



Personal Payment Systems

William Fisher

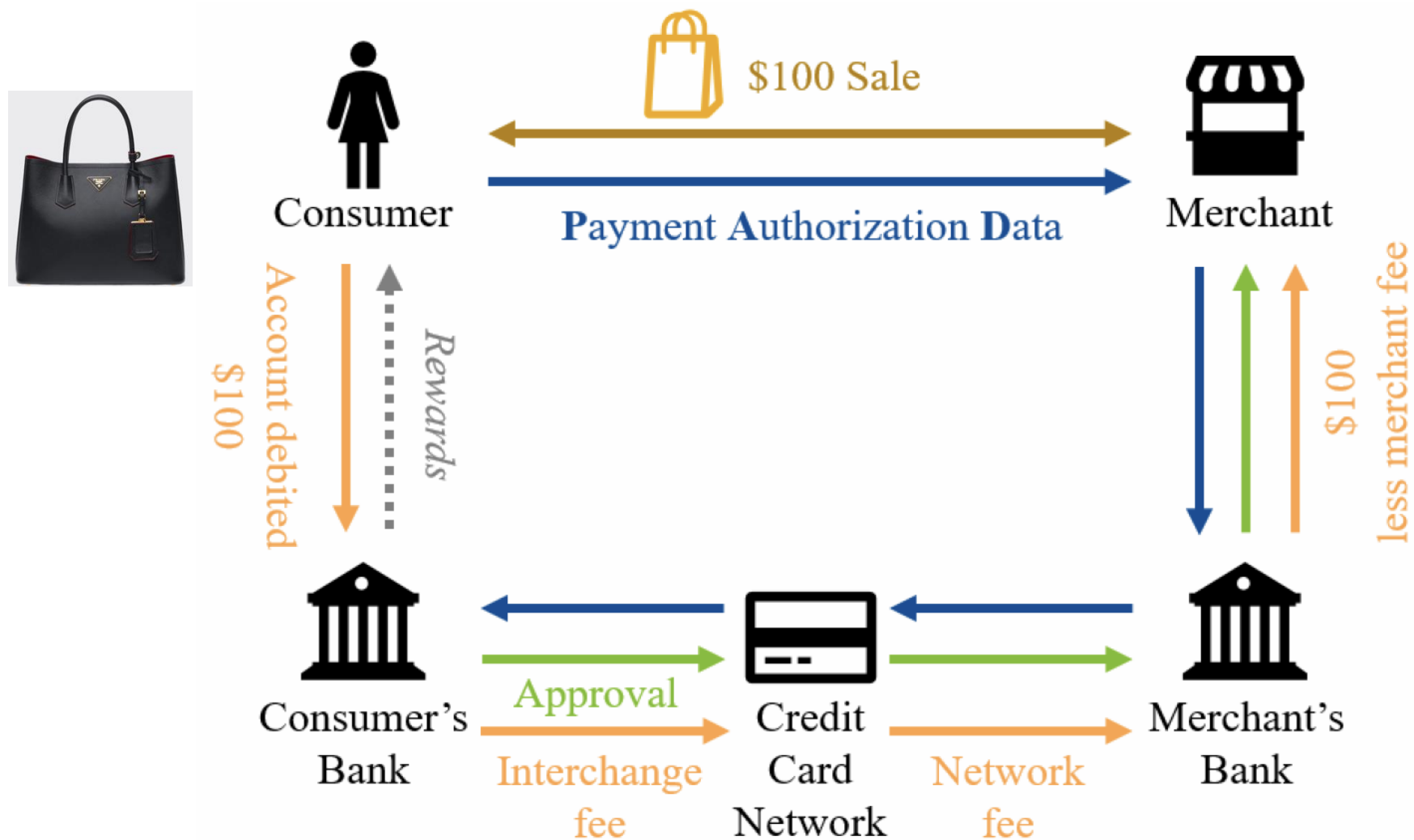
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How do the new systems work?



Traditional Credit-Card Transaction



Source: Baba et al., "Fintech in Europe: Promises and Threats," IMF Working Paper (2020)



PSD II

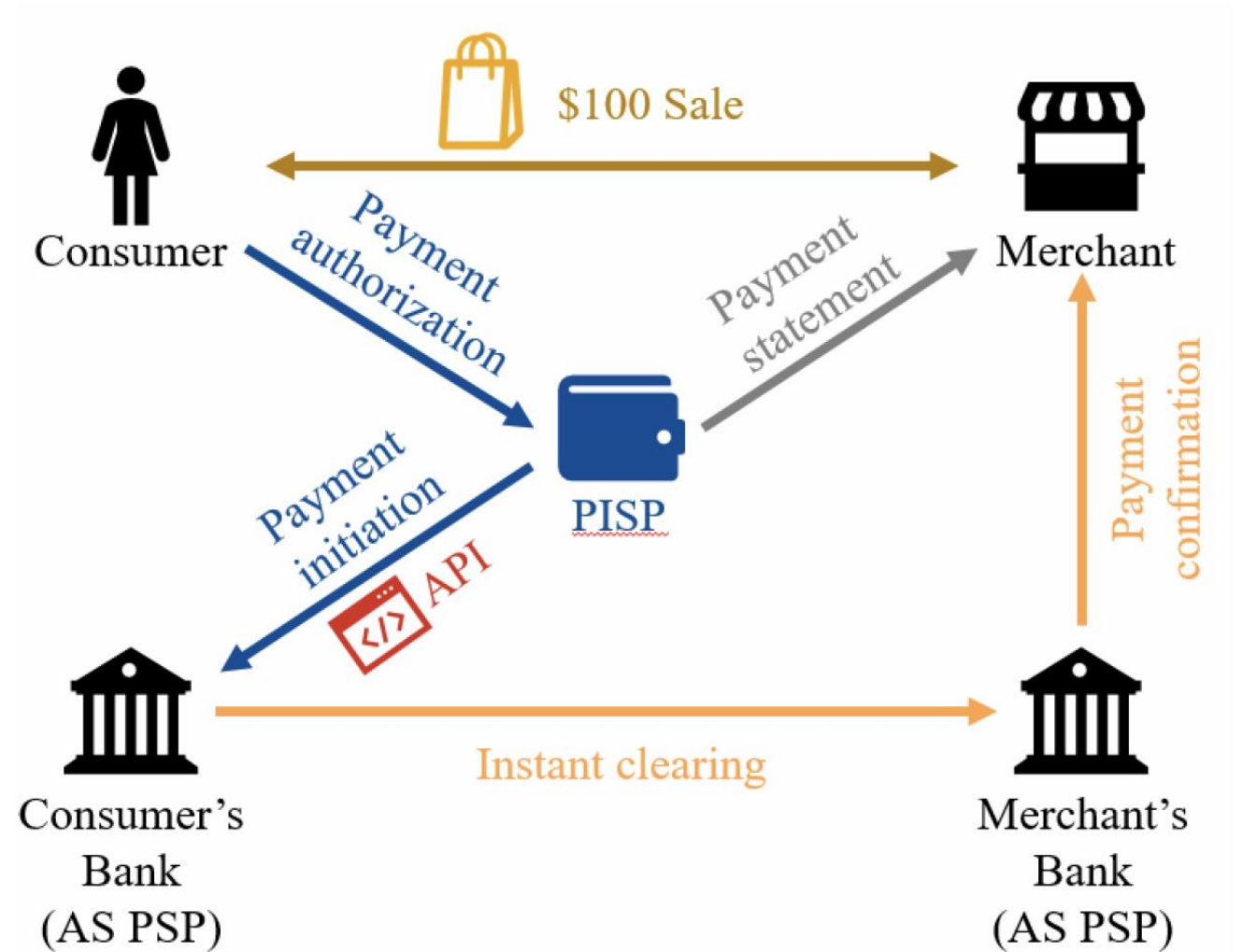
- 2015 Payment Service Directive
- Goal: Create a harmonized regulatory environment within the EC that will facilitate and simplify payment systems
- Interfaces with banks are essential; compliance by banks has been grudging
- Details concerning compliance with GDPR still being addressed
 - See EDPB, “Guidelines 06/2020 on the interplay of the Second Payment Services Directive and the GDPR” (July 2020)



PISP = Payment Initiation Service Provider

AISP = Account Information Service Provider

ASPSP = Account Servicing Payment Service Provides [banks]



Source: Baba et al., "Fintech in Europe: Promises and Threats," IMF Working Paper (2020)

Fee structure: Transaction fees for digital commerce for businesses

Operator	Transaction fee
PayPal	Invoicing ⁽¹⁾ : 3.49% of transaction value + a fixed fee for payments from outside the U.S. Standard credit and debit card payments ⁽¹⁾ : 2.99% of transaction value + a fixed fee for payments from outside the U.S.
Venmo	Standard rate of 1.9% + a fee of US\$0.10 of the payment
Stripe	Online ⁽²⁾ : 2.9% of transaction value + US\$0.30 per transaction In-person ⁽³⁾ : 2.7% of transaction value + US\$0.05 per transaction
Block (formerly Square)	2.6% of transaction value + US\$0.10 for contactless payments, swiped or inserted chip cards, and swiped magstripe cards 3.5% of transaction value plus US\$0.15 for keyed-in transactions

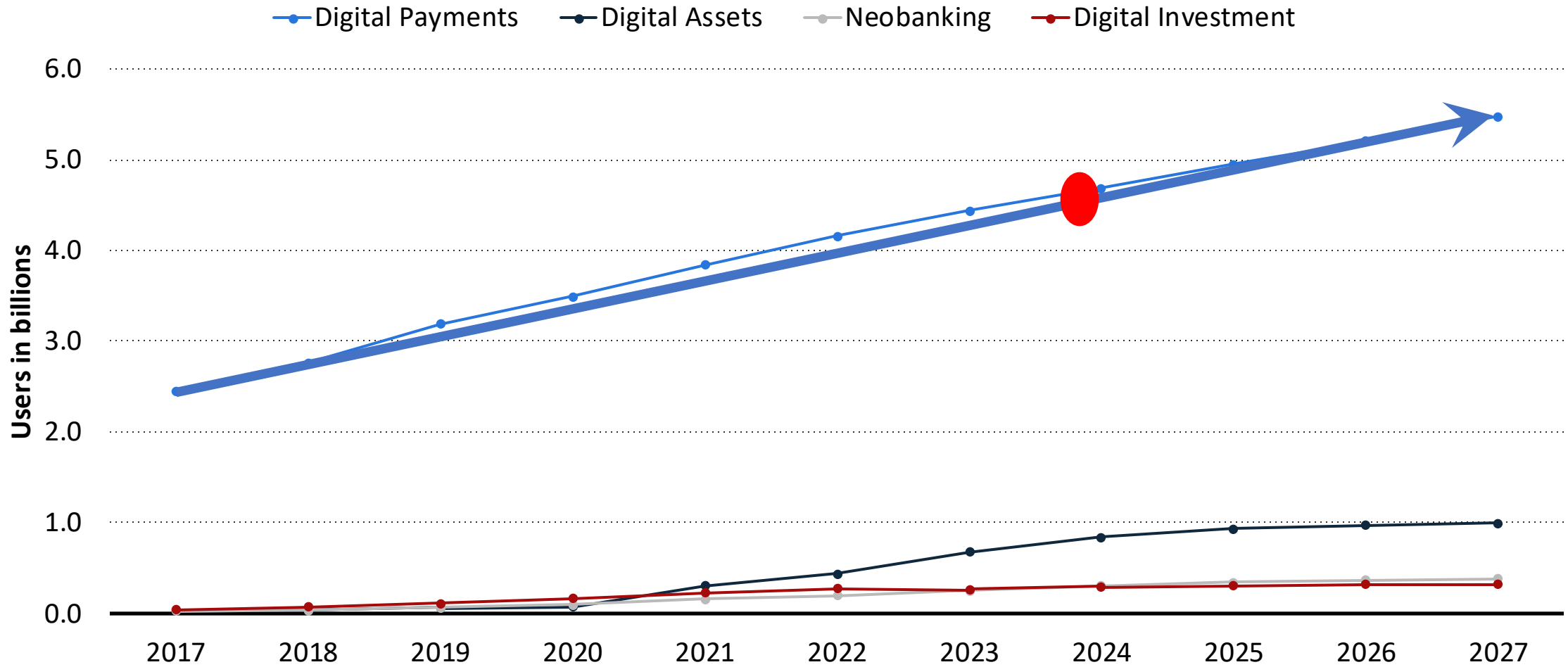
Typically paid
by the merchant



Usage



Number of fintech users worldwide from 2017 to 2027, by segment (in billions)

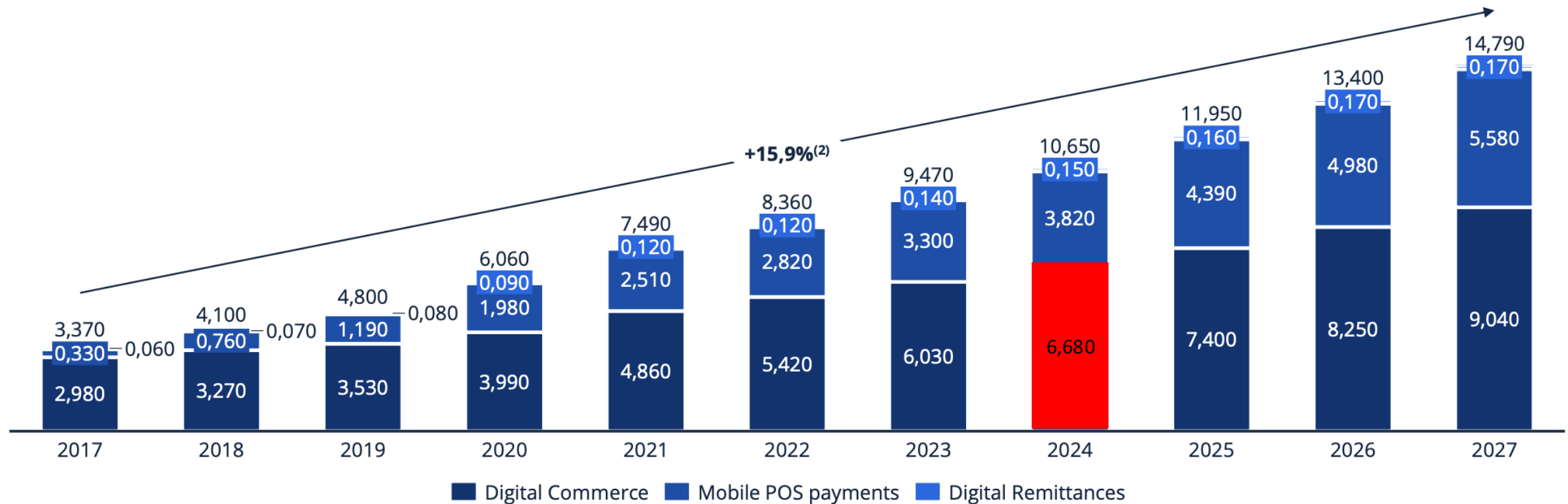


Note(s): Worldwide; 2017 to 2027; data shown is using current exchange rates and reflects market impacts of the Russia-Ukraine war
 Further information regarding this statistic can be found on [page 8](#).
 Source(s): Statista Digital Market Insights; ID_1384328

It is estimated that the transaction value of the Digital Payments market will grow at a CAGR of 15.9% from 2017 to 2027

Digital payments: Overview (2/3)

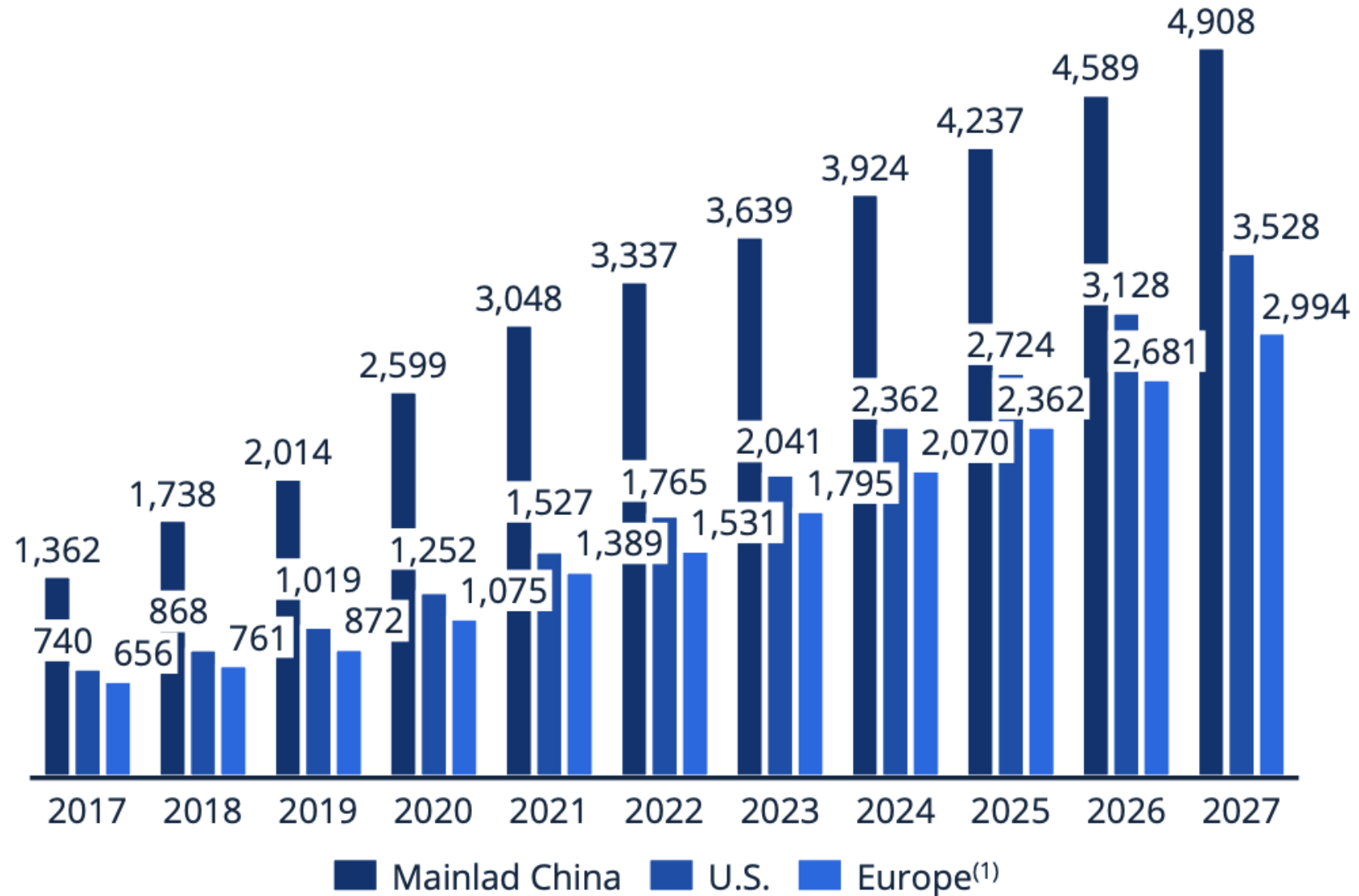
Global⁽¹⁾ transaction value in billion US\$





Regional Shares of Digital Payments Market

Regional split: transaction value in billion US\$





Germany shows the highest online payment usage with 68%

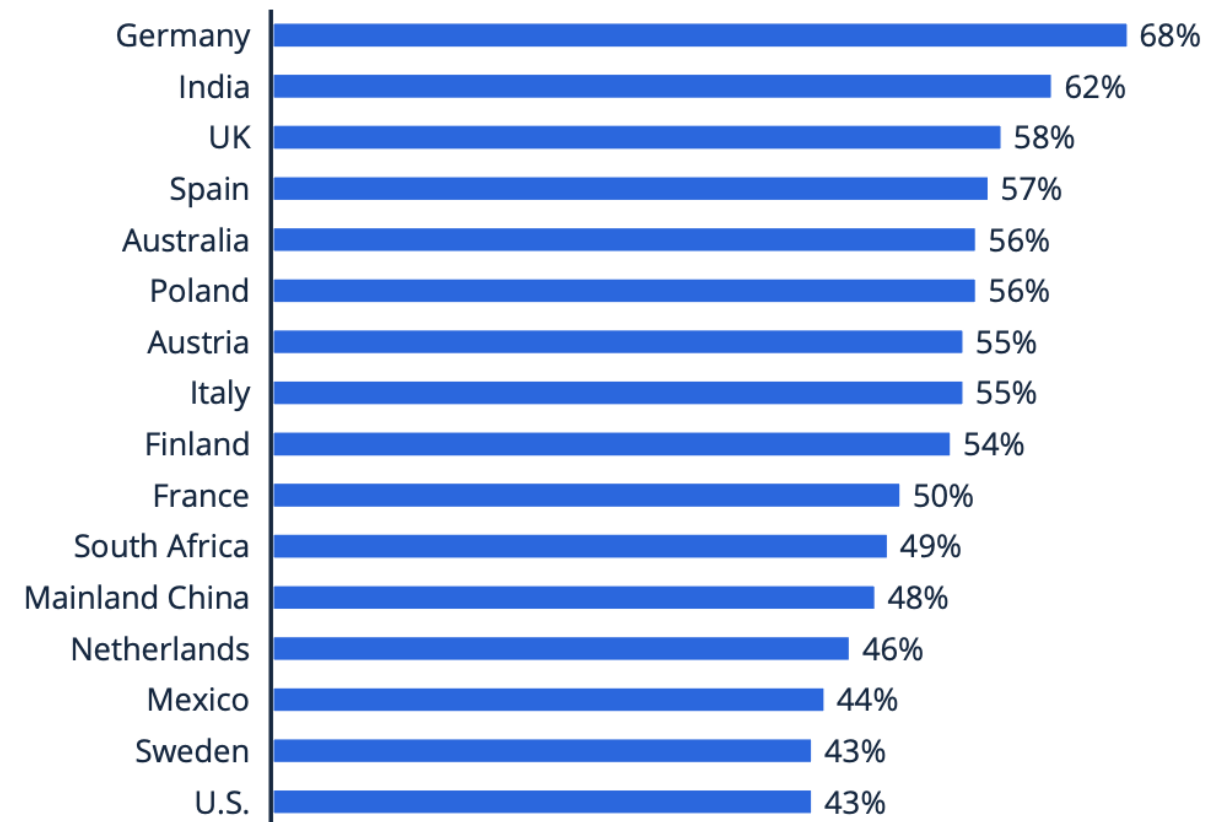
Online payment (2/2)

When it comes to the use of online payment through companies such as PayPal, Amazon Pay, Google Wallet, and Masterpass, online consumers in Germany lead the way with a usage rate of 68%. The particular survey, which compares 21 focus countries, shows that India and the UK follow with 62% and 58% respectively.

The U.S., which is usually the leader in new business models, places 16th with 43% usage. Generally, the field is dominated by European countries.

Looking at user demographics, there are quite a few differences depending on the country. In India, for example, online payment methods are most used by individuals between the ages of 20 and 29, whereas in the U.S., online payment methods are popular with those who are 30 to 39 years old.

Share of respondents⁽¹⁾ who used online payments⁽²⁾ in the last 12 months





Germany shows the highest online payment usage with 68%

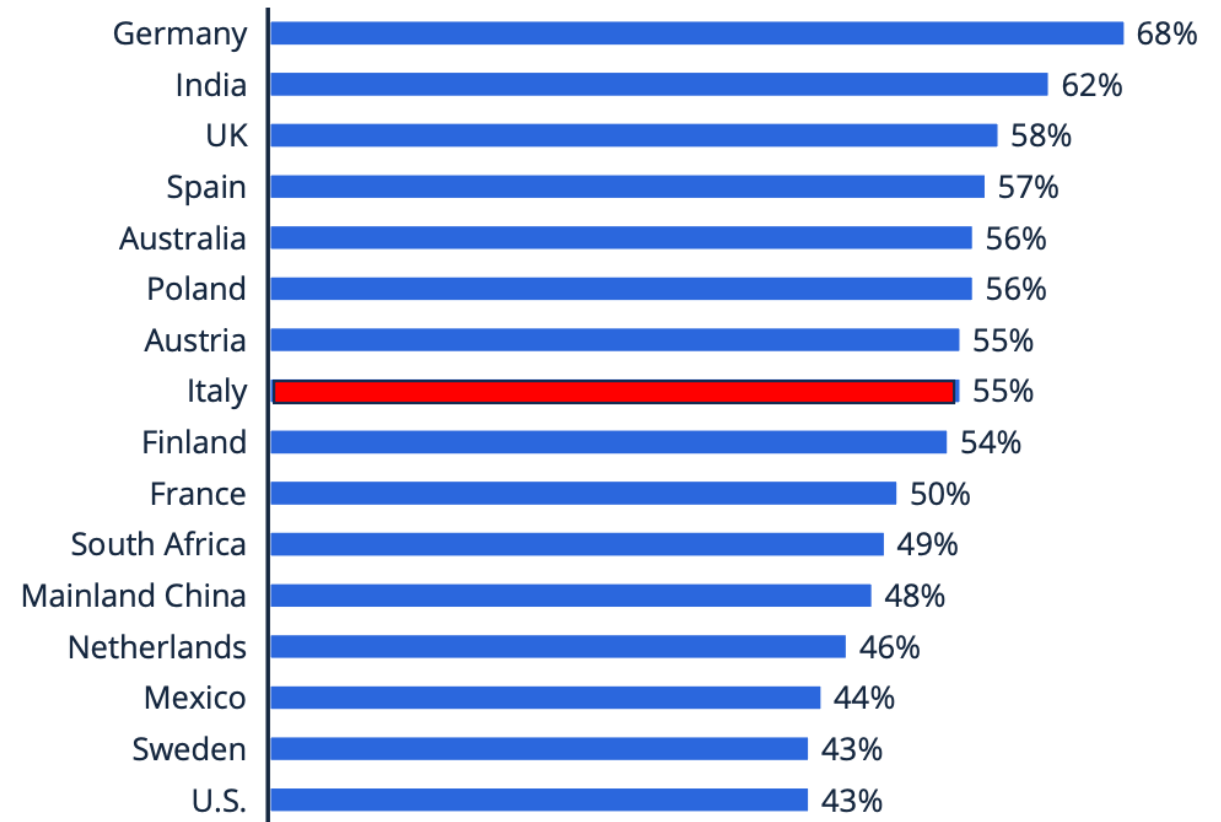
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Which companies dominate this industry?



PayPal crossed the US\$27 billion revenue mark in 2022

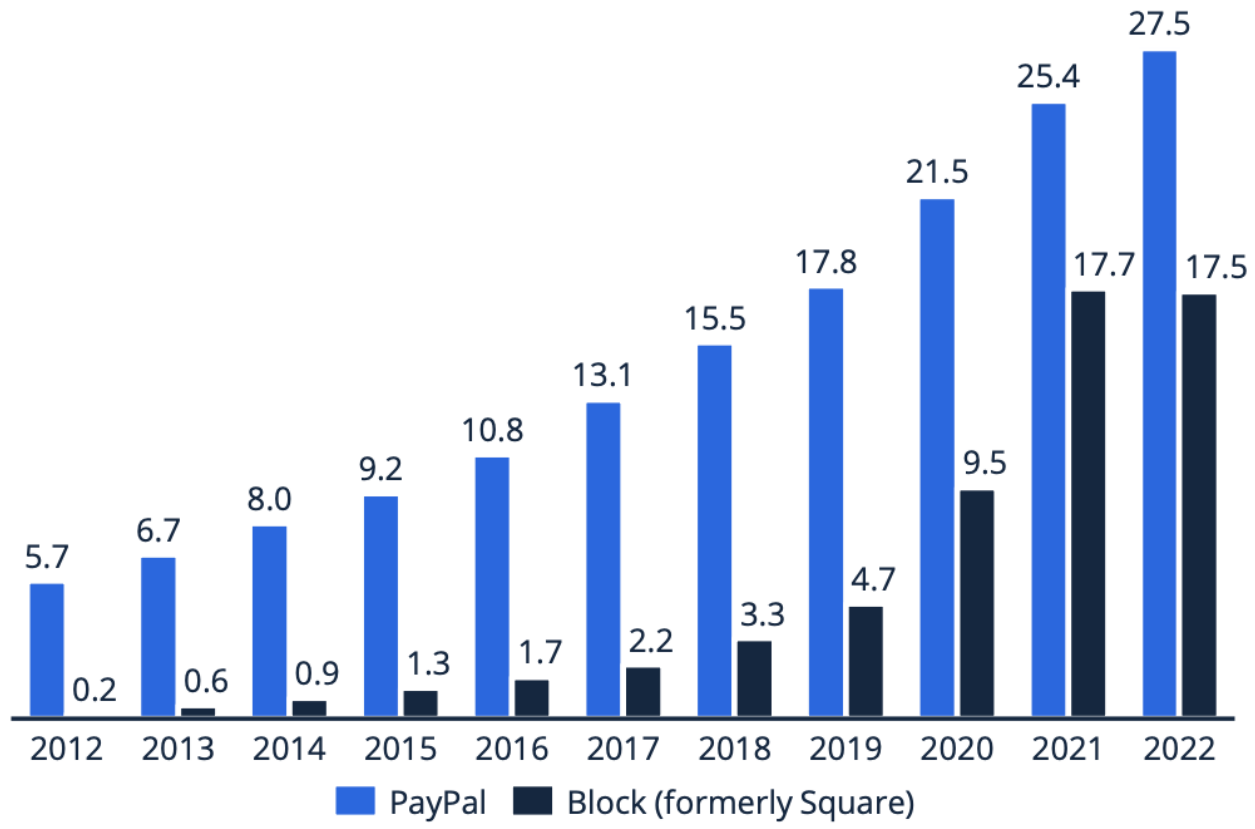
Digital payments: PayPal vs. Square

PayPal is one of the big players in the digital payments landscape. The PayPal platform provides digital commerce and P2P money transfer capabilities and includes companies such as Venmo, Braintree, and Zoom. It is available in more than 200 markets worldwide. Mobile and in-store payments are available in some countries as well. Square, on the other hand, provides a point-of-sale payment infrastructure that allows businesses to accept credit/debit card payments, as well as mobile payments via Apple Pay or Android Pay. Square is available in the U.S., Canada, Japan, Australia, and the UK.

While PayPal's and Venmo's fee structure varies depending on the country, the merchant operates in and takes into account the country where the payment is issued and the currency, Square charges a fee depending on whether the transaction is processed automatically or manually keyed into the Square software.

When comparing revenue streams of PayPal and Square, it becomes obvious that PayPal's global reach is a key reason for their significantly higher revenue. Additionally, Square has to convince merchants and stores to use their technology instead of the existing and wide-spread credit card terminals or focus on smaller merchants and stores that cannot yet afford them.

Revenues of PayPal and Square in billion US\$



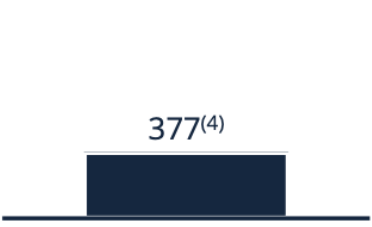
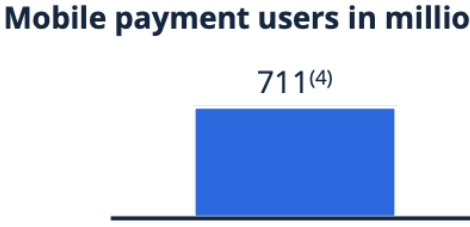
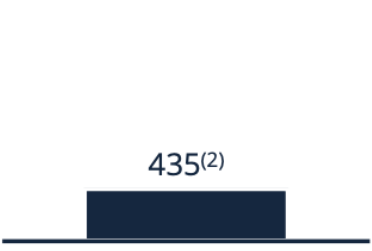
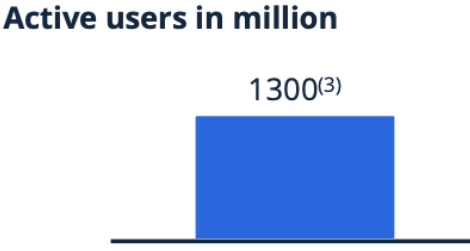


Alipay excels PayPal in all metrics

Alipay vs. PayPal

Even though both Alipay and PayPal have achieved remarkable success, the scale of operations of Alipay has helped the company offer an attractive value proposition to its users. The fact that Alipay is building on the Alibaba ecosystem also gives it a much larger user base and scale when compared to PayPal, which operates as a standalone company. Moreover, PayPal is still focused on its primary business of payment processing while Alipay has diversified into other related areas as well.

PayPal scores over Alipay in terms of international acceptance and worldwide popularity. PayPal has built a robust brand in the U.S., Europe, and Asia over the years. On the other hand, Alipay has been predominantly focused on the Chinese market, with international expansion coming into focus only recently. For example, in Hong Kong, where over 30 retail chains accept Alipay payments, only users with linked Mainland Chinese bank accounts can use Alipay wallets for their purchases.





Ant Financial operates on a larger scale than most other players

Overview (1/2)

Ant Financial is a holding company for eCommerce giant Alibaba's financial products. It includes multiple financial businesses operating in areas such as

- Digital payments: Alipay
- Business finance: micro loans (Ant Micro Loan)
- Personal finance:
 - Marketplace lending: Ant Check Later
 - Wealth management: Ant Fortune
- Online banking: Mybank
- Insurance and credit reference: Sesame Credit

Alipay, its flagship payment product, is referred to as the PayPal of Mainland China but operates on a much larger scale compared to its U.S. counterpart. In February 2014, Alipay announced for the first time that its mobile payments volume was greater than the volume of both PayPal and Square combined. Since then, the company has achieved a share of about 58% of third-party online payments in Mainland China as per estimates by Credit Suisse and over 80% of third-party

mobile payments as per Citigroup. Ant Financial's US\$315 billion IPO was canceled just days before its scheduled launch in Nov 2020, due to regulatory changes in the FinTech industry. However, a statement issued by one of its board directors suggests its renewal in the short term.

For this, the company is planning to restructure its business by separating some non-core operations such as blockchain, database management services, and international businesses from the main entity. On completion of the restructuring process, the company is likely to apply for a financial holding license in China that could pave the way for a public listing in Hong Kong. Interestingly, in July 2023, Ant Group announced a share buyback at a valuation of US\$78.54 billion, much below the US\$315 billion valuation it was seeking in the canceled IPO.



Ant Financial thrives on Alibaba's big data and government funding

Key success factors (1/2)

Diversified businesses and big data

Ant Financial owns a larger number of businesses compared to other similar companies, both domestic and international. The main reason for these diversified holdings is that each of them is integrated into Alibaba's huge eCommerce ecosystem and derives benefits from its huge distribution network.

Moreover, Alibaba's wealth of historical data on merchants and on consumers gave its businesses access to a large customer base at the time of their launch and has provided them with faster customer conversion, moderation of credit risk and a scalable online infrastructure. The company's valuation increased to over US\$200 billion, right after the delay of its much-anticipated IPO, in November 2020.

Government investment

Another reason driving Ant Financial's large-scale success is the involvement of state financial institutions as investors. China Investment Corporation (CIC), the US\$740 billion sovereign wealth fund and the country's national social security fund are now among the company's biggest shareholders, giving it access to a considerable amount of money to fund its aggressive expansion plans. In June 2018, the company secured the world's largest private fundraising round for an

internet company at US\$14 billion, which put its valuation at approximately US\$150 billion.

Financial cloud platform

In 2010, when cloud computing was just beginning to rise and companies such as Amazon and Google were conducting tests and proof-of-concepts, Alibaba set up its cloud division called Ali Cloud. The platform experienced rapid growth aided by the fact that foreign cloud providers were barred from entering mainland China. In 2013, Alibaba verticalized the platform with the launch of the Ali Finance Cloud, which is now central to the growth of its financial services business. The value proposition of the platform is that it aims to be a one-stop shop for all financial solutions including risk management, deposits, mobile apps, infrastructure as a service, platform as a service, know your customer (KYC), etc. Ant Financial also sells this cloud-based solution to other banks in Mainland China. The company's cloud computing business outpaced both Amazon and Microsoft in the second quarter of 2020, with a 60% year-on-year growth. After the COVID-19 pandemic forced many of its offline activities online, it also became profitable for the first time in the third quarter of 2021.



Ant Financial taps into the huge offline payments market

Key success factors (2/2)

Offline payment services

Online-to-offline (O2O) mobile payments is another area of growth, primarily due to its higher transaction value compared to online payments. In fact, the Chinese O2O market is estimated to reach over US\$150 billion by 2022 in consumer spending, as per the marketing agency, Firstpage Hongkong.

In 2013, Alipay introduced the Alipay e-wallet, which is currently the most popular e-wallet among customers in Chinese retail outlets, drug stores, and restaurants. Users can link their bank accounts to the service and make in-store purchases after cashiers scan a QR code within the Alipay app. In Q2' 2020, Alipay had a market share of nearly 56% among all third-party providers of online payments in China.

In order to fuel international expansion, in 2016 the company announced its plans to partner with one million offline merchants in Mainland China and overseas over the next 3 years to facilitate the use of Alipay in other global markets. The company's ambitious plans in this space put it against players such as Apple Pay and Samsung Pay, both present in Mainland China and the established domestic payment network UnionPay.

International expansion

International expansion is a new but important strategic goal for the current stage of Ant's growth and the main focus is on Asia. Apart from acquiring a significant stake in Indian payments giant Paytm, Ant Financial has also invested in Singapore-based security technology company V-Key and partnered with Thai payment firm Ascend. It also has digital wallet licenses in countries such as Thailand, Indonesia, the Philippines, and Vietnam. In Europe, Alipay has partnered with the Swiss tax refund company Global Blue, which allows Chinese tourists to credit value tax refunds on their overseas purchases directly to their Alipay accounts.