

Benchmark Study: 2018 Global Airline Online Fraud Management

March 2018



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One of the most important impacts in the travel industry is the digitalization of the traveler experience. Digitization has touched and changed the entire customer journey from research, booking, check-in at airport, to inflight activities. Digital natives are getting comfortable with online travel experiences, and mobile bookings are expected to grow exponentially over the next five years.

As airline efforts to promote online direct distribution are increasing, payments are becoming a greater area of focus aiming to not only reduce costs but also to enable expansion into new markets and create seamless digital experiences. However, this new environment is opening up airlines to new fraud scenarios, including fraud in loyalty programs, mobile, cross-border transactions, and last-minute bookings. So, what is the current state of fraud management in the airline industry?

To respond to that, CyberSource is pleased to introduce the 2018 Global Airline Online Fraud Report conducted by Phocuswright in partnership with IATA, ARC, and AI. You will be able to gain insights into performance metrics, trends, distribution channels, top challenges and priorities, and compare against your peers.

We hope these research findings are valuable to you and your business, and we look forward to discussing how CyberSource and Visa solutions can help you to prosper in the digital economy!



Fernando Souza

Vice President, Global Merchant Solutions



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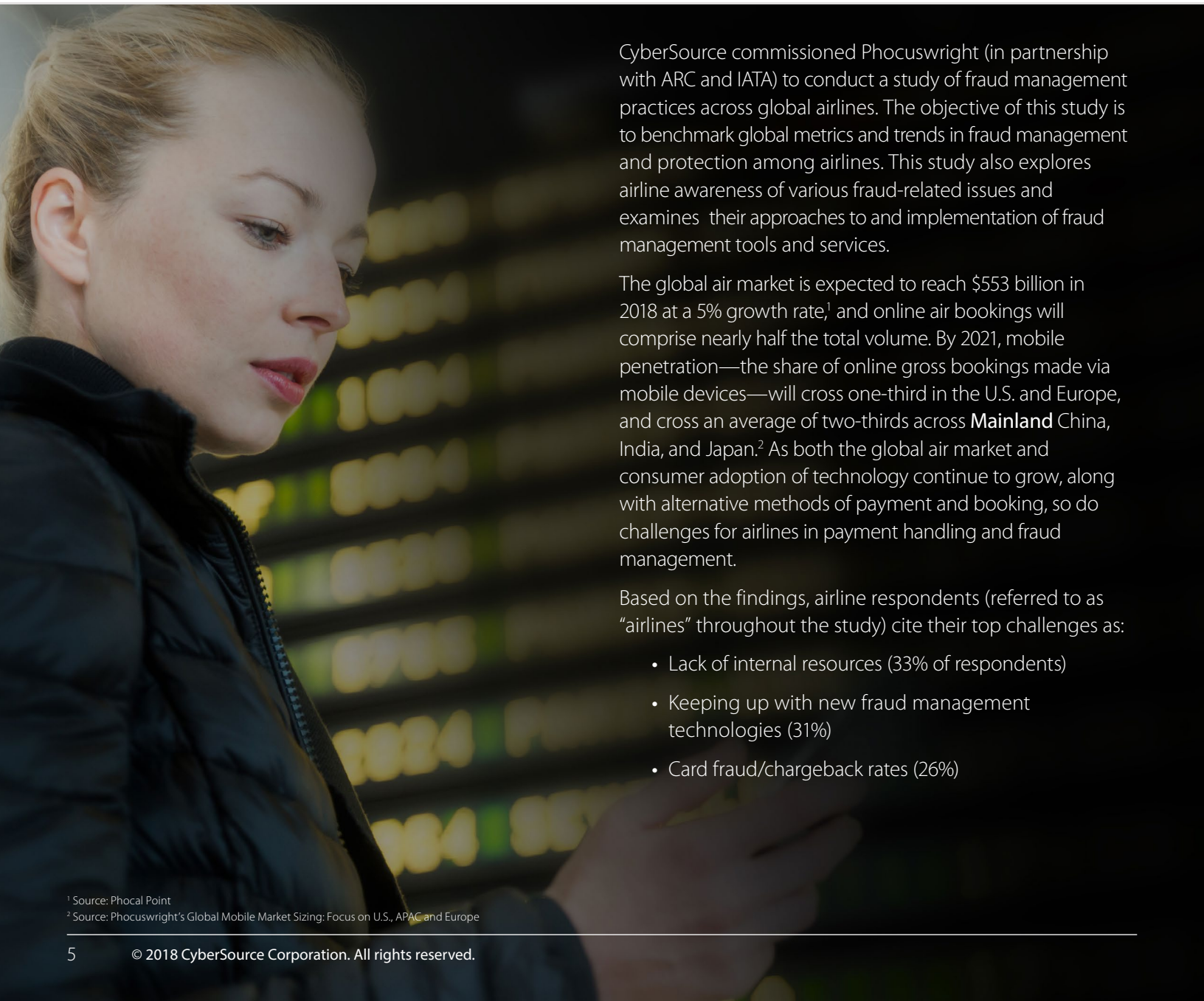
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Executive Summary

Fraud continues to be a major source of revenue loss for the global airline industry. With airlines pushing for more direct bookings and the accelerating use of mobile as a booking platform, incidence of fraud is rising, albeit only slightly. Despite these factors, many airlines are not devoting the necessary resources and tracking the required metrics to measure and control fraud.



CyberSource commissioned Phocuswright (in partnership with ARC and IATA) to conduct a study of fraud management practices across global airlines. The objective of this study is to benchmark global metrics and trends in fraud management and protection among airlines. This study also explores airline awareness of various fraud-related issues and examines their approaches to and implementation of fraud management tools and services.

The global air market is expected to reach \$553 billion in 2018 at a 5% growth rate,¹ and online air bookings will comprise nearly half the total volume. By 2021, mobile penetration—the share of online gross bookings made via mobile devices—will cross one-third in the U.S. and Europe, and cross an average of two-thirds across **Mainland** China, India, and Japan.² As both the global air market and consumer adoption of technology continue to grow, along with alternative methods of payment and booking, so do challenges for airlines in payment handling and fraud management.

Based on the findings, airline respondents (referred to as “airlines” throughout the study) cite their top challenges as:

- Lack of internal resources (33% of respondents)
- Keeping up with new fraud management technologies (31%)
- Card fraud/chargeback rates (26%)

¹ Source: Phocal Point

² Source: Phocuswright's Global Mobile Market Sizing: Focus on U.S., APAC and Europe

Airline websites are the largest booking channel, followed by travel agencies, tour operators, and consolidators. The effects of heightened responsibility for fraud management in direct channels places many millions of dollars at stake. Airlines are currently:

- Rejecting or canceling almost 4% of bookings due to fraud
- Losing over a full percentage point of their revenue to fraud

Airlines do have the right priorities top of mind, including:

- Reducing card chargeback rates (64%)
- Improving automated detection accuracy (59%)
- Improving fraud analytics (50%)

And keeping these priorities top of mind is paying off. In particular:

- The rate of revenue loss due to fraud has remained fairly stable, rising from 1% to 1.2% since the 2014 study.³
- The number of bookings requiring manual review has dropped from 27% to 18% since the 2014 study.³
- For most airlines, the total cost of managing fraud is less than half a percent of their total revenue.

Airlines are doing a good job keeping fraud rates and costs in check. But they should increase attention and allocate proper resources to fraud management, and utilize the latest and most cutting-edge techniques and technologies to combat fraud at every turn in an increasingly online and mobile-first world.

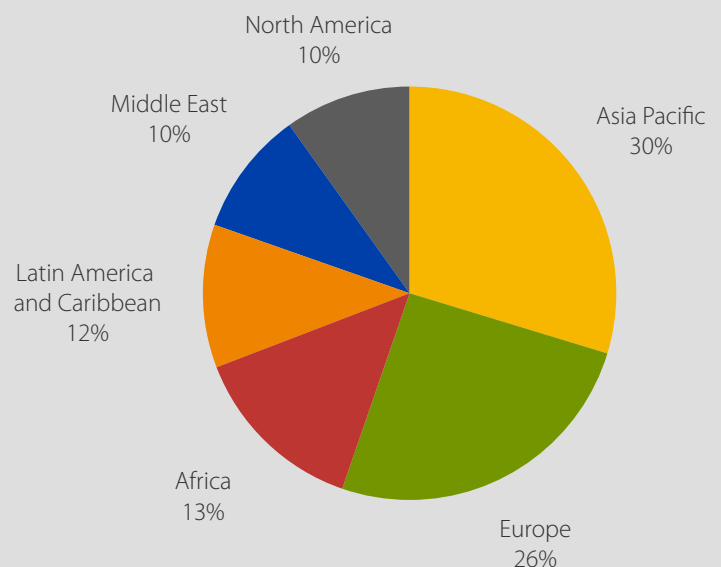
Who Participated

Phocuswright fielded a global online survey via CyberSource, PhocusWire, Northstar Travel Group, ARC, IATA, and Airline Information between June and September 2017 to airline payment fraud managers and received completed surveys from 112 qualified respondents. Respondents play a role in payment and fraud management at a commercial passenger airline or independent airline loyalty program. For additional context, some results were compared to the previous study completed in 2014 ("The 2014 Study") when methodological consistency could be ensured.

Full-fare carriers (FFCs) represent the majority at 77%. Low-cost carriers (LCCs) represent 21%, and business class airlines represent 2%. The global sample included 30% with headquarters in Asia Pacific followed by 26% in Europe, 13% in Africa, 12% in Latin America and Caribbean, 10% in the Middle East, and 10% in North America (see Figure 1). Thirty-nine percent of respondents represent airlines with revenue of over \$1 billion in 2016, and 27% under \$1 billion. Thirty-four percent report not knowing their airline revenue.

Figure 1

Headquarters Locations



Question: In which region is your airline headquartered?
Base: Airline companies (N=112)

³ Source: Phocuswright and CyberSource Benchmark Study: 2014 Global Airline Online Fraud Management

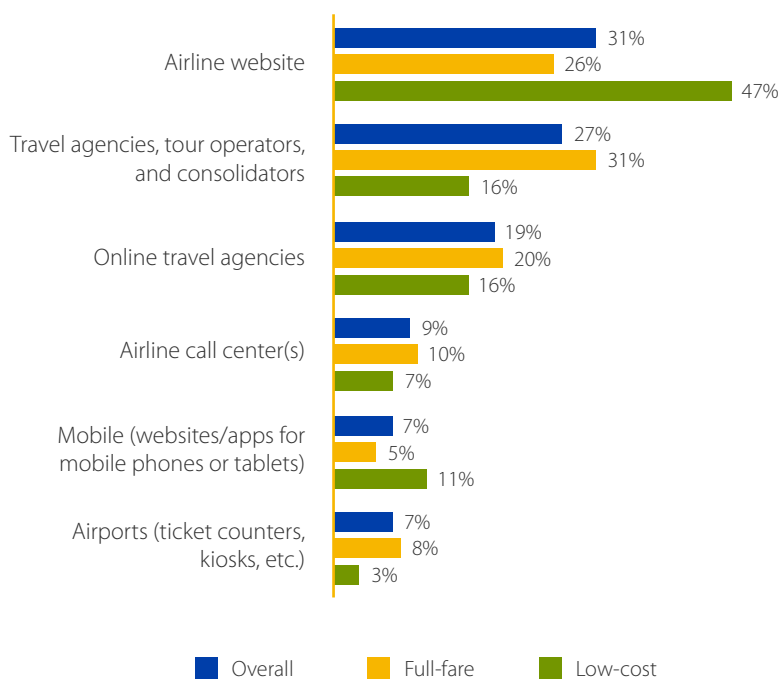
Airline Websites Lead Channel Share

Airline websites represent the largest sales channel globally at 31% of all sales, driven by LCCs for which direct channels are perennially most significant. LCC respondents reported that almost half (47%) of passenger revenue was booked directly through their own website in 2016 (see Figure 2).

Travel agencies, tour operators, and consolidators (primarily offline) represent a healthy share of bookings at 27% overall, but as shown, FFCs dominate LCCs. Among FFC respondents, these channels represent the highest share of passenger revenue booked, at 31%. The principal driver in the higher agency booking volume for FFCs is corporate travel, which is a big piece of Travel Management Company (TMC)/agency business.

Figure 2

Passenger Revenue by Sales Channel



Question: Please estimate the percentage of passenger revenue booked through the following sales channels for the full year 2016.
Base: Airline companies (Full-fare, N=77; Low-cost, N=23)

Airline Website Sales by HQ Location*

43%

North America

42%

Europe

29%

Middle East

28%

Asia Pacific

28%

Latin America
and Caribbean

16%

Africa

*Note: small sample sizes

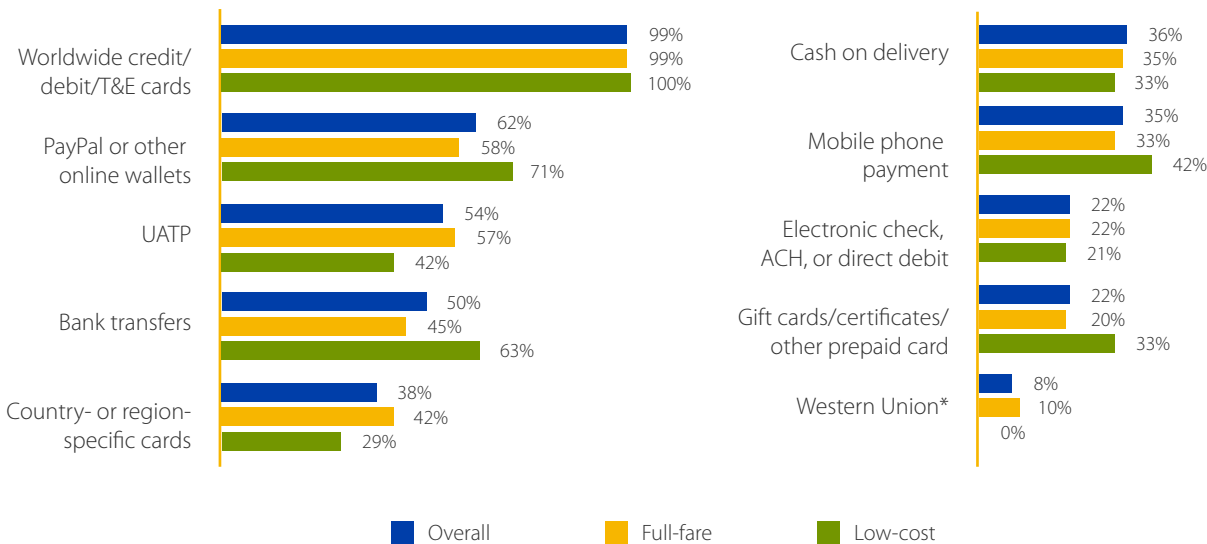
Accepted Payment Methods and Fraud Incidence

As more bookings flow through direct channels, more responsibility for payment acceptance and fraud management naturally fall to airlines. As evolving consumer preferences dictate, airlines are accepting a wider variety of alternative payment methods—especially in mobile channels and certain geographies.

Credit and debit cards are the most common payment method accepted through direct sales channels overall at 99% (see Figure 3). But they also have the highest “above average” fraud incidence for all airlines by far at 27% (see Figure 4). As the highest adopted payment method with the highest fraud incidence, robust fraud management solutions and well thought-out strategies are needed to combat fraud here.

Figure 3

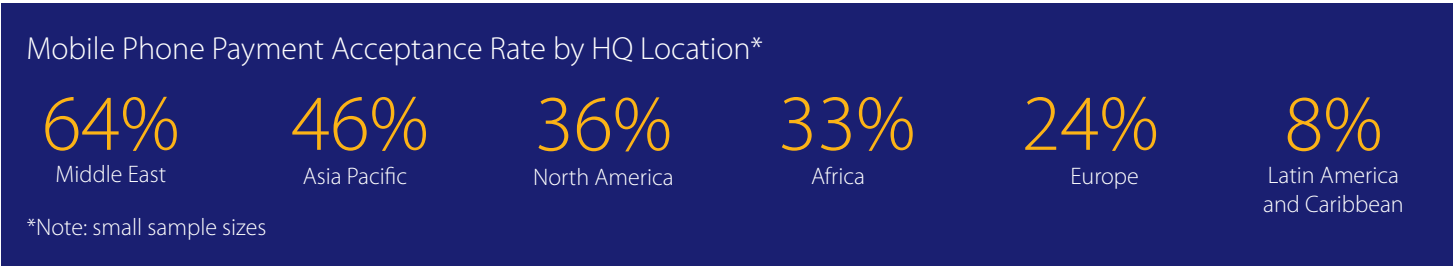
Accepted Payment Methods for Direct Sales Channels



Question: Which of the following payment options does your airline currently accept for bookings made on your direct sales channels?

Base: Airline companies (Full-fare, N=86; Low-cost, N=24)


*Small sample (N=9)



Acceptance of payments via PayPal and online wallets is up significantly at 62%, compared to 32% from the 2014 study. This large growth rate demonstrates the rapidly growing prominence of these alternative payment methods, although in some cases, such as Apple Pay, they are still essentially a card transaction.

Airlines in the Middle East and Asia Pacific report significantly higher usage of online wallets than the rest of the regions, likely driven by Alipay and WeChat Pay. They have an “above average” fraud incidence of only 3%, placing them among the safer options.

Mobile bookings are increasing for all airlines, and fraud incidence is significant on mobile. Mobile phone payments are much more common for LCCs at 42% (up significantly from 18% in the 2014 study) versus FFCs at 33% (up significantly from 16% in the 2014 study). The large growth rates are indicative of the rising importance of mobile channels, and point to the lead that LCCs have in mobile generally.



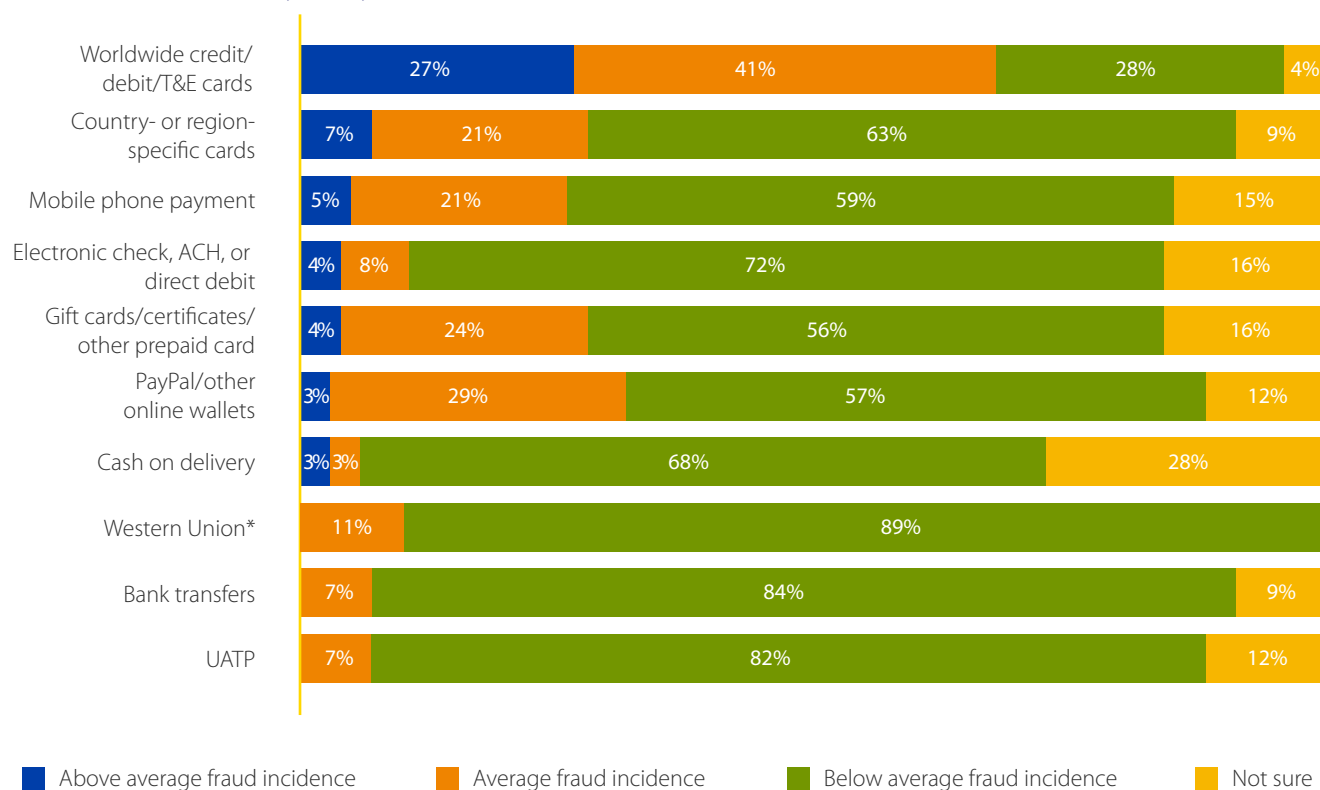
Fast Fact: Mobile revenue has practically quadrupled since the 2014 study

Mobile phone payments have the third-highest “above average” fraud incidence at 5%. As bookings via mobile channels rise and incidences of fraud along with them, mobile-specific fraud management resources will become increasingly important.

The rise of alternative payment methods presents new opportunities but also risks to airlines. Increased use of lower-risk methods is a positive, but as these grow, they will attract the attention of fraudsters, and airlines will need to be on guard.

Figure 4

Fraud Incidence by Payment Method



Question: Based on your experience with the following payment options, please indicate whether the payment method has a below average, average, or above average incidence of fraud for your direct channel sales (excluding travel agencies).

Base: Airline companies (N=112)

Note: Totals may not add up to 100% due to rounding.

*Small sample (N=9)

Impact of Payment Fraud

Bookings Rejected or Canceled

On average, airlines report that 3.8% of bookings are rejected or canceled due to suspicion of fraud, up from 3.4% in the 2014 study (see Figure 5). For website bookings they reported 3.9%, and for mobile channels, 3.5%

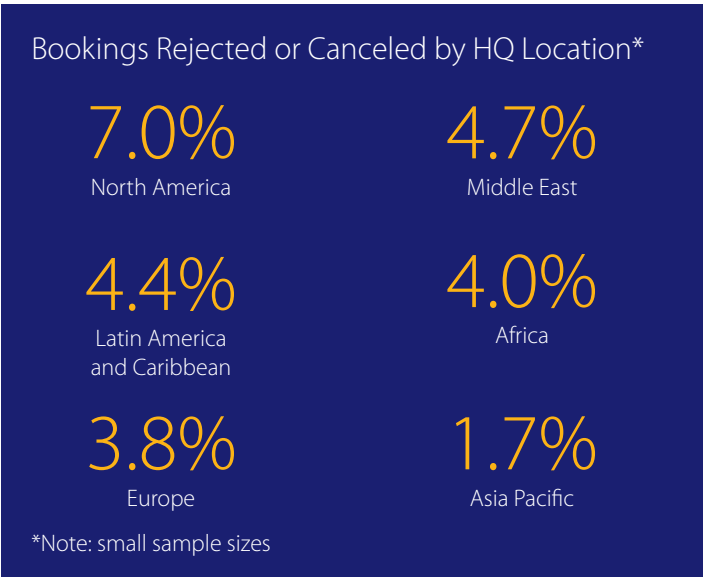
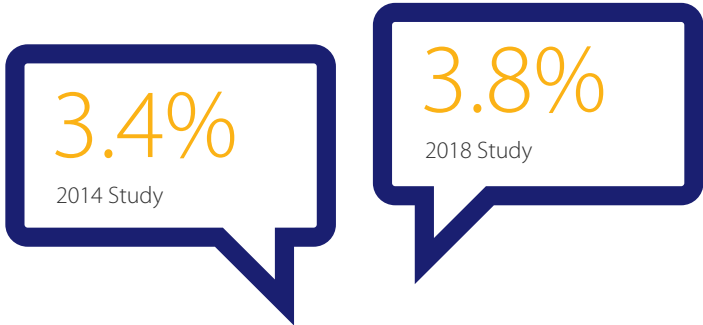


Figure 5

Bookings Rejected or Canceled Due to Fraud



Bookings Rejected	Website	Mobile	Overall
All Airlines	3.9%	3.5%	3.8%
FFCs	4.5%	4.4%	4.5%
LCCs	1.9%	1.9%	2.0%

Question: What percent of bookings from your direct sales channels did you reject or cancel in the past 12 months due to suspicion of fraud?
Base: Airline companies (N=50)



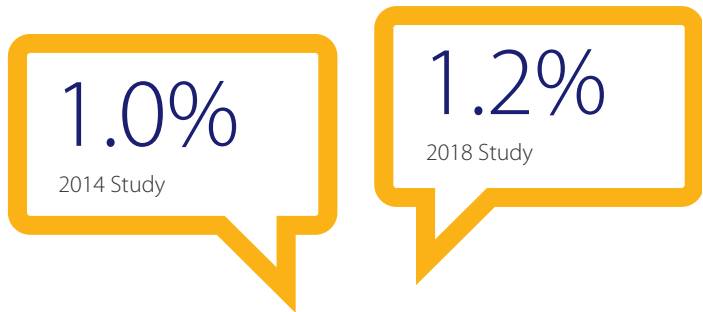
Revenue Loss Rate

Revenue loss—the revenue that goes uncollected due to bookings being terminated for fraud—is a direct hit to the top and bottom lines. For both website and mobile channels, airlines indicate that they lose about 1.2% of their revenue from payment-related fraud, up from 1% in the 2014 study (see Figure 6).

Airlines report that their total cost of managing fraud represents less than 0.5% of their revenue. But smaller airlines spend more: 0.75% for airlines with revenue less than \$1 billion, contrasted with 0.25% for airlines with revenue of \$1 billion or more. The spend is paying off—they are successfully keeping fraud rates fairly stable.

Figure 6

Revenue Loss Due to Fraud



Revenue Loss Due to Fraud	Website	Mobile	Overall
All Airlines	1.2%	1.2%	1.2%
FFCs	1.3%	1.4%	1.4%
LCCs	1.0%	0.6%	0.8%

Question: What percent of revenue from your direct sales channels did you lose due to payment fraud in the past 12 months?
Base: Airline companies (N=40)



Revenue Loss Rate by HQ Location*



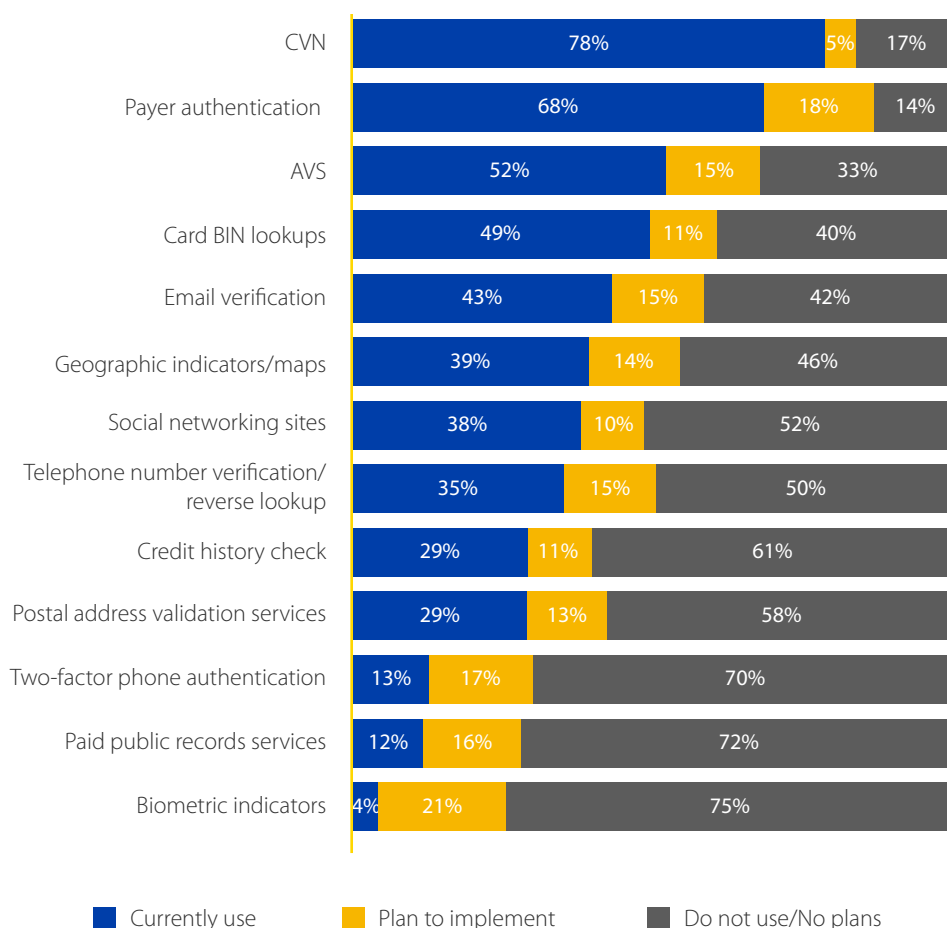
Fraud Detection and Prevention

Validation Services Adapting to a Mobile-First World

Airlines employ a variety of tools, techniques, technologies, and services to detect and deter fraud before it occurs. The most popular validation service is card verification numbers (CVNs), currently used by 78% of airlines (see Figure 7). Only 5% cite CVNs as being extremely effective, but 29% cite them as being very effective. The next most popular validation service is payer authentication (e.g., 3-D Secure), which 68% of airlines indicate they are currently using.

Figure 7

Use of Validation Services



Question: Which fraud detection techniques/services does your airline use or plan to implement to assess the risk of payment fraud for bookings made on your airline's direct sales channels?

Base: Airline companies (N=112)

Many airlines use a range of internal and external data sources to manage fraud as well. Nearly two in three use in-house negative lists, customer order history, or frequent flyer membership history. More than half use positive lists of credit card numbers and customer information, with 18% citing that they are extremely effective and 39% citing very effective.

Device fingerprinting is used by 29% of airlines and is seen by 15% as being extremely effective. It is more of a reactive measure because only once successfully fingerprinted devices have been blacklisted can they be blocked.

One-third (34%) of airlines currently use shared negative lists/hot lists (e.g., IATA's Perseuss tool) with 16% citing them as extremely effective. Twenty percent currently use multi-merchant purchase velocity/identity morphing models, which can help identify suspicious behavior from specific consumers or even fraud rings.

Manual Review Rates are Falling

While automated tools and techniques can work well to detect and mitigate potentially fraudulent bookings, manual review is an important and necessary part of fraud management processes.

Airlines indicate that 18% of bookings require manual review (where staff members perform manual checks of orders to determine authenticity of purchasers and transactions), down from 27% in the 2014 study (see Figure 8). The drop might be due to the rise of automated review solutions and may signal that automated efforts are working and the investments are paying off.

Airlines with under \$1 billion in revenue submit more bookings to manual review than airlines with more than \$1 billion in revenue. This is presumably because larger airlines can afford better automated screening technology.



Fast Fact: 12% of manually reviewed bookings are ultimately canceled.

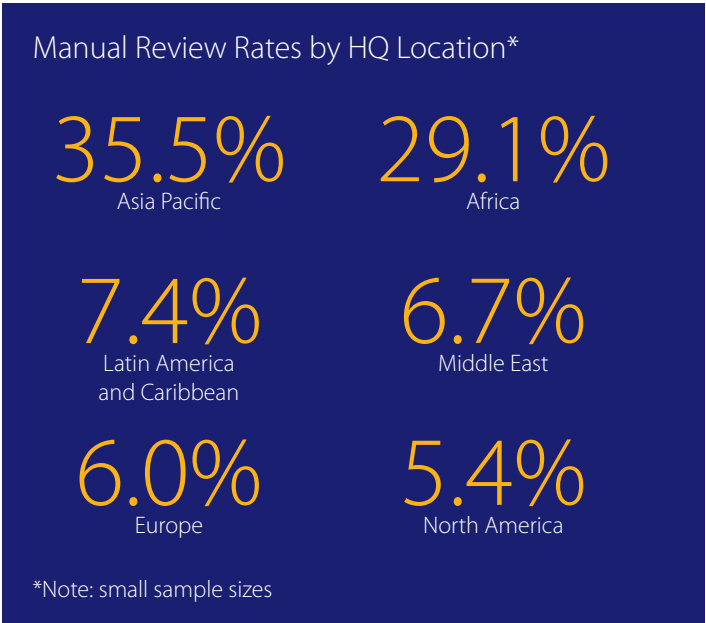
Figure 8

Manual Review Rates



Airlines by Revenue	Manual Review Rate
<\$1B	25%
\$1B+	15%

Question: Approximately what percentage of the bookings made on your airline's direct sales channels require manual review?
Base: Airline companies (N=54)



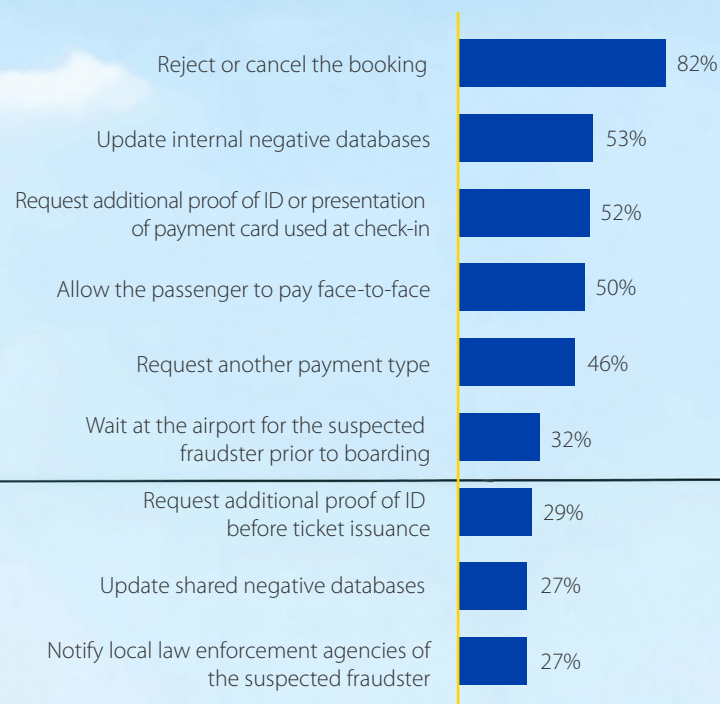
Action Following Potential Fraud Detection

Airlines take a range of actions when they suspect fraud. The most common next step is to reject or cancel the booking, with 82% of airlines opting to engage in this strategy (see Figure 9). As noted earlier, the overall rate of rejecting or canceling bookings is 3.8%. While these drastic actions certainly lower the risk of fraud, they can also increase the rate of revenue loss with false-positive rejections.

The majority of airlines take additional steps to try to accept the booking, such as updating their internal negative databases (53%), requesting additional proof of ID, or presentation of payment card used at check-in (52%), and to allow the passenger to pay face-to-face (50%).

Figure 9

Action Following Potential Fraud Detection



Question: What does your airline do when a potentially fraudulent booking is identified?
Base: Airline companies (Full-fare, N=112)

Loyalty, Blockchain, and Conversational Commerce

Loyalty in the Crosshairs

Loyalty programs remain an important persuasion tool in airlines' arsenals to maintain repeat customers. Indeed, the vast majority (82%) of airlines indicate that they offer loyalty programs where travelers accrue miles for redemption.

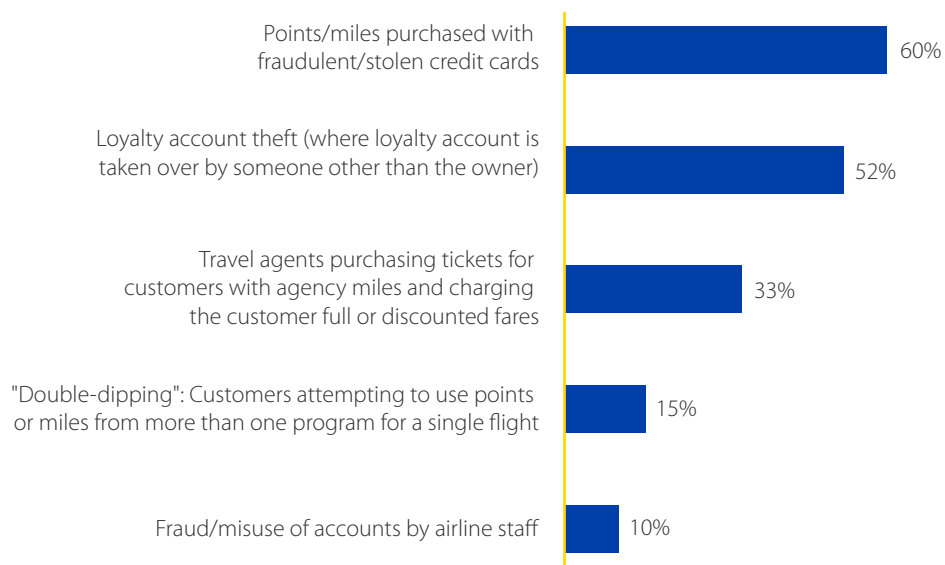
Loyalty programs are increasingly becoming a target of fraud. Sixty percent of airlines say that the most common type of loyalty fraud is points/miles purchased with a stolen credit card (up from 49% in the 2014 study), and 52% of airlines report that loyalty account theft is second most common (up from 39% in the 2014 study) (see Figure 10). Both techniques can be used by fraudsters to buy numerous tickets or purchase merchandise, accrue thousands of loyalty points, and cash them in before the fraud is discovered, which brings the added downside of additional chargebacks from cardholders.

These are significant increases from the 2014 study, which punctuates that loyalty program fraud is on the rise. Airlines must progressively adopt fraud detection and management techniques for their loyalty programs as they grow in importance.



Figure 10

Common Types of Loyalty Program Fraud



Question: Which of the following types of frequent flier fraud are the most common? Select up to three.
Base: Airline companies (N=92)

Game Changers? Blockchain and Conversational Commerce

Blockchain is a nascent technology with promising potential to reduce fraud. Although it is still in very early days, 22% of airlines indicate that they are using, testing, planning to implement, or researching blockchain technologies.

Blockchains are similar to databases, only their ledgers are immutable and are distributed among multiple parties, with each party in the network checking the others for validity. With no single party being responsible for accuracy, the ledgers are extremely difficult for a hacker to alter unnoticed.

It is also much more difficult—if not impossible—for a hacker to “impersonate” someone on a blockchain, which has implications for loyalty program fraud. If blockchains are able to make identity (traveler profiles) and transactions (on the distributed network) much more transparent, fraudulent cases should be easier to spot and less likely to occur.

Chat environments within social networks such as Facebook Messenger in North America and WeChat in Asia Pacific represent an emerging channel for travel shopping and booking.

Thirty-nine percent of airline respondents indicate that they are either researching or active in conversational commerce channels. Airlines will have to carefully consider how to address fraud risk here, especially given the growth of stored payment methods within hackable social accounts.



Fraud Management Challenges and Priorities

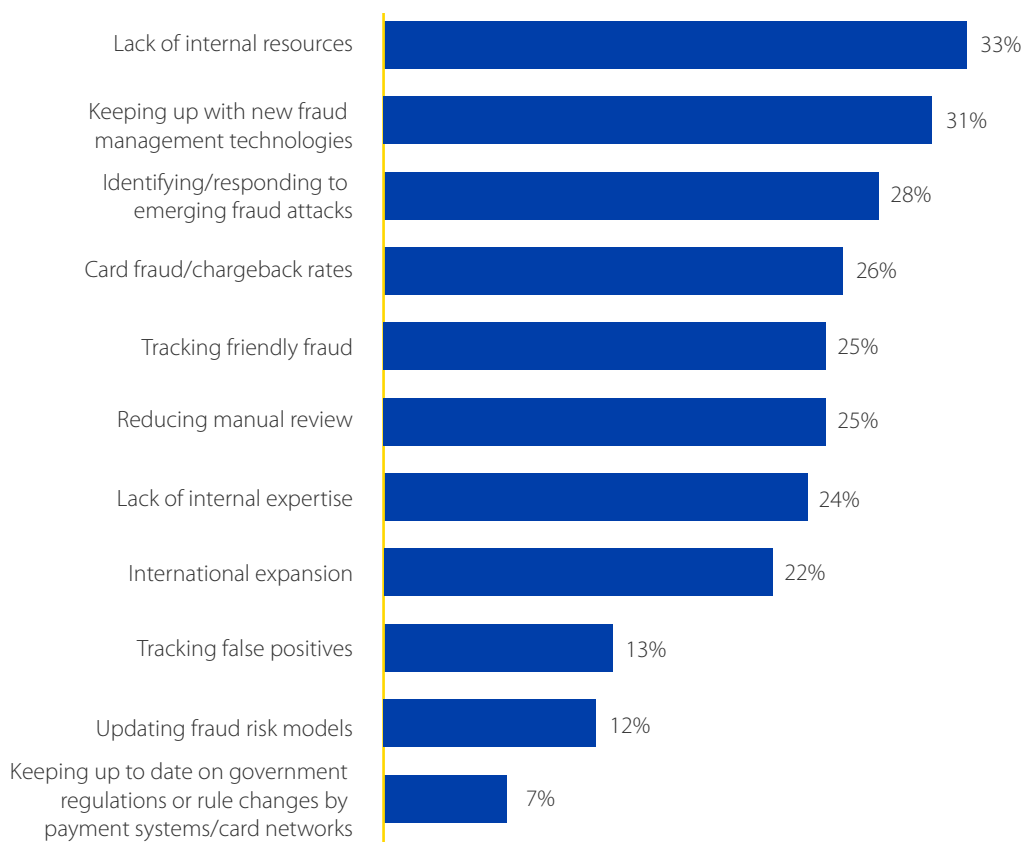
Airlines face numerous challenges in their crusade against fraud, owing to a combination of evolving technologies and shifting consumer behaviors. Appropriate attention and resources must be allocated to maintain up-to-date best practices.

Airlines indicate that lack of internal resources is their top fraud-related challenge at 33% (see Figure 11). In the same vein, lack of internal expertise is a significant challenge at 24%. These shortfalls are also reflected in the response rates of 31% for the challenge of keeping up with new fraud management technologies, and 25% for reducing manual review. As e-commerce-related fraud has grown, many new technologies and techniques have become available to fight it, and airlines are no doubt having a hard time keeping up.

33% of airlines say lack of internal resources is their top fraud-related challenge.

Figure 11

Challenges in Managing Payment Fraud



Question: Which of the following have been your biggest challenges related to e-commerce fraud? Please select up to three.
Base: Airline companies (Low-cost, N=112)

Airlines’ priorities are in line with their efforts to compensate for the resources and expertise they may lack through the embracement of better anti-fraud processes and tools. Airlines report that improving automated detection accuracy is their second highest priority at 59%, improving fraud analytics is third at 50%, and streamlining manual review tasks and workflow is fourth at 32% (see Figure 12).

Airlines also indicate that identifying/responding to emerging fraud attacks is their third-biggest challenge at 28%, further justifying the above priorities. Fraudsters consistently come up with new schemes to evade fraud management techniques, making sustained vigilance to new threats essential.

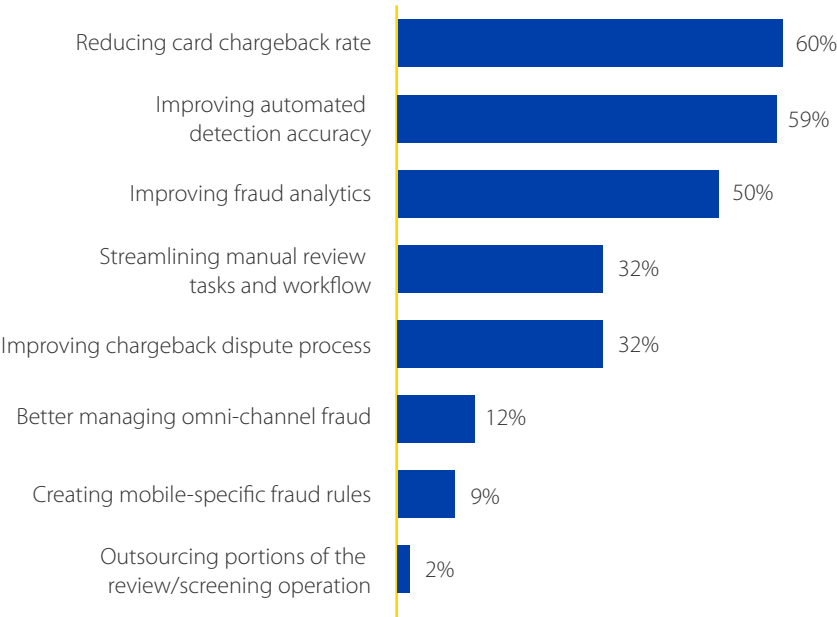
Card fraud/chargeback rates are the fourth-biggest challenge, and airlines’ top priority is directly in line with this challenge: to reduce card chargeback rates, at 60%. They also cite improving the chargeback dispute process as a meaningful priority, at 32%. Chargebacks result not only in a direct loss of revenue, but the time and resources lost on processing them, making their reduction a valuable area of focus.

Twelve percent of airlines cited better managing omnichannel fraud as a priority, and 9% cited the creation of mobile-specific fraud rules. As the distribution landscape becomes more complex, partially owing to the increasing adoption of New Distribution Capability (NDC) standards, these priorities will likely move up the list.

Outsourcing portions of the review/screening process is reported as the lowest priority, by far. This is surprising given the contrast with lack of internal resources being one of the biggest challenges, but may be due to cautiousness about data sharing.

Figure 12

Priorities in Managing Payment Fraud



Question: Which of the following are your top priorities over the next 12 months? Please select up to three.
Base: Airline companies (Low-cost, N=24; Full-fare, N=86)

The Future of Fraud Management

Airlines have an opportunity to further reduce the impact of payment fraud by properly allocating internal resources and leveraging the most promising yet underutilized new technologies and techniques such as device pattern analysis, identity morphing models, and biometric indicators. Artificial intelligence will play a larger and larger role in fraud mitigation.

Across the board, a significant number of airlines report that they do not know or do not track key metrics, like revenue loss, bookings rejected or canceled, chargeback rates, manual review rates, and total cost of managing fraud. While the numbers may seem high, it remains an axiom that airlines need to establish key fraud performance indicators and track against them to understand which of their efforts are working to reduce fraud and why.

The prevalence of challenges such as lack of internal resources, lack of internal expertise, and keeping up with new fraud management technologies all point to the dire need for more focus on fraud prevention internally. The pervasiveness of priorities such as improving automated detection accuracy, improving fraud analytics, and streamlining manual review tasks and workflow all make the case for a strong need to understand the options in the marketplace that can help improve fraud management efficiency.

Even after decades of selling digitally, airlines still have much work to do in tracking fraud properly and understanding how to mitigate its impact. No doubt they are still adapting to a mobile-first, data-driven world, as well as rapidly evolving fraudster tactics, as most businesses are. Airlines are not alone in the journey to continually acclimate their technology platforms and organizational structures to deal with fraud in the most efficient ways possible. As no silver bullet yet exists to eliminate online fraud for airlines, a combination of tools and techniques (including those highlighted in this study) should be the prevailing approach in the coming years.



A woman with dark hair tied back is sitting on a brown leather bench. She is wearing a dark blazer and black leggings, and is working on a silver laptop. Her feet, wearing black wedge sandals, are resting on a black suitcase. A blue denim jacket is draped over the bench next to her. The background is a bright, out-of-focus window or glass wall.

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Phocuswright is the travel industry research authority on how travelers, suppliers, and intermediaries connect. Independent, rigorous, and unbiased, Phocuswright fosters smart strategic planning, tactical decision-making, and organizational effectiveness.

Phocuswright delivers qualitative and quantitative research on the evolving dynamics that influence travel, tourism, and hospitality distribution. Our marketplace intelligence is the industry standard for segmentation, sizing, forecasting, trends, analysis, and consumer travel planning behavior. Every day around the world, senior executives, marketers, strategists, and research professionals from all segments of the industry value chain use Phocuswright research for competitive advantage.

To complement its primary research in North and Latin America, Europe, and Asia, Phocuswright produces several high-profile conferences in the United States, Europe, and India, and partners with conferences in **Mainland** China and Singapore. Industry leaders and company analysts bring this intelligence to life by debating issues, sharing ideas, and defining the ever-evolving reality of travel commerce.

The company is headquartered in the United States with Asia Pacific operations based in India and local analysts on five continents.

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