

THE GLOBAL CASH REPORT

Fall / Winter 2026

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Solving The Availability Challenge:

A Novel Approach



IN THIS ISSUE

Why Quick Fixes Often Don't Work
For Financial Institutions

Expert Advice From Cash
Leadership Forum Chairs



Welcome to the
Global Cash Report

Dedicated to informing and guiding the industry, the Global Cash Report explores the trends shaping the future of cash.

This edition focuses on perhaps the most crucial issue faced by the cash industry: maximizing cash availability. It follows on from last year's two-part special edition, which introduced Orchestration, a bold framework for dynamic collaboration across the cash cycle. The Orchestration approach integrates disparate systems and fragmented data into a single platform, giving financial institutions and their partners improved visibility and greater control.

The cash ecosystem is a complex web of interdependent organizations, each with limited visibility over its own segment of the whole. Recognizing the challenges each participant faces in delivering availability is key to unlocking solutions for the industry. By sharing knowledge and data, and aligning operations more effectively, we can identify sustainable, practical steps forward.

The following guide sets out the challenges institutions currently face regarding availability, then reveals how applying Cash Cycle Orchestration can coordinate and optimize operations to deliver maximum results.

We hope it will spark conversations and show how, through working together, the industry can better orchestrate the cash cycle and make cash operations more productive at a time when the changing economics of the business make this increasingly important.

Lee Williamson,
Managing Director, CMS Analytics

ALSO IN THIS ISSUE

A Challenge of Trade-offs 8

The Availability 'Yo-Yo Effect' 11

Advice from the CLF Chairs 13

Solving The Availability Challenge 15

Introducing Cash
Cycle Orchestration



SEE SPECIAL EDITION PARTS 1 AND 2

How market forces have
shaped the modern cash
cycle in the United States

A bold new framework
for seamless collaboration



SOLVING THE AVAILABILITY CHALLENGE:
A NOVEL APPROACH

Oliver Clegg, Director of Orchestration, CMS Analytics

INTRODUCING THE
AVAILABILITY CHALLENGE

For financial institutions, cash availability is widely chased as the definitive measure of operational performance. As the primary providers of frontline cash services, FIs often view any inability to meet customer needs, even at the denominational level, as an unacceptable failure. With public perception of cash being under threat, and fears of a cashless society on the horizon (the latest polling shows 84% of Americans oppose a cashless society), the reputational damage of low availability to institutions can be severe.

While identifying and measuring availability across a network is hard enough, the real challenge lies in determining the appropriate corrective action. This is because availability itself cannot be directly 'fixed'; rather, it is the symptomatic outcome of numerous underlying operational drivers. Individual remedies can, on the surface, seem easy enough to undertake. However, cash operations within large

financial institutions are highly complex and any number of factors can contribute to downtime. Consequently, interventions can often be heavy-handed and, without sufficient precision, lead to unintended consequences that either create new issues or exacerbate the original availability problem. Corrective action to address availability requires careful diagnosis and navigating a plethora of complex cash management trade-offs.

➔ ATM availability is a product of multiple, complex cash management trade-offs which must be carefully navigated.



A CHALLENGE OF DEFINITIONS

HOW DOES YOUR ORGANIZATION MEASURE AVAILABILITY?

One of the many issues in discussing availability within the cash industry is the lack of a shared understanding of what each individual and organization is precisely referring to. Across the cash supply chain, availability can and does mean many things to many people. Because each partner in the cash ecosystem works from a different operational perspective, improving availability can mean different things to each of them.

When organizations analyze availability, there are two key criteria to consider: comparability and validity. There is, however, a trade-off to recognize. Simple measures are easy to compute and communicate, but can mask the intricacies of complex network dynamics.



BANK A

- Applies a narrow definition for headline cash availability
- Excludes a range of segments of ATM downtime to focus on select internal objectives
- Availability measure is highly connected to business priorities but lacks wider visibility of network performance



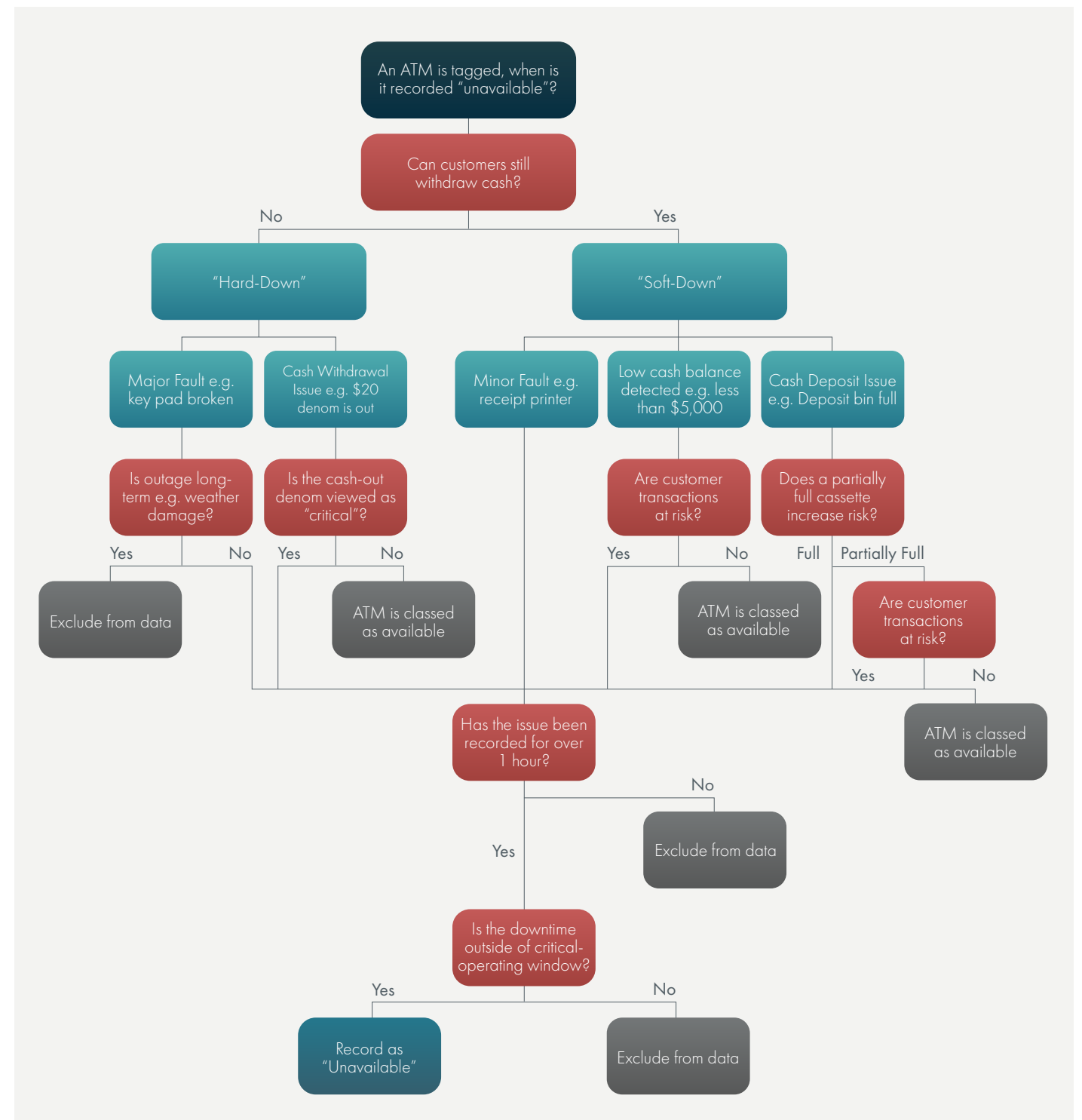
BANK B

- Applies a broad definition for headline cash availability
- Includes all ATM downtime, no matter the reason
- Availability measure is more valid to holistic network performance

WHERE DOES YOUR INSTITUTION DRAW THE LINE?

Due to the complexity of cash operations, analysts are compelled to create numerous classifications for each kind of ATM status. What is included or not included in headline availability statistics varies by organization, reflecting their internal objectives. How does the flowchart across the page compare to your organization's internal availability classification?

HOW DOES YOUR ORGANIZATION MEASURE AVAILABILITY?



BEST PRACTICE IN MEASURING AVAILABILITY: THE CMS ANALYTICS APPROACH

CMS Analytics applies a deliberately high-bar definition when assessing ATM networks. While analyses are often bespoke, varying by methodology and objective, applying a strict framework can help expose vulnerabilities within cash operations. For example, an ATM holding less than \$5,000 can be classified as cash-out. This deliberately high threshold serves two purposes: it reduces the risk that inaccurate balances artificially inflate overall performance figures, while also capturing cash-out near-misses. This provides an early warning of where the network is under strain, before that strain manifests in failed customer transactions.

CMS Analytics also advocates for robust, independent industry benchmarking through the Cash Leadership Forum initiative. Benchmarking enables financial institutions to assess their cash availability against peer organizations, identify performance gaps, validate targets, and prioritize the improvements likely to deliver the greatest operational benefits.

To discover how your financial institution might compare to peers within the industry please get in touch with Luke Curry, Cash Cycle Manager at CMS Analytics, lcurry@cmsanalytics.com



CHALLENGES IN AVAILABILITY: PERSPECTIVES FROM THE CASH LEADERSHIP FORUM CHAIRS



Frank DiGangi
Executive Director, ATM
Performance and Physical
Security, Wells Fargo

So many things in an ATM network environment can impact a single ATM's availability every day such as internal hardware failure, communications or power issues, software issues, cash outages, deposit bin fulls, poor servicing response, weather, vandalism, damage, etc. Each one requires its own unique approach and managing them all and ensuring set followed processes are in place for each one can be challenging and needs to be monitored.

There are many different tactics or levers to pull to improve availability from a large scale or long-term perspective. The key is knowing which ones can help in which areas based off past results and also future modeling. For example, if an ATM is having too many cash outs, you could adjust the denomination configuration or you could increase CIT servicing as two levers. Each come with its own business case and potential improvement scale. Determining through data analysis which one makes the most sense for that site and your business is important. Also, your overall hardware and software strategy should have a layer of performance built in and should always be one of the driving factors for the purchases you make, the software you develop, and the strategic decisions you make for what to offer and how to support it. After all, most customers don't care what the ATM can do if it's not available to do what they need it to do.



Kevin Larter
Managing Director, Branch
Operations, Optimization,
& Oversight, BMO

In measuring availability, we have a lot of different data pieces we use, but they don't all talk to each other. ATM outages. Escalations from the branch. Supplier performance. Customer complaints. So the data is all there, it's just consolidating it in a way that tells the story of customer access to the cash they want.

The risks of poor availability are stark. It leaves customers dissatisfied, and it drives up complaints and escalations, which then take capacity from both front line and support teams. From an organizational perspective availability issues carry reputational risk, and it brings costs and process inefficiencies.

The most significant difficulty we face regarding availability is better access to quality data. Once we have that, we can better identify where the inefficiencies are and be more targeted with our mitigations. Beyond that, challenges include balancing availability against the cost of holding and moving cash, geographic challenges and remote communities, and dependencies on so many third parties and suppliers.

A CHALLENGE OF TRADE-OFFS: WHY QUICK FIXES OFTEN DON'T WORK FOR FINANCIAL INSTITUTIONS

COMMON QUICK FIXES AND TYPICAL TRADE-OFFS

Across complex, dynamic cash operations, circumstances can change quickly, and financial institutions can find themselves in an availability crisis. As resources and attention are poured into problem areas, the longer-term sustainability of the whole network comes under threat.

This is because, without careful diagnosis, what appear to be adequate solutions often turn out to be stopgaps. FIs are forced to act quickly, and such fixes frequently either leave the underlying problem unresolved or create second-order effects that degrade performance across the network.



INCREASING CIT SERVICES

When dealing with availability issues, increasing CIT service levels is regularly the first port of call for cash management teams. But beyond the additional resource costs involved, significant trade-offs often go under-considered.

Adding extra CIT visits, especially without recalibrating schedules network-wide (and sometimes even with doing so), can cause missed services to rise, driving an increase in out-of-schedule services that adds further strain to vendors and management teams. The result is greater volatility on an ATM-by-ATM basis, which can in turn result in more downtime. When increased servicing is extended wider, the extra strain can snowball, exacerbating availability issues and routine

ATM problems can fall through the cracks while resources are concentrated elsewhere.

Extra CIT services also tend to raise required cash volumes and residual cash, lifting average balances network-wide. Each delivery typically requires a safety surplus on top of the forecast cash demand, guarding against a delayed next delivery to reduce cash-out risk. Every additional visit therefore adds more of this safety cash to the stock drawn from the vault, which lifts average balances across the network, and increases residual cash at the ATM level. The diagrams below illustrate this for a single ATM, showing the effect of adding an additional weekly service.

FIG 1. ATM WITH 1 SERVICE P/WEEK
STRUGGLES TO MEET DEMAND

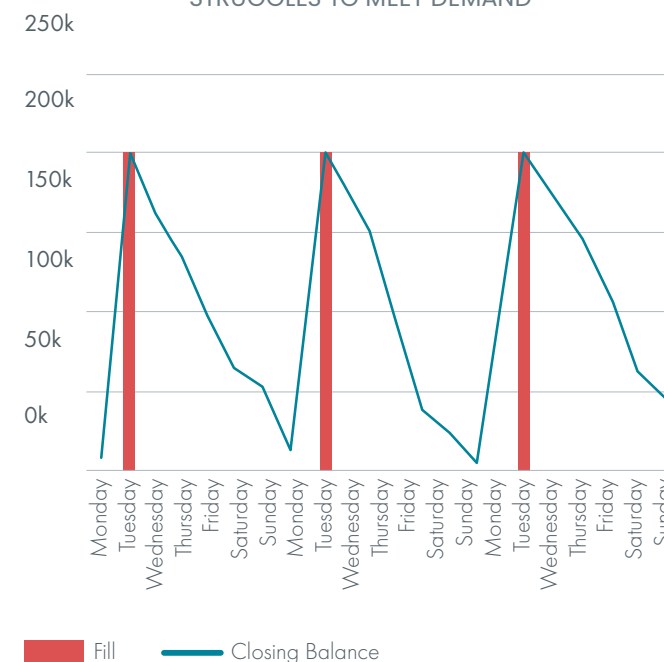


FIG 2. INCREASING SERVICE LEVEL TO 2 P/WEEK
INCREASES CASH REQUIREMENT AND RESIDUALS



The charts above show the effect of adding an additional Friday service for an ATM. While the ATM maintains a healthier cash balance over the period shown, the cash requirement from the vault has increased by 35% and residuals have increased substantially.

COMMON QUICK FIXES AND TYPICAL TRADE-OFFS



INCREASING ATM STOCK LEVELS

Increasing ATM balances also creates secondary effects. Beyond higher interest costs, more cash across the network raises crime risk, drives up insurance costs, and puts extra strain on the cash supply chain, right back up to the vault level.

Higher stock levels also coincide with less frequent servicing at the ATM. This reduces the oversight that regular CIT checks provide, and increases the risk that faults and other issues at the ATM go underreported across the network.



MAX-LOADING MACHINES

Due to unexpected demand rudimentary forecasting fails to anticipate, FIs frequently order emergency cash to max-load ATMs. On top of higher balances and extra processing time, without the precision to match fast-changing demand, the funds often end up tied up for no gain. Furthermore, failing to account for denominational dynamics can render the extra orders futile. Max-loading smaller denominations can be pointless if the 20s or 50s are set to be depleted first anyway. For FIs, poor availability often comes down to a single denomination being unavailable to customers.



ADJUSTING DENOM MIX TO SERVICE CUSTOMER DEMAND

FIs can adjust their cassette configurations to meet customer demand through increasing high denomination note capacity. But this carries its own risk: when customers receive different notes than they expect, some are pushed into the branch, creating a bottleneck. When automated solutions fail to meet expectations this can reduce confidence and pivot customers back towards the teller line.



INCREASING MAINTENANCE CHECKS

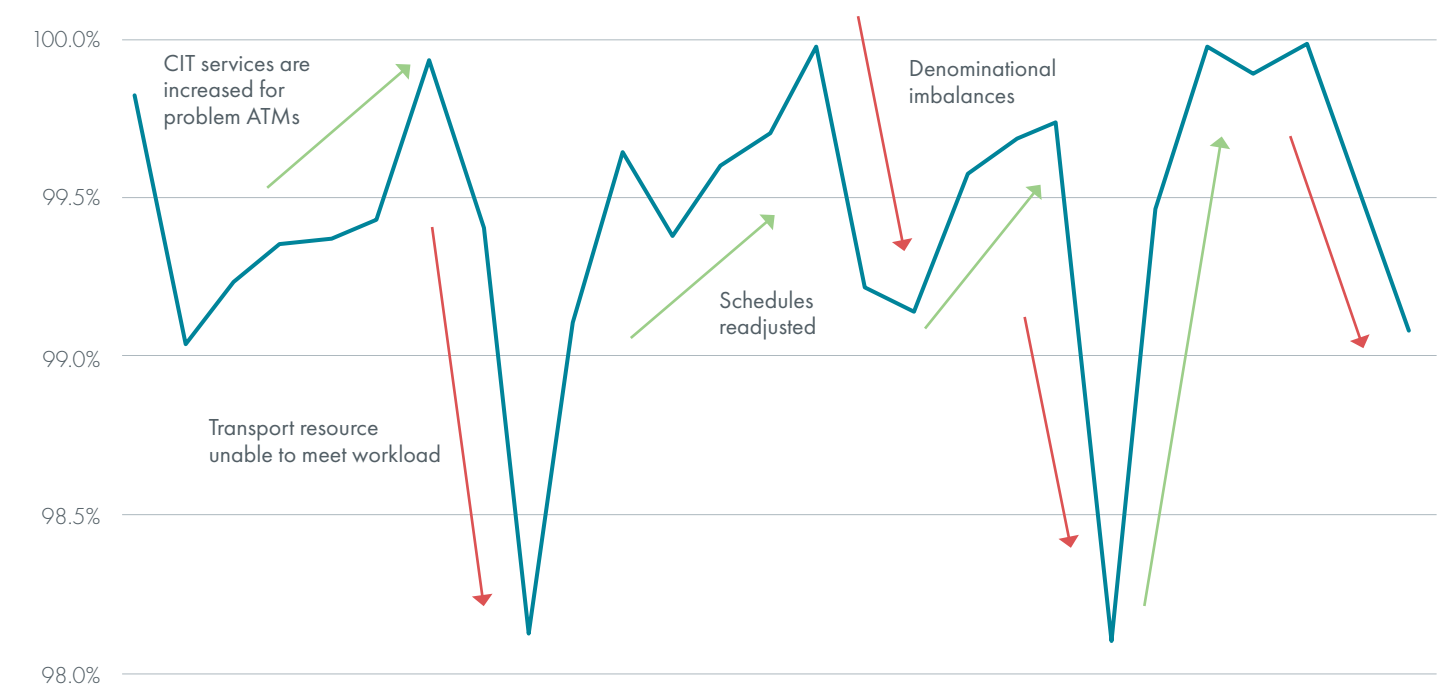
It goes without saying that increasing maintenance checks can increase downtime while work is being done on the machines. What is less often realized is the additional logistical strain on the network. Maintenance raises risk by demanding resources to coordinate with CIT servicing. Without sufficient systems and visibility in place, this administrative burden puts extra strain on the network and, in turn, causes missed CIT services.

THE AVAILABILITY 'YO-YO EFFECT'

Quick fixes such as those described often simply plaster over issues, creating short-term gains before outcomes fall again. Without resolving the underlying dynamics causing the availability problem, it simply resurfaces once attention shifts or transforms into a different issue elsewhere.

This produces the yo-yo effect shown in the diagram below. And while stopgap approaches can raise average availability KPIs over a period, what customers really notice is when availability tanks, leaving FIs with the reputational damage.

THE AVAILABILITY 'YO-YO EFFECT'





COULD OVER-SERVICING BE 'OVER-HEATING' YOUR HARDWARE?

CMS Analytics has long observed a simple fact: the more human touches an ATM receives, the higher its propensity to break, holding all else equal. This makes intuitive sense. Humans are fallible regardless of training or caliber, so more touches mean more chances for miskeys, procedural lapses, and oversights.

In a recent industry study by CMS Analytics, when controlling all other factors, **just 1 extra CIT visit** to an ATM is associated with an **increase to the expected hardware fault rate by an average of 3%**. While small in comparison to other factors such as the usage of the ATM, the effect is significant. **When multiplied across an FI's network the implications of over-servicing could be over 5% of all recorded faults.**

However, the point of this analysis is not to blame individual teams or partners within the cash supply chain – it is to highlight the complex trade-offs present. For instance, it is crucial to acknowledge the vital role that CIT play as the human eyes and ears of the ATM managers in terms of checking its functionality. **Some 20% of faults are recorded on the same days as CIT visits** meaning lengthy downtime is reported and avoided. Furthermore, 'over-servicing' may itself be a strategic choice by institutions looking to ensure cash availability while at the mercy of dynamic cash demand and basic forecasting software.

For institutions looking to strategically optimize their networks it is important to consider network dynamics holistically, acknowledge trade-offs and crucially work with their vendor partners to implement operational changes within workable parameters.



STRATEGIES TO MAXIMIZE AVAILABILITY: ADVICE FROM THE CASH LEADERSHIP FORUM CHAIRS



Frank DiGangi
Executive Director, ATM
Performance and Physical
Security, Wells Fargo

Wells Fargo has made a significant investment in the newest cutting edge ATM technology and invested heavily in becoming an industry leader in cash recycling. That has helped significantly reduce cash outs, bin fulls, ATM downtime, and servicing costs. Through years of effort, we have meticulously continued to find continuous improvement amongst each area of device performance. We are constantly trying to improve and get better and find new ways to increase our availability for our customers.

We work extremely close with all vendors to continuously drive call rate reduction, fix it right the first time percentages, site visit efficiency, and roadmap for the future. It is so important to ensure that your vendors are just as on board with your performance journey as your internal stakeholders are. Their success is your success, and you can mutually drive that through shared accountability and constant touch around reporting and metrics.

Don't be afraid to make the investment into what is now becoming proven industry processes and technology. The longer you hold onto the past way of doing things, the further behind you're going to get. Also, make sure availability and performance are at the top of your priorities and use data-driven decisions to understand how your network is performing and the impact it has on your customer experience.



Kevin Larter
Managing Director, Branch
Operations, Optimization,
& Oversight, BMO

BMO follows several best practices to boost availability across its cash operations. We prioritize best-in-class access to data and reporting, whether produced in-house or sourced externally, giving us industry-leading visibility. We have established oversight processes for incidents and escalations that fast-track resolution, and we conduct thorough, ongoing reviews of supplier performance. Furthermore, our forecasting solution from CMS Analytics aligns to this, with order models tailored to each individual site to ensure maximum availability regardless of the location's unique demand profile.

My approach to working with other organizations rests on a strong foundation of collaboration and transparency. Rather than a one-sided relationship, it's important to treat these arrangements as genuine partnerships. I do not pretend to hold all the answers; and want to work with partners that can help identify what is missing today and find ways to make it better.

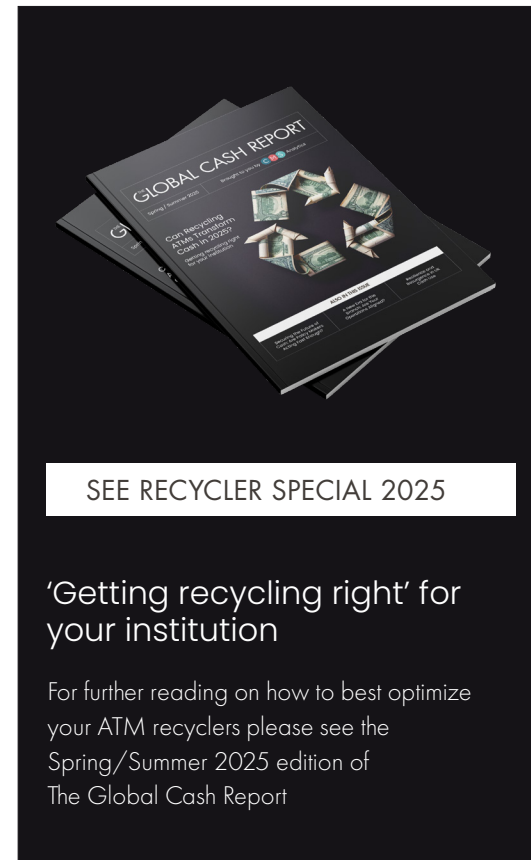
AVAILABILITY: ARE CASH RECYCLING ATMS THE ANSWER?

Cash recycling presents a powerful opportunity for improving availability across networks. The more self-reliant an ATM, the lower the risk of missed services and faults caused by human error.

However, effective ATM recycler management depends heavily on the denominational mix of both deposit and withdrawals demand at each machine. Varying ratios between the denominations coming in and those going out can quickly make forecasting complex, especially through seasonal variance.

For recycling ATMs to make the difference and deliver maximum availability, they must be fully optimized. This means using a modern, dynamic forecasting solution that forecasts by denomination for both withdrawals and deposits. Cassette configuration is also key.

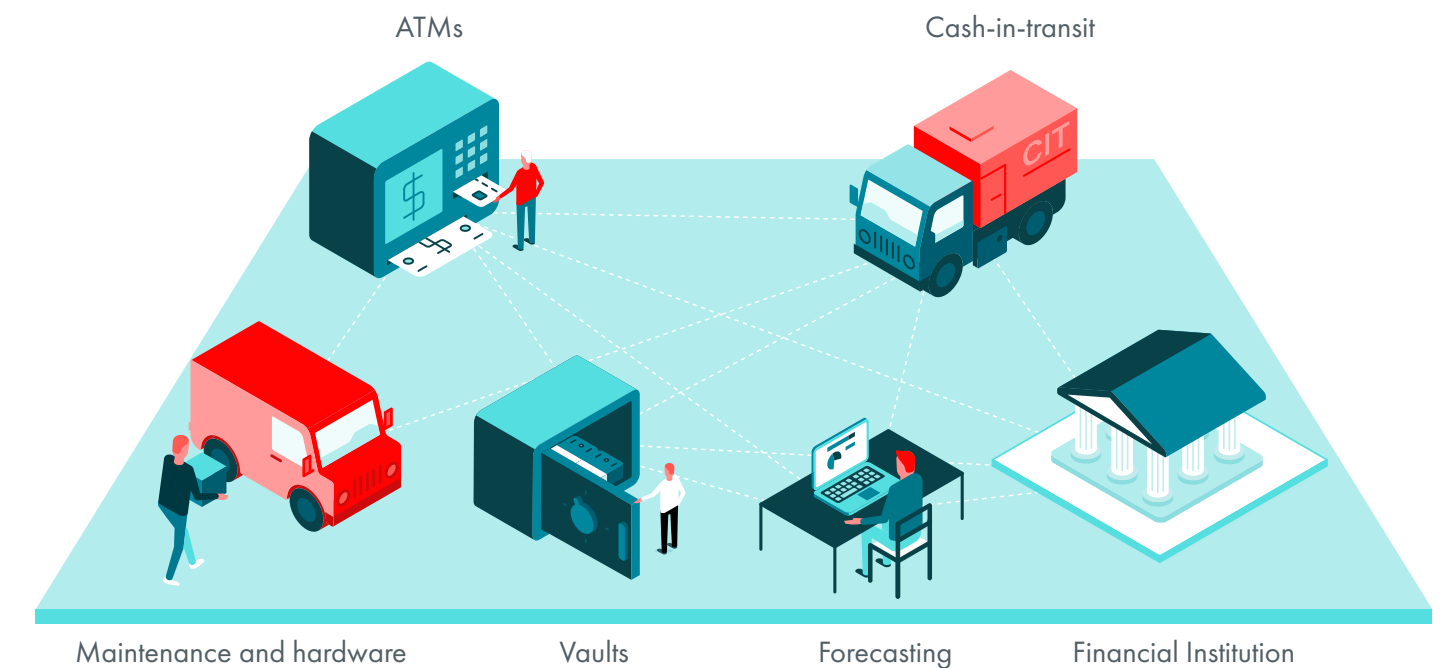
Leading FIs across North America that have successfully rolled out recyclers first undertook a strategic review of their network profile, tailoring front and back-office operations precisely to customer demand.



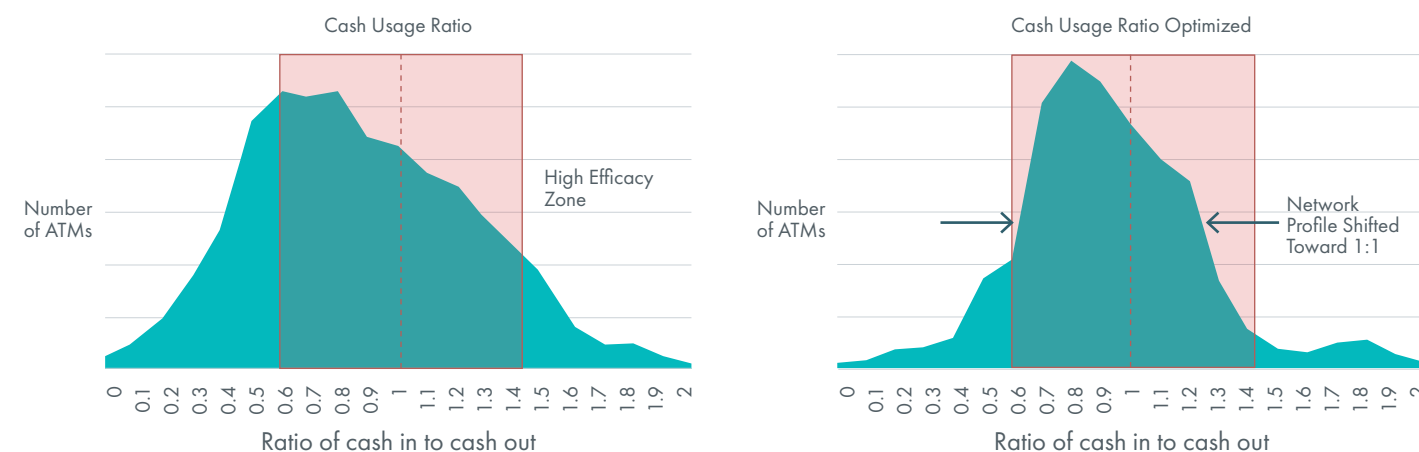
SOLVING THE AVAILABILITY CHALLENGE: A NOVEL APPROACH

In the Fall 2025 Global Cash Report, CMS Analytics introduced Cash Cycle Orchestration, a bold new framework helping financial institutions transform cash operations, improve productivity, and achieve industry-leading cash availability.

➔ **Cash Cycle Orchestration** is the concept of bringing together disparate systems and fragmented data into a unified platform, providing visibility and control to cash operations.



IMPACT OF MANIPULATING THE CASH USAGE RATIO ACROSS THE NETWORK



Source: CMS Analytics

DIAGNOSING THE SOLUTION YOUR NETWORK NEEDS

The modern cash cycle is a complex web of formal and informal relationships between vendors and internal bank teams. When availability issues arise, individual teams are often unaware of the wider network dynamics. They are quick to implement a solution but frequently lack visibility of the underlying drivers causing the issue.

A unified Cash Cycle Orchestration platform lets each team and vendor in the cash cycle integrate data feeds automatically, giving end-to-end visibility that allows for clear diagnosis. Shared, transparent data establishes a single source of truth for all parties to work from which then greatly expedites issue resolution and simplifies communication.

Better, more precise visibility of ATM status and of partners' resource deployment then helps head off blame-game scenarios and focuses teams on long-term, sustainable fixes that will work for the network. Through Cash Cycle Orchestration, FIs foster a culture of proactivity, transparency, and cooperation.



“Avoid the blame game, acknowledge the capacities of stakeholders and strive for long-term sustainability rather than quick fixes.”

Andrea Brooks
CEO, CMS Analytics



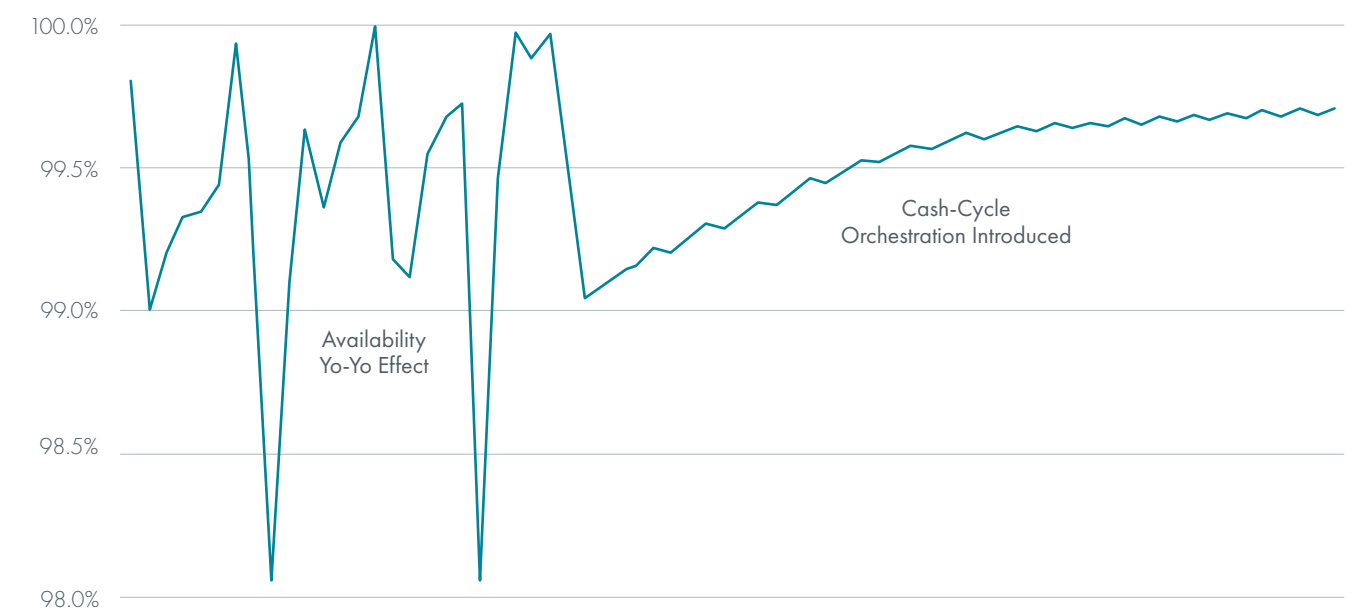
CREATING A DIGITAL TWIN FOR BETTER OUTCOMES

Taking visibility to a new level, Cash Cycle Orchestration equips financial institutions to model their network virtually and pre-empt problems before they surface. Through creating a digital twin of the network, with a live virtual model of every machine and the cash flowing through it, operational changes can be safely and virtually 'A-B' tested. Teams can then simulate different configurations (cassette mixes, service schedules, stock levels) to find the optimal setup before committing to it in the field.

Fault forecasting adds another powerful tool for maximizing availability. By drawing on usage patterns, service history, and error logs, digital twinning lets us forecast faults at the level of the individual machine, allowing pre-emptive action to replace wearing mechanical components before they cause outages.

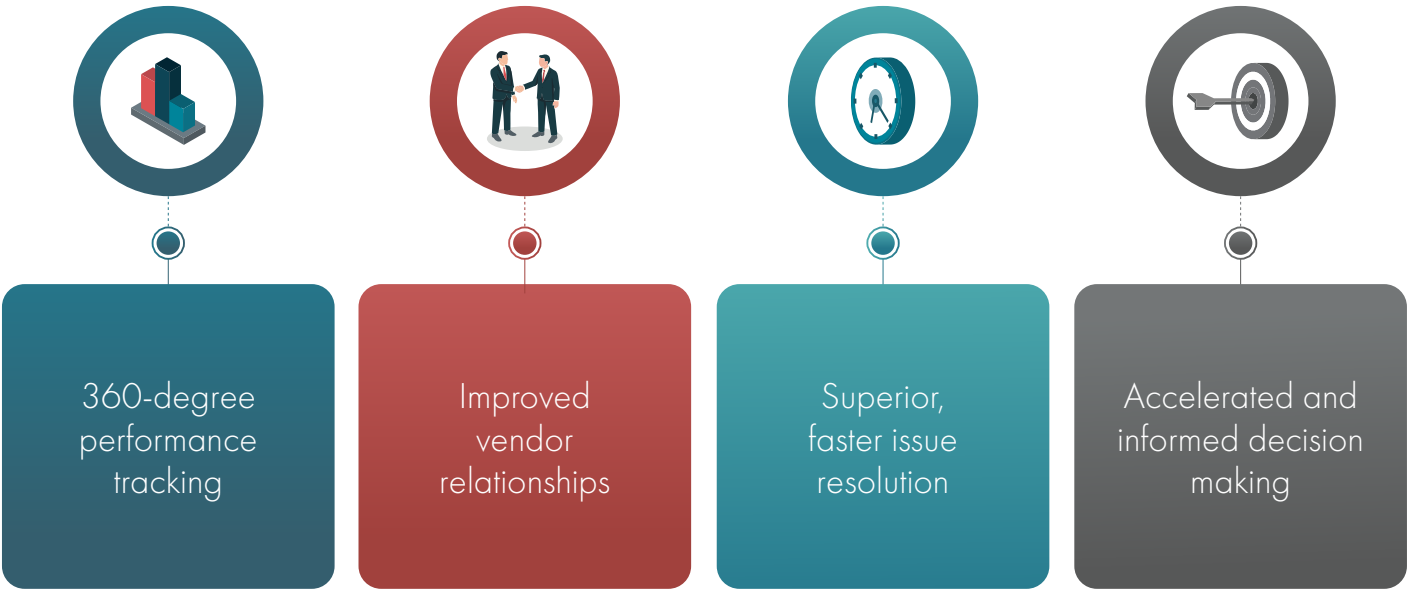
Through Cash Cycle Orchestration, financial institutions are finding long-term solutions that keep working for their network dynamics. Unlike stopgap fixes, which create a yo-yo effect where availability tanks after an initial boost, improvements through Cash Cycle Orchestration are calculated, incremental, and sustainable. Such improvements come from working with partners to find a lasting solution that suits the wider cash ecosystem.

ORCHESTRATING FOR MAXIMUM AVAILABILITY



BETTER DATA VISIBILITY MEANS FASTER, BETTER DECISIONS

As well as strategic, long-horizon changes to cash operations, Cash Cycle Orchestration allows FIs to be nimble through improving operational speed and vendor communications.



NEXT STEPS FOR YOUR INSTITUTION

For more information on how your institution can benefit from Cash Cycle Orchestration please contact:

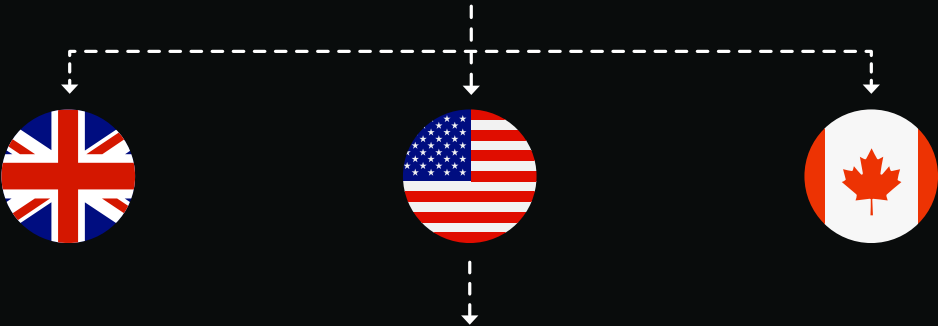
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MISSION STATEMENT

The Cash Leadership Forum (CLF) represents a collection of leading industry experts with the shared goal of driving innovation to enhance the cash landscape for financial institutions and their customers.

Established in partnership with CMS Analytics, the group leads pioneering industry research, addresses big picture industry challenges and provides guidance on strategic priorities shaping the future of the cash industry.



Facilitated by **CMS** Analytics

Find out more:
www.CashLeadershipForum.com

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Analytics

CMS Analytics is a leading global fintech, specializing in streamlining and optimizing cash and back-office operations for financial institutions.

Leveraging over 30 years of expertise, we tailor data-driven solutions to each client's unique needs.

Our comprehensive offerings cover the full spectrum of cash operations, delivering automation and intelligence to forecasting, reconciliation and commercial cash management.

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