

**Rakuten Symphony**

**The Rakuten Symphony**

# **2026 Industry Growth Report**



# Foreword

In my 2024 book “The End of Telecoms History” I set to show the growth model of the past 40 years had come to an end. Users in developed countries mostly had all the connectivity they needed and data usage growth was slowing. Elsewhere I’ve noted how shareholder returns from mobile operators have been terrible since 2000. I had suggested that MNOs needed to come to terms with being utilities and restructure and change mindset and culture accordingly.

In this report Rakuten Symphony also questions the economic status quo of the industry, consistent with the “end of history”, and suggests models that could deliver new revenue growth opportunities. They build on a case study of the airline industry, which has many parallels with mobile — spectrum is as scarce as landing slots, planes are expensive assets as are networks, barriers to entry and to exit are huge in both industries, mergers face competition consideration, and price sensitivity is high for both flights and mobile contracts. The experience of Rakuten provides compelling evidence for this thinking.

Our digital worlds have many elements — fixed and mobile connectivity, internet service provision, email, social media, AI tools, mobile phone apps, productivity software, cashless transactions, photography and video storage and editing, on-line shopping and so much more. Bringing some of these together into an ecosystem that generates simplicity for the end user and value for the providers makes a lot of sense.

This is important thinking. It has a much greater chance of changing the mobile telecoms industry for the better than 6G, more spectrum or satellite phone linkage. It deserves your time and serious consideration, not to necessarily agree but to force the right industry discussions with a sense of urgency and the change of the status quo while we can.

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# Table of Contents

<b>FOREWORD</b>	<b>2</b>
<b>TABLE OF CONTENTS</b>	<b>3</b>
<b>TABLE OF FIGURES</b>	<b>4</b>
<b>BACKGROUND</b>	<b>5</b>
<b>INTRODUCTION</b>	<b>6</b>
Key Takeaways	7
Rakuten Key Findings	7
<b>I. MARKET REALITIES DEFINING PATHS TO GROWTH</b>	<b>8</b>
The Market Is Forcing a Choice: Three Paths	8
Path 1: Commit to Being a Utility — With the Required Cost Structure	8
Path 2: Build or Partner into an Ecosystem	8
Path 3: Pivot to Platform — The Shovel-Maker Model	9
<b>II. ROOT CAUSE ANALYSIS: MEASURING WHAT MATTERS</b>	<b>10</b>
What These Metrics Drive in a Saturated Market	10
What to Measure Instead	11
<b>III. CASE STUDY — AIRLINES SOLVED A SIMILAR PROBLEM</b>	<b>12</b>
Deregulation Forced the Question	12
Re-Engineering the Business Model	13
Where the Profit Comes From	13
How the Money Flows	14
<b>IV. RAKUTEN MOBILE AS PROOF OF CONCEPT</b>	<b>14</b>
The MNO Entry: A Mission, not a Pilot	16
What Rakuten Actually Is	17
The Economics of $1 + 1 > 2$	19
The Arbitrage Model	20
Shadowing the Customer Journey: The Ecosystem in Motion	22
The Reward of Moving from Transaction to Relationship	23
<b>V. THE EFFECT OF AI</b>	<b>25</b>
<b>VI. THE NON-HUMAN MARKET: REAL OPPORTUNITY, DIFFERENT RULES</b>	<b>26</b>
<b>VII. CONCLUSION</b>	<b>27</b>
<b>VIII. SOURCES</b>	<b>27</b>

# Table of Figures

<b>Figure 1 (Impact on Economy):</b> Rakuten's entry forced incumbent price drops, proving immediate market disruption.	15
<b>Figure 2 (Active Users):</b> The ecosystem acts as the acquisition engine, driving millions of users into the funnel before they purchase a mobile plan.	15
<b>Figure 3 (Group Overview):</b> Over 70 distinct services, anchored by a single ID and point system, form the foundation of the ecosystem.	16
<b>Figure 4 (Competitive Advantages):</b> Shared identity and behavioral data create an Ecosystem Premium that outperforms a traditional Conglomerate Discount.	17
<b>Figure 5 (Factors that Generate Value):</b> High user engagement across multiple commercial touchpoints directly increases LTV and decreases CAC.	17
<b>Figure 6 (Revenue Synergies):</b> Multi-service engagement yields exponential returns, generating a 13.5x revenue multiplier for three-segment users.	18
<b>Figure 7 (Customer Acquisition Cost):</b> Acquiring users through low-cost entry services funds the pipeline for high-LTV conversions.	19
<b>Figure 8 (Cross-Use):</b> A unified ecosystem seamlessly shifts users across services, multiplying overall engagement.	19
<b>Figure 9 (Strong Customer Loyalty):</b> Ecosystem immersion effectively eliminates churn, demonstrating a 100-to-1 reduction for highly engaged, multi-service users.	20
<b>Figure 10 (MNO ARPU):</b> Transitioning customers from basic connectivity to bundled ecosystem options steadily drives ARPU growth.	21
<b>Figure 11 (Retention Intent):</b> Deep ecosystem integration makes Rakuten Mobile the market leader in customer retention intent.	21
<b>Figure 12 (AI Opportunity):</b> First-party data from the ecosystem provides AI with deterministic context, creating a protective moat against generic AI agents.	23
<b>Figure 13 (AI Compounds Advantage):</b> AI accelerates the ecosystem flywheel by converting massive behavioral data into hyper-personalized user actions.	23
<b>Figure 14 (AI Agents):</b> The rapid deployment of 11 AI agents across the ecosystem demonstrates the operational agility of a unified platform.	24
<b>Figure 15 (Durable Competitive Advantage):</b> Combining deep ecosystem integration with AI creates end-to-end customer experiences that standalone AI models cannot replicate.	25

# Background

The mobile telecom industry only began its mainstream journey in the 1990s and it has changed how we live our lives and perform business from every perspective. The concept of communicating from anywhere that once only appeared in science fiction is now taken for granted, and in parallel with the rise of the internet we can now do anything, anywhere. The world's largest companies are now technology companies, before they were banks, oil conglomerates and industrial heavyweights.

Despite efforts, the mobile industry has not continued the same financial curve of success beyond the initial capture of new mobile users and land grab coverage. The fundamentals of the business have not changed despite the market maturing and changing, and a new generation of technology competition emerging. This has led to disappointing financial returns as mirrored by global stock markets and is increasingly unsustainable.

In this environment a global leader in internet services based in Japan, set out to re-engineer the industry's economics. In 2020, the company launched Rakuten Mobile, providing the world's first end-to-end fully virtualized, **cloud-native mobile network**, to prove that a software-defined,

automated infrastructure could break legacy cost structures. To bring this modern technology company blueprint to the rest of the world, it created Rakuten Symphony, which works with existing operators globally to transform networks from rigid hardware stacks into agile, modern technology platforms.

The destruction of the cost structure is meaningless without the creation of a new customer promise and economic business model. While the industry focuses on reducing costs and increasing efficiency, the real goal remains increased customer returns, improved customer experience, and new top line beyond volume connectivity.

Rakuten Mobile is different from traditional operators. Rakuten Group founder, Chairman and CEO, Mickey Mikitani, has a mission to make global connectivity as affordable as possible and is willing to build a whole new network and technology to do so. On one hand this is altruistic. On the other it is purely business driven to bring connectivity into the online economy as a first-class participant rather than a required commodity.

# Introduction

The central question facing mobile operators in 2026 is not which technology to deploy next. It is what business to be in. The answer can be different for every operator, like it is for every internet company.

For most operators, the business reality today is as a slow-growth utility carrying technology company cost structures. The combination is fundamentally unsustainable, and the industry's standard response of incremental investment, adjacent product launches and digital transformation programs, has not improved the position.

There are only two ways to grow business. The first is to monetize and grow the value of the customer base an operator already has. The second is to build entirely new businesses and new customer bases alongside it. Both are real. They are not equal in difficulty.

This report focuses primarily on the first. Growing the existing base is the most immediate option available to an operator, the easiest to serve and the fastest to market. The assets, the operations, the billing relationships and the customer trust are already in place, already built and the business is operating at scale today. There is no acquisition problem to solve because the customers are already won. The only operators that carry an initial acquisition and investment problem are greenfield operators starting from nothing. Everyone else already holds the asset the whole exercise depends on, a paying customer who is already there. The second approach, creating new businesses and new customer bases, is significantly harder, and we return to why near the end of this report.

For the first option, utilizing the existing customer base, three strategic options are available to operators:

- **Commit to being a utility** with the cost structure that it actually requires.
- **Build an ecosystem:** turn connectivity into the entry point for a commercial relationship that generates compounding return.
- **Become a platform:** build the infrastructure that specialist providers build on top of, rather than competing for every segment directly.

The position most of the industry currently occupies is not tenable; technology company cost levels generating utility-grade returns. This is the “G Trap”, an increasingly fanciful business promise on complex slow-moving innovation.

This report examines the evidence and mechanics behind each of the three paths using a case study from the airline industry that demonstrates how a commodity-trapped sector re-engineers its business model and examining what Rakuten Group's operating results demonstrate about the ecosystem model applied at scale in a mobile network operator.



# Key Takeaways

- The most important decisions heading into “6G” are business not technical.
- The paper proposes three different possible business paths moving forward. All are equally valid; the status quo is not.
  1. High performance utility.
  2. Ecosystem enabler, loyalty creator.
  3. Platform provider, segment enabler.
- There is need for deliberate decision making not at industry level but at individual operator level. Each operator should decide the business they wish to be best at.

# Rakuten Key Findings

Rakuten offers itself up as a real-world demonstration of one of the proposed models; “Ecosystem enabler, loyalty creator”. Example data points include:

- **Ecosystem Multiplier:** Multi-service engagement yields exponential financial returns, delivering a 13.5x<sup>1</sup> annual revenue multiplier for three-segment users compared to single-segment connectivity users.
- **Structural Retention:** Deep ecosystem immersion functionally eliminates churn, achieving a 100-to-1 churn reduction for users engaging in four or more services.
- **CAC Arbitrage:** The ecosystem dramatically lowers acquisition costs, sourcing 75% of new acquisitions through low-cost entry services and pulling 85% of high-LTV users directly from within the existing ecosystem.
- **Market Defensibility:** A unified data layer spanning 45.9 million MAUs and three trillion annual interactions provides a proprietary first-party data asset that third-party AI cannot replicate.

## WHY THIS PAPER MATTERS:

Now is the time for every telecom CEO and board member to make deliberate decisions on what business to be in. Continuing to position as a “techco” while operating as a utility is the worst of all worlds; carrying the cost structure of the former while being capped by the revenue ceiling of the latter.

<sup>1</sup>Note: FY2025

<sup>2</sup>Note: Based on cumulative figures from FY2020 to FY2025

# I. Market Realities Defining Paths to Growth

The growth phase that defined the industry's history has closed. In most major markets, the aggregate number of human subscribers is no longer a growth variable share of wallet for connectivity is saturated. The immediate competitive task has narrowed to winning customers from other operators in a market where the total number of customers is essentially fixed. That is the reality every path to growth must start from.

## The Market Is Forcing a Choice: Three Paths

A saturated human market, frictionless switching, commoditized connectivity and a cost base built for a growth era that has ended leave an operator pointed in one of three immediate primary directions that require deliberate not experimental direction (experimental is playing at techco while driving as a utility). Each has a distinct cost profile, timeline and risk structure. The appropriate choice depends on the operator's starting position and business ambition.

### Path 1: Commit to Being a Utility- With the Required Cost Structure

The utility path is strategically coherent but only when executed with the cost structure it requires. A utility investing at technology company scale while generating utility-class revenue is neither a good utility nor a leading technology company. It is an operator with two misaligned business models sharing a balance sheet.

The utility path demands automated, lean network operations; exit from consumer product adjacencies without genuine return; pricing that reflects the commodity nature of the product; and elimination of transformation investment that does not generate transformation returns. Operators

that succeed here will resemble infrastructure funds with service-level agreements more than technology companies. That is a financially coherent position. The mistake is funding it at transformation cost while harvesting it at utility prices.

### Path 2: Build or Partner into an Ecosystem

The ecosystem path requires a specific starting position: a customer base large enough to seed the cross-service flywheel, and an internal strategy to develop a loyalty platform and program, that includes shared identity, shared currency and shared (internal and external) ecosystem partners. MNOs already know cross-selling is fundamentally correct, it is increasingly happening with fixed and mobile bundling. This economic model needs to move from "conglomerate discount" to "ecosystem premium" (see Rakuten case study later).

Operators that cannot build adjacent services independently can partner into them, but partnership must be structured as revenue-share at operating depth, not co-marketing agreement. Delta does not own American Express. The partnership nonetheless delivered \$7.4 billion in 2024 (*Skift, October 2025*)<sup>[1]</sup>, growing to \$8.2 billion in 2025 (*Delta FY2025 Earnings Release, January 2026*)<sup>[2]</sup>, with a long-term target of \$10 billion annually. The structure involves shared customer data, co-designed products and split economic upside. That is the template for what depth means. That is the difference between an ecosystem and a marketing page of "exclusive offers."

As demonstrated later in the "Rakuten Mobile Proof of Concept" section the model is real, relevant and changes fundamental financial performance.

## Path 3: Pivot to Platform - The Shovel-Maker Model

During the California Gold Rush, the merchants supplying picks, shovels and provisions built more consistent and durable businesses than most individual prospectors. The miners competed for the same seams, absorbed the full geological risk and most returned with little. The shovel-makers supplied the entire ecosystem, took none of the prospecting risk and generated returns regardless of which individual miner struck gold.

The telecom industry is a gold rush. Most operators are prospecting.

No single operator can build a genuinely differentiated, winning customer proposition for every market segment it serves. The segments with the greatest growth potential (e.g., healthcare connectivity, enterprise IoT, financial-services-led mobile brands, youth-oriented MVNOs and SME verticals) each require deep domain expertise, a tailored customer promise, specialist support structures and go-to-market agility that large incumbents are structurally not positioned to provide at the required quality.

The platform path converts this constraint into an advantage. Rather than competing directly in every segment, the operator builds the infrastructure layer that enables specialist providers to compete in those segments on the operator's behalf. Focused MVNO operators, for whom a single segment represents the entire business, not a portfolio line item, run on top of the platform. They own Customer Acquisition Cost (CAC), customer support, brand positioning and segment-specific product development. The operator provides what specialist providers cannot build independently: licensed spectrum, network infrastructure, data analytics, privacy and governance frameworks, loyalty and rewards infrastructure, network APIs, and the operational depth of a live network at scale.

This is not commodity wholesale. Wholesale sells network capacity at market-floor prices. A platform sells capability. That capability rests on four distinct

layers, each representing proprietary assets that compound in value as the platform scales:

**Network data collection and analytics.** The operator's network generates a continuous stream of customer insight, for example usage patterns, device behavior, quality of experience and location, at a granularity no third party can access. Properly governed and made available through appropriate interfaces, this is the raw material for personalization, segmentation and intent-prediction that specialist MVNO operators cannot source elsewhere.

**Privacy, governance and data science.** Regulatory environments around data use are tightening in every major market. An operator that has built robust privacy architecture, consent management and compliance frameworks and can make those available to MVNO partners as a platform service removes one of the most significant barriers to entry for specialist providers that cannot build compliance infrastructure independently.

**Loyalty and rewards infrastructure.** The most durable competitive advantage in any consumer business is accumulated value that does not transfer on switching. A loyalty and rewards platform that MVNO operators can integrate into their own customer propositions creates stickiness that benefits both the specialist provider and the platform operator underneath it, without each MVNO needing to construct a points program from scratch. This is the affiliate airline model in MNO action.

**Network APIs and programmable SLAs.** The network's capabilities (e.g., real-time quality-of-service guarantees, location data, authentication signals and deterministic latency for specific application classes) can be exposed as programmable APIs to MVNO partners and application developers. This is where the non-human endpoint opportunity also connects to the platform model: an IoT or robotics-focused MVNO building on the platform gains access to guaranteed network performance SLAs and the API layer required to deliver deterministic connectivity to machines rather than best-effort connectivity to people.

A financial-services MVNO can access network-layer fraud detection signals, a unique signal no standalone fintech can replicate, as a direct competitive differentiator. A logistics operator integrating real-time network quality data into autonomous vehicle routing is building on infrastructure no third party provides. Network APIs convert what the operator already runs into a commercial capability layer that compounds in value with each additional partner, use case and segment.

The platform operator is somewhat insulated from the retail switching dynamic. Its revenue comes from segment operators, not individual consumers. When one MVNO loses customers to another

MVNO on the same platform, platform revenue is unaffected. When the ecosystem expands, platform revenue grows with it.

The question for any operator considering this path is not whether the segments it currently serves could be better served by specialists. They could be. The real question is whether the operator has the platform depth (e.g., data infrastructure, analytics capability, network APIs, loyalty architecture, governance frameworks and operational credibility), to be genuinely worth building on top of. That gap between commodity wholesale and genuine platform capability is the work this path requires<sup>3</sup>.

## II. Root Cause Analysis: Measuring What Matters

ARPU and churn were the correct metrics for the conditions that produced them.

When mobile penetration was climbing rapidly from near zero, every new subscriber represented genuinely incremental revenue. Share of wallet moved from other discretionary spend (e.g., gadgets, entertainment, confectionary) to connectivity. The strategic task was converting the unconverted faster than the competition. In that environment, ARPU tracked revenue health per customer and churn tracked base stability. Both measurements aligned to the business objective. The industry was right to optimize for them.

The metrics were not updated to reflect the subsequent phase. The instruments built for a growth phase were pointed at a mature, commoditized market. That misalignment is where structural damage accumulates.

### What These Metrics Drive in a Saturated Market

**ARPU in a saturated market functions as a price-competition driver**, not a revenue-health indicator. When every operator in a zero-sum market optimizes for the same metric, the collective result is what PwC documents across 50+ telecom markets: inflation-adjusted ARPU declining, with operators “seemingly unable to pass rising costs on to their customers” (*PwC, Global Telecom Outlook 2025–2029*)<sup>3</sup>. The metric points down. The investment decisions it drives push it further down.

**Churn in a saturated market does not measure loyalty.** It measures the rate at which subscribers are being taken from competitors against the rate at which competitors are taking them back, a zero-sum combat metric expressed in retention language. An operator can record stable churn

<sup>3</sup>**Note:** This path is hidden within the ecosystem path, without the added complexity of open external exposure. Historically, successful platforms are surfaced after the platform has been used and proven internally as a vertically integrated part of the core business success.

figures while systematically losing high-value customers and replacing them with price-sensitive switchers acquired through promotions. That dynamic destroys margin over time while remaining invisible in the headline churn number.

Those promotions compound the problem. Acquisition spend rises because winning a subscriber in a saturated market is expensive. The promotional mechanics that drive subscriber acquisition select specifically for price-sensitive customers with short tenure. Customer Acquisition Cost (CAC) rises. Lifetime Value (LTV) falls. When the two travel in these opposite directions, the business model becomes broken at the unit level.

**With CAC increasing and LTV decreasing, the fundamental premise of the business is violated. No network investment, no cost reduction program and no technology transformation**

**closes a business model that is structurally moving to loss-making at the unit level.**

## What to Measure Instead

The underlying problem is not competitive, technological or operational. It is a measurement problem and measurement problems are self-reinforcing - "You are what you measure". The metrics in use determine what gets invested in, which shapes what the business becomes over a five-year horizon.

An operator measured on ARPU invests in price defense. An operator measured on LTV and GMS invests in deepening customer relationships. These are materially different investment decisions with materially different outcomes.

The metrics appropriate to a saturated, competitive market include:

Metric	What it actually measures
<b>Customer Acquisition Cost (CAC)</b>	The true cost of winning a customer subsidies, promotions, sales, onboarding against which LTV must be evaluated
<b>Customer Lifetime Value (LTV)</b>	Net present value of total revenue across all products and services over the full duration of the relationship
<b>Gross Merchandise Sales (GMS)</b>	Total commercial volume flowing through the customer relationship. Where LTV measures the value the operator nets from one customer over time, GMS measures the total transaction volume the operator enables across the whole ecosystem, including business it facilitates but does not directly bill, such as partner sales and marketplace activity. A customer can have a fixed connectivity LTV while driving large and growing GMS through everything else they transact on the platform
<b>Cross-use rate</b>	Number of services a customer uses; the most predictive indicator of both LTV and churn <sup>4</sup>
<b>LTV:CAC ratio</b>	The fundamental unit-economics test: does the business generate more value from each customer than it costs to acquire them?

This is the first decision, and it precedes all others. An operator that keeps measuring ARPU will keep investing in price defense in a market where price only goes one way. The metric system has to change

before the business model can. The airline industry changed its metrics first, under direct economic pressure after 1978 deregulation, and the business model followed. The same sequence is required here.

<sup>4</sup>Rakuten's data demonstrates at a 100-to-1 churn differential between one-service and four-plus-service users (Rakuten Group Q1 FY2026 Financial Results, May 14, 2026)

# III. Case Study - Airlines Solved a Similar Problem

The U.S. airline industry in the early 1980s presents the closest documented parallel to the situation mobile operators face today. The parallels are structural, not loose analogy: spectrum is as scarce as landing slots; networks are expensive capital assets in the way fleets of planes are; both industries have entrenched national champions facing newer entrants; exit is almost impossible in both; mergers are constrained by competition regulators in both; and in both, the core experience has barely changed in twenty years. The structural conditions of the early 1980s were the same as today's: commodity product, saturated routes, price as the primary competitive variable and margin pressure from every direction. The airline industry's response over the following four decades is the most extensively documented case study of how a commodity-trapped sector re-engineers its business model around loyalty economics. The data is public, audited and unambiguous.

## Deregulation Forced the Question

Before the Airline Deregulation Act of 1978, U.S. carriers operated fixed routes at government-set fares. Price was not a competitive lever. Deregulation made it the only lever overnight. The result within three years: capacity wars, fare wars and a wave of bankruptcies. The structural equivalent of what mobile operators have already been facing and now increasingly face as number portability, MVNOs and digital (eSIM) switching have made connectivity a commodity priced to the market floor.

The industry's response was not to build better planes. It was to construct a different business alongside the flying one.

American Airlines launched AAdvantage on May 1, 1981 (Wikipedia<sup>[4]</sup>, AAdvantage<sup>[4]</sup>; American Airlines corporate history), seeded from its SABRE reservation system, 130,000 of its most frequent flyers, pre-enrolled. United launched MileagePlus

within days. Delta followed the same year. By 1982, international partnerships were forming and non-airline earn partners (e.g., Hertz, Hyatt) were already integrated (The Points Guy, "40 Years of Miles")<sup>[5]</sup>. Within 18 months, frequent-flyer programs had become a structural feature of the industry.

The original approach was economically clean: reward repeat customers with unsold seats that carried near-zero marginal cost. What followed was a complete re-engineering of where profit came from.

## Re-Engineering the Business Model

The transformation accumulated over decades through a consistent logic: **every point at which the customer could be engaged beyond the flight was an opportunity to shift value from the commoditized transaction to a durable, compounding ecosystem relationship.**

Elite status tiers created aspiration within the program itself. Co-branded credit cards changed the fundamental profit structure. The issuing bank, American Express for Delta, Chase for United and Southwest, Citi and Barclays for American, buys miles in bulk, upfront, in cash. Every card transaction earns miles and generates partnership revenue for the airline. No passenger. No seat. No flight required.

### **Airlines now earn more miles through credit-card spending than through actual flying**

*(IdeaWorksCompany, 2025 Yearbook of Ancillary Revenue, September 2025)<sup>[6]</sup>.*

The implication for business model design is significant. The currency is what generates the margin. The flywheel is self-reinforcing: more partners make the currency more useful, more useful currency drives card adoption, more card adoption increases bulk-sale revenue to the issuing bank. This compounding dynamic is structurally

different from network quality investment, which does not produce the same compounding return on the revenue side.

## Where the Profit Comes From

Research published by Courtney Miller at Visual Approach Analytics in March 2025 (*visualapproach.io*, “Airlines as Loss-Leaders”; *One Mile at a Time*, October 2025)<sup>[8]</sup> isolated loyalty revenue from the 2024 reported operating margins of the five most profitable U.S. carriers:

Carrier	Reported 2024 Operating Margin	Without Loyalty Revenue
Carrier A	10.5%	-2.5%
Carrier B	8.9%	-1.9%
Carrier C	4.8%	-8.3%
Carrier D	4.9%	-11.4%
Carrier E	1.2%	-19.9%

**No network airline made money moving people and things in 2024. The profit came entirely from the loyalty and financial-services ecosystem built around the journey.** TD Cowen analyst Tom Fitzgerald estimates the operating margin on loyalty program revenue at approximately 50% (*DWU Consulting, March 2026*)<sup>[7]</sup> against industry-wide net margins of 3–8% on flying operations. Despite record-breaking travel demand and robust ticket sales throughout the year, the structural reliance on loyalty programs only deepened in 2025.

Delta’s American Express partnership alone delivered \$8.2 billion in 2025 approximately 10% of the airline’s total revenue (*Delta Air Lines FY2025 Earnings Release, January 2026*)<sup>[2]</sup>. Without ecosystem revenue, Delta’s core flying business would have posted a negative operating margin (*Courtney Miller, Visual Approach Analytics, March 2025*)<sup>[8]</sup>.

The flying business is the customer acquisition infrastructure. The loyalty and credit-card business are the profit center.

## How the Money Flows

The five-step ecosystem model the airlines built maps directly onto a mobile operator. Only the inputs change.

- Currency creation.** Airlines issue miles at near-zero marginal cost and book them as deferred revenue. The telecom equivalent: an operator issues giga-points for every gigabyte purchased, against a single unified customer identity.
- Bulk sale to partners.** The issuing bank buys airline miles in cash, upfront high-margin revenue with no flight required. The telecom equivalent: hyperscalers, content platforms and retailers buy giga-credits from the operator in advance to reward and acquire their own customers, generating cash revenue with no incremental network traffic required.
- Spend and data capture.** Every airline card transaction generates a behavioral record across spend categories. The telecom equivalent is richer: mobile usage captures context the credit card never sees location, time of day, app and service usage compounding into a first-party data asset alongside the revenue stream.

- **Redemption and deepening.** Airline miles release deferred revenue on redemption and pull the customer back into the carrier's own products. The telecom equivalent: customers redeem giga-points for connectivity, devices, partner services and content, each redemption deepening engagement with the operator's ecosystem.
- **Breakage and float.** As with airlines, unredeemed currency and the time-value of held deferred balances generate structural additional return, and the program compounds as the partner ecosystem grows.

American Airlines now attributes approximately 75% of premium-cabin bookings to the AAdvantage program (*Fortune, April 2026*)<sup>[9]</sup>. The program no longer serves the airline. The airline serves the program.

This is the reward of moving the customer relationship from a transaction and satisfaction to a relationship and loyalty, demonstrated over 45 years in an industry with mobile's exact structural constraints. **Connectivity is the seat. The strategic question is what gets built around it.**

## IV. Rakuten Mobile as Proof of Concept

The airline case study above demonstrates a model that is now four decades old and sits in an adjacent industry. The obvious question is whether the mechanic transfers to mobile. Rakuten has already answered that not in theory, but in a live network, in a saturated market, against three entrenched incumbents, with audited quarterly results. What follows is the proof of concept.

### The MNO Entry: A Mission, not a Pilot

Rakuten Mobile entered Japan as the country's newest and most modern mobile network in a saturated, oligopolistic market with an explicit founding mission: Mickey Mikitani, Rakuten Group's

founder and CEO, had declared publicly that Japanese mobile bills averaging around JPY 8,000 per month in Tokyo, were too high, and that Rakuten would cut down to less than 3,000 (before tax) (*Rakuten Today, November 2019*)<sup>[10]</sup>; Mickey Mikitani, *press conference, December 2025*. Rakuten Mobile launched in April 2020 with a single unlimited plan at JPY 2,980 per month (*Rakuten Today, January 2021*)<sup>[11]</sup>. Japan's three incumbent carriers were forced to respond with lower-cost offerings of their own, making Rakuten's market entry one of the most consequential competitive events in Japanese consumer telecoms in a decade, regardless of Rakuten Mobile's own subscriber trajectory in the years that followed (*Rakuten Today, December 2025*)<sup>[12]</sup>.

# Rakuten Mobile's Impact on Japan's Economy

April 2020 entry boosted competition, cutting telecom costs and easing consumer burdens

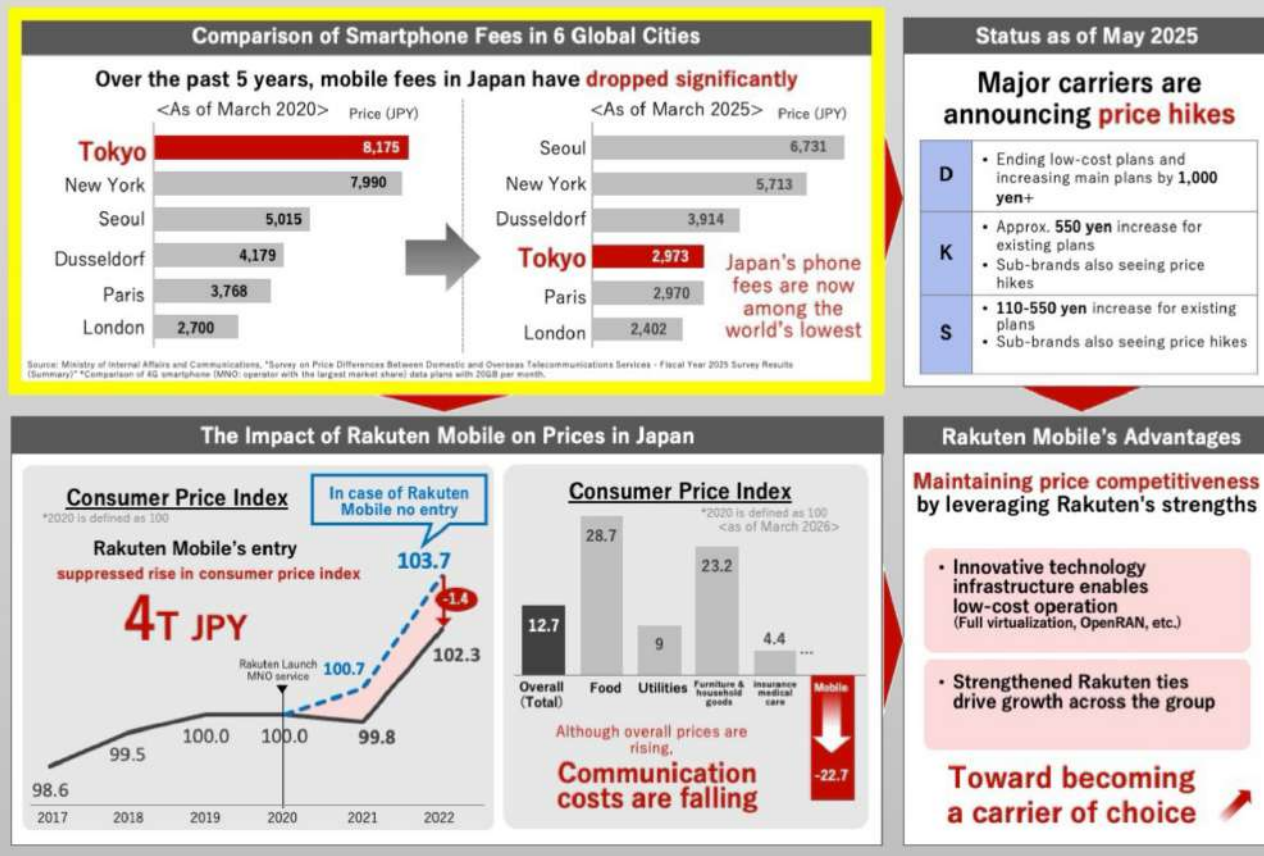


Figure 1 (Impact on Economy): Rakuten's entry forced incumbent price drops, proving immediate market disruption.

The investment case was never that a new connectivity provider could immediately dominate against three established incumbents in a highly conservative market. **The case was that acquiring those customers through non-mobile channels commerce, the point card and fintech would cost far less than standalone mobile acquisition and**

**produce greater loyalty, because the customer arrives already embedded in the ecosystem rather than shopping on price.** Ecosystem LTV would then justify the infrastructure investment, ROI would be faster through lowered CAC, and the more users used the higher the immediate GMS.

## ① Active Users: Strong New Customer Acquisition by Rakuten Ecosystem

■ Rakuten Ecosystem, operating under a common brand and ID, enables efficient acquisition of new customers

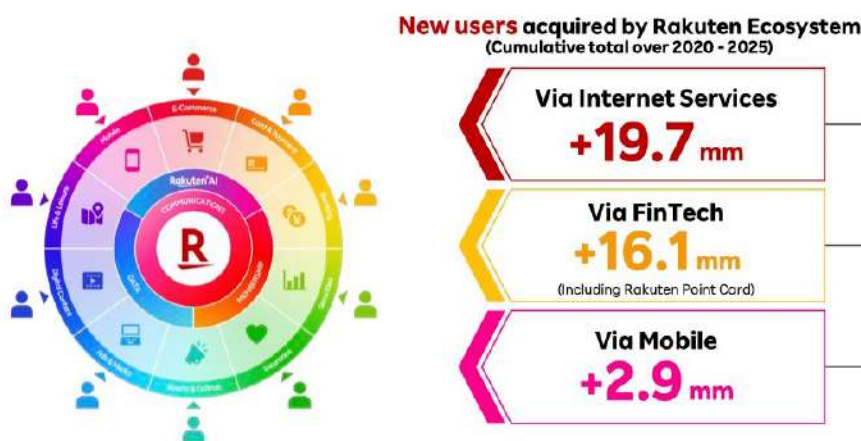


Figure 2 (Active Users): The ecosystem acts as the acquisition engine, driving millions of users into the funnel before they purchase a mobile plan.

## What Rakuten Actually Is

Most telecom people outside Japan know Rakuten as a mobile operator and an Open RAN technology company. That is the smallest part of the story, and the part that matters least to this argument. Rakuten Group operates over 70 different businesses in Japan, supporting diverse lifestyles of users from all walks of life through the convenience of the internet.

Services span across e-commerce, fintech, travel, digital content, and communications. Roughly 46 million monthly active users transact across these services under a single Rakuten ID and a single points currency, Rakuten Points, that they earn and spend everywhere in the ecosystem.

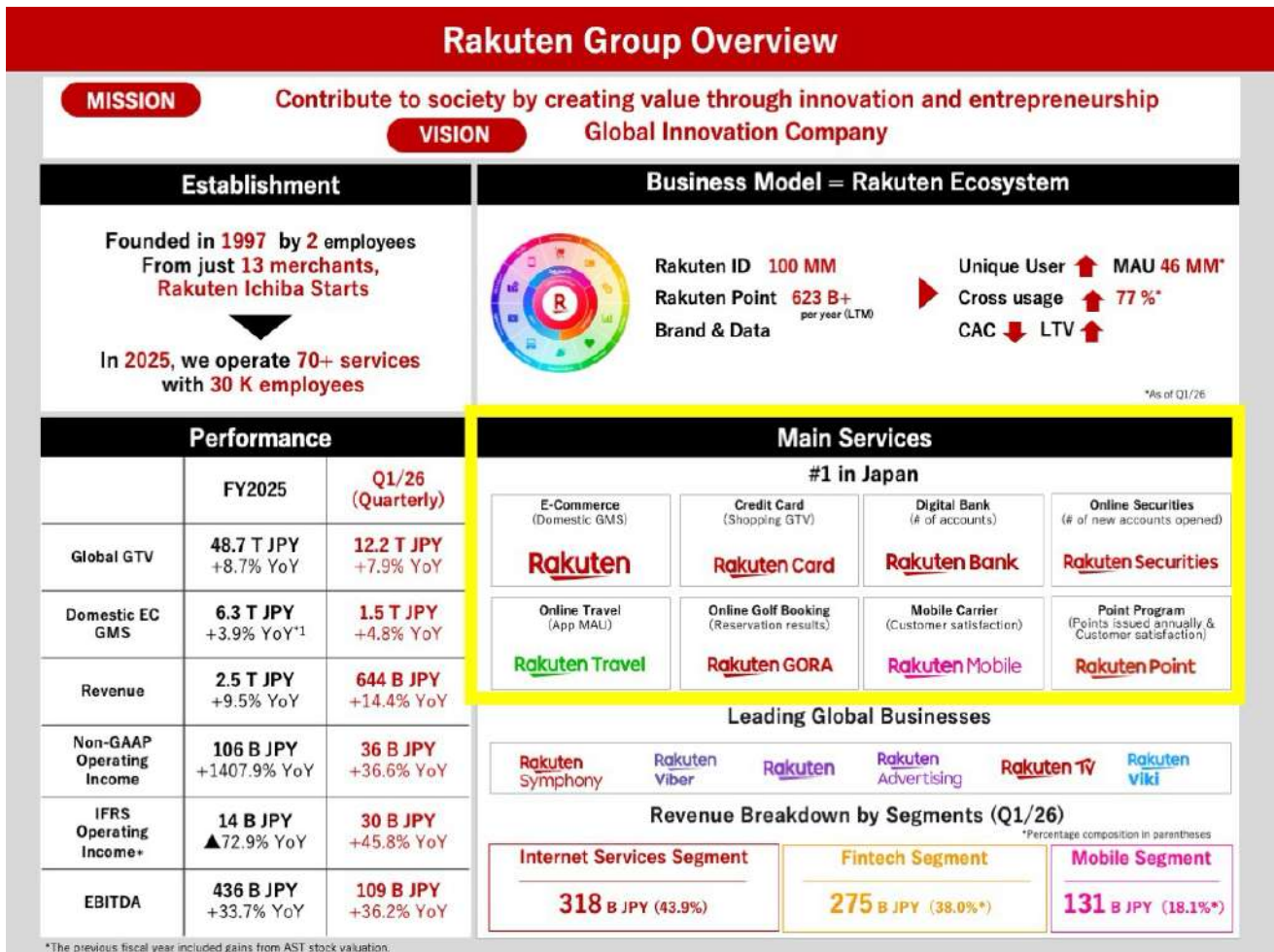


Figure 3 (Group Overview):  
 Over 70 distinct services, anchored by a single ID and point system, form the foundation of the ecosystem.

That is the context that makes the mobile story make sense. When Rakuten launched Rakuten Mobile in 2020, it was not a connectivity startup hoping to add services later. It was an established ecosystem of high-frequency commercial relationships adding connectivity as one more service, anchored to an identity, a currency and a data layer that already existed. Everything that follows is what happened when those existing assets were pointed at the mobile business.

For Rakuten to execute the model, it had to build a network and acquire customers from scratch, it already had the loyalty platform and ecosystem. Existing operators have the network and customers, and in many cases partnerships, but they have not focused on a loyalty or ecosystem economic operation. This is easier than building a network and having no customers.

## The Economics of 1 + 1 > 2

The argument for utility focus holds that conglomerates trade at a discount, diversification dilutes value and operators should concentrate on network operations. The Rakuten data challenges this directly, because the Rakuten Ecosystem is not a conglomerate in the conventional sense. It is a set of services sharing identity, payments, data and behavioral intent across a unified platform. The

economic output of that structure is a premium, not a discount.

Rakuten frames the distinction as Ecosystem Premium (1 + 1 > 2) versus Conglomerate Discount (1 + 1 < 2). The operational difference is what separates them: a genuine ecosystem amplifies value through shared infrastructure; a conglomerate aggregates businesses that happen to share a parent company.

## Rakuten Ecosystem Creates Competitive Advantages

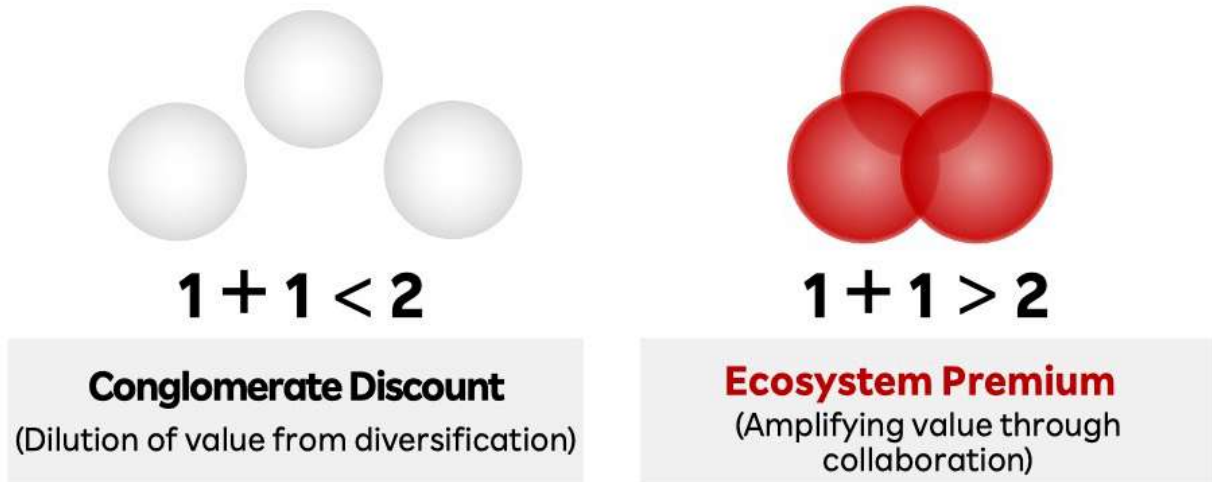
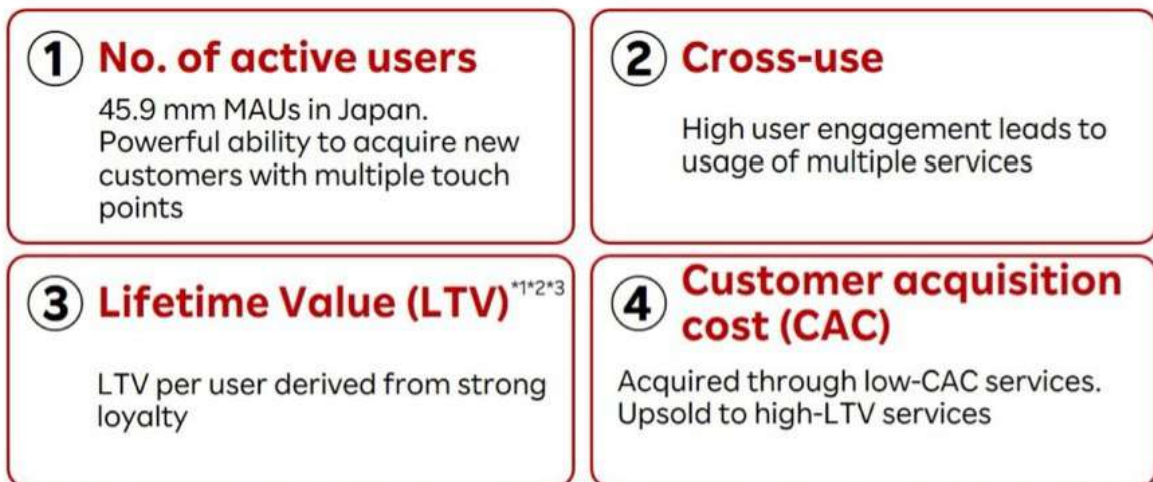


Figure 4 (Competitive Advantages):

Shared identity and behavioral data create an ecosystem premium that outperforms a traditional conglomerate discount.

## Rakuten Ecosystem's Factors that Generate Value



\*1: LTV = Abbreviation for Lifetime Value.  $LTV = \sum (ARPU \times Profit\ Margin^{*2} \times Retention\ Rate) \div (1 + Discount\ Rate)^{K-1}$ ; K is the planned number of years; ②:  $ARPU = Sales \div Annual\ Active\ Users$ ; \*2:  $Profit\ Margin = (Sales \times Contribution\ Margin) - Retention\ Costs$ ; ③:  $Contribution\ Margin = Sales - Variable\ Costs\ (Cost\ of\ Goods\ Sold,\ Fees,\ etc.)$ ; \*3:  $Retention\ Costs = Marketing\ Costs - Customer\ Acquisition\ Costs$ ; ④:  $Marketing\ Costs = Advertising\ Costs + Promotion\ Costs + Point\ Costs$ ; ⑤:  $Customer\ Acquisition\ Costs = Marketing\ costs\ allocated\ to\ new\ users$ .

Figure 5 (Factors that Generate Value):

High user engagement across multiple commercial touchpoints directly increases LTV and decreases CAC.

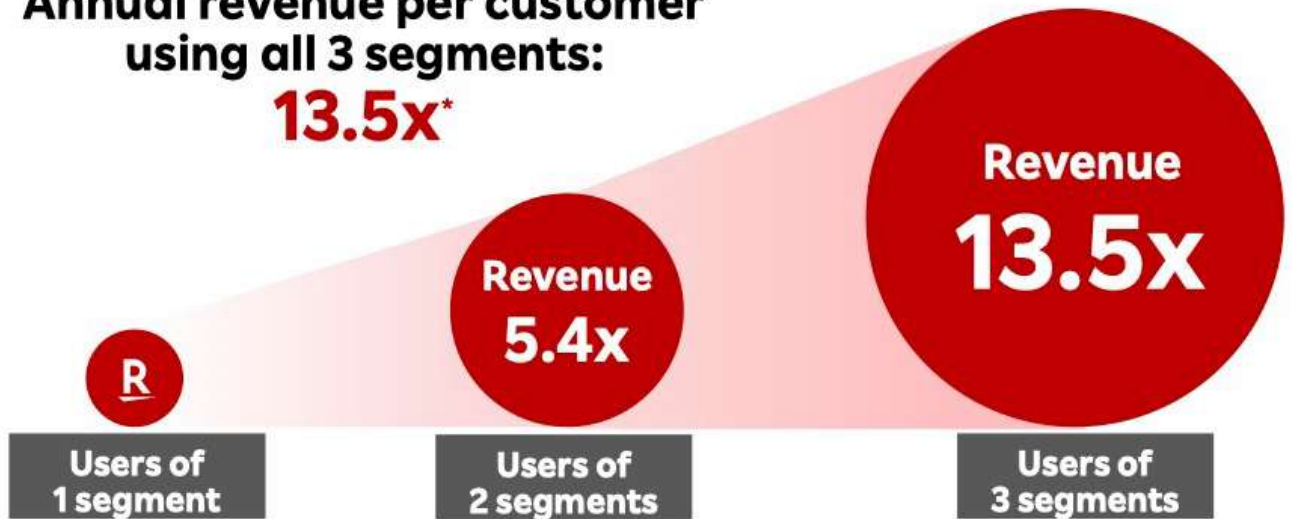
FY2025 revenue data by user segment (Rakuten Group Q1 FY2026 Financial Results, May 14, 2026)<sup>[13]</sup>:

- Two-segment users: **5.4x** the annual revenue of single-segment users.
- Three-segment users: **13.5x** the annual revenue of single-segment users.

### ③ LTV: Revenue Synergies Above Simply Combining Segments

Annual revenue per customer  
using all 3 segments:

**13.5x\***



\*FY2025

Figure 6 (Revenue Synergies):

Multi-service engagement yields exponential returns, generating a 13.5x revenue multiplier for three-segment users.

A 13.5x revenue multiplier between one-service and three-service users justifies fundamental reorientation of product strategy and capital allocation. The multiplier emerges from unified identity, shared currency and cross-service behavioral data that compounds as engagement depth increases, it is the same mechanic the airline industry demonstrated over 45 years, applied to telecommunications.

The figure sounds too good to be true until the bundle is broken out, so it is worth being concrete about where 13.5x comes from. A single-segment user might be a mobile-only customer paying roughly JPY 3,000 a month for connectivity and nothing else, connectivity revenue only. A three-segment user is, for example, someone who holds the mobile line, shops regularly on Rakuten Ichiba and pays with a Rakuten Card. The mobile line still contributes its connectivity revenue. The

marketplace adds gross merchandise value on every purchase plus advertising and merchant fees the operator captures. The card adds interchange on all of that spend, and on spend made entirely outside the ecosystem (plus financing revenue). None of these three are large on their own. Stacked on one identity, with points cycling between them to pull usage from one into the next, the combined annual revenue from that single customer reaches roughly 13.5 times what the mobile-only customer generates. The connectivity line barely moved. Everything around it did.

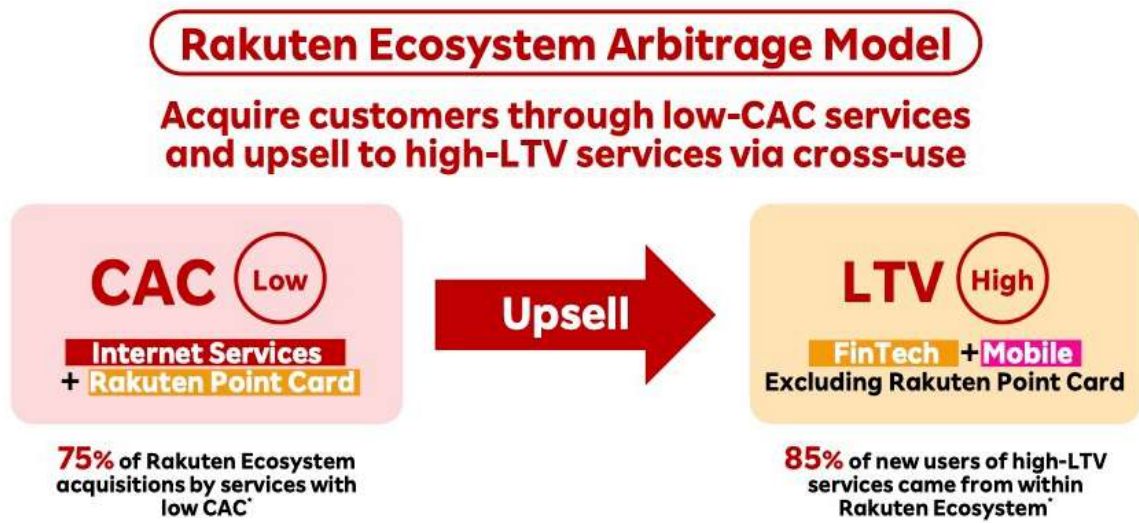
Existing operators should not expect 13x but even 2x would be a fundamental game changer. Rakuten had to invest in a brand new network with zero subscribers existing operators already have a customer base and running operation. New enabling technology costs fade into the background in comparison.

## The Arbitrage Model

Rakuten's disclosed acquisition mechanics function as a CAC/LTV arbitrage (Rakuten Group Q1 FY2026 Financial Results, May 14, 2026)<sup>[13]</sup>:

- 75% of ecosystem acquisitions come through low-CAC entry services internet commerce and the Rakuten Point Card (cumulative FY2020–FY2025).
- 85% of new high-LTV service users FinTech, Mobile arrive from inside the existing ecosystem, not through external acquisition.

### ④ Customer Acquisition Cost (CAC): Acquire at Low CAC and Promote High LTV Services



\*Based on cumulative figures from FY2020 to FY2025

Figure 7 (Customer Acquisition Cost): Acquiring users through low-cost entry services funds the pipeline for high-LTV conversions.

### Cross-Use: Cross-Service Mobility for Rakuten Ecosystem Users

- Leveraging common ID and data accumulated from users, implementing unique ecosystem strategies honed over many years, such as SPU (Super Point Up Program)

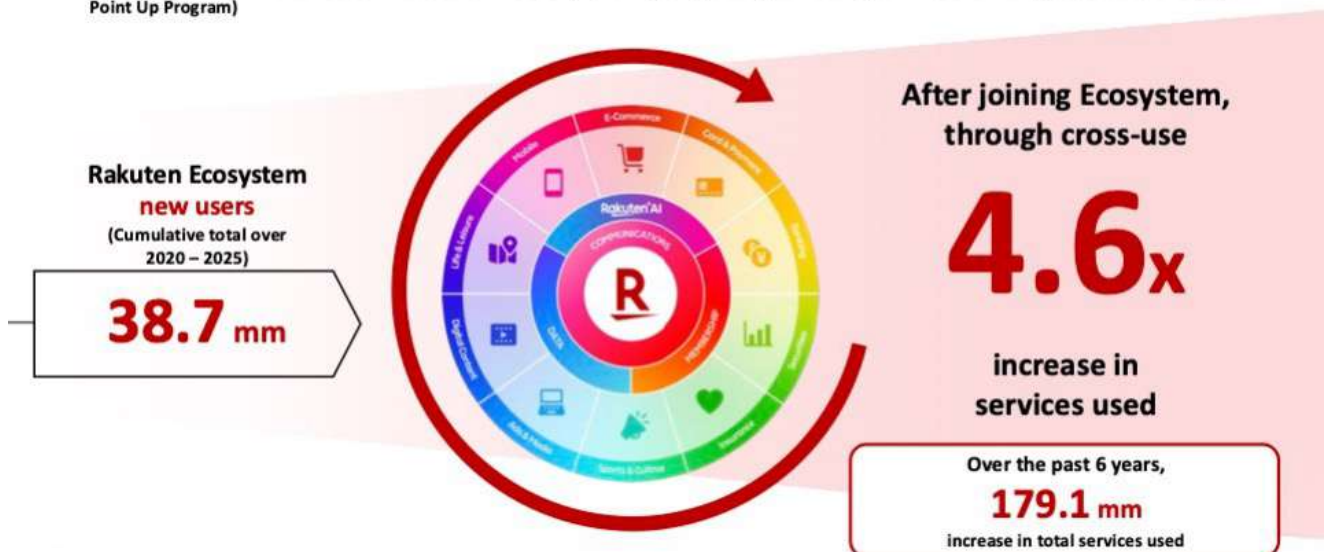


Figure 8 (Cross-Use): A unified ecosystem seamlessly shifts users across services, multiplying overall engagement.

## Shadowing the Customer Journey: The Ecosystem in Motion

The airline industry built its ecosystem around the moments that surround a flight, i.e., the hotel, the hire car and the card that paid for all of it. The mechanic was shadowing the customer's journey beyond the core transaction. Rakuten Mobile runs the same logic on connectivity. The network is not the destination. It is the thread running through every commercial moment in the customer's life.

The difference from most operator ecosystem attempts is that Rakuten did not build the surrounding context. It already existed. When Rakuten Mobile launched in 2020, it entered a live commercial relationship that tens of millions of Japanese consumers already had with Rakuten, across shopping, payments, banking, travel and insurance. The network was added to a relationship. Not the other way around.

That starting position matters because it defines

### LTV: Rakuten Ecosystem's Strong Customer Loyalty

Rakuten Ecosystem churn rate by no. of services used  
(Indexed to churn rate for users who only use one service = 100, FY2025)

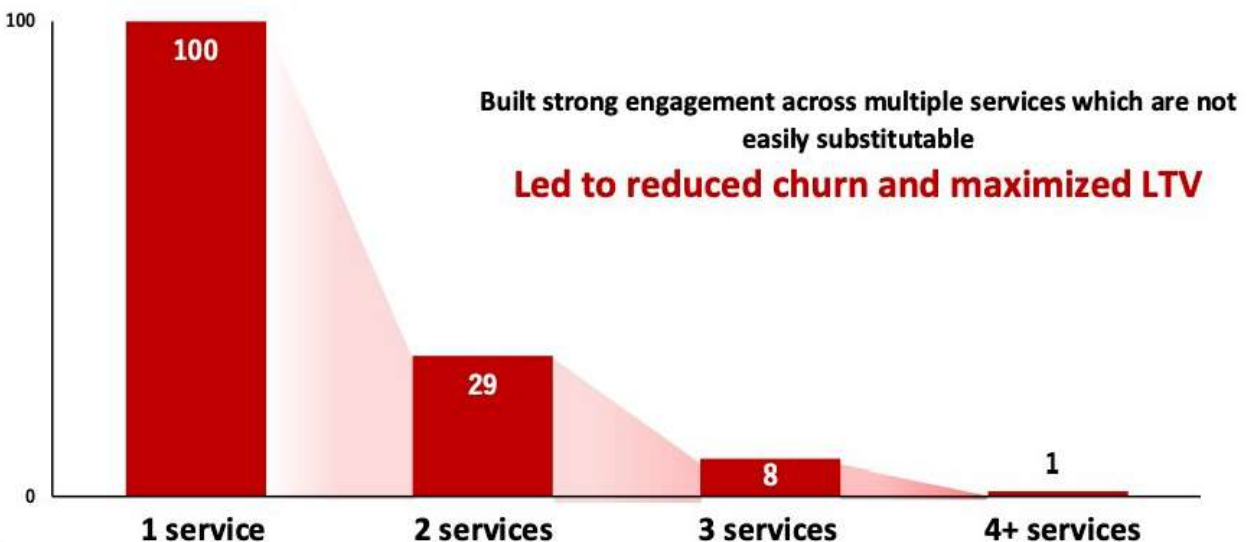


Figure 9 (Strong Customer Loyalty):

Ecosystem immersion effectively eliminates churn, demonstrating a 100-to-1 reduction for highly engaged, multi-service users.

what transfers to other operators and what does not. Rakuten's specific businesses such as Rakuten Ichiba (shopping), Rakuten Card and Rakuten Bank, are not immediately replicable but the underlying logic is.

1. Understand the context of the customer's life.
2. Identify where the operator's relationship may have permission to play a role, on behalf of another or directly.
3. Build or partner into those moments rather than leaving the customer to spend elsewhere.

### *The Economic Mechanics that Produce the Result* **The ecosystem multiplier is real and compounding.**

13.5x revenue at three segments versus one. 100-to-1 churn reduction at four-plus services. These figures do not come from connectivity improvements. They come from unified identity, shared currency and cross-service data operating as designed.

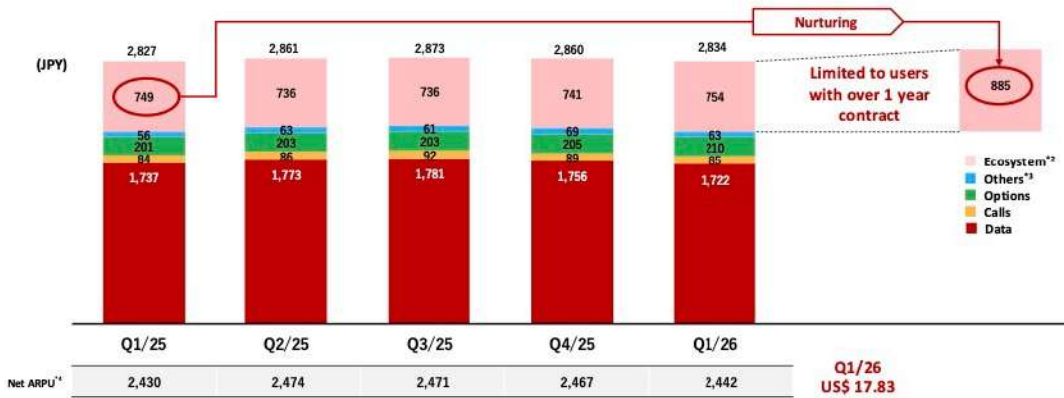
Here the “services” being counted are the concrete Rakuten businesses a customer uses together, for example mobile connectivity, the Rakuten Ichiba marketplace, the Rakuten Card, Rakuten Bank or Rakuten Securities, Rakuten Travel and Rakuten’s content and messaging services. A “four-plus-service” user might hold the mobile line, shop on the marketplace, bank with Rakuten and pay with the card. Each additional service is another relationship that does not transfer when a competitor offers a cheaper SIM.

**The arbitrage keeps CAC structurally below LTV.** 75% of acquisitions through low-cost entry services. 85% of high-LTV users sourced from inside the ecosystem. The structural effect is that the most expensive part of consumer business acquisition is partially self-funded by the ecosystem.

**Ecosystem ARPU for MNO subscribers with 1+ year tenure grows to JPY 885, compared to JPY 749 at Q1/25.**

### MNO ARPU<sup>\*1</sup>: Aiming to Increase ARPU by Boosting Sales of Options

- Options ARPU and Others ARPU continued to grow steadily
- Data ARPU declined due to two technical factors: subscriber mix change from strong B2B additions in Q4/25, and a transitory denominator timing effect from accelerated B2C acquisitions late in Q1/26



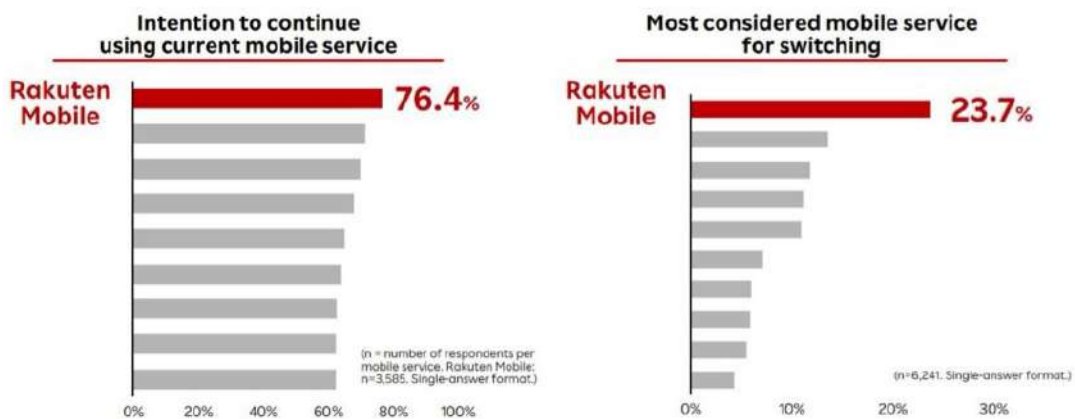
\*1: The number of subscribers, which is the denominator for ARPU, is calculated using the average number of MNO subscribers at the beginning and end of each quarter, excluding MVNE and B2P lines.  
 \*2: Calculated using group revenue uplift effects from effects by MNO subscribers as the numerator. \*3: Includes advertising and miscellaneous B2B revenues. \*4: Within ARPU, the cost of sales associated with the uplift effect of Rakuten Mobile's MNO subscribers and the effect of sending customers from group companies to the mobile business are deducted from Ecosystem ARPU. Mobile Ecosystem Contribution (net ARPU x number of MNO subscribers) is recorded after sales and operating expenses on Rakuten Mobile's income statement

\*Note: US\$1 = Yen 158.99 - exchange rate as on May 20

Figure 10 (MNO ARPU):

Transitioning customers from basic connectivity to bundled ecosystem options steadily drives ARPU growth.

### Rakuten Mobile Ranked No. 1 in Both Retention Intent and Switching Consideration



\*HMDLaBe "Survey on Mobile Service Switching Considerations, February 2026". Survey period: February 1 – February 5, 2026. Target: 40,000 men and women aged 18–69

Figure 11 (Retention Intent):

Deep ecosystem integration makes Rakuten Mobile the market leader in customer retention intent.

**Connectivity used as an ecosystem entry point produces fundamentally different unit economics than connectivity used as the end product. The 13.5x revenue multiplier is not specific to Rakuten. It is a property of the model.**

## The Reward of Moving from Transaction to Relationship

The airline industry is the clearest case of an industry that hit the same wall and built its way out. Carriers stopped thinking about a passenger as a single seat sold and focused instead on the whole customer life journey:

- getting to the airport;
- staying in a hotel;
- renting a car;
- paying for all of it and
- doing it again next quarter.

Around the act of flying, they built an ecosystem of logical extensions: hotels, car rental, dining, retail and a co-branded credit card. None of these were random diversifications. Each was anchored in flying and making flying more valuable.

That created a virtuous cycle. Loyalty points let the airline make the flying experience better seemingly for free, upgrades, lounge access, free flights, funded not by the airline absorbing cost but by partners paying to participate. The traveler felt rewarded. The hotel, the bank and the rental company got contextual, relevant, high-intent business they would otherwise have had to chase. Every participant came out ahead, and the more partners joined, the more valuable the points became, which drew in more partners again.

This is the reward of moving the customer relationship from a transaction and satisfaction to

a relationship and loyalty. A transaction ends when the seat is sold. A relationship compounds every time the customer engages with anything inside the ecosystem.

Rakuten's mobile results are the direct telecommunications expression of that same reward. Rakuten Mobile's 100-to-1 churn reduction between single-service and four-plus-service users was not achieved by building a better network. It was achieved by making the mobile relationship part of something the customer is embedded in, a commercial identity, a points balance, a payment relationship and a shopping history. The distinction between satisfaction and loyalty, in a market where switching costs are near zero, is the difference between a customer who has no current complaint and a customer who values the relationship beyond the immediate service. Rakuten has demonstrated, at scale and in audited results, that connectivity can be the anchor of the latter.

The mechanics are generic, not Rakuten-specific. Any operator that establishes a single customer identity spanning multiple services, a shared currency that moves value across all of them and behavioral data from each interaction that makes the next one more relevant, can generate a structurally similar compounding dynamic. The input variables change. The output logic does not.

# V. The Effect of AI

The concern that AI agents will disintermediate platform operators is legitimate for operators without industrialized operational data assets. For operators with modern data driven operation, the evidence points in the opposite direction.

AI agents are bounded by two constraints: the quality of the data they reason over, and the breadth of actions they can complete end-to-end.

A generic agent reasoning over behavioral data sees inferred preferences, all within regulated privacy and customer respect boundaries. An ecosystem agent reasoning over actual purchase history, payment behavior, subscription patterns and redemption activity sees deterministic preferences: what was bought, how often and in combination with what other services.

## For Rakuten Ecosystem, AI is Not a Threat, but an Opportunity to Create Even Greater Value

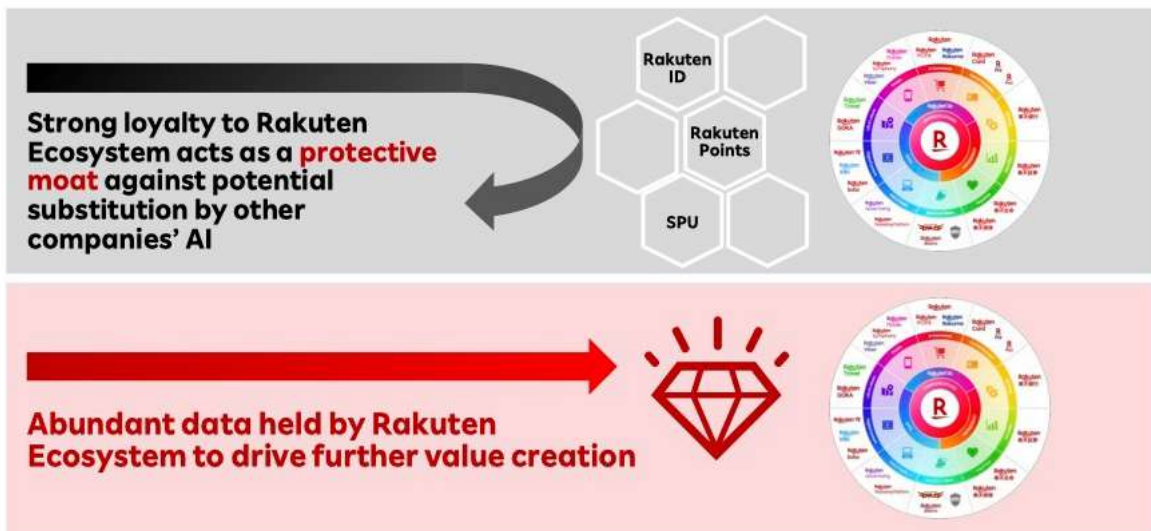


Figure 12 (AI Opportunity):  
First-party data from the ecosystem provides AI with deterministic context, creating a protective moat against generic AI agents.

## Why Customers Choose Rakuten, and How AI Compounds That Advantage

- AI accelerates our growth flywheel and builds durable differentiation through data

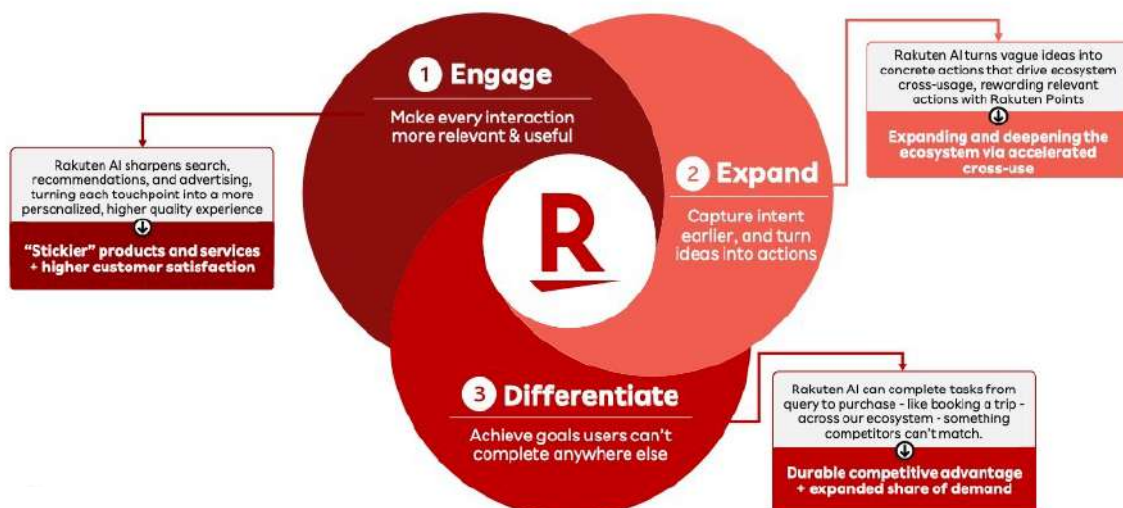


Figure 13 (AI Compounds Advantage):  
AI accelerates the ecosystem flywheel by converting massive behavioral data into hyper-personalized user actions.

AI strengthens the model for an operator that already holds an industrialized first-party data asset. It does not create the advantage; it amplifies one that already exists.

AI-driven optimization of the Rakuten Promotion Platform delivered a 10.9% increase in RPP advertising revenue and a 13.8% increase in marketplace GMS for participating merchants<sup>5</sup> (Rakuten Group Q1 FY2026 Financial Results, May 14, 2026)<sup>[13]</sup>. The AI model did not create the underlying advantage. It amplified what the data asset already represented: Three trillion annual user interactions, 45.9 million MAUs, and

deterministic first-party purchase behavior that third-party models cannot replicate.

Rakuten’s data position as of Q1 FY2026: 45.9 million MAUs, 70+ services under a common ID, 3 trillion annual user interactions (Rakuten Group Q1 FY2026 Financial Results, May 14, 2026)<sup>[13]</sup>. As of Q1 FY2026: 11 AI agents live across the Rakuten Ecosystem, eight in near-term deployment pipeline, 50+ services planned. Since April 2026, the full hotel search-to-booking flow is completable in conversation with Rakuten AI (Rakuten Group Q1 FY2026 Financial Results, May 14, 2026)<sup>[13]</sup>.

## AI Agents: Strong Execution Momentum

### ■ Steady deployment of AI agents across Rakuten Ecosystem



Figure 14 (AI Agents):

The rapid deployment of 11 AI agents across the ecosystem demonstrates the operational agility of a unified platform.

So how would another operator recreate this? Not by training a bigger model. The defensible asset is upstream of the model: a unified customer identity, a consented and governed first-party data layer spanning every service, and integrated payments and fulfillment so an agent can actually transact rather than merely advise. An operator builds

toward it the same way it builds the ecosystem: start with the identity and currency that span services, capture and govern the behavioral data those services generate, then deploy agents on top of an asset competitors cannot assemble after the fact.

<sup>5</sup>Note: Comparison period: July 2024 to March 2025 vs. July 2025 to March 2026

## Rakuten Ecosystem + AI: Durable Competitive Advantage through Value-Creation

- Rakuten Ecosystem creates compounding value through Points, integrated payments, and cross-service personalization — advantages external AI agents cannot replicate
- Rakuten AI agents activate this ecosystem depth to deliver experiences no standalone agent can match

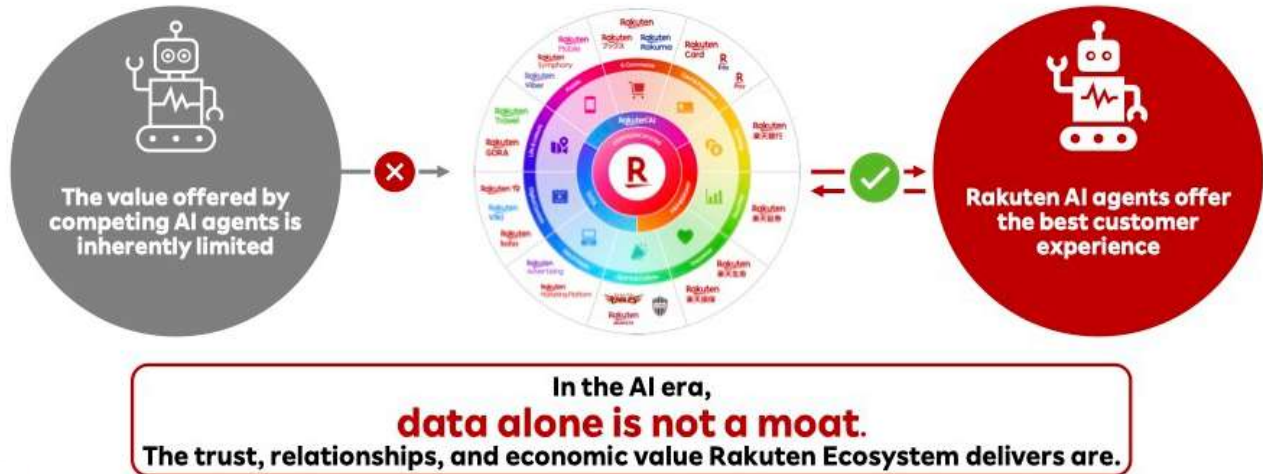


Figure 15 (Durable Competitive Advantage):  
Combining deep ecosystem integration with AI creates end-to-end customer experiences that standalone AI models cannot replicate.

## VI. The Non-Human Market: Real Opportunity, Different Rules

Everything to this point has concerned the first and easier route to growth: extracting far more value from the human customer base an operator already owns. The second route, building genuinely new businesses serving new non-human customers, is real, but it is hard and it is important to be clear-eyed about why.

The emerging category of non-human endpoints, for example autonomous robots, industrial machines, drones, IoT sensors, connected cameras and the broader infrastructure of physical AI, represents a genuinely new addressable market. It is, however, a fundamentally different market from consumer connectivity and treating it as a straightforward extension of the existing business is a structural error.

The market is fragmented by design. The performance requirements of a surgical robot

differ from those of an agricultural sensor array, which differ again from those of an autonomous vehicle fleet. Many of these use cases will be resolved by dedicated, purpose-built networks (e.g., private 5G, fixed wireless with guaranteed SLAs, environment-specific mesh deployments) rather than by adapting existing wide-area best-effort infrastructure. The existing wide-area network was engineered for human traffic: bursty, tolerant of latency variation and priced through mass-market consumer billing cycles. Non-human endpoints require deterministic performance, guaranteed uptime and commercial structures built around machine economics and service-level obligations that consumer mobile was never designed to carry.

This is exactly why the second route is harder than the first. The existing base is already won, already served by assets built for it, and already operating

at scale. The non-human market is none of those things: it requires new go-to-market capability, dedicated business units, specialist domain expertise, and in many cases, genuine re-engineering of underlying network performance. The SLA requirements of a real-time industrial control system or an autonomous drone fleet cannot be met by a best-effort mobile network without significant architectural change. These are not connectivity sales. They are managed service contracts with engineering obligations and SLAs attached.

The danger is not that the non-human opportunity is unattractive. It is that its novelty is seductive, and chasing it becomes a way to avoid the harder discipline of properly monetizing the customers already in the building. The industry has a structural habit of pursuing the new connectivity frontier, each successive G and each new vertical, while under-investing in the relationship economics of the base it already has. The non-human market

does not change the core argument of this report; it sits alongside it. For most operators, the first and most urgent value lies in the customers they already serve, not in the machines they do not yet.

For operators on the platform path, non-human segments can instead be incorporated into the platform model with specialist providers building IoT, robotics, or physical-AI connectivity offerings on top of the operator's infrastructure, accessing guaranteed network performance SLAs, deterministic latency, and the API layer that exposes network capabilities to application developers and segment operators, as described in the platform path above.

## VII. Conclusion

Airlines increasingly make the vast amount of their profit from the loyalty and financial-services ecosystem built around flying. In Q1 FY2026, Rakuten Mobile posted its first operating profit in any Q1 since entering the MNO business, not because mobile connectivity became more profitable, but because subscribers were participants in an ecosystem generating 13.5x the revenue of a single-service customer at 1/100th the churn rate (Rakuten Group Q1 FY2026 Financial Results, May 14, 2026)<sup>[13]</sup>.

The data is consistent across both industries. **The metrics currently used in telecom are misaligned with the market they are being applied to.** The business model that optimizes ARPU in a saturated market is the one most exposed to CAC-exceeding-LTV destruction. Operators that reframe connectivity as the acquisition layer for a broader relationship (built, partnered, or platform-enabled), will produce materially different unit economics over a five-year horizon than those

that continue to optimize the current metrics in a market those metrics were not designed for.

The business model decision is the most consequential one any operator will make and the one most deserving of rigorous, informed analysis. Every technology choice should come after: network architecture, spectrum investment, platform engineering and AI deployment. These are expressions of the chosen model, not inputs to it. The industry's habit of leading with technology and expecting the business model to follow has produced exactly the position this paper describes.

**The operator's chosen business model is the most consequential choice to be made.** The sequence matters. Business first, technology second.

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