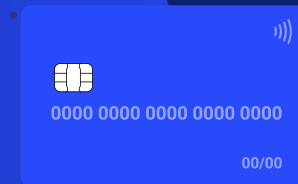




GLOBAL PAYMENTS REPORT 2026

REGULATION, AUTHENTICATION, SECURITY





CONTENTS

3 INTRODUCTION

5 SECTION A: AUTHENTICATION REPORT

3D Secure success rates globally, per-card scheme, and per-country, as well as frictionless rates, all from Ravelin's internal data.

AUSTRALIA
AUSTRIA
BELGIUM
BRAZIL
BULGARIA
CANADA
CHINA
CROATIA
CYPRUS
CZECH REPUBLIC

DENMARK
ESTONIA
FINLAND
FRANCE
GERMANY
GREECE
HUNGARY
ICELAND
INDIA
IRELAND

ITALY
LATVIA
LITHUANIA
LUXEMBOURG
MALTA
NETHERLANDS
NORWAY
POLAND
PORTUGAL
ROMANIA

SLOVAKIA
SLOVENIA
SOUTH AFRICA
SPAIN
SWEDEN
UNITED KINGDOM
UNITED STATES

28 SECTION B: GLOBAL LANDSCAPE ANALYSIS

The state of payments around the world, including authentication and SCA, payment trends, and regulation – as well as our global SCA mandates map.

36 SECTION C: PAYMENTS & AUTHENTICATION TRENDS

What do merchants really think about payments and authentication? Findings, comparisons and takeaways from our annual, global survey of 1466 merchants.

45 METHODOLOGY

INTRODUCTION

Online payments underpin the global economy, extending the reach of countless merchants and giving consumers access to more goods and services than ever. Authentication, regulation and online payment fraud comprise an ever-shifting landscape – one that anyone who accepts card payments online is advised to be aware of. In this year's edition of Ravelin's Global Payments Report, we have gone further, tracing the upwards and downwards trends of 3D Secure rates over time – compared to last year (as well as merchant attitudes to payments).

Ravelin's Global Payments Report 2026 features three sections, namely:

SECTION A

Authentication report:

Ravelin's 3D Secure data from 37 countries around the world – with comparison to last year.

SECTION B

Analysis, payment trends, and advice to merchants:

Get detailed information and solid recommendations to interpret our findings, understand the latest trends in CNP payments, and navigate payment fraud challenges.

SECTION C

Attitudes to regulation, payments and payment fraud:

Merchant attitudes around 3DS, PSD2, payment methods and channels, and selling online.

By adding the dimension of time to our metrics, we look to provide even more valuable insights into the shopping experiences of millions of people from around the world. Our aim is for our readers to gain a better understanding of what works and what doesn't when it comes to online payments, including potential new risks and opportunities.

Enjoy reading, and please reach out to us with any questions or comments.

Team  Ravelin



KEY TAKEAWAYS

1

Frictionless rates have dropped globally – in 76% of countries. Issuers, schemes and legislators are tightening their assessments and putting more pressure on merchants.

2

3DS success rates are not optimal – with modest improvements in the USA driving up the global average. Are merchants sending all relevant data along with their request?

3

The UK tops the authentication ratings for one more year. It will be interesting to see the impact of announced changes to UK SCA mandates – which 51% want to see removed.

4

Account-to-account (A2A) real-time payments are picking up, as are digital wallets, with authentication becoming more dynamic – but e-wallet and BNPL fraud is up.

5

Agent AI, VAMP, the EUDI wallet and stablecoins are all expected to reshape the landscape – but fraudsters will adapt to changes and adopt new tech to support and scale their schemes.

- › The 3DS data in Section A is internal and comes from Ravelin's payment fraud and optimization recommendations, as well as from managing authentication itself.
- › Section B is based on the authors' expertise in the online payment landscape, including card scheme bulletins, legislators' announcements, key industry reports, and the media.
- › Section C shares previously-unreleased data from Ravelin's annual Survey, the latest version of which had 1466 participants – all enterprise merchants who sell products or services online.

For detailed **methodology and breakdown**, [please visit page 45](#).

SECTION A: AUTHENTICATION REPORT

RAVELIN'S GLOBAL 3D SECURE AUTHENTICATION REPORT

In this section, you'll find authentication data for 37 key countries, as well as global averages per card scheme and region.

For each, we'll look at:

3DS SUCCESS RATE:

The rate of success of 3D Secure authentication as a proportion of all payments sent to authentication. In this sense, the 3DS success rate can also be called the 3DS authentication success rate.

3DS CHALLENGE SUCCESS RATE:

Where there has been a 3D Secure challenge, what percentage of cardholders successfully authenticated themselves? In other words, this is the rate of successful 3D Secure challenges as a proportion of all 3D Secure challenges.

FRICTIONLESS RATE:

How many of all authentication attempts were authenticated without a challenge?

TOP CARD PAYMENT METHODS:

What are this country's preferences when paying by card?



Bank account
(A2A)



Card



Digital wallet



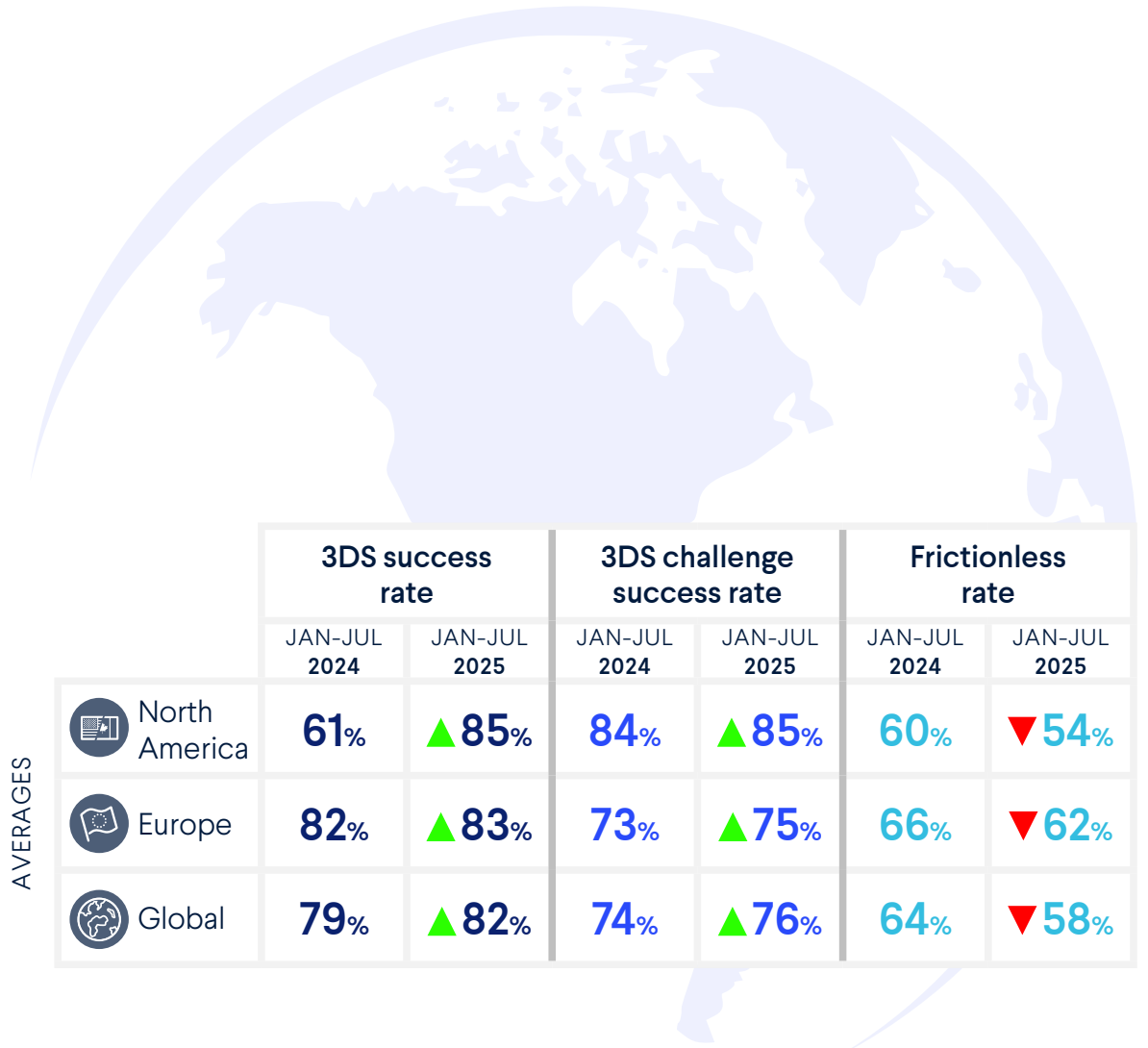
PayPal

FINDINGS WORTHY OF YOUR ATTENTION

- Across the board, 3DS success rates are lower than ideal – with modest improvements in **the USA driving up the global average**. Are merchants sending all relevant data along with their request?
- For one more year, **the UK tops the comparison charts**. In addition to very high authentication and challenge success rates, the frictionless rates have also improved by 7%. It will be interesting to see how the announced changes to UK SCA will affect these metrics.
- We observed a +47% increase in the United States' 3DS success rate. It seems that the **pressure is building up for acquirers and merchants** to more closely follow card scheme recommendations and authenticate securely.
- **Account-to-account (A2A) payments** have entered the top 3 in two of the EU countries we're examining – is this a sign of things to come?

GLOBAL STATISTICS

AVERAGE 3D SECURE SUCCESS RATES GLOBALLY









AVERAGES

GLOBAL STATISTICS

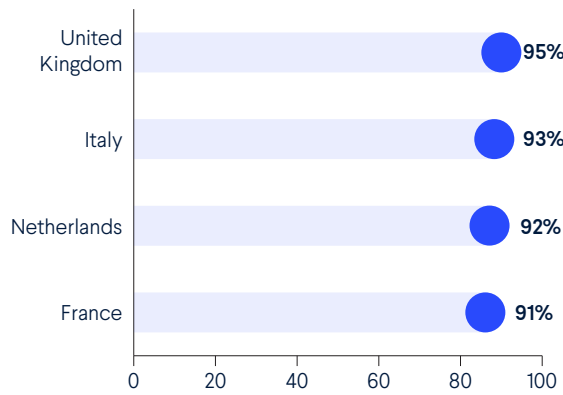
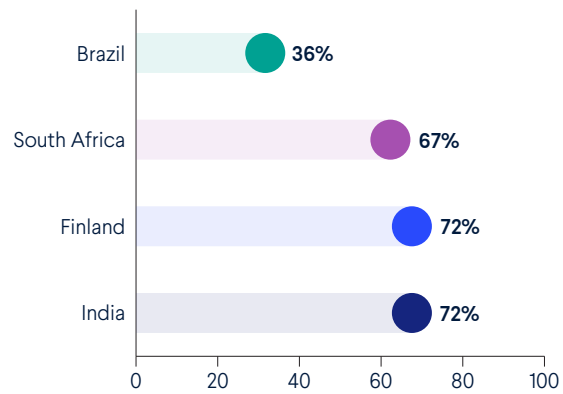
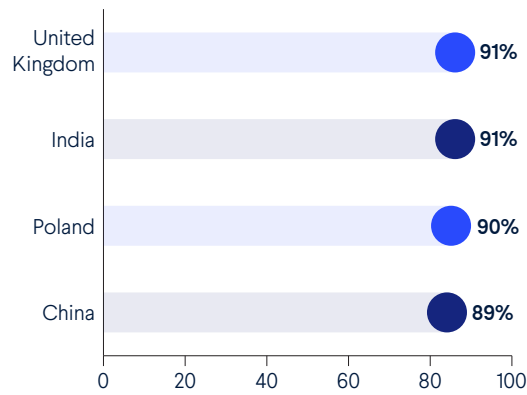
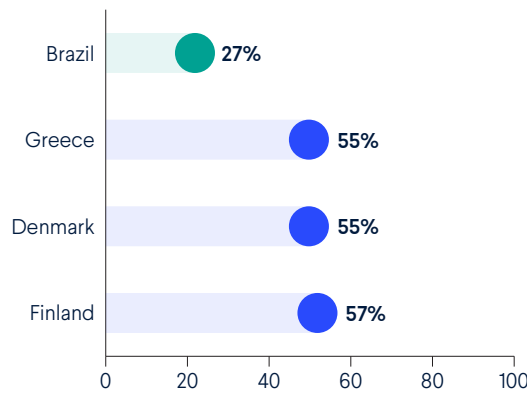
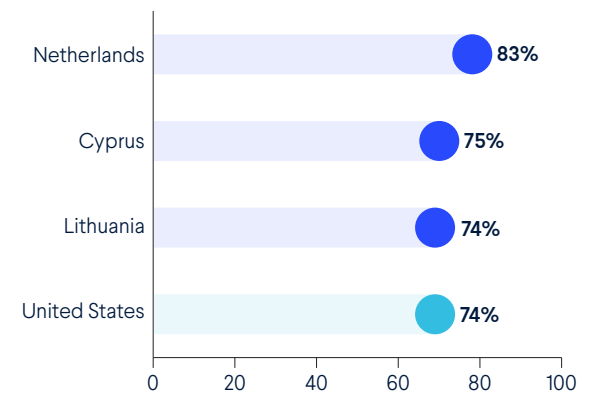
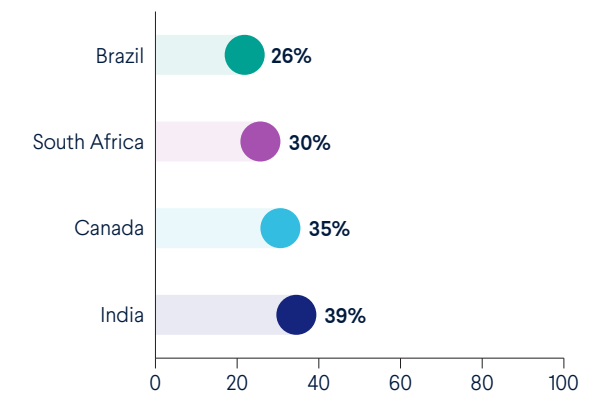
AVERAGE 3D SECURE SUCCESS RATES PER CARD SCHEME



	3DS success rate		3DS challenge success rate		Frictionless rate	
	JAN-JUL 2024	JAN-JUL 2025	JAN-JUL 2024	JAN-JUL 2025	JAN-JUL 2024	JAN-JUL 2025
 Mastercard	91%	▲ 93%	86%	— 86%	70%	▼ 69%
 Visa	91%	▼ 90%	88%	▼ 84%	60%	▲ 62%
 American Express	89%	▲ 92%	94%	▼ 93%	47%	▲ 53%
 Diners & Discover	50%	▲ 87%	90%	▼ 57%	99%	▼ 80%
 Private label cards	40%	▲ 58%	61%	▼ 55%	50%	▼ 32%
 Cartes Bancaires	87%	▲ 97%	96%	▼ 94%	85%	▼ 65%
 UnionPay	99%	▼ 41%	99%	▼ 92%	70%	▲ 73%

AVERAGES

COUNTRY RANKINGS

3DS success rate
Top 4

Bottom 4

3DS challenge success rate
Top 4

Bottom 4

Frictionless rate
Top 4

Bottom 4




AUSTRALIA

National Competent Authority

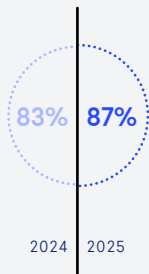
Reserve Bank of Australia and the Australian Payments Network (AusPayNet)

SCA status

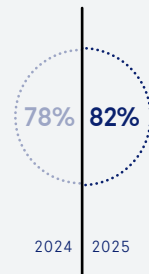
Since 2019, the CNP Fraud Mitigation Framework requires SCA when a merchant's fraud rate is above the recommended rate for two consecutive quarters.

3D SECURE PAYMENT DATA

3DS success rate



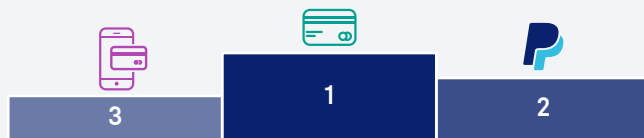
3DS challenge success rate



Frictionless



Top online payment methods



AUSTRIA

National Competent Authority

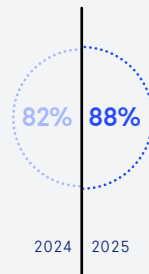
Financial Market Authority

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

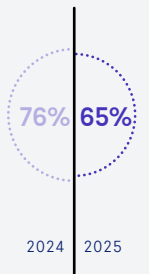
3DS success rate



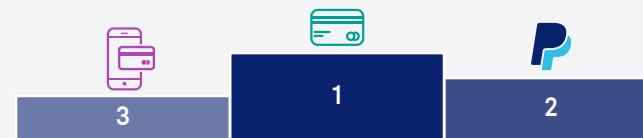
3DS challenge success rate



Frictionless



Top online payment methods





BELGIUM

National Competent Authority

National Bank of Belgium

SCA status

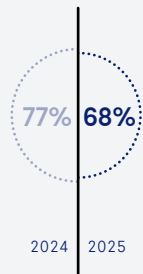
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

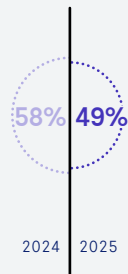
3DS success rate



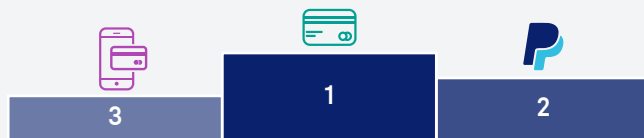
3DS challenge success rate



Frictionless



Top online payment methods



BRAZIL

National Competent Authority

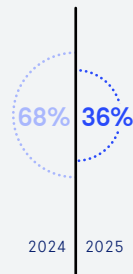
Banco Central do Brasil

SCA status

Two-factor authentication is required on transactions made using domestic-issued debit cards within Brazil.

3D SECURE PAYMENT DATA

3DS success rate



3DS challenge success rate



Frictionless



Top online payment methods





BULGARIA

National Competent Authority

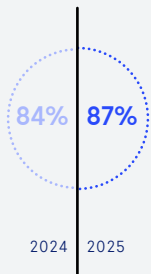
Bulgarian National Bank

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

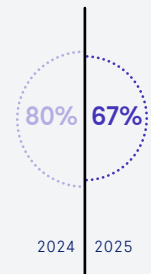
3DS success rate



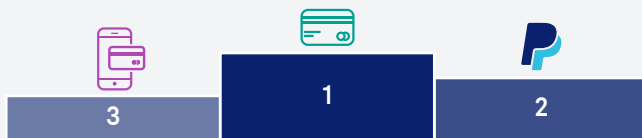
3DS challenge success rate



Frictionless



Top online payment methods



CANADA

National Competent Authority

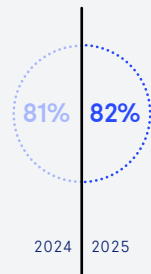
Department of Finance

SCA status

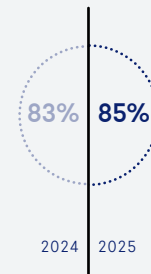
No regulation as of yet. Card schemes have discontinued use of 3DS v2.1.

3D SECURE PAYMENT DATA

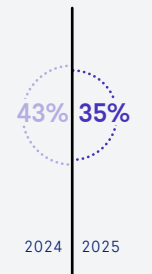
3DS success rate



3DS challenge success rate



Frictionless



Top online payment methods





CHINA

National Competent Authority

China's Central Bank

SCA status

Since 2017, QR code transactions above 500 yuan are subject to additional security checks. UnionPay is the only card scheme in China.

3D SECURE PAYMENT DATA

3DS success rate



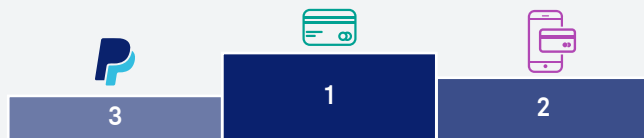
3DS challenge success rate



Frictionless



Top online payment methods



CROATIA

National Competent Authority

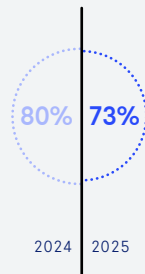
Department of Finance

SCA status

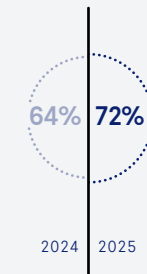
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

3DS success rate



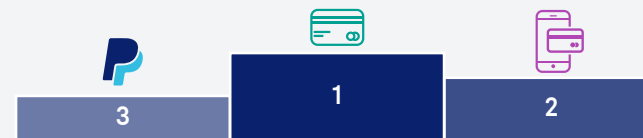
3DS challenge success rate



Frictionless



Top online payment methods





CYPRUS

National Competent Authority

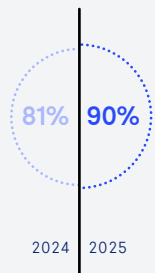
Bank of Cyprus

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

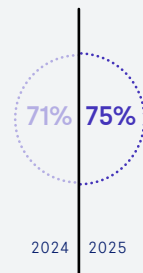
3DS success rate



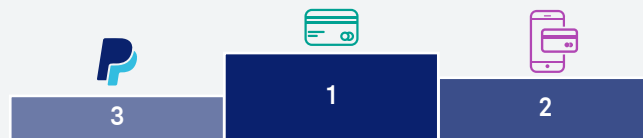
3DS challenge success rate



Frictionless



Top online payment methods



CZECH REPUBLIC

National Competent Authority

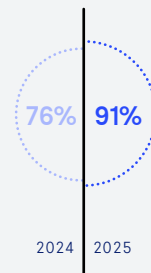
Czech National Bank

SCA status

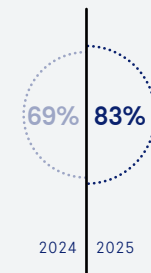
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

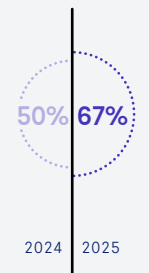
3DS success rate



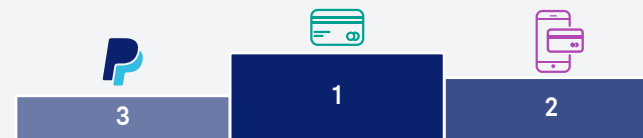
3DS challenge success rate

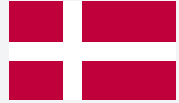


Frictionless



Top online payment methods





DENMARK

National Competent Authority

Danish Financial Supervisory Authority (Finanstilsynet)

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

3DS success rate



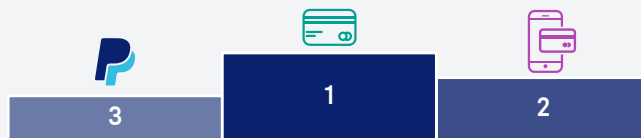
3DS challenge success rate



Frictionless



Top online payment methods



ESTONIA

National Competent Authority

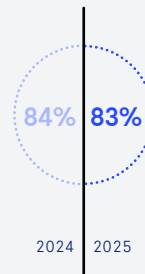
Financial Supervision Authority (Finantsinspektsioon)

SCA status

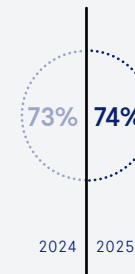
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

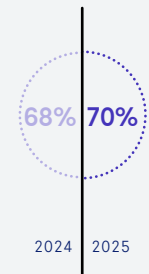
3DS success rate



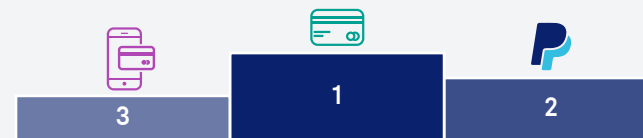
3DS challenge success rate



Frictionless



Top online payment methods





FINLAND

National Competent Authority

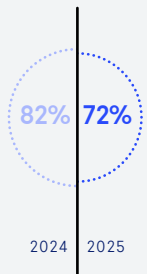
Finanssivalvonta (Fin-FSA)

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

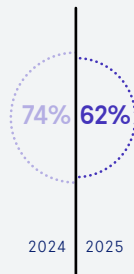
3DS success rate



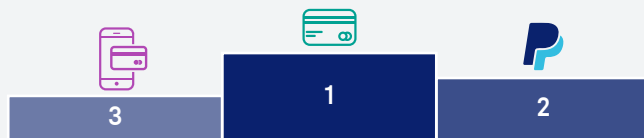
3DS challenge success rate



Frictionless



Top online payment methods



FRANCE

National Competent Authority

French Prudential Supervision and Resolution Authority (Autorité de contrôle prudentiel et de Résolution)

SCA status

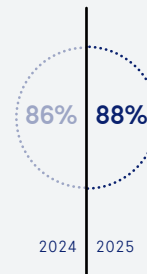
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

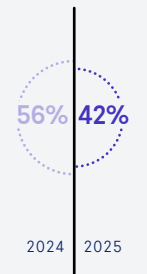
3DS success rate



3DS challenge success rate



Frictionless



Top online payment methods





GERMANY

National Competent Authority

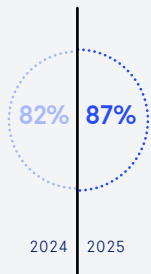
Federal Financial Supervisory Authority (BaFin) and Bundesbank

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

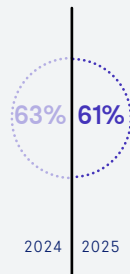
3DS success rate



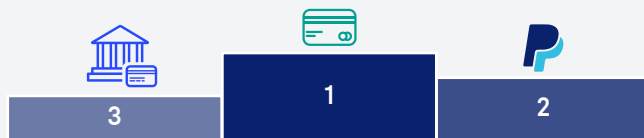
3DS challenge success rate



Frictionless



Top online payment methods



GREECE

National Competent Authority

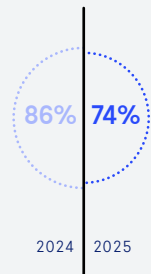
Bank of Greece

SCA status

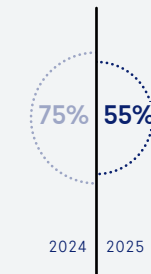
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

3DS success rate



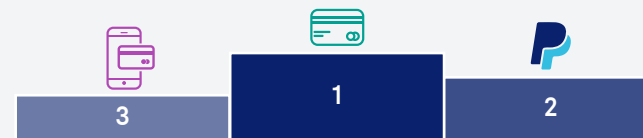
3DS challenge success rate



Frictionless



Top online payment methods





HUNGARY

National Competent Authority

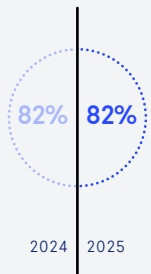
Central Bank of Hungary

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

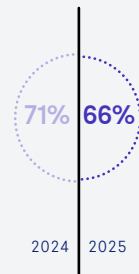
3DS success rate



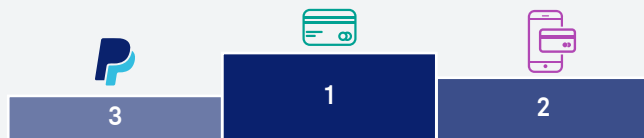
3DS challenge success rate



Frictionless



Top online payment methods



ICELAND

National Competent Authority

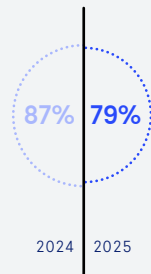
Financial Supervisory Authority

SCA status

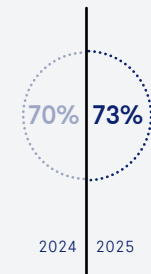
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

3DS success rate



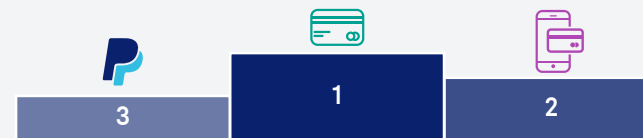
3DS challenge success rate



Frictionless



Top online payment methods





INDIA

National Competent Authority

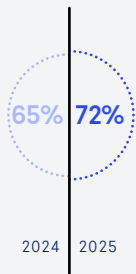
Reserve Bank of India

SCA status

Two-factor authentication is required for all domestic debit and credit card transactions over Rs 2000.

3D SECURE PAYMENT DATA

3DS success rate



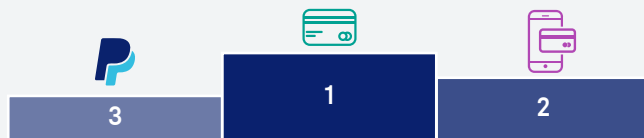
3DS challenge success rate



Frictionless



Top online payment methods



IRELAND

National Competent Authority

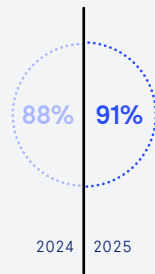
Central Bank of Ireland

SCA status

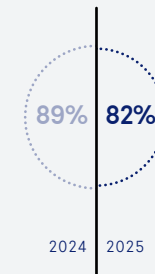
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

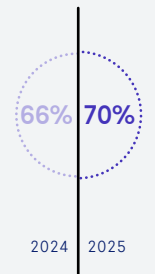
3DS success rate



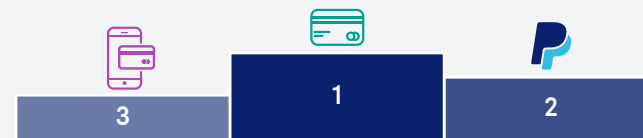
3DS challenge success rate



Frictionless



Top online payment methods





National Competent Authority

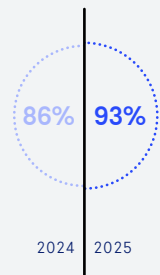
Bank of Italy (Banca d'Italia)

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

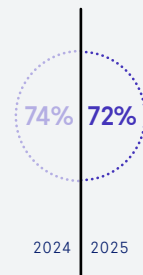
3DS success rate



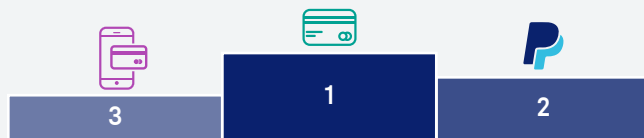
3DS challenge success rate



Frictionless



Top online payment methods



National Competent Authority

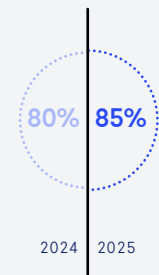
Financial and Capital Market Commission (FKTK)

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

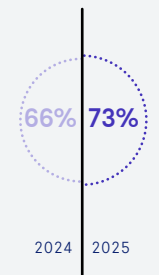
3DS success rate



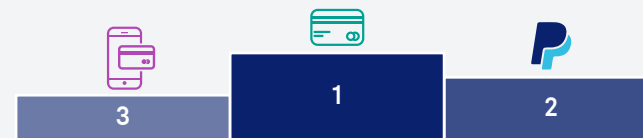
3DS challenge success rate



Frictionless



Top online payment methods





LITHUANIA

National Competent Authority

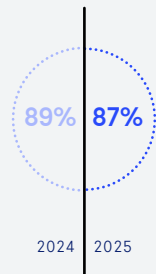
Bank of Lithuania

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

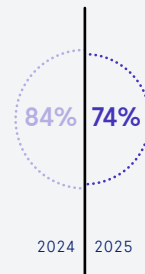
3DS success rate



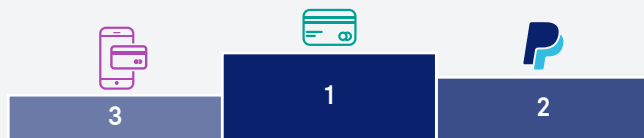
3DS challenge success rate



Frictionless



Top online payment methods



LUXEMBOURG

National Competent Authority

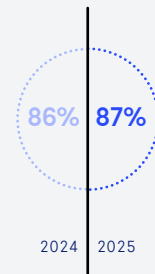
Commission de Surveillance du Secteur Financier

SCA status

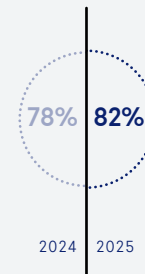
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

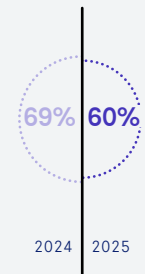
3DS success rate



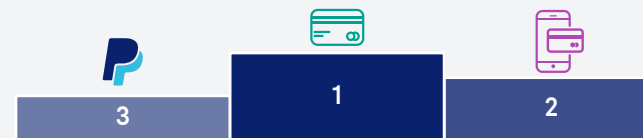
3DS challenge success rate

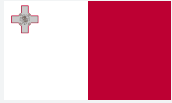


Frictionless



Top online payment methods





MALTA

National Competent Authority

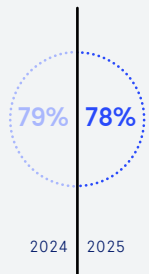
Central Bank of Malta and Malta Financial Services Authority

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

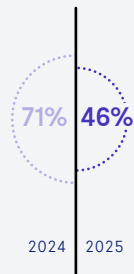
3DS success rate



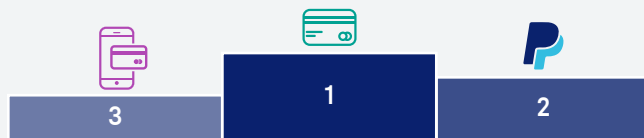
3DS challenge success rate



Frictionless



Top online payment methods



NETHERLANDS

National Competent Authority

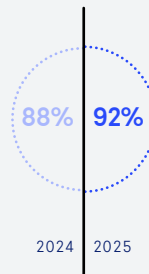
De Nederlandsche Bank

SCA status

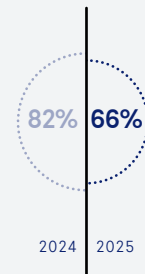
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

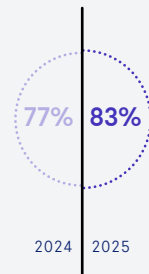
3DS success rate



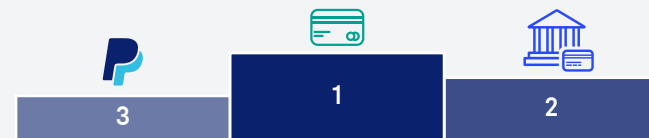
3DS challenge success rate



Frictionless



Top online payment methods





NORWAY

National Competent Authority

Financial Supervisory Authority of Norway (Finanstilsynet)

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

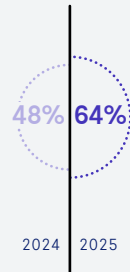
3DS success rate



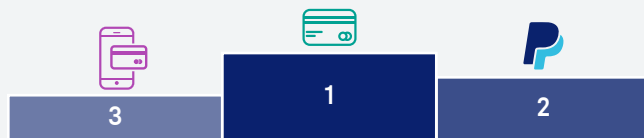
3DS challenge success rate



Frictionless



Top online payment methods



POLAND

National Competent Authority

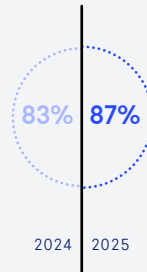
Polish Financial Supervision Authority

SCA status

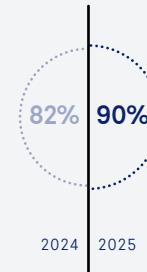
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

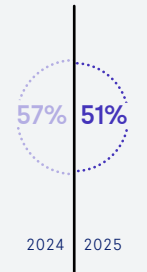
3DS success rate



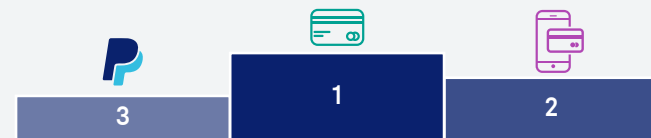
3DS challenge success rate



Frictionless



Top online payment methods





PORTUGAL

National Competent Authority

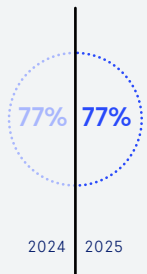
Banco de Portugal

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

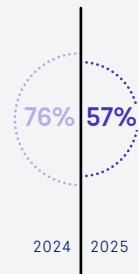
3DS success rate



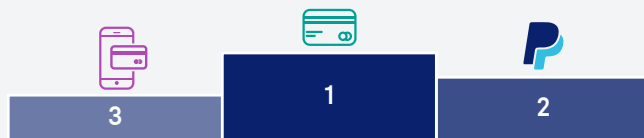
3DS challenge success rate



Frictionless



Top online payment methods



ROMANIA

National Competent Authority

National Bank of Romania

SCA status

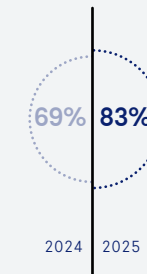
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

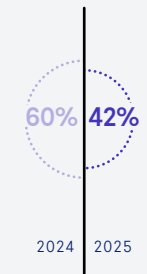
3DS success rate



3DS challenge success rate



Frictionless



Top online payment methods





SLOVAKIA

National Competent Authority

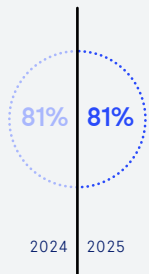
National Bank of Slovakia

SCA status

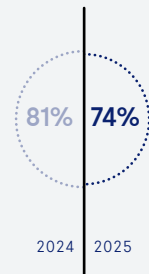
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

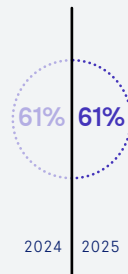
3DS success rate



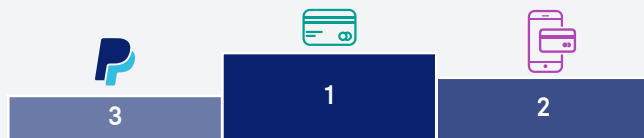
3DS challenge success rate



Frictionless



Top online payment methods



SLOVENIA

National Competent Authority

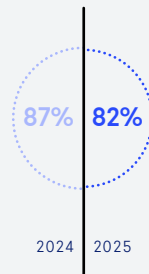
National Bank of Slovenia

SCA status

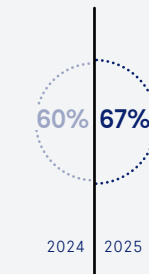
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

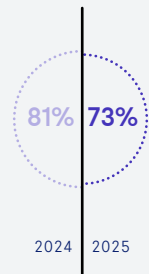
3DS success rate



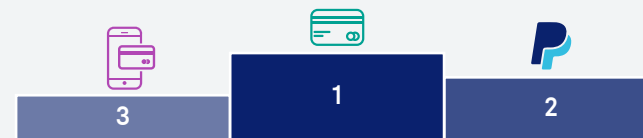
3DS challenge success rate



Frictionless



Top online payment methods





SOUTH AFRICA

National Competent Authority

Payment Association of South Africa

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

3DS success rate



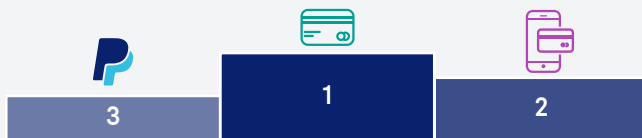
3DS challenge success rate



Frictionless



Top online payment methods



SPAIN

National Competent Authority

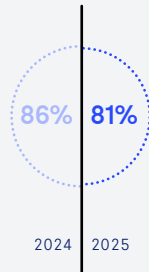
Banco de España

SCA status

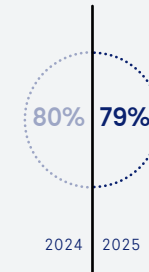
PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

3DS success rate



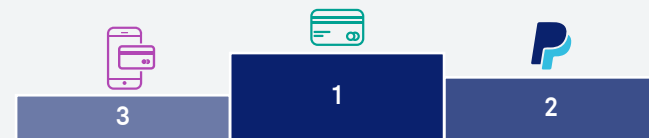
3DS challenge success rate



Frictionless



Top online payment methods





SWEDEN

National Competent Authority

Financial Supervisory Authority (Finansinspektionen)

SCA status

PSD2 SCA is enforced for all in-scope transactions.

3D SECURE PAYMENT DATA

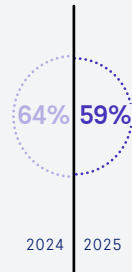
3DS success rate



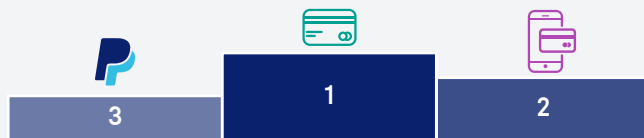
3DS challenge success rate



Frictionless



Top online payment methods



UNITED KINGDOM

National Competent Authority

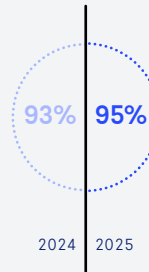
Financial Conduct Authority

SCA status

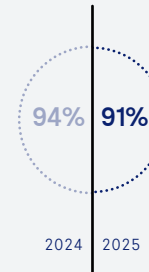
PSD2 SCA is enforced for all in-scope transactions, as, regardless of the UK's exit from the EU, PSD2 is fully written into UK law. However, the UK government signaled its interest in revisiting this legislation in November 2024 in the National Payments Vision – [read more information here](#).

3D SECURE PAYMENT DATA

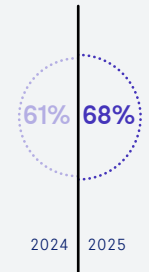
3DS success rate



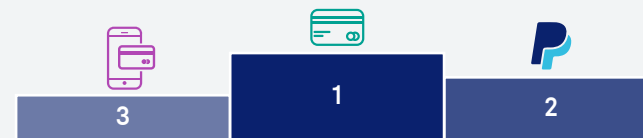
3DS challenge success rate



Frictionless



Top online payment methods





UNITED STATES

National Competent Authority

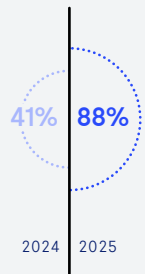
Federal Reserve Board

SCA status

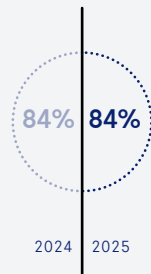
No regulation as of yet. Card schemes have discontinued use of 3DS v2.1.

3D SECURE PAYMENT DATA

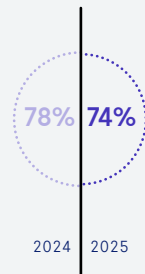
3DS success rate



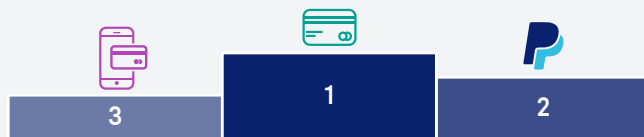
3DS challenge success rate



Frictionless



Top online payment methods



4+ billion
transactions per year

\$62 billion
in transactions processed

340+
merchants protected



SECTION B: GLOBAL LANDSCAPE ANALYSIS

DELVING INTO 3DS SUCCESS RESULTS, GLOBAL PAYMENTS TRENDS, REGULATION UPDATES & ADVICE TO MERCHANTS

In this section of the Global Payments Report 2026, we turn to Ravelin's subject matter experts to compare, evaluate and interpret this year's authentication success metrics, identify patterns, and consider the best way forward.

How is the payments landscape evolving?

What are the key trends influencing payment strategies in the short and medium term?

You'll also get analysis and advice from Ravelin's senior leadership – and our annual SCA legislation map.

KEY POINTS WORTHY OF YOUR ATTENTION

- › Issuers, card schemes and legislators are tightening their assessments and putting more pressure on merchants. Global frictionless rates have dropped.
- › Authentication is becoming more dynamic, with network tokens.
- › A2A, real-time payments and digital wallet adoption increases – while agentic AI and stablecoins are touted as the way forward. But fraudsters are taking notice.

ANALYSIS: WHAT THE LATEST 3DS METRICS MEAN

The Global Payments Report 2026 goes beyond simply reporting authentication rates; this year, we are benchmarking performance against the previous year to measure the real-world impact of recent technological and regulatory developments.

THE GLOBAL PERSPECTIVE & THE FRICTIONLESS CHALLENGE



Ravelin's latest data reveals a mixed global performance in transaction authentication.

3DS success rates have slightly increased across the board, with this trend primarily driven by a significant rise in the USA, which we'll examine in more detail below. 3DS challenge success rates are at about the same levels as last year.



James Hogan
Senior Product Manager
at Ravelin

For the past 12 years, James has led product teams at iconic companies such as Ebay, Mastercard, Worldpay and Ocado, specializing in payments optimization, risk policy management, fraud operations, and platform scaling and adoption.

At Ravelin, he currently leads the development of our 3D Secure, 3DS SDKs and Transaction Optimization products.

Metric	Global trend	Implication
3DS success rate	Slightly increased	Overall effectiveness is up, driven primarily by significant gains in the USA.
3DS challenge success rate	Remained stable	When customers are challenged for authentication, they are succeeding at similar rates as last year.
Frictionless authentication	Declined across the board (globally, US, and Europe)	Fewer customers are enjoying seamless checkouts, which increases the risk of cart abandonment.

Merchants are trying to reduce friction by requesting exemptions, issuers are tightening their fraud assessments and denying those requests more frequently

Frictionless authentication, however, has declined in all three aggregate regions we are tracking: globally, in the US and in Europe. **Fewer consumers are enjoying smooth shopping experiences** – which can result in cart abandonment and increase the customer insult rate.

The decline in frictionless authentication is concerning, particularly given the strong merchant demand for it: 78% of merchants now report using exemptions, an increase from last year. This suggests

that while merchants are trying to reduce friction by requesting exemptions, issuers are tightening their fraud assessments and denying those requests more frequently.

TURNING THE VICIOUS CIRCLE INTO A VIRTUOUS CIRCLE



This observed decline in frictionless rates creates a vicious circle, but merchants can reverse this trend. The key to improving performance is two-fold:

1. More data: Merchants must provide richer data to the issuer to support the legitimacy of the transaction.
2. Optimized exemptions: Nobody is leveraging exemptions as effectively as they could be. Merchants must employ smarter systems



to manage their exemption strategy to successfully increase the number of smooth, frictionless checkouts.

LOCAL INSIGHTS: CONSUMER HABITS REMAIN TIED TO LOCAL CULTURE



We should note that **aggregate rates fail to capture the complete story**. The payments industry doesn't operate on a global level. Country-specific and region-specific data is more relevant to those payments and fraud managers who aspire to improve conversions and make the most of opportunities.

Despite globalization, **local payment culture continues to drive consumer habits**. In many countries, card usage is not as commonplace as in the UK or the USA. German consumers have always embraced bank transfers. Brazil's Boletão Bancário system is also worth noting, as is Pix¹ – the South American country's unique real-time payment method, which launched in 2020.

For the first time, real-time account to account payments (A2A) ranked among the top three payment types in two of the Report's 37 countries, landing at number three in Germany and number two in the Netherlands.

Different nations have a preference for different types of payments, yet this particular change seems to indicate a wider shift, with the EU taking notice and more countries, such as Belgium, exploring this option. Is this a sign of things to come?

Understanding of local payment culture is critical and can be the single factor that determines success or failure in new markets

Each region has its own uniqueness. But the payments ecosystem involves multiple players: regulators, PSPs, issuers, schemes.

For merchants who sell across borders or planning expansion, a deep understanding of local payment culture is critical and can be the single factor that determines success or failure in new markets.

3DS EVOLUTION, VAMP, AND FRICTION



Authentication performance is improving but the industry is seeing a decline in frictionless checkout.

The United States saw a significant leap of 47% in the average 3DS success rate this year. This was potentially influenced by the shift away from the older 3D Secure 2.1 standard, a trend we expect to continue as the deprecation of 2.1 is fully completed.

For one more year, **the UK leads the way in 3DS success rates**. But there is still room for improvement in terms of frictionless rates. Both regions show a need to focus on improving the customer experience – which may account for the 51% of British merchants who would like to see PSD2 SCA abolished in the UK (see Section C).

In fact, frictionless rates are falling globally and in 76% of countries. Of the 37 countries in our authentication report, 28 registered declining or plateauing frictionless authentication rates. This widespread decline demonstrates that simply adopting 3DS is not enough: Issuers are tightening their fraud models, resulting in more challenges and fewer smooth shopping journeys.

Frictionless rates are in decline because merchants are not submitting enough data – or not submitting the right data. The upcoming 2.3 standard introduces new fields that can provide the necessary context

The key to reversing the frictionless decline is sophisticated optimization

to satisfy issuer requirements. Ravelin is prepared for 2.3, but the wider industry's pace of adoption remains a major unknown.

More than technical announcements, **it's financial implications that drive real-world change**. Visa's new monitoring program, VAMP, introduced new calculations and penalties for excessive disputes and card testing. Visa starts handing out penalties in January 2026. While this report's metrics were unaffected, VAMP penalties will soon incentivize merchants to prioritize optimized authentication and fraud prevention to protect their bottom line.

The key to reversing the frictionless decline is [sophisticated optimization](#). There is a common misconception that merchants should always request the highest available exemption, at any cost. This is suboptimal because issuer risk tolerances vary widely. A sophisticated, adaptable model can calculate what works best, for each individual issuer and each individual transaction.

Frictionless rates speak volumes to the value of having someone like Ravelin as a partner to provide adaptive, data-driven optimization using machine learning. It's key to listen to the data received back from the issuer and learn from it.

By examining opportunities, doing risk assessments and optimizing transactions, a robust solution can improve frictionless rates, delivering smoother customer experiences, and therefore driving higher conversions. ■

TOP PAYMENT TRENDS TO LOOK OUT FOR IN 2026

1. AGENTIC AI COMMERCE

Agentic AI commerce continues to be touted as industry-changing – and AI traffic to merchants is on the rise. Yet, questions remain around actual adoption of agents for shopping, as well as liability for false orders. At the time of writing, key protocols developed for agents to interface with online shops include:



- › MCP servers (initially developed by Anthropic)
- › IBM's ACP
- › Google's AP2
- › Cisco's ANP
- › Visa's Trusted Agent Protocol

The sector moves fast, but will it “break things”, per the adage? And then, there is fraud. How are fraudsters reacting and adapting?

› [Read Ravelin's guide to agentic AI fraud.](#)

2. E-WALLET ADOPTION GROWING

E-wallet adoption keeps growing, and now is the second most accepted method globally.



As you'll read in Section C, more merchants ranked Google Wallet and Apple Pay [in their top 3](#) most fraudulent payment methods, while PayPal landed in the third place of all payment methods. However, chargeback liability works differently when it comes to digital wallets.

› [Read our guide to Google Pay and Apple Pay liability shift.](#)

3. UK TO RESHAPE SCA MANDATES

In the United Kingdom, authorities are pushing forward with the plan to reshape SCA requirements following the country's exit from the European Union. The stated aim is to “improve the consumer experience” and “supervise via an outcomes-based approach”.



In fact, [51% of British respondents](#) to our merchant survey would like to see SCA mandates removed – and only 30% prefer them to remain as-is.

› [Read about the UK's plans to abolish PSD2 SCA.](#)

4. A2A & RTP ON THE RISE

For the first time, account-to-account payments (A2A) entered the top 3 types to pay in two countries.



Consumers, merchants and legislators are experimenting with new ways to pay and get paid. Retail no longer sleeps, with shoppers buying online around the clock. Adoption of real-time payments (RTP) is increasing – which also means RTP fraud is rising and in fact is already among the top types of fraud across the globe.

5. 3D SECURE & SCA NOW SEEN AS CONVERSION-SUPPORTING

According to industry reports², merchants are using 3D Secure to boost authorization rates. 3D Secure and SCA are now seen as conversion-supporting by merchants, especially when frictionless flows and exemptions are used well.





Ravelin's latest survey confirmed that more merchants are using exemptions than last year, while better protection from fraud is the top reason to authenticate for more than half – with better data and chargeback reduction also mentioned frequently. But [8 in 10](#) are still concerned about how challenges affect conversion. Clearly, there is room for further improvement, including by optimizing transactions.

▶ [Learn more about transaction optimization.](#)

6. AUTHENTICATION IS BECOMING MORE DYNAMIC



Authentication is becoming more dynamic. Verifiable, secure, user-controlled tokens are replacing static, vulnerable credentials.

Card schemes are promoting network tokens – for instance, Mastercard [has committed](#) to reaching 100% ecommerce tokenization by 2030. The EU's updated eIDAS 2.0 regulation introduces the EUDI wallet³, which serves to prove Europeans' identities digitally, with merchants forced to accept these digital wallets for SCA and IDV by 2027.

7. PRESSURE ON MERCHANTS TO USE SCA FROM SCHEMES AND LEGISLATORS



In regulatory news, SCA is increasingly requested by schemes in the USA, and Asia-Pacific countries are moving forward with mandates.

South-East Asia has become another key region for payment legislation. In Japan, 3DS is mandated for all payments since March. Although there were no recent seismic regulatory shifts such as the implementation of PSD2 by the EEA in 2019, pressure on merchants to use SCA from both schemes and legislators is intensifying.

▶ [Read our full State of Payments Regulation analysis.](#)

8. STABLECOINS IN THE SPOTLIGHT



Stablecoins are in the spotlight across industry events. Political and macroeconomic implications aside, it's interesting that several payment processors have embraced this technology, which promises to give merchants a method to pay that involves lower transaction fees, faster settlement times, and global reach.

We've seen key industry players such as PayPal, Fiserv and Stripe release their own stablecoins tied to fiat currency. However, challenges remain, including uncertainty about regulation and practical deployment.

9. VISA HANDING OUT VAMP FINES



According to both quantitative and qualitative evidence – including authentication metrics and merchant feedback, Visa's much-discussed new monitoring program (VAMP) is unlikely to have affected rates at the time of publication, because monitoring only started in October and the first fines are expected in January 2026. However, the picture is likely to be different next year.

▶ [Read more about Visa's VAMP in our up-to-date guide.](#)

10. NEW ATTACK VECTORS



The opportunities presented by these developments are plentiful. Also plenty are the opportunities to find new attack vectors, scale up fraudulent operations, and mislead consumers.

Fraudsters and all manner of cybercriminal are experimenting with new payment technologies, methods and automation. Make sure you speak to your payments and fraud prevention partners regularly. A data-driven sophisticated AI native solution will adapt to new threats.

Make sure to read Ravelin Founders' advice in the next few pages. ■

2026 IN PAYMENTS: OUR CO-FOUNDER'S ANALYSIS & ADVICE

The payments landscape is changing faster than ever. It's worth listening to all voices, including skeptics, and learning from them.

Take agentic ecommerce for example. Major companies are investing a lot of resources into enabling and promoting this new way to streamline buying using AI, but there are conflicting opinions on whether this will take off. There are several unknowns at this point, and all we can do is speculate.

The thing is, **agentic commerce may or may not take off. But agentic fraud will definitely take off.** And merchants should plan ahead for that, at the very least.



Mairtin O'Riada
Co-Founder and COO
at Ravelin

Internationally experienced data scientist, Co-Founder and COO of Ravelin, Mairtin O'Riada has a career spanning various high-stakes roles, including positions with Scotland Yard and the United Nations.

Having honed his expertise in intelligence analysis, economic crime prevention, and anti-corruption strategies, Mairtin is known for his innovative approach to fraud detection and passion for mentoring the next generation of analysts.

How will agents identify themselves to merchants? Good agents will identify as agents, not as humans. There might be some type of voluntary identification scheme. It helps to think of agents as a different type of bot.



In the past, a deterministic fraud detection system could simply block all bots, because there were few legitimate and lawful use cases for shopping bots. AI agents are promising to be a type of "good" shopping bot, so rules-based fraud detection can no longer live up to the challenge.

In a certain light, this is not new: New tech and evolving consumer habits have slowly but surely **rendered deterministic systems ineffective** over the last few decades. Automated, adaptable and scalable solutions, such as those using AI and machine learning, are the only viable option for fraud detection.

Meanwhile, the use cases for fraudulent agents are endless. For instance, they make it easier to deceive systems that solely rely on behavior analysis. An agent can be requested to click around and move the cursor in a way that mimics a human. They are a further, more sophisticated, way for criminals to automate fraud and scale up their operations.

It is a possibility in the short term that agents may identify as normal users – but this includes illegitimate agents. As agentic protocols are adopted, possible fraud vectors widen. A fraudster may deceive

New tech and evolving consumer habits have slowly but surely rendered deterministic systems ineffective

a legitimate agent to shop from a fake website. A fraudster may set up an illegitimate agent to interact with a legitimate online shop. A fraudster may successfully intercept or spy on legitimate transactions on legitimate websites conducted by legitimate agents. The list is endless.

When agentic commerce is a significant part of the market, will common fraud change as well? Fraud detection companies need to make sure that we are awake to new trends stemming from agent behavior.

So, what can merchants do? **Be aware; develop heuristics; continue to monitor closely.** Fraud always translates to revenue loss. If you observe otherwise unexplained revenue loss, you may be experiencing agentic fraud. In other words, we should definitely add AI agents to the list of suspects – be they AI *shopping* agents in particular or other AI agents.



What does not look like a scripted attack any more, thanks to criminals enlisting AI agents, is very likely still detectable by examining a breadth of data.



Machine learning models can spot deviations from normal behavior as exhibited by the majority of your good customers. And several fraud signals will continue to be relevant.

Any technology that achieves mass adoption will become a target of fraud. Or a means of fraud. In turn, it will also catch the eyes of regulators. It may well happen with agentic AI, in time, but we also saw it with the recent new wave of BNPL legislation around the world: The inflationary cost of living crisis led to **BNPL regulation**, for example in the UK, where authorities dubbed the previous landscape “the BNPL Wild West” and introduced mandatory affordability checks, credit reporting and oversight, among other changes. In principle, there is nothing novel in this development.

This crosses over to the recent **changes in the EU related to the EUDI wallet** – a form of member-country-specific digital identification wallet currently in



deployment. Not much attention has been given to this, yet it will affect merchants in a very real way, soon: Merchants with EEA-based customers are mandated to accept EUDI for secure customer authentication (SCA) and identity verification (IDV) by 2027.



But fraud adapts – identity isn’t the sole answer

Every attempt to curb fraud from a regulatory perspective has focused on identification. EUDI is not going to fully solve the problem of online identity fraud, and it might also go against privacy legislation. We can either have extreme privacy or extreme

identification. It’s a spectrum of competing interests. Reality always falls somewhere in the middle.

A few years ago, some thought 3D Secure would be the end of a certain kind of fraud. **But fraud adapts** – identity isn’t the sole answer. Identity is often the first thing that people reach for when they try to solve fraud. A catch-all solution to a complex problem is unlikely to be the silver bullet. If it were, 3D Secure would have been it. Identity is always one tool in the arsenal for solving fraud.

It’s important to stay pragmatic. Anything and everything is vulnerable to a sophisticated fraud attack. Identity theft is terrible – and lucrative; identities are already vulnerable. There are also severe consequences to the individual for getting it wrong. If we overload a single identity and use it for many things, and one person in a million loses that identity, that’s still a life changing experience.



Regulators will have to be smart about **failsafes to the EUDI wallet** or any similar systems. What happens when someone steals your card and uses it to buy something? You can request a chargeback, which both helps solidify trust in card-not-present payments and minimizes bad outcomes for victims of fraud. There needs to be an equivalent for the EUDI wallet, so you can dispute illegitimate use of this wallet that belongs to you – a challenge process.

And what about privacy? Sometimes people don’t want to give their details, or even provide tokens. They do not want to be known but still want to be able to shop. This is down to individuals. But **businesses need to allow for both, if they want to increase their customer base**. You need to allow for privacy and also for those who don’t prioritize privacy as much.

It’s similar to guest checkout – those companies who choose to support it are casting a wider net. People used to just buy something, but now that’s completely flipped: The market has shifted to account-based approaches. Merchants expect shoppers to set up an account, storing within it as much of their data as possible, including payment cards, and maybe digital proof of identity as well.

We could draw parallels to Ravelin’s fraud detection, which uniquely focuses on everything we know about the customer and all their lifetime activity rather than only on one specific transaction or other user action.

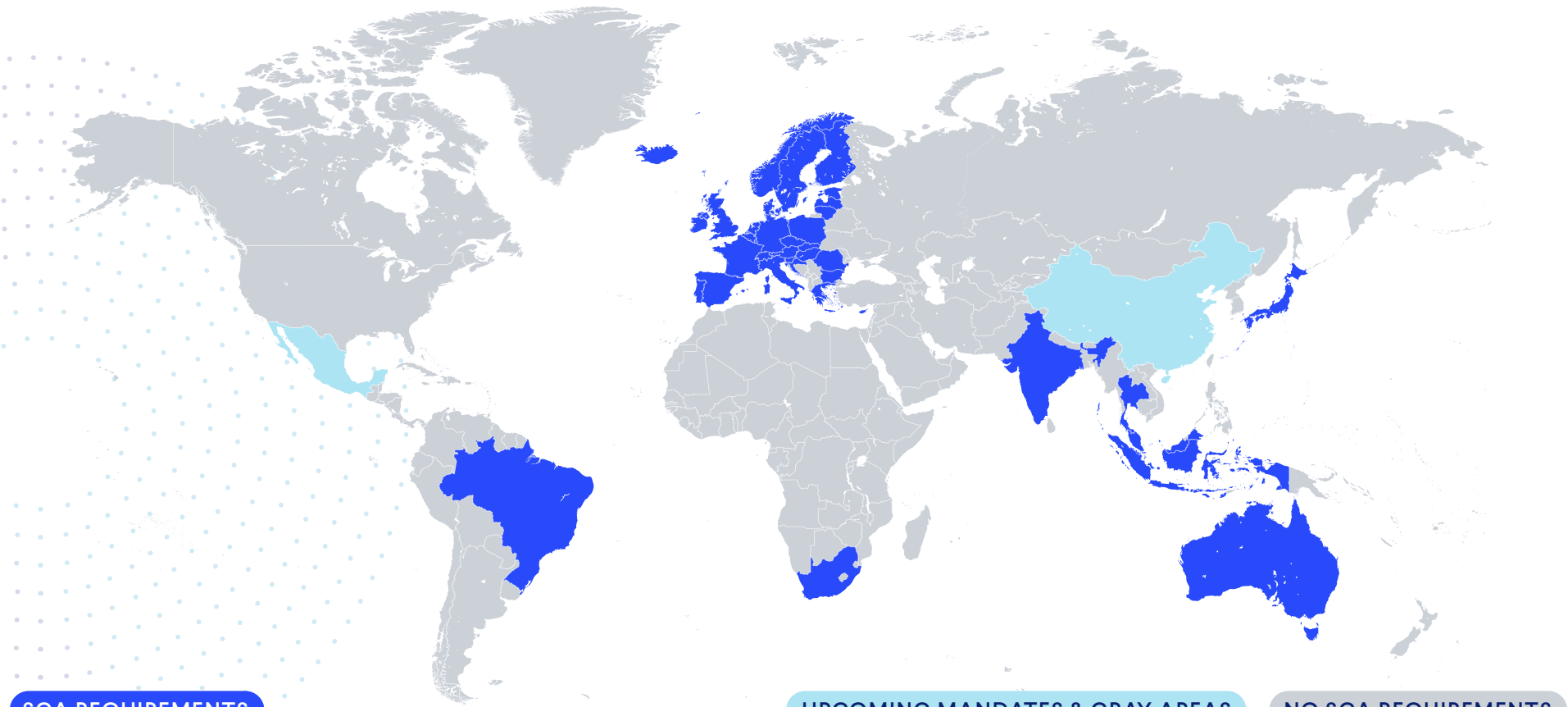


For merchants to maximize revenue opportunities, we need to account for both people and actions; and for both those who are privacy-minded and don’t want to set up an account, and those who don’t mind and are happy to share all their data with merchants. Sophisticated fraud detection solutions can support guest checkouts too, enabling merchants to appeal to a wider audience. After all, a sophisticated solution will not limit itself to the data provided by the user in order to calculate a fraud score.

The fact of the matter is, **fraud will always be with us. And businesses still want to do business**. There is no one-size-fits-all solution. As a merchant, make sure your fraud detection partners can live up to new challenges, continue to monitor developments closely, and are consistently improving their products. As we do at Ravelin. ■



SECURE CUSTOMER AUTHENTICATION MANDATES AROUND THE WORLD



SCA REQUIREMENTS

Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, UK

Australia, Brazil, India, Indonesia, Japan, Malaysia, Singapore, South Africa, Thailand

UPCOMING MANDATES & GRAY AREAS

China, Mexico

NO SCA REQUIREMENTS

SECTION C: PAYMENTS & AUTHENTICATION TRENDS

MERCHANT ATTITUDES TO AUTHENTICATION, REGULATION, PAYMENTS AND PAYMENT FRAUD

In this section, you'll find previously-unreleased data from Ravelin's original research into merchant attitudes to payments.

This was gathered as part of our [Fraud and Payments Survey](#), conducted annually to better understand the experiences, pain points and expectations of enterprise merchants who accept payments online.

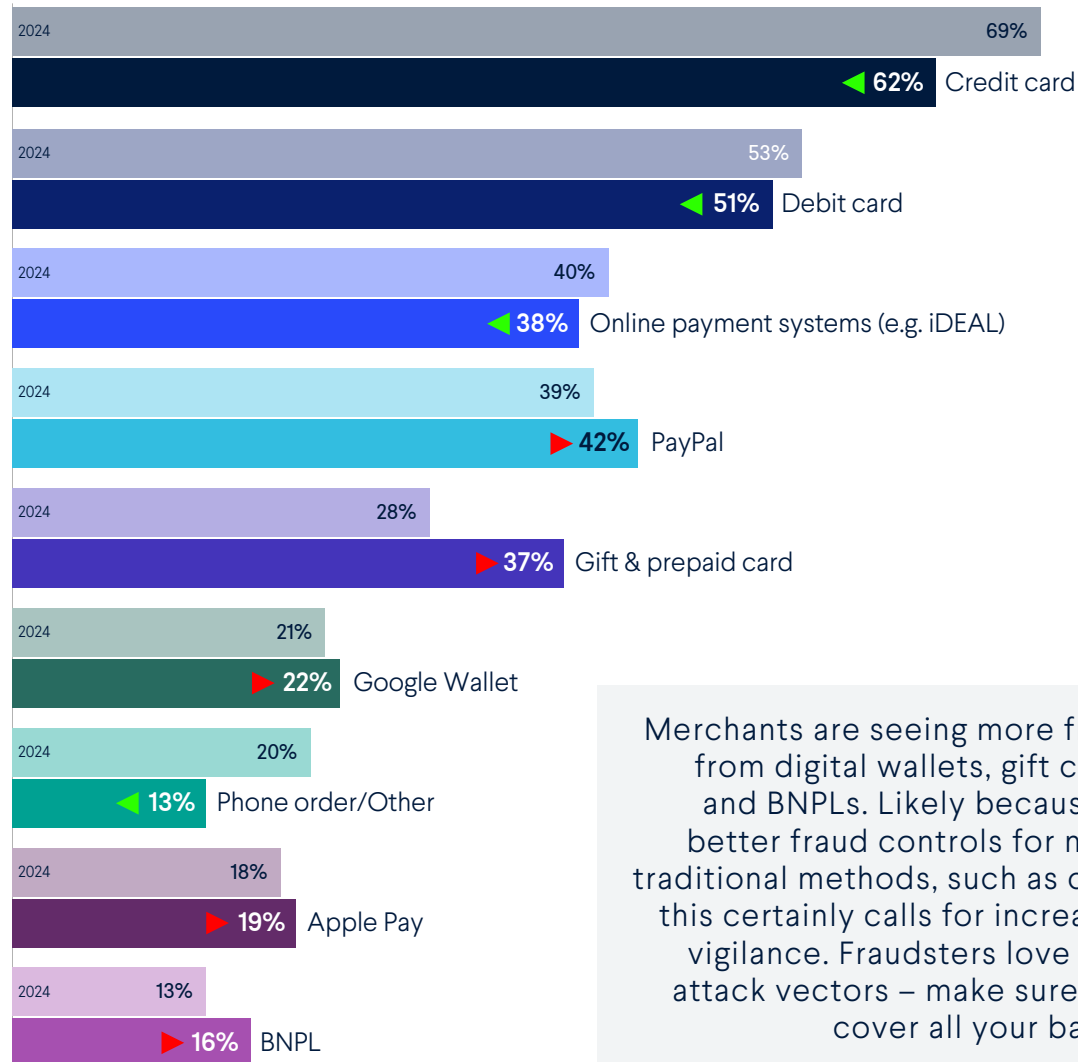
We'll explore findings across payment methods, authentication, SCA mandates and payment fraud, including chargebacks.

FINDINGS WORTHY OF YOUR ATTENTION

- › Merchants report more fraud from newer payment methods, including e-wallets and BNPL, compared to traditional ways to purchase – but **credit cards remain the biggest source of fraud**.
- › **8 in 10 expect to authenticate more often** in the future, and almost as many also report using 3D Secure more today compared to the past year.
- › Data quality and quantity has become a key reason to authenticate, with a 100% year-on-year increase in replies – but **improving fraud protection** remains the top reason and motivator to run SCA.
- › **The appetite for frictionless** is clear: More merchants use exemptions than before – but as we saw in Section A, the results are less than optimal for now.

PAYMENT METHODS

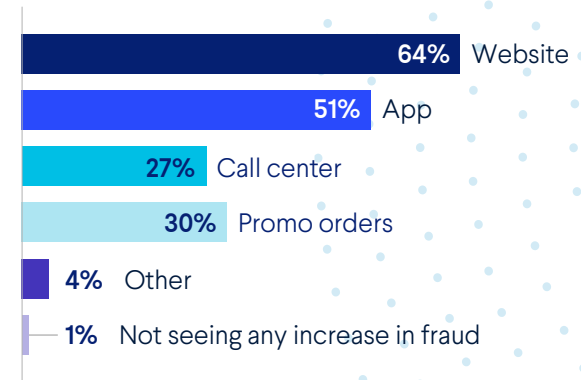
WHICH PAYMENT METHODS INCUR MORE RISK FROM FRAUD?



Merchants are seeing more fraud from digital wallets, gift cards and BNPLs. Likely because of better fraud controls for more traditional methods, such as card, this certainly calls for increased vigilance. Fraudsters love new attack vectors – make sure you cover all your bases.

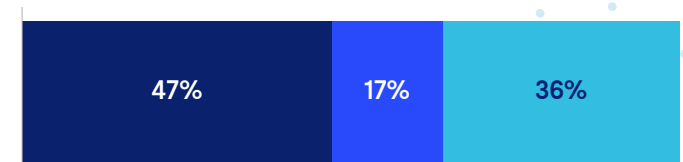
"Which payment methods have you found are linked to the most fraud (of any type) for your company? Choose the top 3."

WHICH ORDER CHANNELS SEE THE MOST FRAUD?



"Which order channels are you seeing the most fraud from? Choose up to 2 answers."

IS MULTICHANNEL/OMNICHANNEL MORE RISKY?



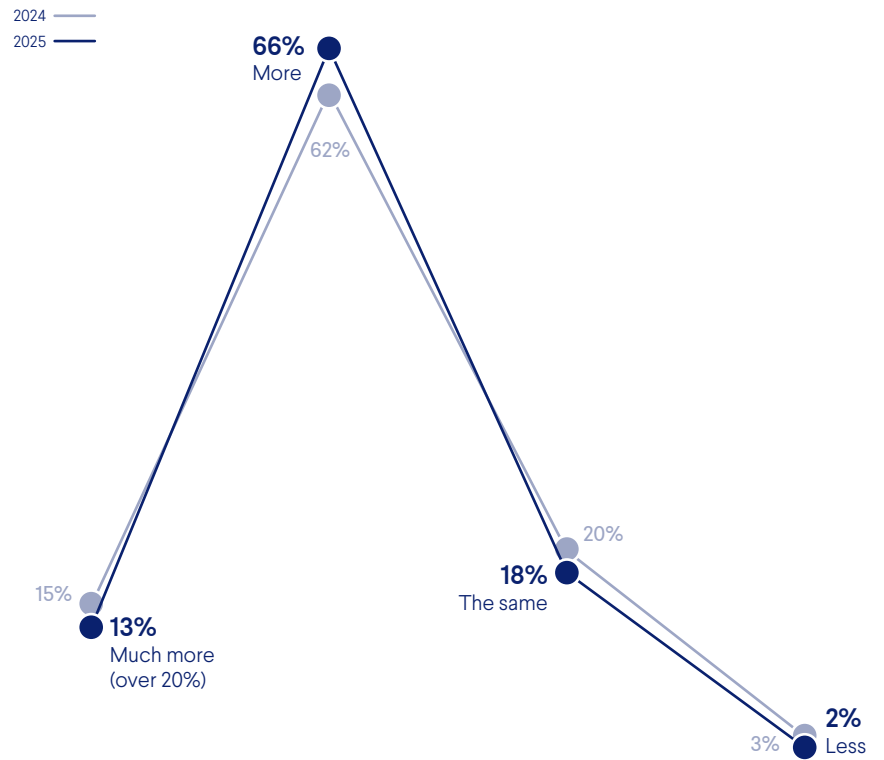
- Yes – fraud is likelier
- No difference to fraud
- No – fraud is less likely

"If you are providing a multichannel or omnichannel shopping experience, do you think it affects fraud at your company?"



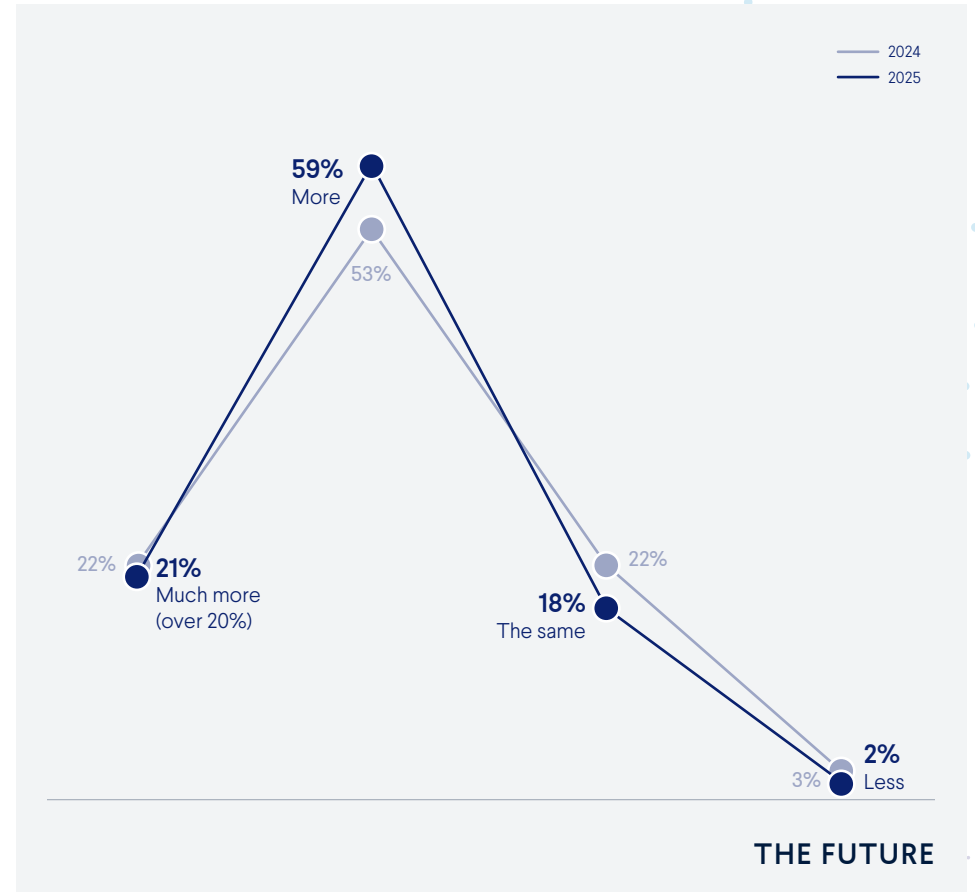
3D SECURE AUTHENTICATION

ARE MERCHANTS AUTHENTICATING MORE OR LESS THAN BEFORE TODAY?



THE PAST/PRESENT

ARE MERCHANTS GOING TO BE AUTHENTICATING MORE OFTEN?

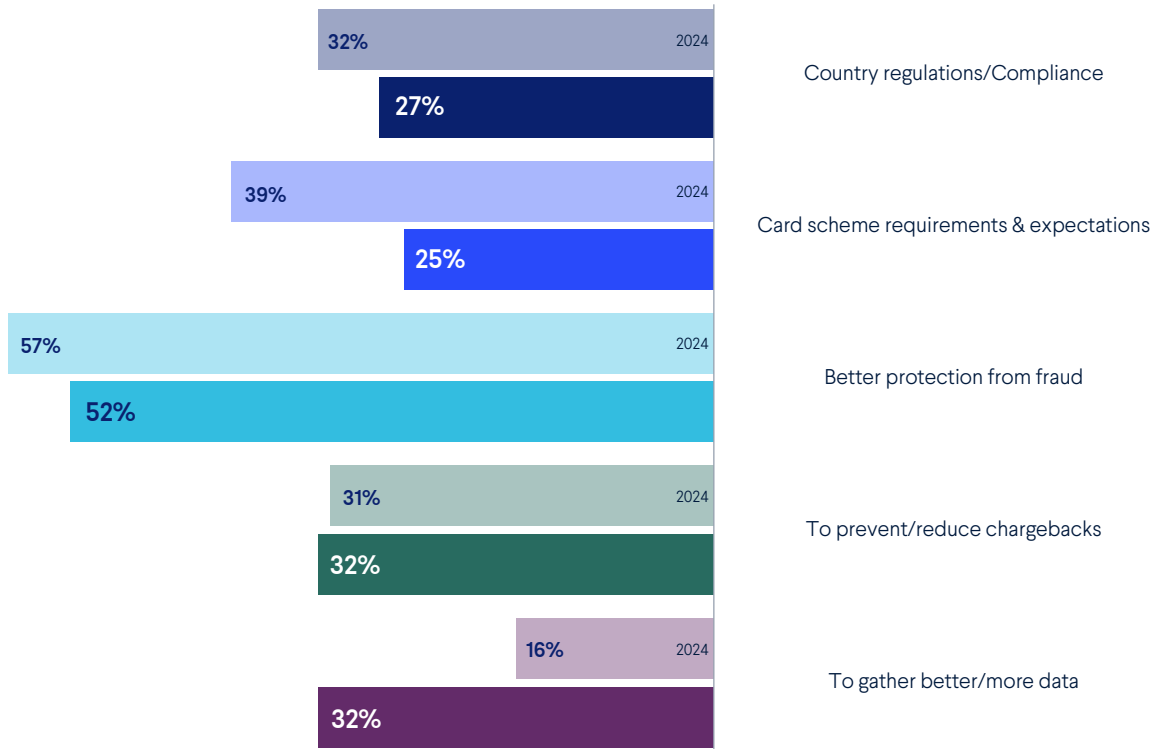


THE FUTURE



3D SECURE AUTHENTICATION

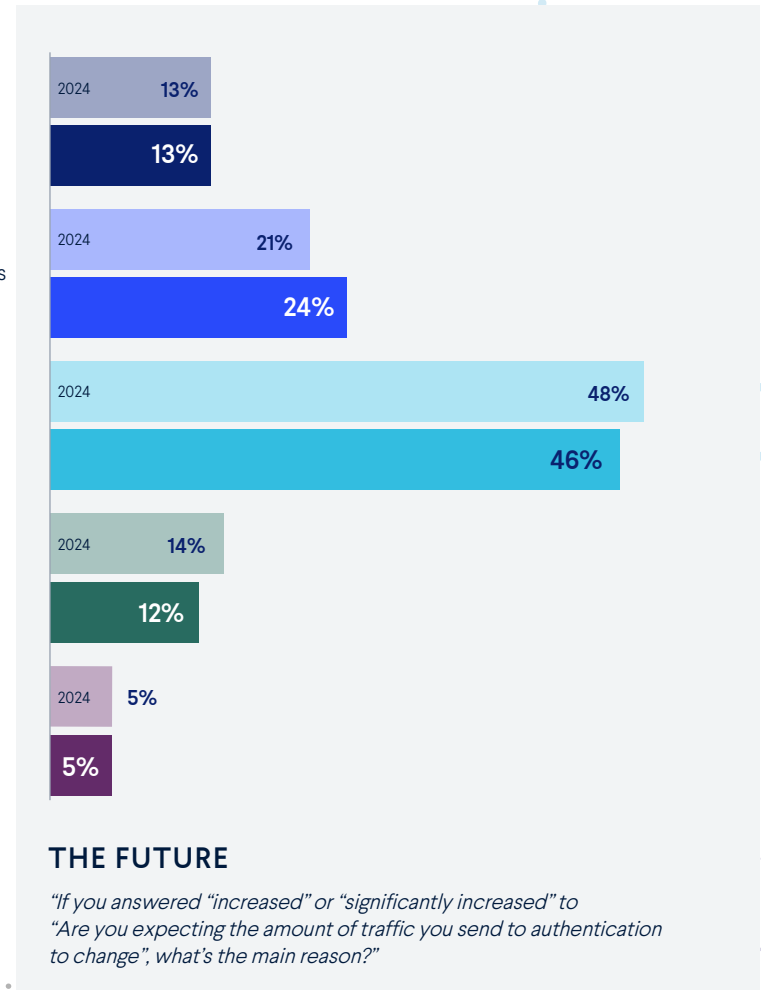
MERCHANTS' REASONS FOR USING 3D SECURE



THE PAST/PRESENT

"What are your primary reasons for using 3D Secure? Select up to 2 answers."

MOTIVATORS FOR AUTHENTICATION MOVING FORWARD



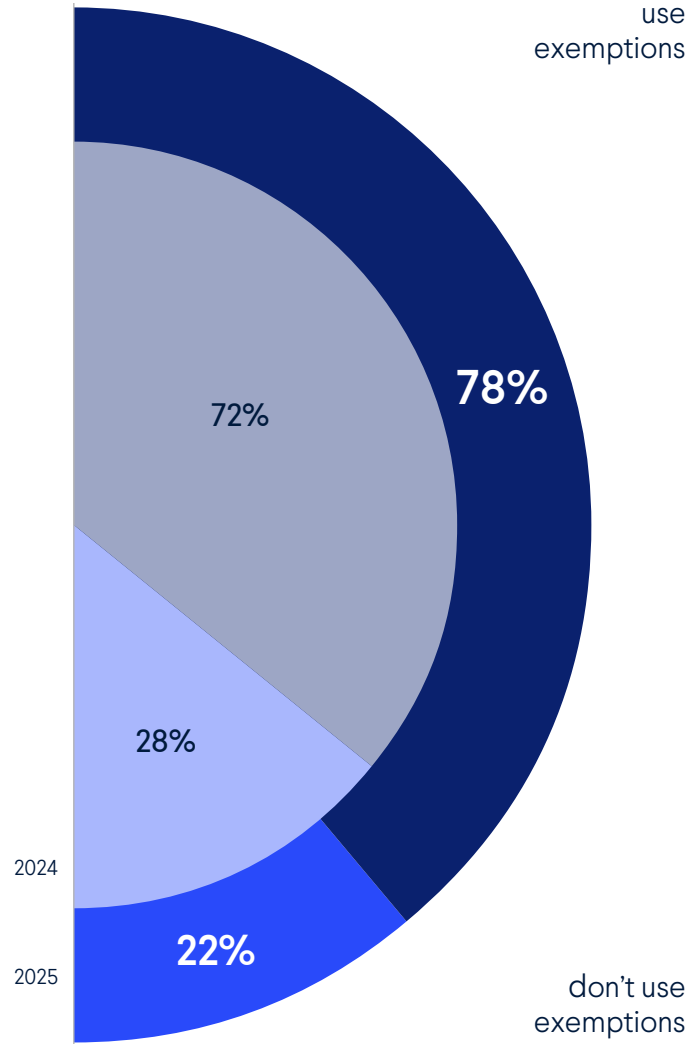
THE FUTURE

"If you answered 'increased' or 'significantly increased' to 'Are you expecting the amount of traffic you send to authentication to change', what's the main reason?"



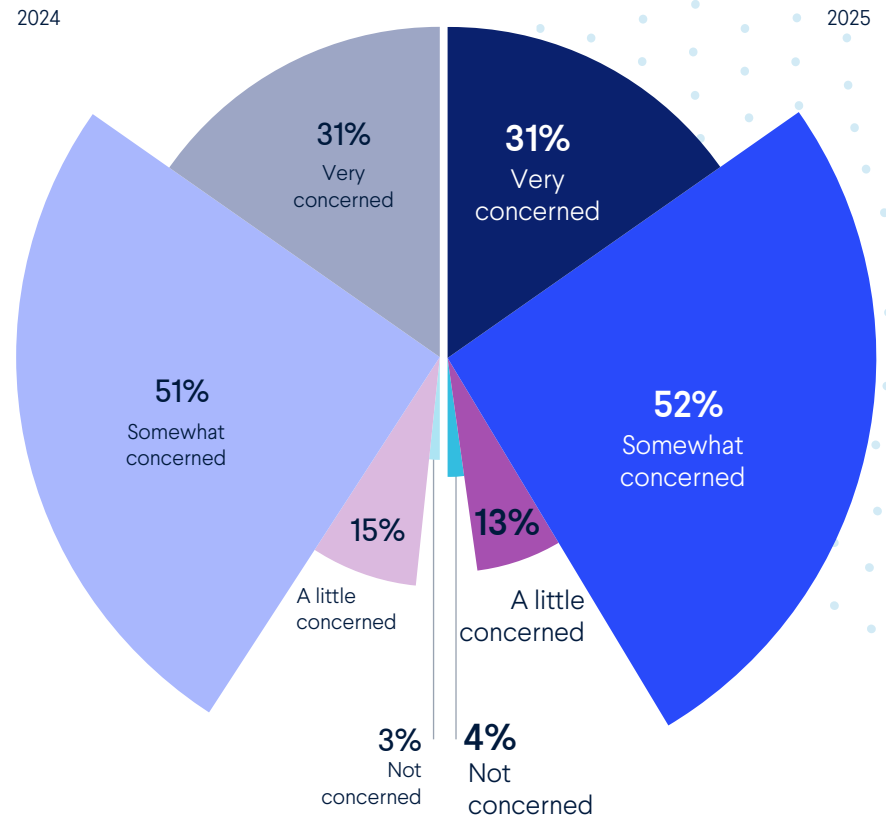
REGULATION – SCA & 3DS

USE OF PSD2 SCA EXEMPTIONS



"Do you currently use exemptions as part of your authentication strategy under PSD2?"

SENTIMENTS AROUND AUTHENTICATION CHALLENGES' IMPACT ON CONVERSION



"How concerned are you about the impact of authentication challenges/checks such as 3DS on conversion?"



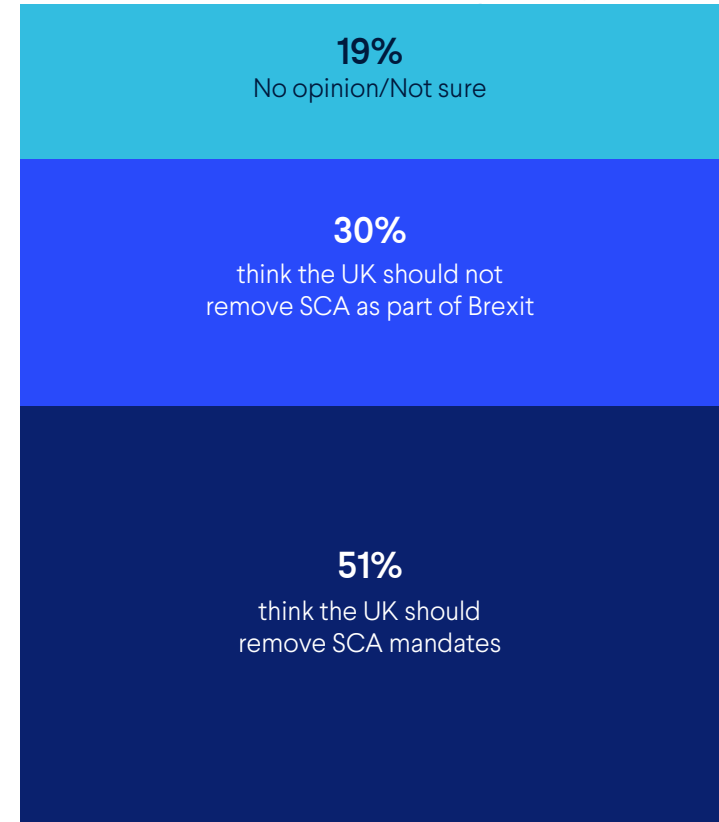
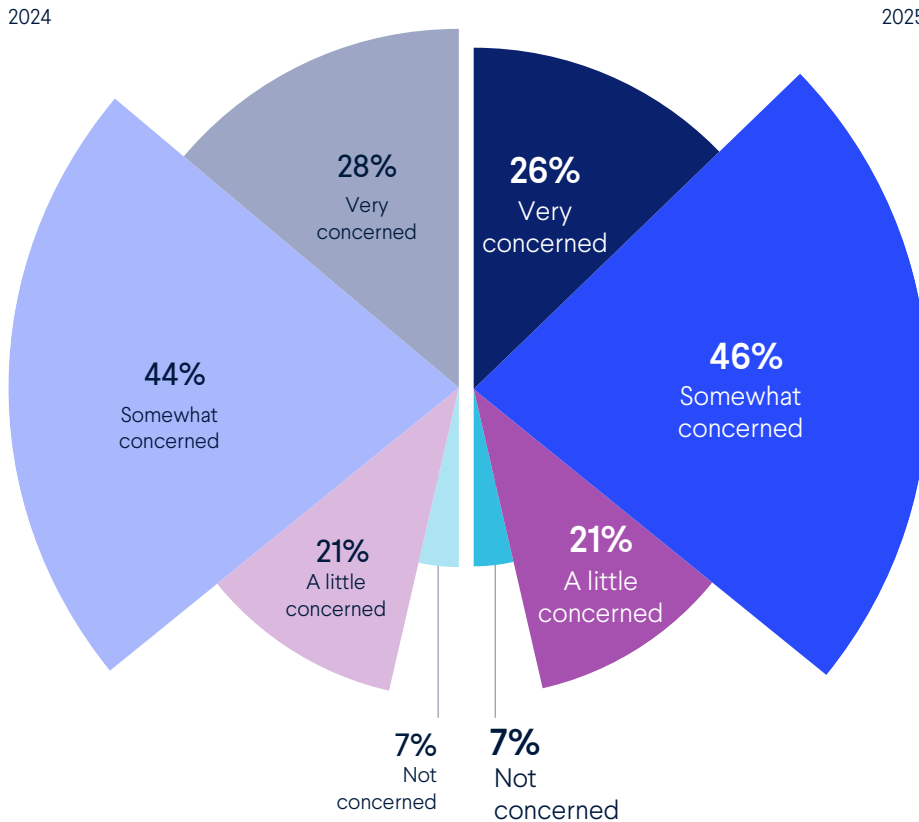
SHIFTS IN SCA REGULATION



SENTIMENTS AROUND THE UPCOMING PSD3



CHANGES TO SCA MANDATES IN THE UK



"Are you concerned about the upcoming PSD3/PSR legislation negatively affecting your business?"

"Do you think that the UK should remove its PSD2 SCA mandates post-Brexit?"

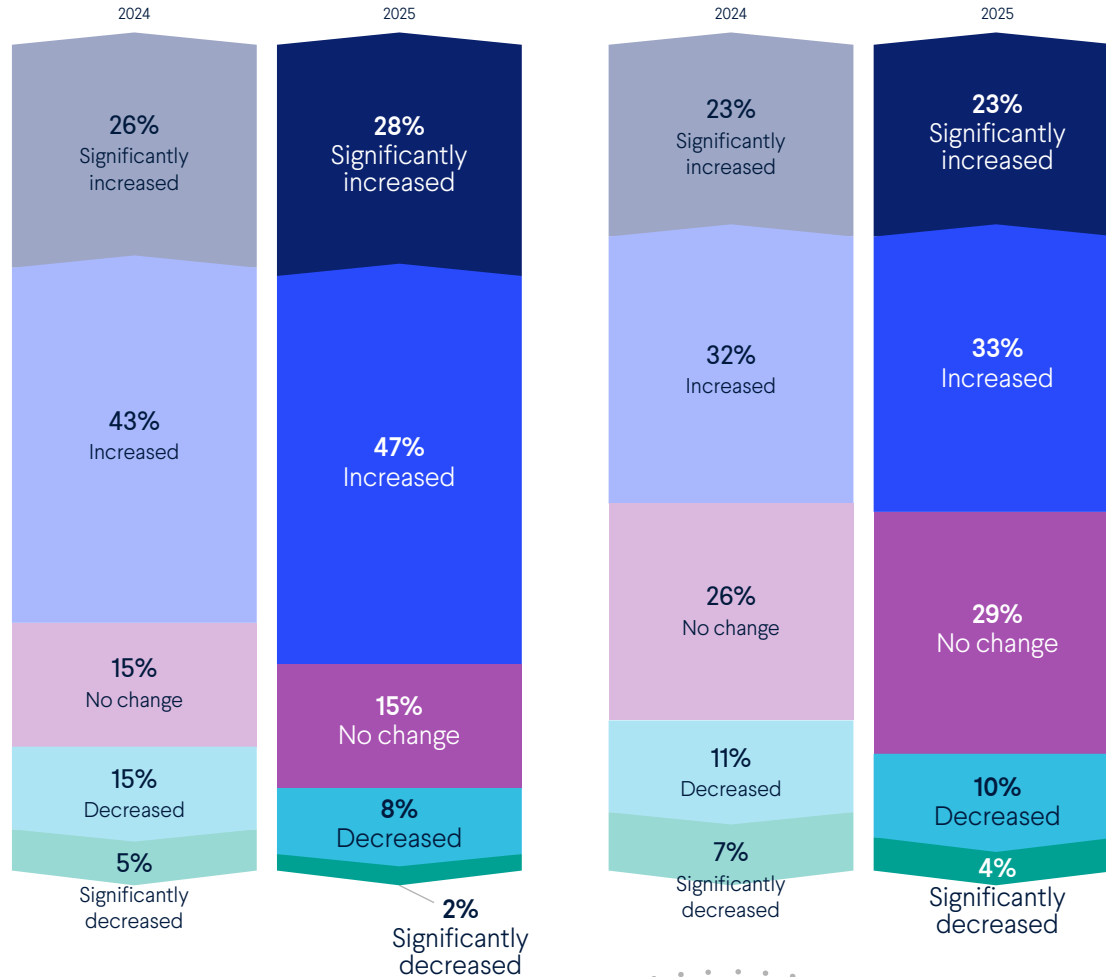


TRENDS IN CHARGEBACKS & PAYMENT FRAUD

Merchants ranked payment fraud and fraudulent chargebacks as **the two most expensive types of fraud** for the company as well as the top two types of **fraud that have the worst impact** on their business.

PAYMENT FRAUD

FRAUDULENT CHARGEBACKS



75%

of merchants report an increase in payment fraud – a **▲ 6% YoY increase**

56%

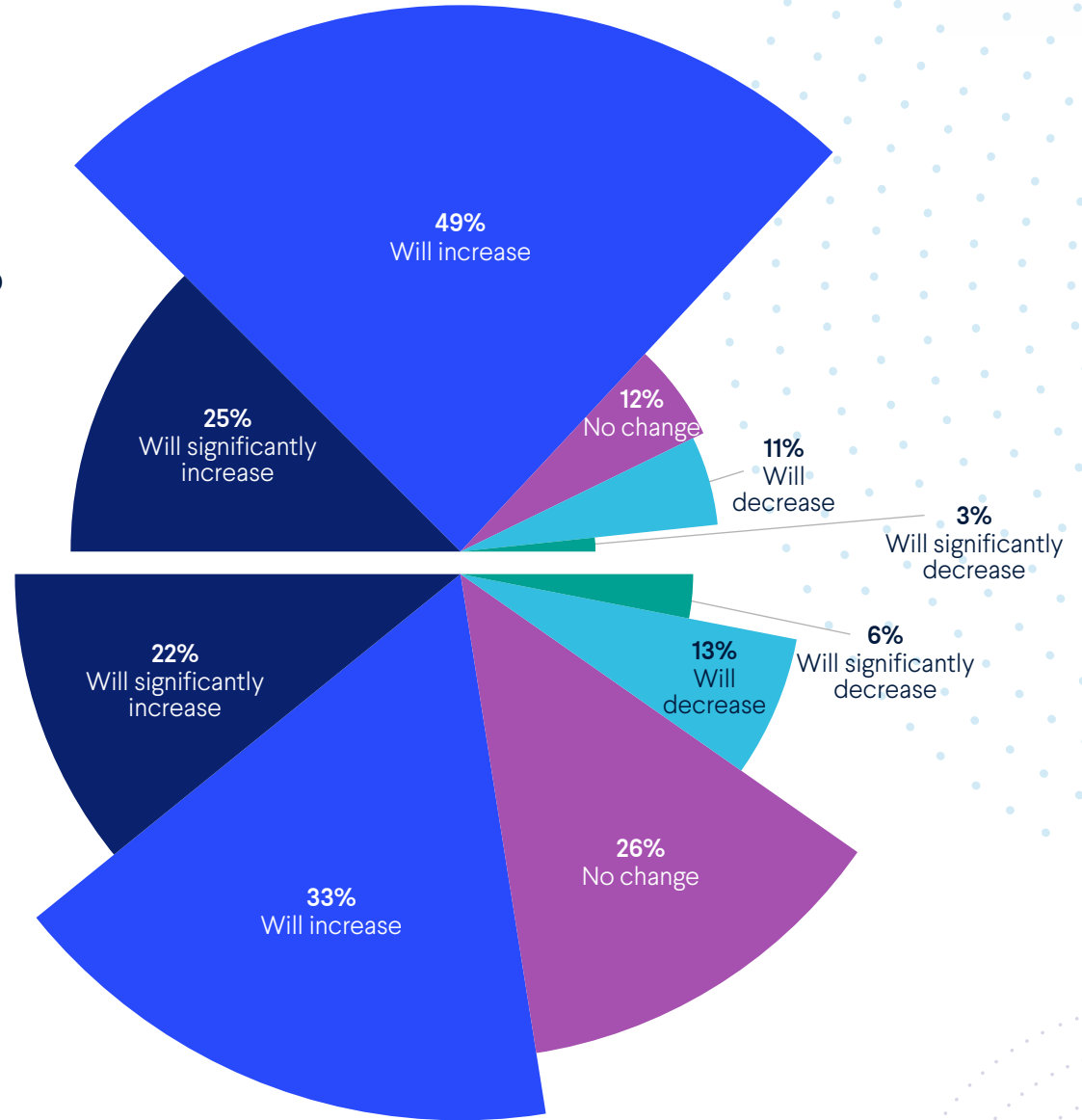
of merchants report an increase in fraudulent chargebacks – **exactly as many as last year**

"In the past 12 months, how has this type of fraud changed at your company?"



PAYMENT & CHARGEBACK FRAUD PREDICTIONS

ONLINE PAYMENT FRAUD



The average merchant challenges

38%

of disputes (▼4% down from last year)

...and is successful with



43%

of them (▼6% down from last year)

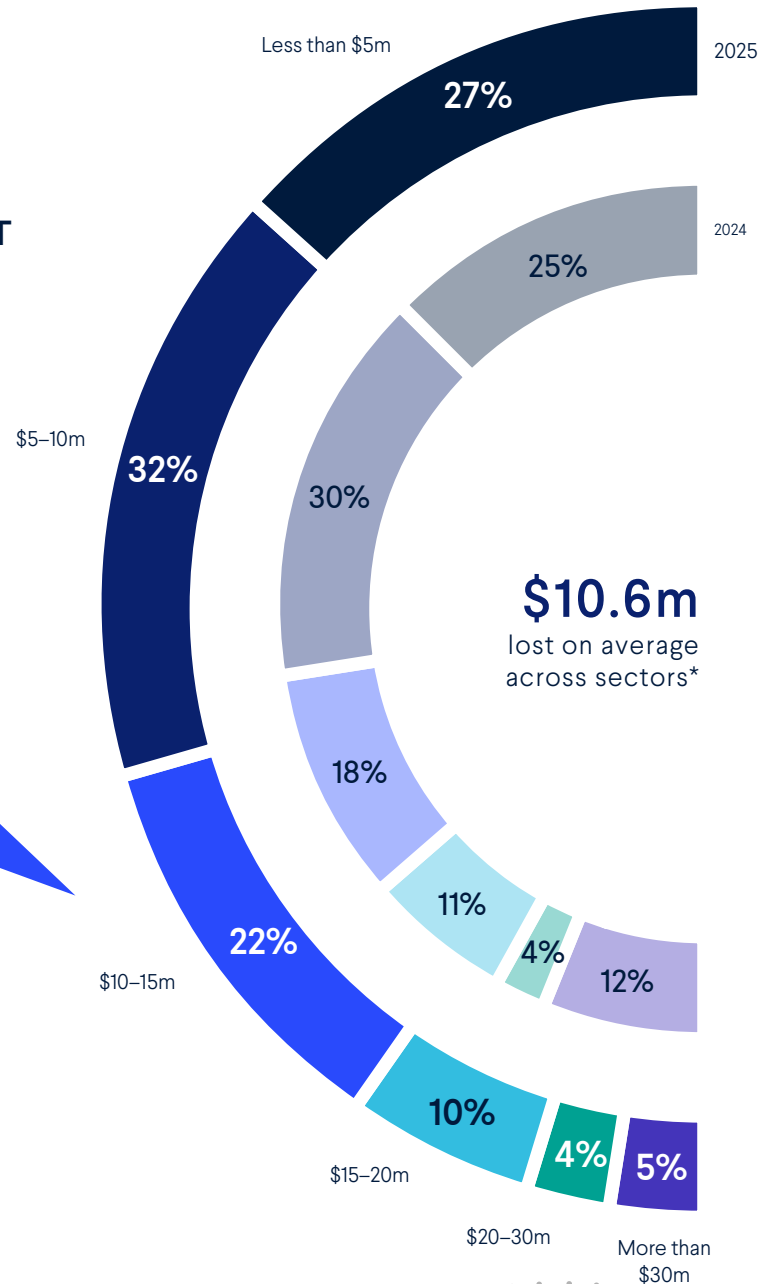
"Which types of fraud do you think will increase in the coming 12 months, and by how much?"



THE COST OF FRAUD

HOW MUCH DOES FRAUD COST COMPANIES EVERY YEAR?

Over **41%** of companies suffer losses to fraud of more than \$10m – **▲4% YoY**



46% of respondents said that they have heard concerns about fraud from their company's Payments team – **▲7% YoY**

"Giving your best estimate, how much does fraud cost your company annually?"

*Estimated averages based on the midpoint of each range, and \$40m used for "More than \$30m".

METHODOLOGY

SECTION A

For Section A, Ravelin pulled and is sharing anonymized internal data from payment fraud and optimization recommendations, as well as managing authentication itself, to calculate all metrics: 3DS authentication rates, 3DS challenge authentication rates, frictionless authentication rates, card payment preferences by country.

The reported data is based on transactions seen across Ravelin's Payment Fraud, Transaction Optimization, and 3D Secure products from January 1 to the last day of July 2025. Any comparisons to last year's report refer to data gathered in the same manner, from January 1, 2024 to the last day of July 2024.

SECTION B

For Section B, we have looked at recent developments on the payments and regulation landscape, with a focus on online (CNP) payments – with sources including card scheme bulletins, government announcements and Ravelin's own subject matter experts.

SECTION C

For Section C, we are presenting the findings from our online survey of 1466 fraud and payments professionals from around the world. Participants belonged to the C-suite or fraud/risk, finance/ payments, compliance/operations or product teams.

Survey participants all worked for businesses with more than \$50 million in annual revenue and/or over 500 employees, which sell their products either online or both online and offline. They were asked questions around their observations, attitudes and predictions related to fraud and payments in the past 12 months, at present, as well as in the future. Any comparisons to last year refer to data gathered in a 2024 survey of 1457 fraud professionals, following the same methodology.

REFERENCES

- 1 https://www.bcb.gov.br/en/financialstability/pix_en
- 2 <https://merchantriskcouncil.org/learning/mrc-exclusive-reports/global-payments-and-fraud-report>
- 3 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32024R1183>



Thank you for reading our Global Payments Report

Ravelin builds AI-native solutions to help companies accept payments with confidence, learning from your historical data to inform a payments strategy that works for your specific needs and goals – and no-one else's.

Get in touch today to discuss 3D Secure, transaction optimization, or payment fraud – as well as wider fraud prevention including refund abuse, account takeover attacks, promo abuse and supplier fraud.

Book a call at ravelin.com/contact-us.

Questions? Comments?

Please write to marketing@ravelin.com.

We frequently release new findings in fraud and payments.

Make sure you follow us on [LinkedIn](#) or by signing up at ravelin.com.