

FROM MOBILE BANKING TO SUPER-APPS: INTEGRATING PAYMENTS, TRADING, AND WEALTH MANAGEMENT

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ABSTRACT	KEYWORDS
<p>Background: In the past ten years, leading mobile banking apps have grown far beyond basic deposits and payments. They offer services such as stock trading, robo-advisory, and packaged investment products by changing into “super-apps.” This makes banking easier for users and opens new opportunities for providers, but it’s noteworthy to mention that, it also raises concerns about market power, consumer protection and regulation bis.orgbis.org. Payment improvement (wallet penetration, APIs, instant/fast payment rails,) has made it easier for companies and different financial services to connect. Open-banking and open-finance frameworks have expanded to allow data sharing across not just payment accounts, but also investments, saving and pensions finance.ec.europa.eufinance.ec.europa.eu. At the same time, conduct rules like the UK’s Consumer Duty are making financial institutions prioritize visible benefits for customers and ensure the responsible promotion of investment products within multi-functional digital platforms. Commercially, bundling creates cross-sell flywheels (payments → investing/savings → credit/insurance) and diversified fee streams, while technically it demands microservices, consolidated identity/KYC, and product-specific safekeeping and disclosures (e.g., deposit insurance vs SIPC). Last research on “big techs in finance” suggests scale economies in data and distribution can lower access costs meanwhile it makes market power more concentrated and complicate oversight bis.orgbis.org.</p> <p>Objective: To explore how digital banks integrate payments, trading, and management; identify top technical, licensing, and business model trends; and capture policy and managerial implications.</p> <p>Methods: We did a multi-case comparative analysis (Jan 2023–Sep 2025) using public filings, regulator guidance, company press/help centers, as well as trusted news sources across the EU/UK, the Americas, and the Asia–Pacific region. Data focused on five key areas: (1) access to payment rails; (2) trading options, including cash equities, ETFs, crypto, commodities; (3) wealth management products such as robo, mutual funds/money-market funds, ISAs/SIPPs; (4) licensing structure and ring-fencing; and (5) consumer-protection controls. We analyzed the evidence through a capability-based framework often used in digital-adoption research by providing data infrastructure, algorithmic capability, human capital, process.</p>	

Results: We single out three main pathways through which digital banks combine their services: payments-first (e.g., Cash App, Alipay/GCash, M-Pesa), bank-first (e.g., N26, Monzo, Revolut), and platform-first (e.g., WeChat, Kakao via KakaoBank/Kakao Pay). Across these cases, several common patterns include separate regulated subsidiaries for brokerage and e-money, micro-frontend architectures, shared KYC/AML stacks and product-specific disclosures (FDIC vs SIPC insurance). Income sources change across models by combining interchange and net interest income with subscription fees, order-flow or execution economics, and asset-based fees.

Conclusions: Super-app bundling can improve access and engagement but increases concentration, conduct, and operational-risk externalities. Activity-based, technology-aware oversight (e.g. open-finance data rights, modular payment-services licensing; conduct regimes like the UK Consumer Duty) and transparent subsidiary structures are essential to balance innovation safe.

Introduction

Mobile banking has advanced from simple account and card controls into financial platforms with multiple products. A lot of digital banks (mobile wallets) now provide stock/ETF trading, robo-advice, cryptocurrency, money-market and investment funds, and even tax-beneficial retirement accounts, all in one. The policy and risks are reflected in previous research on “big techs in finance”: costs can be reduced and inclusion expanded through scale economies and distribution, they can also concentrate market power and create complex prudential and conduct risks (bis.org/bis.org). Upgrading payment systems (e.g. widespread mobile wallets, and interoperable APIs, instant payment rails) has provided the foundation for this combination, while open banking programs expand the data available beyond payments accounts to include investments, savings, and pensions (finance.ec.europa.eu/finance.ec.europa.eu). At the same time, stronger conduct frameworks such as the UK’s Consumer Duty and similar conduct frameworks have introduced outcome-based rules guiding how investment products are marketed and cross-sold in apps with multi-feature (e.g. guidelines on “finfluencer” promotions under the Consumer Duty).

Commercially, the appeal of combination lies in creating cross-sell flywheels, (e.g. using high-frequency payment engagement to drive adoption of investing and savings features) which in turn generate data and loyalty can support credit or insurance offers. This approach helps vary revenue: interchange and payment fees establish the initial user relationship, while newer services generate trading commissions (or payment-for-order-flow revenue in commission-free models), foreign exchange spreads, premium subscriptions, and asset-based management fees. Technically, delivering a super-app requires flexible architectures, often microservice or mini-app based, a unified system for user identity and onboarding, and careful segregation of funds and disclosures (it’s noteworthy to mention that assets are FDIC-insured deposits versus SIPC-protected securities within one app). We show these dynamics through representative cases spanning bank-led, payments-led, and platform-led strategies across regions.

Methods

Design and scope: We examined a multi-case comparative analysis of digital banks and related payment platforms that have integrated both trading and some form of wealth management within their consumer

apps. The study covered the period from January 2023 to September 2025, allowing us to capture recent product developments and changes in regulations.

Sources and eligibility: Our analysis primarily relied on 3 categories of sources:

1. **Official regulator documents/guidance** (e.g., BIS and IMF analyses of big-tech finance, EU open-finance proposals, Singapore's Payment Services Act, UK FCA Consumer Duty guidance);
2. **Company communications, investor presentations, and help center disclosures;**
3. **Reputable newswires** for important events and user metrics, such as reports from Reuters, Financial Times, etc. Examples of policy sources include BIS reports on platform finance and concentration risks, IMF fintech notes, the European Commission's Financial Data Access (FiDA) proposal for open finance, the Monetary Authority of Singapore's Payment Services Act guidelines, and the UK FCA's statements on the Consumer Duty and financial promotions.

To be included in the sample, platforms were required to **(a)** operate a mass-market mobile app with active payments functionality, and **(b)** offer at least one trading modality (e.g., stocks/ETFs, crypto, commodities) and at least one wealth or savings feature (e.g., money-market fund access, mutual funds, robo-advisor, or tax-advantaged savings product) as documented in official materials.

Data extraction and coding:

For each case, we collected information on app functionalities, trading and wealth product modalities, the platform's legal and licensing structure (bank vs e-money issuer vs broker-dealer, etc.), custody and safekeeping arrangements (e.g., FDIC-insured deposits vs SIPC-covered securities accounts), and any notable consumer-protection or disclosure measures. We coded technical integration patterns (such as use of APIs or partner "mini-apps," shared KYC and login flows) and commercial strategies (pricing models, freemium tiers, subscription plans, revenue mix) as well as regulatory perimeter factors (licenses held, pending, or workarounds like partnerships). We adapted a capability-based framework from digital adoption research by examining data infrastructure, algorithmic capabilities, human capital, and process integration in the context of integrating multiple financial product functions into a single app.

Limitations:

This study is exploratory and demonstrative (e.g., not PRISMA-based). Metrics such as monthly active users (MAUs) or assets under management are drawn from disparate sources with varying reporting standards and dates. Our selection of cases is selective rather than exhaustive; in particular, certain regions (e.g., Latin America) are not deeply covered, even though similar super-app trends (e.g., Nubank's expansion into investments) are emerging there. Information on internal architectures is based on public descriptions and may not capture proprietary details. Finally, regulatory status and product offerings can change rapidly, so any snapshot may be updated by new developments (e.g., license approvals or feature launches) beyond the review period.

Results

Integration Pathways

We identified three dominant pathways by which financial apps have evolved into multi-product super-apps, often reflecting the starting strength of the provider:

1. **Payments-first super-apps**

These are platforms that began primarily as mobile wallets or payment services expanding “up-market” into investing and wealth features.

Cash App (Block, US) is a typical example: it began as a P2P payment app and debit card, then added tax filing, stock trading with fractional shares (via its subsidiary Cash App Investing LLC, a FINRA-regulated broker-dealer), and Bitcoin buying/selling capabilities. Even teenage users via sponsored accounts, can access stocks and Bitcoin with guardian controls.

Alipay (Ant Group, China) similarly built wealth management onto a payments base, integrating the Yu’e Bao money-market fund through Tianhong Asset Management). During its most successful period it became the world’s largest retail MMF by number of investors (yicaiglobal.com). Yu’e Bao’s yields have since fluctuated to historic lows amid market changes (yicaiglobal.com), reflecting how such wallets can channel massive retail flows into investment products.

GCash (Philippines) started as a mobile wallet and now offers “GFunds,” an in-app mutual fund marketplace with products from multiple providers (ATRAM, BPI/ALFM, Manulife, etc.), with investment minimums as low as ₱50, encouraging wide adoption.

M-Pesa (Kenya and region) is another wallet that has added savings and micro-loans; especially, it enabled a mobile-based retail bond (M-Akiba) and a unit trust fund (“Mali”) accessible entirely via phone (yicaiglobal.com), leveraging its deep reach in an unbanked population.

2. **Bank-first super-apps** are digital banks or neobanks that began with checking/account services and later expanded to include trading and wealth management features. The goal of this expansion is increasing customer retention and broadening products per customer.

A bank called N26 (EU) introduced in-app stock and ETF trading in 2024. During promotional periods, the bank offered low or no fees (reuters.comreuters.com), and by the end of 2024 introduced “ready-made” investment fund portfolios.

Monzo (UK) similarly introduced Monzo Investments, offering a suite of 11 BlackRock-managed model portfolios and ETFs through integrations with custody/broker partners (FNZ/Seccl) (reuters.com). The bank is reportedly also exploring pension wrappers (e.g., SIPPs) as a next step, reflecting a strategy to retain customers’ savings and investments in-house.

Revolut (originally UK, now multi-region) shows the bank-first path: it started as a multi-currency digital account and prepaid card, then added commission-free stock/ETF trading, commodities and crypto trading, and most recently a robo-advisor. Revolut had to set up separate legal entities (e.g., Revolut Trading for brokerage) and navigate multiple regulators – it secured a Lithuanian banking license (passported in the EEA) and, after a long wait, obtained a UK banking license with restrictions in 2023-2024, alongside an FCA UK investment firm license in late 2024 (reuters.com). These moves allow Revolut to offer a fuller range of services under its own licenses rather than via third-party partnerships.

3. **Platform-first ecosystems** are tech platforms (often messaging or e-commerce super-apps) that host financial mini-apps or services within a broader ecosystem.

WeChat/Weixin (Tencent, China) serves as a leading example. **WeChat Pay** is integrated directly into the messaging app, while a vast **Mini Program ecosystem** allows third-party services by including wealth management, insurance, and lending to operate within WeChat's interface. This design effectively enables WeChat to function as a super-app "operating system" for a wide range of services without developing each one internally. Regulatory monitoring, on the other hand, makes sure that core financial functions remain legally under licensed entities (e.g., WeBank for banking, Ant Group for funds), which interact seamlessly with WeChat.

Kakao (South Korea) offers a similar ecosystem: KakaoTalk (messaging) serves as an entrance point to KakaoBank (a digital bank for deposits/loans) and Kakao Pay (which now includes Kakao Pay Securities for stock trading). Kakao Pay rapidly extended its investment services user base by offering seamless access to domestic and overseas stocks, with the company reporting a **+219% YoY growth in investment services revenue** in Q4 2024 after launching U.S. stock trading (t1.kakaocdn.net). This platform-first concept uses an existing captive audience from non-financial services and cross-promotes financial offerings.

Across these pathways, the convergence in offered features is quite notable by 2025, it is common for a single app in many markets to provide everyday payments, stock and crypto trading, and options to park money in funds or high-yield savings, blurring the line between what is a "bank" versus a "broker" or "wallet."

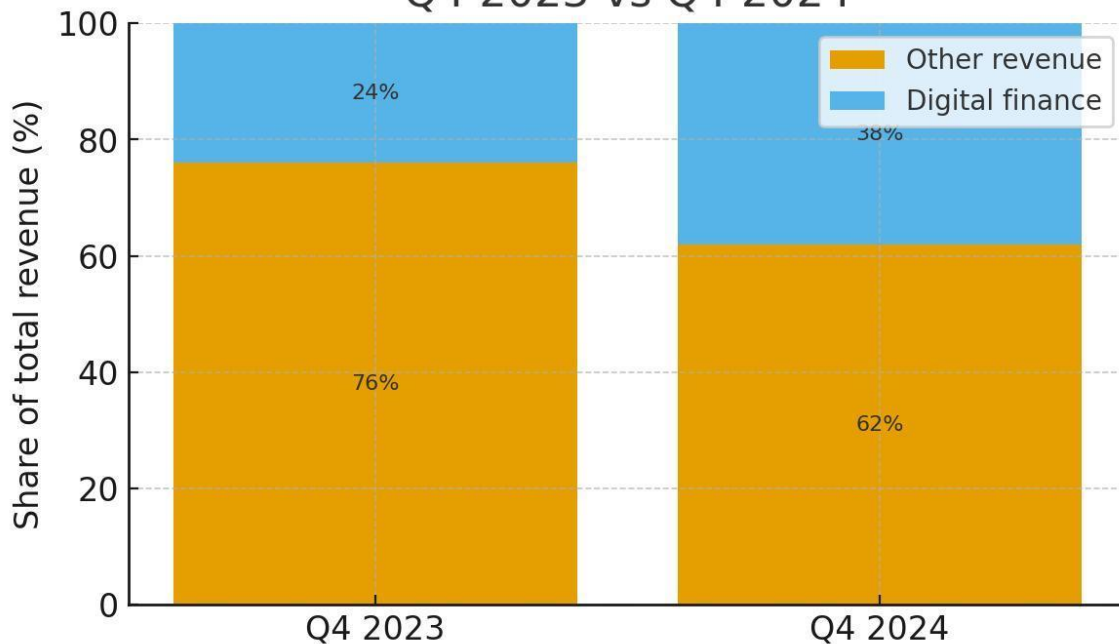
Common technical and licensing patterns: Despite different starting points, super-apps display several convergent design patterns. One such pattern is **ring-fencing via subsidiaries or partnerships**: firms often operate multiple regulated entities within a single app, each responsible for a segment (for example, Cash App has an SEC-registered broker-dealer subsidiary for stocks (paymentsdive.com), and partners with chartered banks for its debit accounts; Revolut has separate units for banking vs securities, etc.). This segmented approach, while adding complexity, is needed to comply with regulations in each domain and to limit contagion risk (e.g., a brokerage failure shouldn't sink the e-money side). Another pattern is the use of **APIs and micro-frontend architectures**, especially in platform-led models: WeChat and Kakao's mini-app frameworks allow new services (financial or otherwise) to be "plugged in" rapidly, developed by third parties or partners, without the core app needing a full rebuild for each feature. Many bank-led apps are similarly re-architecting into **modular microservices** and adopting **MACH principles** (Microservices, API-first, Cloud-native, Headless) to support faster integration of new offerings (plumery.com). A third pattern is **shared infrastructure for identity and compliance**: a user's verified identity and KYC status can be reused across all products in the app, allowing one-click activation of, say, a trading account for an existing payments user. This reduces onboarding friction and is a competitive advantage over standalone offerings. However, it also means if something goes wrong (e.g., a KYC failure or fraud incident), multiple services are affected – the **"blast radius"** of risk is larger, as noted by regulators analyzing platform conglomerates (bis.org/bis.org). Consequently, operational resilience and conduct risk management become especially critical in the super-app context.

Business-model levers: Super-apps generate revenue from a variety of sources, reflecting their multi-product nature. Payments still contribute via interchange fees, merchant transaction fees, and sometimes interest on float or deposits, especially for wallet providers that aren't banks and partner with banks to hold funds. As trading features are added, revenue models differ by region: in the US,

many apps offer commission-free stock trading and instead earn money via order flow payments or subscriptions (e.g., Cash App charges zero direct commissions on stocks, but can earn revenue from routing orders and its optional monthly subscription for advanced features (paymentsdive.com)). In **Europe**, where payment-for-order-flow arrangements are restricted, neobanks such as **N26** use explicit low commissions or freemium quotas—for instance, offering a number of free trades initially, then charging a small fee thereafter. (reuters.com). **Crypto trading** within these apps is typically a fee per transaction or a spread markup. **Wealth management services** bring in asset-based fees: for example, Revolut’s robo-advisor charges ~0.25% of assets under management (reuters.com), and GCash’s fund offerings carry management fees via the partnered fund providers. **Subscription models** also appear: some super-apps offer premium tiers, such as **Revolut’s “Metal” plan**, which provide benefits like higher trading limits, better FX rates, or additional services for a monthly fee, effectively bundling multiple advantages. The combination of revenue streams helps smooth income volatility, for example, if trading activity declines, payments or interest income may compensate, and vice versa.

Figure 1: Kakao Pay’s revenue by segment in Q4 2023 vs Q4 2024. After introducing robust investing services (overseas stock trading), “Digital Finance” revenue (which includes investment and insurance services) more than doubled and grew from ~24% of total revenue in Q4 2023 to ~38% in Q4 2024 (t1.kakaocdn.nett1.kakaocdn.net). This demonstrates how adding trading/wealth features can be significantly diversified a payments-led platform’s income, reducing reliance on core payment fees.

Kakao Pay Revenue by Segment
Q4 2023 vs Q4 2024



Illustrative case snapshots: To ground the comparison, **Table 1** summarizes key features and structures of select super-app examples studied:

App (Region)	Payments Core	Trading Offerings	Wealth/Savings Offerings	Licensing / Custody Notes
Cash App (US)	P2P transfers, debit card, tax filing	Stocks/ETFs (fractional trading), Bitcoin	Savings “Goals” (interest via partner banks)	Securities through Cash App Investing LLC (FINRA/SIPC); banking services via partner banks (with FDIC insurance).
Revolut (EU/UK/US)	Multi-currency accounts, P2P, cards	Stocks/ETFs, commodities, crypto	Robo-advisor portfolios, high-interest savings vaults	Brokerage via Revolut Trading (separate entity); EU banking license (Lithuania) and UK e-money license; obtained UK investment firm license in 2024 (reuters.com).
N26 (EU)	SEPA transfers, debit card	Stocks and ETFs (launched 2024)	“Ready-made” investment funds (portfolios)	Bank-led model (German banking license); partnered brokerage infrastructure for trading, with deposit protection on cash and investor compensation scheme on securities.
Monzo (UK)	Faster Payments, debit card	ETFs (11 BlackRock ETFs via integration)	Tax-wrapped accounts (Stocks & Shares ISA; exploring pensions)	Not a self-licensed broker – uses third-party (FNZ/Seccl) for execution and custody; clear in-app labeling of partner and FSCS protections.
Alipay (China)	Wallet (QR payments, bills), e-commerce payments	— (No direct stock trading; focus on funds and loans)	Yu’e Bao money-market fund; various wealth products via Ant’s platform	Yu’e Bao fund assets held by Tianhong AM; subject to Chinese mutual fund regs. Customer assets moved off balance sheet of Alipay into fund.
Gcash (Philippines)	Wallet (P2P, bills, QR merchant pay)	— (Primarily fund products, no stock trading)	GFunds marketplace (mutual funds/feeder funds), savings accounts via partners (GSave)	GCash is an e-money issuer (not a bank); funds are offered in partnership with licensed fund managers; customer cash covered by partner banks’ deposit insurance.
M-Pesa (Kenya)	Mobile money (P2P, merchant pay)	— (No stocks; some micro-investment via bonds)	“Mali” unit trust fund; M-Akiba government bonds (via mobile)	E-money service under telecom (Safaricom) regs; investments offered via partnerships (licensed capital markets intermediaries), with unique mobile-centric regulatory support (e.g., special govt bond program).
KakaoPay & KakaoBank (S. Korea)	Wallet (KakaoPay: online/offline pay via KakaoTalk); Digital bank (KakaoBank)	Domestic and overseas stocks (Kakao Pay Securities)	Fund distribution, micro-investments; KakaoBank offers savings, loans	Separate subsidiaries: Kakao Pay Securities (brokerage) licensed for stock trading, KakaoBank licensed for banking. Common login via Kakao platform; user assets protected under respective schemas (investor protection fund for securities, deposit insurance for bank deposits).

Table 1: Selected super-app models and features across regions (not exhaustive). These examples highlight the mix-and-match nature of services and the regulatory patchwork under the unified user interface.

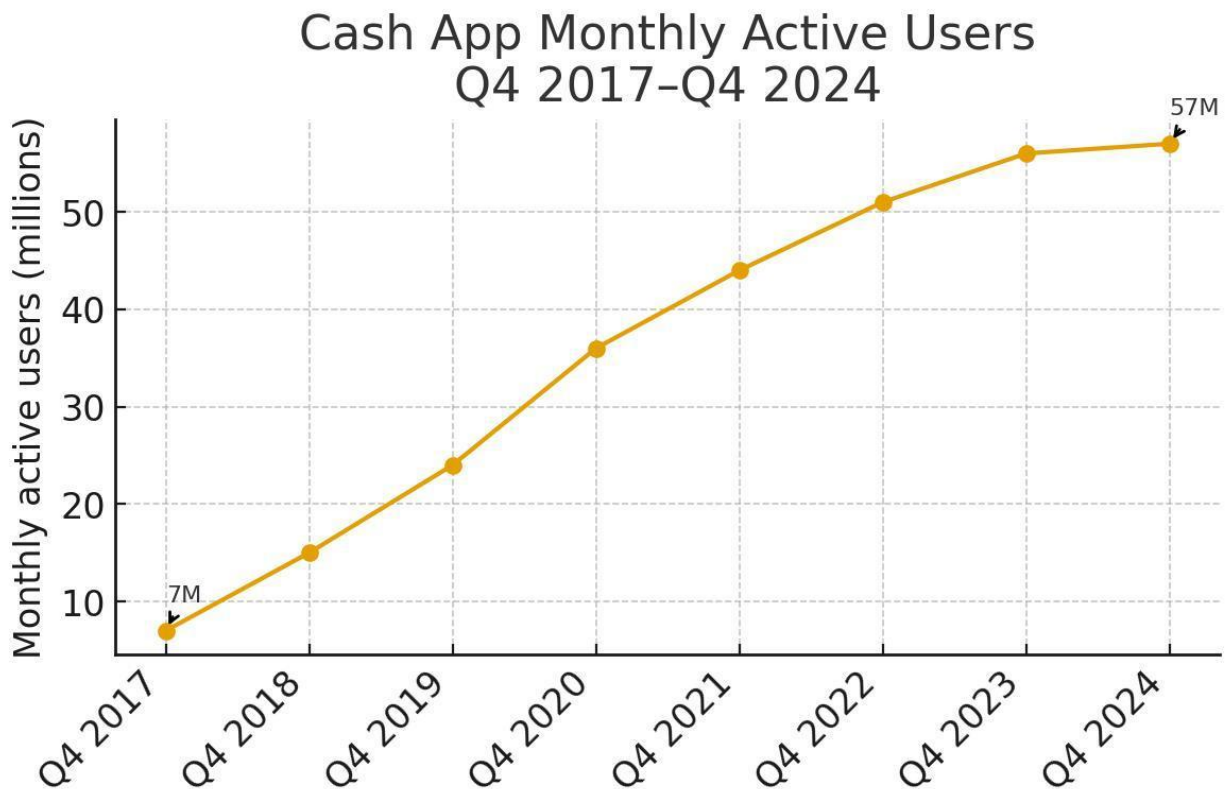
Discussion

Principal Findings

Across diverse regions, the transition from single-purpose mobile banking or wallet apps to multi-product super-apps is well underway. We identified three primary integration pathways – starting

either from payments, from digital banking, or from general platforms – yet these paths are leading to a convergent outcome: apps that bundle payments, trading, and wealth management within one ecosystem. A payments-first wallet like Cash App or GCash leverages a large active user base from money transfers to upsell investing features, whereas bank-first players like N26 or Monzo add new services to protect and deepen their share of customer finances. Platform-centric models like **WeChat** and **Kakao**, integrate financial services into existing social or commerce platforms, using a hub-and-spoke design in which the platform serves as the hub and financial mini-apps function as the spokes. Crucially, super-apps achieve **scale and engagement levels** that were unachievable for stand-alone financial offerings, regardless of the starting point. The one-stop-shop’s ease of use tends to increase user activity and retention within the app’s ecosystem. For example, Cash App, began as a simple P2P payment app, expanded into stock trading and Bitcoin sales, growing from just 7 million monthly active users in 2017 to 57 million by 2024 (Figure 2) (paymentsdive.com). This example of how adding several financial services can rapidly increase user growth and engagement echoes the data-network-activities feedback loop described in big tech platforms (bis.orgbis.org). However, our results show that without continued innovation or active user acquisition, such growth may plateau. In the case of Cash App, user numbers steadied in 2023–2024 as the firm turned its attention to monetizing current customers (paymentsdive.com). This demonstrates that although super-app bundling increases user engagement, maintaining user growth is an ongoing challenge once a market matures.

Figure 2: Between Q4 2017 and Q4 2024, Cash App’s Monthly Active Users (MAUs) increased from approximately 7 million to approximately 57 million. This quick growth followed the expansion of Cash App’s functionality from payments into stock trading, Bitcoin, and other financial services. (Data source: Block, Inc. disclosures (paymentsdive.com)).



Another key finding is the **widespread adoption of technical and compliance solutions** by super-apps worldwide. The use of **modular architectures** allows these apps to introduce new products relatively quickly – for instance, by integrating a third-party brokerage service via APIs or embedding a partner’s interface within their app (a strategy especially common in Asia’s mini-app ecosystems). Moreover, all studied super-apps face the challenge of managing multiple regulatory perimeters (banking, securities, payments, etc.) and universally solve this through some form of ring-fenced licensing: either by obtaining multiple licenses (like Revolut securing banking and brokerage licenses in different jurisdictions [reuters.com](https://www.reuters.com)) or by partnering with licensed institutions (like GCash partnering with banks and fund managers rather than becoming a bank itself ([kapronasia.com](https://www.kapronasia.com))). This pattern indicates a recognition that attempting to do everything under one legal entity is infeasible under current regulatory structures – specialization and segregation are necessary to ensure compliance and to protect consumers (e.g., keeping securities assets under a broker-dealer entity that provides SIPC insurance, separate from e-money accounts). Finally, we found that **revenue diversification is a tangible outcome** of integration: payments-first apps that added investing are now deriving a substantial share of income from those new services. In Kakao’s case, within one year of adding extensive investment features, nearly 40% of its quarterly revenue came from the “digital finance” segment (investment/insurance) (t1.kakaocdn.net), whereas previously the bulk was from payments. This not only validates the business rationale (new services can significantly boost revenues), but also points to evolving risk profiles as these companies become less like pure payment providers and more like diversified financial institutions.

Relation to Prior Work

Our analysis reinforces and extends themes from the growing literature on fintech platforms and “big tech” in finance. Prior work by Doerr et al. (2023) and others at the BIS highlighted how large technology firms use a self-reinforcing cycle of data, network effects, and activities—the so-called DNA loop—to rapidly achieve scale in financial services ([bis.org](https://www.bis.org/bis.org)). We find that digital finance super-apps leverage a similar dynamic: through integration of various services, they are able to collect more varied data on users’ behavior (payments data, investment behavior, etc.), which allows better personalization or cross-selling, drawing in more users and usage—a positive feedback loop very much in line with the DNA model. Our multi-case evidence concretely illustrates this loop, where, for example, a payment app adding investments would suddenly gain data on the investment behavior, which can feed into credit scoring models or targeted offers, thereby improving the next service—say, lending—and so on.

This trajectory of super-apps across regions also aligns with theoretical predictions about economies of scope in platforms. As noted in prior studies, once a platform has an active user base, the marginal cost of offering an additional service to those users is low—especially if it can be delivered digitally—and the marginal revenue potentially high, since the trust and convenience factors are already established. This was seen historically with big tech firms moving into payments and lending ([bis.org](https://www.bis.org/bis.org)); we now see digital banks and wallets moving into adjacent services similarly. Our findings echo concerns raised in policy research that such expansion can blur sectoral boundaries—for instance, a company like Ant Group (Alipay) or Revolut can at once resemble a bank, a broker, and a tech platform, complicating the application of traditional regulatory categories

(reuters.com/reuters.com). Evidence of how companies structure subsidiaries and partner with incumbents provides practical examples to complement the bigger policy discussion—for instance, IMF fintech notes call for activity-based regulation. We contribute to the growing body of work by underlining regional differences: much of the early literature focused on China's techfins or Big Tech in the US, while our cases include mid-sized markets where telecom-led or wallet-led models have driven financial inclusion. We show that while core principles hold—data and network effects drive the process of expansion—regulatory and competitive contexts, such as telco-led finance in Africa or conglomerate platforms in Korea, may lead to different integration strategies.

One of the areas in which our work differs from or extends earlier work is in its documentation of the internal technical architecture approaches—that is, approaches like the use of micro frontend "mini apps" and shared KYC, which are rarely detailed in academic literature, yet essential to gain an understanding of how such integration is operationalized. By applying a capability lens, we surface the role of IT architecture and human capital as essential enablers of the super-app model—areas rarely discussed in the more economics or business-model centric discussions of earlier studies.

Strengths and Limitations

A strength of this study is the multi-region, cross-case perspective that allows the identification of recurring "design patterns" in digital finance integration. Comparing wallet-led cases (Asia, Africa) with neobank cases (Europe, US) and platform cases (China, Korea) highlights commonalities and outliers. For instance, the ring-fencing strategy appears to be close to universal; however, approaches to monetization differ according to the regulatory context, such as free trading in the US and paid trading in Europe, among others. We also drew on a wide range of source types—from regulatory reports to company blogs—which provided both factual grounding, such as licensed entity details and user numbers, and insights into the strategic intentions of the firms and regulators involved.

However, there are several important limitations. First, our data are largely from public disclosures and reports, which may omit critical nuances or issues that are not reported. For example, we rely on reported user numbers and revenue splits, but these might be selective disclosures; companies tend to highlight their successes, not failures. There could be cases of integration attempts that quietly shut down due to low uptakes or high risks that we might miss due to a lack of public documentation. Second, the time-bounded nature of the study implies that the snapshot that we capture can change rather quickly—for example, by late 2025 or 2026, some super-apps may have further merged via M&A or altered course—for example, GCash considering a banking license, though as of mid-2025 they remained hesitant (kapronasia.com). Third, we did not quantitatively analyze consumer outcomes—such as whether everything in one app creates better financial health or more risk for users—that was outside our scope but is a crucial question left open. Last but not least, while we included a wide variety of markets in our study, our choice was not exhaustive; notable developments in Latin America—for example, Brazilian and Mexican fintech super-apps—or the Middle East were not included in great detail and may be studied in the future to see if these same patterns hold.

Implications for Practice

Implications include the following for industry practitioners, whether fintech entrepreneurs, incumbent banks, or managers of tech platforms:

- **Design and Architecture:** The key takeaway is that, when building a financial super-app, one would want to err toward loosely coupled, modular architectures. The ability to plug in new services-whether via APIs or integrations of mini-apps-is a competitive differentiator, as evidenced by the rapid build-out of offerings within apps such as WeChat and Kakao. Banks or fin-techs aspiring to super-app status should invest in microservice-based designs and possibly containerized "micro frontends" that allow different product teams (or partners) to develop features independently. This level of agility can be decisive when responding to fast-moving opportunities that range from surges in crypto interest to the ability to add a new government bond product to the app. At the same time, a modular design helps with risk isolation: if one module-say, a crypto trading engine-has an issue, it can theoretically be shut off or quarantined without taking down the whole app. Super-apps are financial conglomerates within one platform, so internal IT governance and fail safes become as important as traditional risk controls.
- **Licensing and Entity Strategy:** Firms should have a clear plan in regard to licensing and entity structure when extending services. From the case studies, the most successful super-apps are very mindful of the regulatory boundary-Revolut, for example, waited for years to get proper banking and trading licenses and in the meantime used interim solutions: partner banks and intermediary brokerages reuters.com. GCash opted not to become a bank, citing the drag of compliance overhead on its agile model, (kapronasia.com, instead partnering with banks for deposits. Both approaches can work, but each has trade-offs. Owning a bank license gives more control (and perhaps profit from lending) but brings heavy regulatory obligations; staying license-light preserves flexibility but may limit product depth or entail sharing revenue with partners. The key is to preserve transparent boundaries in-app for the user: it should be clear to users which in-app product is a bank product versus which is a securities product, and what kind of protection applies. Super-app providers can take a cue from how some apps use separate branding or disclaimers within the app; for example, Cash App's interface includes "Your investments are held by [BrokerageCo], member SIPC, not covered by bank deposit insurance." (paymentsdive.com). Also, practitioners should be proactive in reaching out to regulators as they innovate; such early dialogue might smooth the path to getting sandbox approvals or variations of permission for launching new features.
- **Commercial Strategy & Customer Value:** Building a super-app is not about adding services, but the orchestration of those to maximize lifetime value and customer satisfaction. Payments are often top-of-funnel - a free or low-margin service that brings users in. Converting a fraction of users to investing or wealth can drive significant revenue per user uplift - as seen by the revenue mix shifts for Kakao and others (t1.kakaocdn.net). However, practitioners should be careful around user experience and suitability: bundling needs to be done in a customer-centric way. It's easy to go wrong: simply pushing high-fee products will backfire under conduct rules. Instead, many successful super-apps use education, gamified engagement (e.g., teaching first-time investors with quizzes or giving easy portfolio options) and tiered offerings to gradually deepen usage. Premium subscription tiers power-user monetization that can be used to offer higher trading limits or personalized advice while basic services are free for the mass market. Moreover, cross-sell flow should feel natural: for instance, if a customer's balance grows, it would be offering a money-market fund, or if they frequently use the app abroad, highlighting stock trading in international companies, etc. The data on record may instruct

these personalized nudges, but firms must avoid overstepping into a realm of being "pushy," lest they attract regulatory scrutiny for mis-selling.

- **Risk Management and Controls:** Operating several financial services in one app amplifies a number of risks, demanding enhanced controls. Operational resilience is key, an outage or cyberattack can now paralyze not one but several financial functions for the customer. Firms should invest in robust cybersecurity, redundancy, and incident response plans that account for the interdependencies of a super-app, for example, if the identity system is compromised, how to make sure trading or payments can't be misused in cascading fashion. Conduct risk is another area of focus – super-apps need to make sure promotions and communications across all products meet the highest standards of clarity and fairness. The UK's Consumer Duty, for example, would suggest that if a super-app shows an in-app ad or a push notification for some investment product, it should be as clear and appropriate as if some financial advisor was recommending (fscm.co). Some firms have put in place "financial wellness" or ethics teams to review multi-product marketing content. Meanwhile, training up customer support and chatbots to answer a wider range of queries – from "Why did my card payment fail?" to "Explain this stock order issue" is important to maintaining trust. Another very practical implication is the need for joined-up analytics for fraud and AML – criminals might look to exploit the gaps between services, such as moving money from a bank module to a crypto module to evade detection. Shared KYC data across the app is a strength but only if joined up with integrated monitoring that can see the whole picture. In short, practitioners should build a compliance-by-design culture in which every new feature is vetted not only for technical soundness but also for regulatory and customer impact before launch.

Implications for Policy

With financial super-apps, regulators and policymakers will face a challenge that few conventional, siloed regulatory approaches are designed to handle. Our findings point toward several implications for how policy frameworks might evolve:

- **Activity-Based and Modular Regulation:** This is an area where regulators should continue to move toward an "activity-based" approach-often phrased as "same activity, same risk, same rules." Instead of regulating by entity type-bank vs. broker vs. fintech-rules need to consider the actual services being provided within a super-app. The model could be **Singapore's Payment Services Act (2019)**, which introduced a modular licensing regime. A single firm can be licensed for various activities-such as e-money issuance, money transfer, and merchant acquisition-all under one roof, with calibration according to scale and risk of each service (pwc.com). This sort of regime would provide clarity for super-apps and ensure that, for instance, if a wallet begins offering a fund product, it either fits within an existing licensing category or a new module can be added, rather than trying to fit the square peg into a round hole. Modular regulation also aids in risk-tiering-as seen in Singapore's system of Major versus Standard payment institutions based on volume thresholds (pwc.com) -which can contain the impact of a failure of a smaller operation inside a super-app. Other jurisdictions might consider similar flexible licensing arrangements, perhaps through unified "financial super-app charters" or expanded fintech charters that cover multi-line activities while enforcing safeguards in each.

- **Data Access and Portability (Open Finance):** The speed of service integration in super-apps is enabled by data-sharing, often within the app. To counter anti-competitive lock-in and to foster more

innovation, regulators could provide mechanisms that allow this data to be portable and accessible, with consent, to third parties. A new European Union initiative like the proposed Framework for Financial Data Access, FiDA, extends the principles of open banking to a wider set of financial data (finance.ec.europa.eu/finance). If a customer can easily port their transaction history, investment portfolio data, and other financial information from one super-app to an alternative provider, it reduces the chances of one platform fully "owning" the customer and then abusing that position. Policymakers should ensure that open APIs and standards extend not just to banks but also to fintech super-apps, and that customers have transparency and control over how their data is used within these apps. This also means vigilance about risks linked to the concentration of data – a super-app with multifaceted data on users creates privacy risks and could be an attractive target for cyberattacks; regulations such as the General Data Protection Regulation in Europe, or data localization laws in various countries, have to evolve to address composite platforms. Clear consent management, and perhaps even personal data vault concepts, may be necessary to give people granular control, which might mean wanting my spending data used to recommend a new savings account but not wanting that same data to underwrite credit without my knowing it.

- **Conduct and Consumer Protection:** Super-apps challenge the traditional consumer protection frameworks which are often sector-specific. Regulators may need to issue cross-cutting conduct guidelines that apply to multi-product platforms. The UK's Consumer Duty is an example of a broad principle ("act to deliver good outcomes for retail customers") that applies regardless of product silo and has been used to scrutinize how fintech apps design and sell products (globalrelay.com/fscom.co). Regulators in other jurisdictions might adopt similar broad conduct standards to cover areas like clear disclosures in app, fair presentation of risks (for investment products being sold alongside banking products), and appropriate use of behavioral techniques (ensuring that gamification doesn't cross into exploitation of consumers). Moreover, because super-apps often rely on a complex chain of entities (partners, subsidiaries), regulators should insist on transparent liability frameworks – customers need to know who to turn to when something goes wrong. If a trading feature in a banking app misfires, the customer shouldn't fall into a "responsibility crack" between a bank and a brokerage entity. Some regulators have started requiring firms to produce consumer-facing "single view" statements of protection – for example, an app might be mandated to show in one place the coverage of deposit insurance, investor compensation scheme, e-money safeguard, etc., for the various assets a customer holds in the app. This helps educate consumers and also forces firms to continuously clarify their own structure.

- **Competition and Market Structure:** Competition and Market Structure: The fact that in each market, only a few dominant super-apps exist (and are likely to persist) raises concentration risk, and possibly systemic importance outside the traditional banking arena. Regulators and competition authorities should monitor key indicators, such as the market share of payments flow, assets under management in approved funds, or even shares of retail trades executed via those platforms. Should one super-app intermediate a large portion of a country's financial transactions, it may need oversight similar to important financial market utilities. Competition policy may also be required to prevent anti-competitive practices—for example, a superapp favoring its own products and blocking the services of competitors. A risk to this effect arises if one platform has control over the customer interface. Mandating interoperability may be a remedy: allowing payments interoperability (the capability for

wallet-to-wallet transactions across platforms), much like data interoperability (open finance, as discussed), keeps competition open. In more extreme cases, authorities might consider structural limits, as China did when it instructed Ant Group in 2020 to hive off some businesses. Although such measures are radical, the principle should be that financial stability and fair competition must not be compromised by the rise of super-app conglomerates.

In a nutshell, it is recommended that policymakers develop updated regulatory toolkits to keep pace with fintech innovations by updating licensing categories, enabling close cross-sector oversight coordination, and being technologically aware—for example, the capacity to audit algorithms powering robo-advisors or credit decisions in apps. This will strike a balance in which innovation in the delivery of financial services is not constrained, while the public is protected and markets are kept competitive.

Future Work

Our work opens several avenues for future research. A systematically quantitative study could track customer outcomes and market dynamics as the super-apps further integrate: for example, do users of super-apps show better financial behaviors (such as savings) or do they take on more speculative investments because of ease of access? Rigorous analysis could exploit anonymized supervisory data or large-scale surveys to assess the impact on financial inclusion—are users previously unbanked now investing small sums via super-apps? - and on consumer protection metrics such as complaints and cases of misselling, among others. Another area for future work is the competitive effects on incumbent financial institutions—over time, do banks that have to compete with super-apps end up partnering—as has been seen with some banks powering wallet accounts—or do they lose significant market share? Also from a technology perspective, future studies could go into the operational resilience of the super-apps: comparing outage frequencies, cyber security incident rates, or recovery times between super-apps and traditional institutions would provide insight into whether the integrated model introduces single points of failure or whether modern cloud-based architectures mitigate this issue. Finally, longitudinal studies following specific markets as open-finance regulations kick in, such as the EU's FiDA expected implementation in coming years, would be useful—these could observe whether increased data portability leads to a new wave of innovation or entry challenging the current super-apps or, on the contrary, whether incumbents leverage it to entrench themselves. Given the fast evolution in this space, an iterative approach to such research—revisiting these cases every 1-2 years with new data—could be helpful to capture the trajectory and adjust policy recommendations accordingly.

Conclusions

Digital banks, wallets, and tech platforms are converging to a super-app model that bundles payments, trading, and wealth management behind a single login and user experience. The "winning recipes" observed are those that are **modular and trust-centric**: successful super-apps use modular technical architectures and carefully segregated legal entities to add services quickly while managing risk, and they invest heavily in user trust through clear disclosures (e.g., what's insured and what's not) and accessible education. This approach can democratize access to financial services—a customer with only a smartphone can, in one app, pay a friend, buy stocks, stash money in a fund, and more. That is a powerful tool for inclusion and engagement, evidenced by hundreds of millions of users now on these

platforms worldwide. At the same time, the rise of super-apps amplifies **new kinds of risks**: concentration of data and market power in a few platforms, potential conflicts of interest in how products are recommended, and operational dependencies where a single outage could disrupt multiple financial services at once. Regulators are beginning to adopt by adopting activity-based, technology-aware oversight. For instance, frameworks like the EU's open finance proposal and Singapore's modular licensing, or broad conduct requirements like the UK Consumer Duty, directly address the blended nature of these businesses (finance.ec.europa.eu/pwc.com). The next phase of this sector's evolution will hinge on maintaining a balance between innovation and safeguards. Super-app providers will need to prove that they can deliver not just a frictionless experience but also good consumer outcomes-e.g., helping users build wealth sustainably, not just churn trades-and robust resilience-standing up to fraud, tech failures, and economic shocks. If they succeed, financial super-apps may have the potential to become a major feature of the global financial landscape, extending the benefits of integrated digital finance to more people than ever. However, if they fail because of major misconduct or crises, this would likely invite a sharper regulatory reckoning that could change the way these platforms operate. The dialogue between innovators and regulators should be ongoing, informed by empirical research like this study to help navigate the way forward and ensure that the super-app phenomenon develops in a way that truly serves users and the financial system as a whole.

Data and Code Availability

This study is based on publicly available data and documents. All the key sources are cited in the reference list, including regulatory publications, company disclosures-investor presentations and help center articles-as well as news articles. No proprietary datasets were used. Code used for any data visualizations-e.g., plotting user growth or revenue composition from disclosed figures-can be made available upon request, though the underlying data for such visuals were directly obtained from cited public sources.

Author Contributions

Hrachya Papikyan – Conceptualization, methodology, data curation, investigation, writing (original draft), and writing (review & editing). The author was the sole contributor to this work.

Funding and Conflict of Interest

This work has not received any external funding. The author declares no conflict of interest. The analysis and opinions herein are strictly those of the author and do not represent those of the affiliated institutions in any way.

Acknowledgements

The author gratefully acknowledges the numerous organizations publishing open data and reports on fintech and digital finance, such as the BIS, IMF, FCA, MAS, and many fintech companies, for making this research possible. Thanks also go to colleagues and peer reviewers who provided valuable feedback on earlier drafts and to the providers of public APIs and platforms that make data gathering easier.

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