-financial-results/

[2] Nu Holdings: Nu Holdings Ltd. Reports Second Quarter 2026 Financial Results
https://international.nubank.com.br/company/nu-holdings-ltd-reports-second-quarter-2026-financial-results/

[3] arXiv: Screen Before You Serve: Simulation for Production Customer Experience AI Agents at 140M Scale (Nubank authors)
https://arxiv.org/abs/2609.30137

[4] Bloomberg Government: Nubank Says AI Helped the Firm Boost Clients' Credit-Card Limits
https://news.bgov.com/crypto/nubank-says-ai-helped-the-firm-boost-clients-credit-card-limits

[5] Building Nubank (Nubank AI Research): Building AI agents for 131 million customers
https://building.nubank.com/building-ai-agents-for-127-million-customers/

Nu Holdings Ltd. (Nubank) website: https://nubank.com.br

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