



Beyond Speed: Building Trusted Interoperability in the Future of Cross-Border Payments





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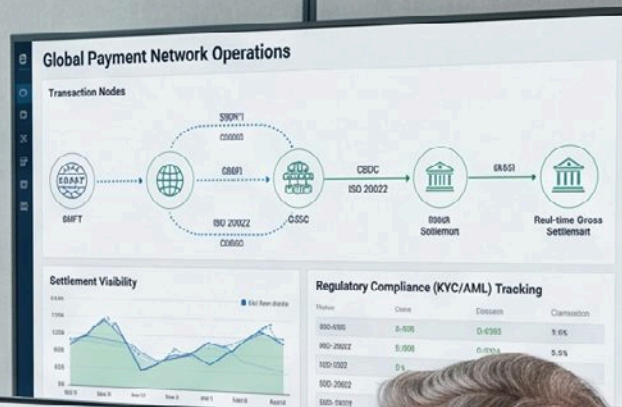
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Table of Contents

EXECUTIVE SUMMARY	5
KEY FINDINGS	6
INTRODUCTION	7
INTEROPERABILITY BEYOND FASTER PAYMENTS.....	8
THE REMAINING SOURCES OF FRICTION	9
STANDARDS AS THE FOUNDATION OF TRUST	10
THE RISE OF DIGITAL SETTLEMENT INFRASTRUCTURE	11
REGULATION AS AN ENABLER OF INNOVATION.....	12
AI, DIGITAL IDENTITY AND THE NEXT LAYER OF FINANCIAL INFRASTRUCTURE.....	13
THE UAE'S ROLE IN SHAPING FUTURE FINANCIAL INFRASTRUCTURE	14
THE HUMAN DIMENSION: CLOSING THE CAPABILITY GAP.....	15
CONCLUSION	16
STRATEGIC IMPLICATIONS FOR THE UAE FINANCIAL SECTOR	16
ABOUT THE ADGM ACADEMY TECH CENTRE	21





Executive Summary

Interoperability – not any individual technology – is becoming the critical enabler of scale.

Cross-border payments are entering a new phase of transformation. While significant progress has been made in improving transaction speed, visibility, and efficiency, industry stakeholders increasingly recognise that the future challenge extends beyond faster payments. The next generation of global financial infrastructure will depend on achieving interoperability across payment networks, regulatory frameworks, settlement assets, identity systems, and digital technologies.

Insights gathered from ADGM's Financial Services Regulatory Authority (FSRA), ADI Foundation, and Swift, highlight a growing consensus that future financial systems will be characterised by coexistence rather than replacement.

Traditional banking rails, stablecoins, tokenised deposits, central bank digital currencies (CBDCs), and programmable settlement infrastructure are expected to operate simultaneously. As a result, interoperability, rather than any individual technology, becomes the critical enabler of scale.

Three foundational requirements emerge consistently across the interviews:

First, interoperability requires common standards, high-quality data, and shared messaging frameworks capable for enabling value and information to move seamlessly across jurisdictions and institutions. Standards such as ISO 20022 are increasingly viewed not only as technical requirements but as foundational building blocks for future automation, artificial intelligence, risk management, and regulatory supervision.

Second, trust remains the indispensable foundation of future financial infrastructure. Regulatory clarity, credible settlement assets, effective compliance controls, and coordinated supervisory approaches will determine whether innovation can achieve meaningful scale. Technology alone cannot solve interoperability challenges without legal certainty, governance, and regulatory cooperation.

Third, emerging technologies including stablecoins, tokenisation, digital identity frameworks, programmable financial infrastructure, and artificial intelligence (AI) offer significant opportunities to improve transparency, efficiency, and automation across cross-border payment ecosystems. However, their success will depend on their ability to integrate with existing financial systems rather than operate as isolated alternatives.

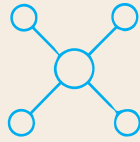
The interviews also identify an increasingly important workforce challenge. Future financial infrastructure will require professionals capable of operating across finance, technology, regulation, cybersecurity, compliance, data governance, and AI. The ability to bridge these domains may become as important as the technologies themselves.

For Abu Dhabi and the UAE, these developments present a unique opportunity. The combination of regulatory innovation, institutional capital, evolving digital asset frameworks, and active engagement in global financial discussions positions the UAE to contribute meaningfully to the development of future interoperable financial infrastructure that connects traditional finance with emerging digital ecosystems.



KEY FINDINGS

01



Interoperability

Interoperability is emerging as the central objective for future cross-border payments, extending beyond speed to encompass trust, transparency, resilience, and seamless user experience.

02



Standards and Structured Data

Standards and structured data are foundational enablers of next-generation payment infrastructure and AI-driven financial services.

03



Coexistence of Financial Systems

Stablecoins, tokenised assets, CBDCs, and traditional banking infrastructure are more likely to coexist than compete in isolation.

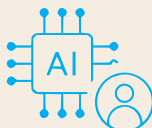
04



Regulatory Cooperation

Regulatory cooperation and outcome-based supervisory frameworks will play a critical role in reducing cross-border fragmentation.

05



AI, Digital Identity and Programmable Finance

AI, digital identity, and programmable finance are likely to become increasingly important components of future financial infrastructure.

06



Talent and Capability

Talent capable of bridging finance, technology, and regulation represents a growing strategic priority across the sector.



Introduction

Cross-border payments are entering a new phase of transformation. For years, industry efforts focused primarily on improving speed, reducing settlement times, and increasing transparency. Significant progress has already been made. Developments such as enhanced payment tracking, broader adoption of common messaging standards, and the expansion of domestic instant payment systems have improved the efficiency of international transactions. In many corridors, payments that once required several days can now be completed within hours, minutes, or even seconds.

Yet despite these advances, the next challenge facing the global financial system is no longer simply speed. The question is whether financial institutions, regulators, and infrastructure providers can create genuinely interoperable payment ecosystems capable of supporting a future in which traditional banking systems, digital settlement assets, programmable financial infrastructure, AI, and evolving regulatory frameworks coexist and operate seamlessly.

Interoperability has become the defining issue of the next generation of financial infrastructure. It is increasingly clear that no single technology, payment rail, or settlement mechanism will dominate future cross-border finance. Instead, success will depend on the ability of multiple systems to exchange value, information, and trust across jurisdictions while maintaining security, compliance, transparency, and operational resilience.

For the UAE, this transition presents a significant opportunity. With the combined strengths of regulatory innovation, institutional capital, financial market infrastructure, and emerging digital asset ecosystems, the UAE is uniquely positioned to contribute to the development of future global financial architecture.



**Seamless value exchange
across systems & borders**



Interoperability



Trust



Innovation





Interoperability Beyond Faster Payments



Cross-border payments are often discussed through the lens of transaction speed. However, speed alone does not define interoperability.

A key insight emerging from the interviews is that the industry should focus on delivering a consistent payment experience regardless of the underlying infrastructure. Users increasingly expect transparency, traceability, predictable pricing, visibility of fees and foreign exchange costs, and certainty regarding settlement outcomes.

As cross-border payments become faster and increasingly approach domestic-speed standards, attention is turning to the experience customers actually receive. Delays, uncertainty around costs and timing, and limited visibility can still create friction even when the core payment journey is highly efficient. The objective should therefore be not only to move value quickly, but to ensure customers know what a payment will cost, where it is, when it will arrive, and that the intended amount will reach the beneficiary.

This will make underlying payment rails invisible to end users while maintaining confidence in the system that supports them.

One useful analogy compares payments to aviation. Air travel functions because multiple airports, airlines, booking systems, air-traffic-control networks, and baggage-handling processes operate under common standards and procedures. Passengers do not need to understand the technical infrastructure that supports their journey. They simply expect reliable service, visibility, and consistent outcomes. The future of payments may increasingly resemble this model, where industry participants compete through customer experience and innovation while relying on shared infrastructure and common standards at the foundational layer.

This highlights a broader shift in thinking. Interoperability is not simply about connecting systems; it is about delivering trust and predictability across an increasingly diverse financial ecosystem.



The Remaining Sources of Friction



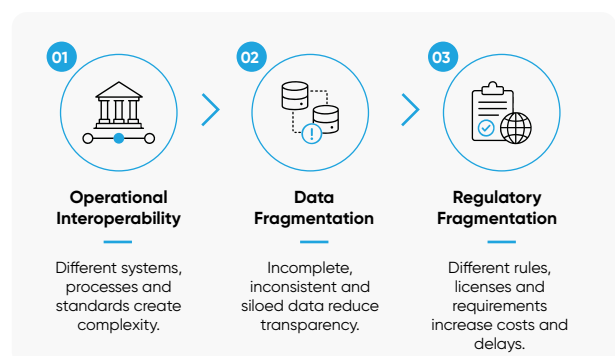
Although significant progress has been achieved, important barriers remain.

One challenge is operational interoperability. Cross-border payments do not exist independently from domestic payment systems. Transactions frequently move through multiple domestic infrastructures throughout their journey, and these infrastructures often differ in operating hours, technological maturity, accessibility, regulatory requirements, and supervisory expectations. Some systems operate continuously, while others remain constrained by traditional business hours and settlement windows. These differences can create delays and inefficiencies.

Data fragmentation represents another major obstacle. Inconsistent customer information, varying data standards, and uneven adoption of richer messaging structures continue to create friction in payment processing, compliance screening, reconciliation, and regulatory reporting. Although industry adoption of standards such as ISO 20022 has accelerated,

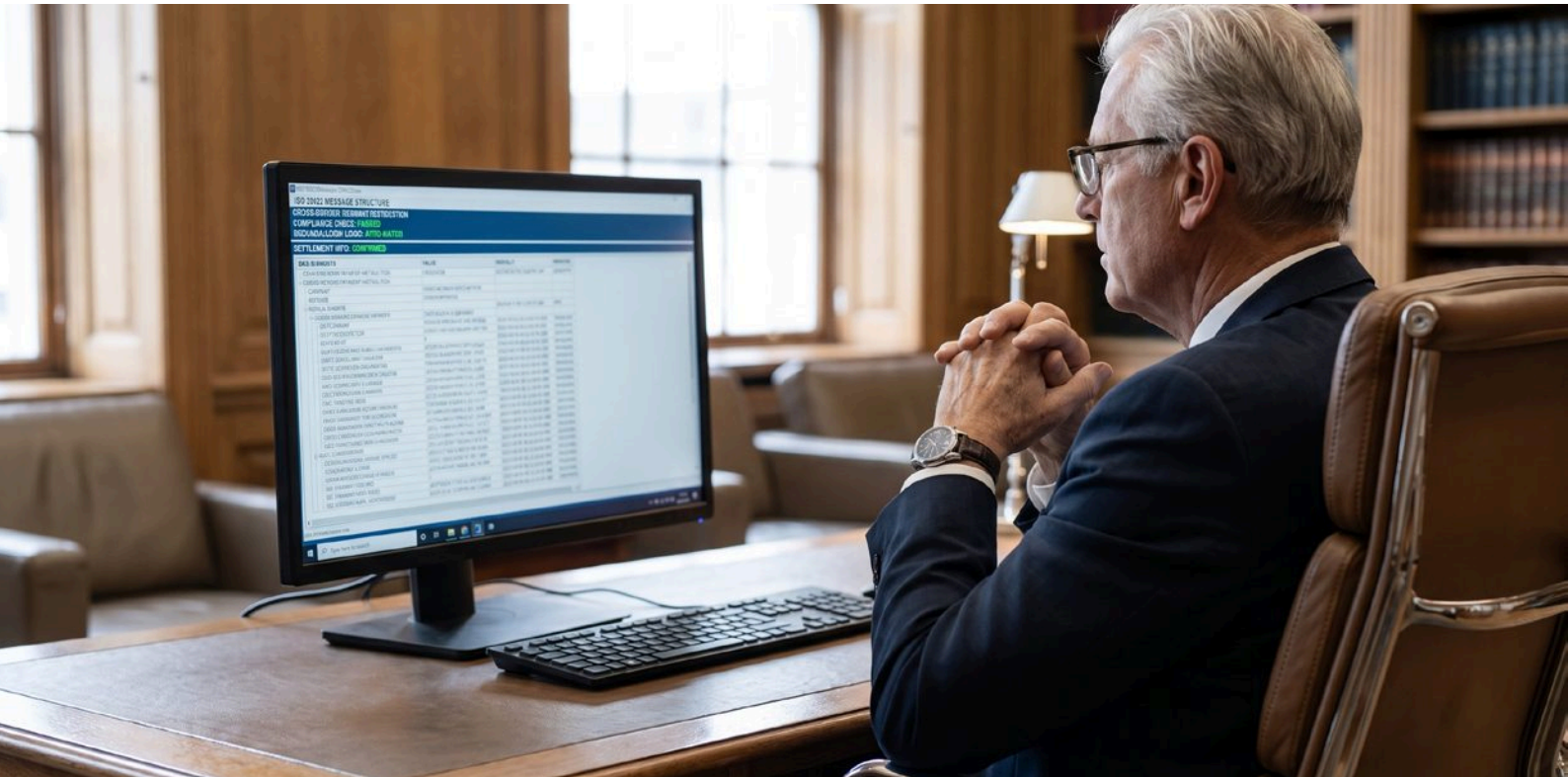
implementation remains uneven across markets and institutions.

Fragmentation also exists at the regulatory level. Differences in legal classifications, compliance requirements, travel rule implementation, and supervisory approaches can increase complexity and create opportunities for regulatory arbitrage. As payment chains become increasingly global, no single authority can fully oversee all elements of a transaction lifecycle. This makes coordination and mutual understanding between jurisdictions increasingly important.





Standards as the Foundation of Trust



Interoperability is impossible without a common language.

Across the interviews, standards emerged as one of the most important enablers of future financial infrastructure. Common data and messaging standards provide a mechanism through which institutions can exchange not only value but also the information necessary for compliance, risk management, settlement, and customer service.

ISO 20022 plays a particularly important role in this transition. Rather than representing simply a technical upgrade, it introduces richer and more structured data capable of supporting increasingly sophisticated

financial services. Better data quality can improve transaction screening, automate reconciliation processes, strengthen financial crime controls, support customer insights, and facilitate more effective regulatory oversight.

The value of standards becomes even more significant when viewed through the lens of future technologies. AI, programmable financial infrastructure, and advanced compliance systems all depend on the availability of structured, high-quality information. Richer data enables these technologies to operate more effectively and produce better outcomes. Without common standards, the benefits of automation and intelligent systems become significantly harder to realise.



The Rise of Digital Settlement Infrastructure



While standards form the foundation, emerging technologies are creating new possibilities for how value moves across borders.

The traditional cross-border payment model relies heavily on correspondent banking relationships and sequential processing across multiple institutions. These arrangements have historically contributed to delays, costs, and reduced transparency. New digital infrastructures may help address these inefficiencies by enabling value and compliance information to move together across shared programmable ledgers.

Stablecoins, tokenised assets, and other digital settlement mechanisms are increasingly viewed as complementary rather than disruptive technologies. Rather than replacing banks, they offer alternative settlement mechanisms that can operate alongside existing financial infrastructure. Banks continue to perform critical functions including custody, reserves management, customer trust, and compliance, while

digital settlement mechanisms can provide faster and more programmable movement of value.

Importantly, all three interviews converge on a common observation: the future will likely be characterised by coexistence rather than replacement. Traditional payment rails, stablecoins, tokenised deposits, central bank digital currencies, and tokenised securities are expected to operate simultaneously, creating the need for interoperability between different forms of money and settlement assets.

The challenge therefore is not selecting a single technology or settlement model. Rather, it is ensuring that different forms of value can move seamlessly across an increasingly diverse financial landscape. Stablecoins, tokenised deposits, central bank digital currencies, commercial bank money and traditional payment infrastructure will only achieve scale if they can interact safely, efficiently and predictably.



Regulation as an Enabler of Innovation



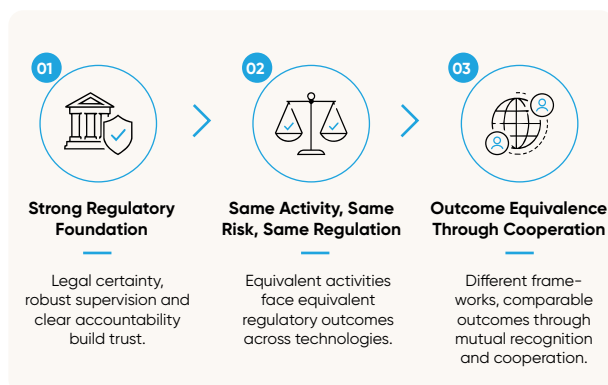
A recurring theme throughout the interviews is that interoperability is ultimately built on trust.

From a regulatory perspective, trust requires more than technological capability. It requires legal certainty, robust supervisory frameworks, credible settlement of assets, effective compliance controls, and clear accountability mechanisms. The technology necessary for interoperability increasingly exists. The greater challenge is ensuring that institutions and regulators

can operate with confidence across jurisdictions and systems.

One regulatory principle repeatedly emphasised is “same activity, same risk, same regulation.” Under this approach, equivalent financial activities should be subject to equivalent regulatory outcomes regardless of whether they are delivered through traditional infrastructure or distributed ledger technology. This principle helps preserve financial stability and consumer protection while allowing innovation to develop.

The interviews also suggest that regulators need not pursue identical regulatory frameworks across all jurisdictions. A more realistic objective may be outcome equivalence, where jurisdictions maintain different legal structures while achieving comparable supervisory and policy objectives. Mutual recognition and regulatory cooperation can therefore play an important role in reducing cross-border friction without eliminating sovereign regulatory autonomy.





AI, Digital Identity and the Next Layer of Financial Infrastructure



AI is already beginning to influence payment ecosystems.

The interviews identify practical applications including fraud detection, sanctions screening, compliance monitoring, exception management, customer support, liquidity management, and supervisory technology. As payment systems produce increasingly rich datasets, AI tools may become more capable of identifying risk patterns, improving operational efficiency, and supporting regulatory oversight.

At the same time, interviewees emphasised that AI outputs should be treated as signals rather than

conclusions. Human expertise remains essential for interpreting results and exercising judgment.

Effective AI governance therefore remains a critical component of future financial infrastructure.

In parallel, digital identity solutions and decentralised technologies may strengthen trust within payment ecosystems. The combination of verified identity, tamper-evident records, and AI-enabled analysis could support more continuous approaches to compliance and risk management while enhancing transparency and accountability across payment networks.



The UAE's Role in Shaping Future Financial Infrastructure



The UAE occupies an increasingly important position within the emerging interoperability landscape. As global financial systems evolve, the country has an opportunity to contribute to the development of more connected, trusted, and resilient cross-border payment infrastructure.

The combination of regulatory innovation, institutional capital, digital infrastructure initiatives, and international connectivity provides a strong foundation for meaningful participation in future financial markets. Across the interviews, there was a clear sense that the UAE can play a constructive role in connecting emerging markets with global financial systems, while demonstrating how innovation can coexist with sound governance, regulatory clarity, and effective oversight.

The UAE's continued engagement in digital finance, payment infrastructure, and regulatory development creates opportunities to explore how new settlement

technologies, data standards, and compliance frameworks can integrate with existing financial systems. This is particularly important as the future of finance is expected to be hybrid, with traditional banking rails, digital assets, tokenised deposits, stablecoins, and potential central bank digital currencies operating alongside one another.

In this context, the UAE's contribution may extend beyond regional leadership. By convening regulators, financial institutions, infrastructure providers, and technology innovators, the country can help support practical pathways toward global interoperability. Its role is therefore not only to adopt emerging financial technologies, but to contribute to the trusted frameworks, standards, and capabilities needed for them to scale responsibly.



The Human Dimension: Closing the Capability Gap



While much attention is focused on technology, the interviews consistently identified talent as one of the most significant constraints to future progress.

The payments industry increasingly requires professionals who can operate across multiple domains simultaneously, including finance, regulation, technology, cybersecurity, compliance, data standards, and AI. These skills are often found in isolation but remain comparatively rare in combination.

Participants highlighted capability gaps in cybersecurity, AI governance, machine-readable regulation, financial crime controls, data quality management, and financial

literacy. Technology firms entering financial services may possess strong technical expertise while lacking a deep understanding of payment operations, regulation, and market infrastructure. Conversely, traditional financial institutions may face challenges in adapting rapidly to emerging technologies.

Ultimately, future interoperability may depend as much on workforce readiness as on technological innovation. The institutions best positioned for success will likely be those capable of combining technical capability with regulatory understanding and operational expertise.



Conclusion

The future of cross-border payments will not be determined by a single technology, payment network, or settlement asset. Instead, it will be defined by the industry's ability to build trusted interoperability across a growing ecosystem of traditional financial infrastructure, digital settlement assets, regulatory frameworks, data standards, and intelligent technologies.

The interviews conducted with Swift, ADI Foundation, and ADGM FSRA reveal a remarkable degree of alignment despite representing different parts of the financial ecosystem. All three perspectives point toward a future in which interoperability, trust, standards, and collaboration become more important than any individual technology.

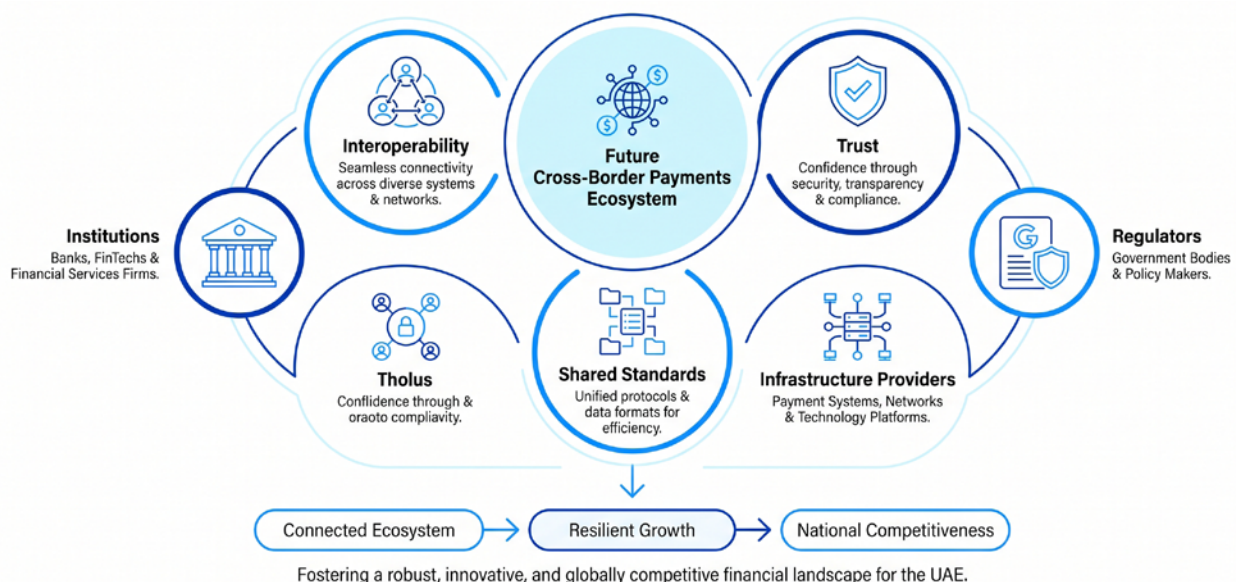
For the UAE financial sector, the opportunity is significant. By combining strong regulation, evolving infrastructure, international connectivity, and innovation-friendly ecosystems, the UAE has the potential to contribute meaningfully to the next generation of global financial architecture.

The challenge now is not simply building faster payments, but building a system in which value, information, regulation, and trust move seamlessly across borders. As new forms of digital value emerge, success will depend on ensuring interoperability between existing financial infrastructure and future networks, so innovation can scale without creating new silos, fragmentation or barriers for end users.

Strategic Implications for the UAE Financial Sector

The perspectives from Swift, ADI Foundation, and ADGM FSRA collectively point to a broader shift in how the financial sector should think about cross-border payments. The future is unlikely to be defined by a single payment rail, settlement asset, or technological

platform. Instead, success will depend on the ability of institutions, regulators, and infrastructure providers to operate within an increasingly interconnected ecosystem built on interoperability, trust, and shared standards.



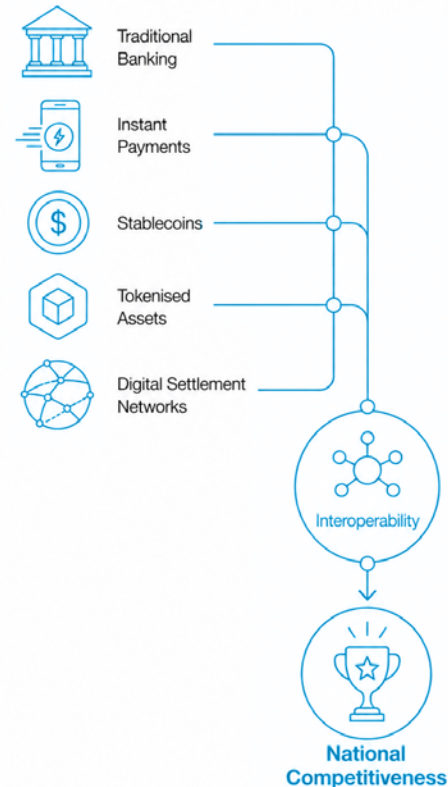


1. Interoperability Should Become a National Competitiveness Priority

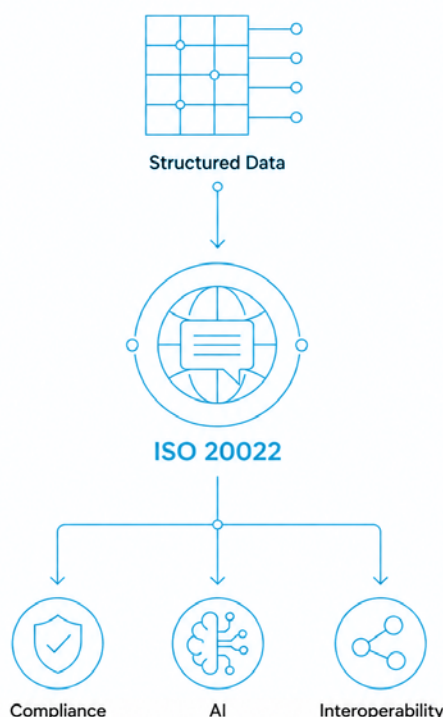
Historically, competitive advantage in financial services was often linked to access to liquidity, market reach, or technological innovation. As payment ecosystems become increasingly interconnected, competitive advantage may increasingly depend on interoperability itself.

For UAE financial institutions, the strategic objective should not simply be adopting new technologies but ensuring that existing and future systems can interact seamlessly across payment rails, settlement mechanisms, compliance frameworks, and jurisdictions. This includes interoperability between traditional banking infrastructure, instant payment systems, stablecoins, tokenised assets, and future digital settlement networks.

Institutions that are positioned to connect across multiple ecosystems may be better equipped to participate in future cross-border value chains.



2. Standards Will Become Strategic Infrastructure



Historically, competitive advantage in financial services was often linked to access to liquidity, market reach, or technological innovation. As payment ecosystems become increasingly interconnected, competitive advantage may increasingly depend on interoperability itself.

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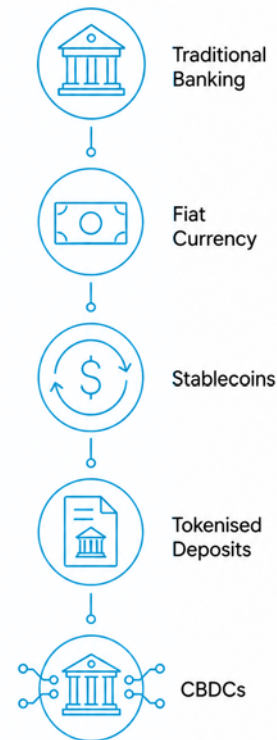


3. The Future Financial System Is Likely to Be Hybrid

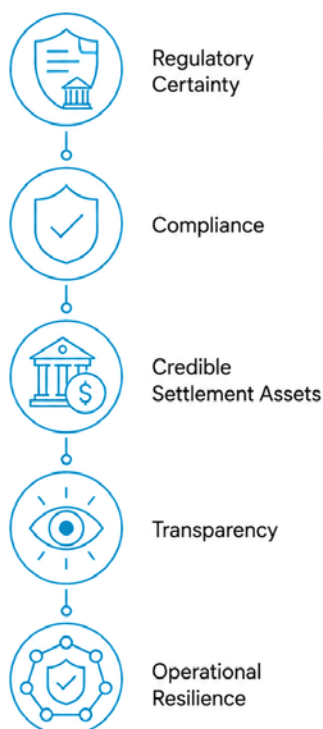
A consistent theme across all interviews is that future payment ecosystems will likely be characterised by coexistence rather than replacement.

Traditional banking infrastructure, fiat currency, stablecoins, tokenised deposits, and CBDCs are expected to operate simultaneously. As a result, institutions should prepare for a hybrid operating environment rather than assuming a complete transition toward any single model.

Strategic planning should therefore focus on integration capabilities, settlement flexibility, and the ability to operate across multiple forms of value transfer.



4. Talent May Become the Most Important Constraint on Progress



Perhaps the most significant long-term challenge identified across the interviews is the capability gap.

Future financial systems will require professionals who understand regulation, finance, digital infrastructure, cybersecurity, compliance, AI, and emerging payment technologies simultaneously. These capabilities are often developed separately, yet future interoperability initiatives will increasingly depend on individuals capable of bridging multiple disciplines.

For financial institutions and policymakers, workforce development should be considered a strategic priority alongside technology investment. The ability to develop interdisciplinary expertise may ultimately determine how successfully organisations participate in future financial ecosystems.

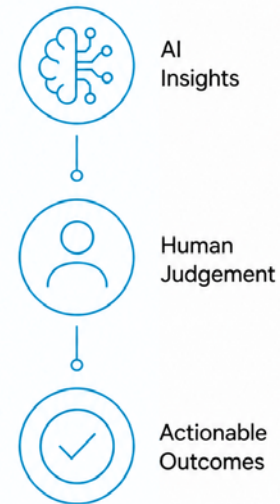


5. Trust Will Remain the Ultimate Enabler of Scale

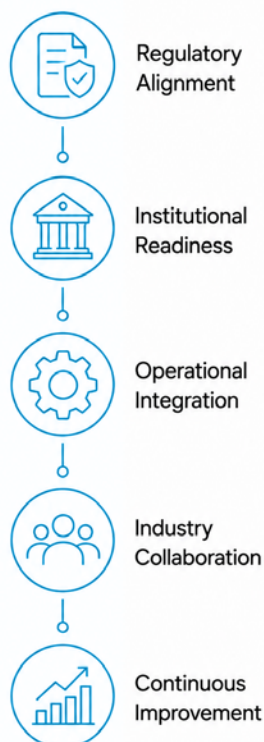
Technology can improve efficiency, but trust remains the prerequisite for adoption.

The interviews consistently highlighted the importance of regulatory certainty, effective compliance frameworks, credible settlement assets, transparency, and operational resilience. This suggests that future cross-border payment solutions will succeed not simply because they are technologically advanced, but because they are trusted by regulators, financial institutions, businesses, and consumers.

For the UAE financial sector, maintaining a reputation for regulatory clarity and institutional trust remains one of the country's most important competitive advantages as global payment infrastructures continue to evolve.



6. AI Will Transform Operations Before It Transforms Strategy



AI is already beginning to influence financial crime detection, compliance screening, transaction monitoring, customer support, and operational efficiency.

However, the interviews suggest that AI's immediate value is likely to come through enhancing existing processes rather than replacing them. The quality of underlying data, governance frameworks, and human judgement will remain critical determinants of success. AI outputs must be interpreted and governed appropriately, particularly within regulated financial environments.

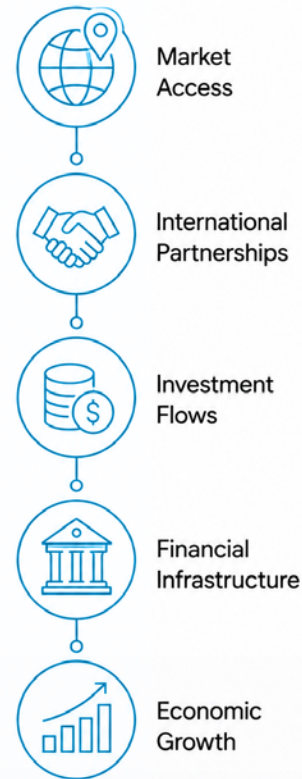
Financial institutions that combine strong data foundations with effective AI governance may be best positioned to capture the benefits of emerging technologies.



7. The UAE Has an Opportunity to Act as a Global Interoperability Bridge

The interviews collectively position the UAE as more than a financial centre or regulatory jurisdiction. Its emerging role may be as a bridge between traditional and digital finance, between mature and developing markets, and between innovation and regulation.

The combination of regulatory innovation, international engagement, institutional capital, and rapidly evolving digital finance initiatives creates an opportunity for the UAE to contribute directly to the development of future global financial infrastructure. Its ability to convene regulators, financial institutions, technology providers, and infrastructure operators may become increasingly important as the industry seeks practical models for achieving interoperability at scale.



About the ADGM Academy Tech Centre

Innovating Knowledge, Empowering Change

The ADGM Academy Tech Centre is Abu Dhabi's multi-sector innovation hub – a first-of-its-kind ecosystem that fuses education, research, regulation, and investment under one roof. Built within the ADGM Academy, the Tech Centre brings together policymakers, regulators, industry leaders, researchers, and entrepreneurs to shape the technologies and industries of tomorrow. Africa, South Asia, and global markets.

About FutureTech 4.0

FutureTech 4.0, a collaboration between ADI Foundation and ADGM Academy, is a next-generation skills and research centre designed to accelerate innovation in the era of Web 4.0. The centre combines advanced training, applied research, and intellectual property creation to empower talent, industry, and academia to shape the future of decentralized technologies. Through community-driven innovation programs and a focus on real-world problem statements, FutureTech 4.0 serves as a catalyst for building the UAE's leadership in emerging tech.

ADGM Academy

As the knowledge hub of Abu Dhabi Global Market (ADGM), the Academy develops future-ready talent across banking, finance, digital innovation and public services. Supporting the UAE's ambition for a knowledge-driven and globally competitive economy, it delivers practical, experiential learning that equips graduates and professionals with the skills and industry insight needed to succeed in a rapidly evolving landscape.

Through partnerships with leading industry experts, professional bodies and academic institutions, ADGM Academy delivers internationally recognised programmes that combine global expertise with regional relevance. Its industry-focused approach strengthens professional capabilities and supports the growth of Abu Dhabi's financial and digital ecosystem.

Established in 2015, ADGM is a globally recognised international financial centre that strengthens Abu Dhabi's position as a leading financial and business hub, connecting the Middle East, Africa and South Asia with global markets and supporting Abu Dhabi's Falcon Economy.



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