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R E S E A R C H

# Building the Digital Bank of the Future: The Emerging Role of Quality Assurance

Experience Assurance for Banking and Financial Services with Quality Orchestration

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## The role of quality assurance in the future of banking and financial services

### Banking and financial services of the future

Banks and financial services firms are seeing the emergence of a new consumption model, in which financial services providers are expected to manage customer interactions, aggregate services/products from ecosystem players, and offer differentiated experiences across preferred channels. While banking will remain relevant, banks as we know them today may not.

The omnipresence of technology, new business models, and a globally connected ecosystem require banks to evolve from the current banking-as-a-product mindset to a banking-as-a-lifestyle approach. Currently, most banks view customers' needs through a product lens and offer best-fit financial services products. In the future, banks will need to develop a holistic and continuous view of customers' evolving needs over their lifecycles and offer best-fit experiences through a combination of products, engagements, and value-added services.

**EXHIBIT 1**

The future of financial services will pivot from managing products to owning customer lifecycles

Source: Everest Group (2018)



**BANKING-AS-A-LIFESTYLE ("AMBIENT BANKING")**

- Banking will be ubiquitous and part of people's day-to-day lifestyles
- Banks will move upstream and coordinate the entire ecosystem. They will integrate with allied businesses and extend access through edge devices
- They will be able to influence customer experience across all channels (their own as well as TPP-owned)
- The technology landscape will be defined through a customer-centric IT strategy and enabled by APIs, analytics, cloud, and microservices

**BANKING-AS-A-SERVICE**

- Adoption of APIs and movement to open banking are transitioning banking to a plug-and-play service
- Provides an as-a-service platform to help TPPs integrate seamlessly with banks' back offices
- Focus is on externalizing a single view of customers for TPPs
- Manage customer experience over their own channels but have limited influence on services provided over TPPs' channels

**BANKING-AS-A-PRODUCT**

- Viewed as sellers of products such as loans, CASA, credit cards, and money market accounts
- Focus is on building a single view of customers across different business units or product functions
- Manage customer experience over their own channels and do not integrate with Third-Party Providers (TPPs)

**Everest Group take:**

As banks start to offer experiences, they need to collaborate and combine offerings from financial services and allied industries that are assured for customers under their brand. This will expand the role of Quality Assurance (QA) in banking and financial services from a traditional inside-out monolithic view to that of an ecosystem quality orchestrator in the future.

**Bank-assured experiences – governance and orchestration of the ecosystem**

Banks lie at the heart of an enhanced ecosystem comprising a multitude of:

- Partners, including physical merchants and digital commerce platforms, fintech companies, regulators, data providers, etc.
- Channels, including traditional bank-owned and -operated channels, partnered or third-party channels (such as wallets, P-2-P digital payment platforms)

The combination of channels and partners is creating an unique opportunity for banks as they offer an expanded scope of services and customer coverage. At the same time, the new business model for banks increases management complexity and business risk. **QA has a critical role to play in assuring the end customer experience by orchestrating across the entire spectrum of channels and partners.**

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**EXHIBIT 2**

Bank-enabled lifestyle and commercial experiences

Source: Everest Group (2018)

## Quality assurance imperatives for the future of banking and financial services

**Everest Group take:**

The traditional QA function in the banking and financial services industry has been characterized by value-drivers based on scale-driven service models and a tightly bound technology stack. For financial services providers to operate in an enhanced ecosystem, the QA function will have to embrace a new set of value-drivers based on:
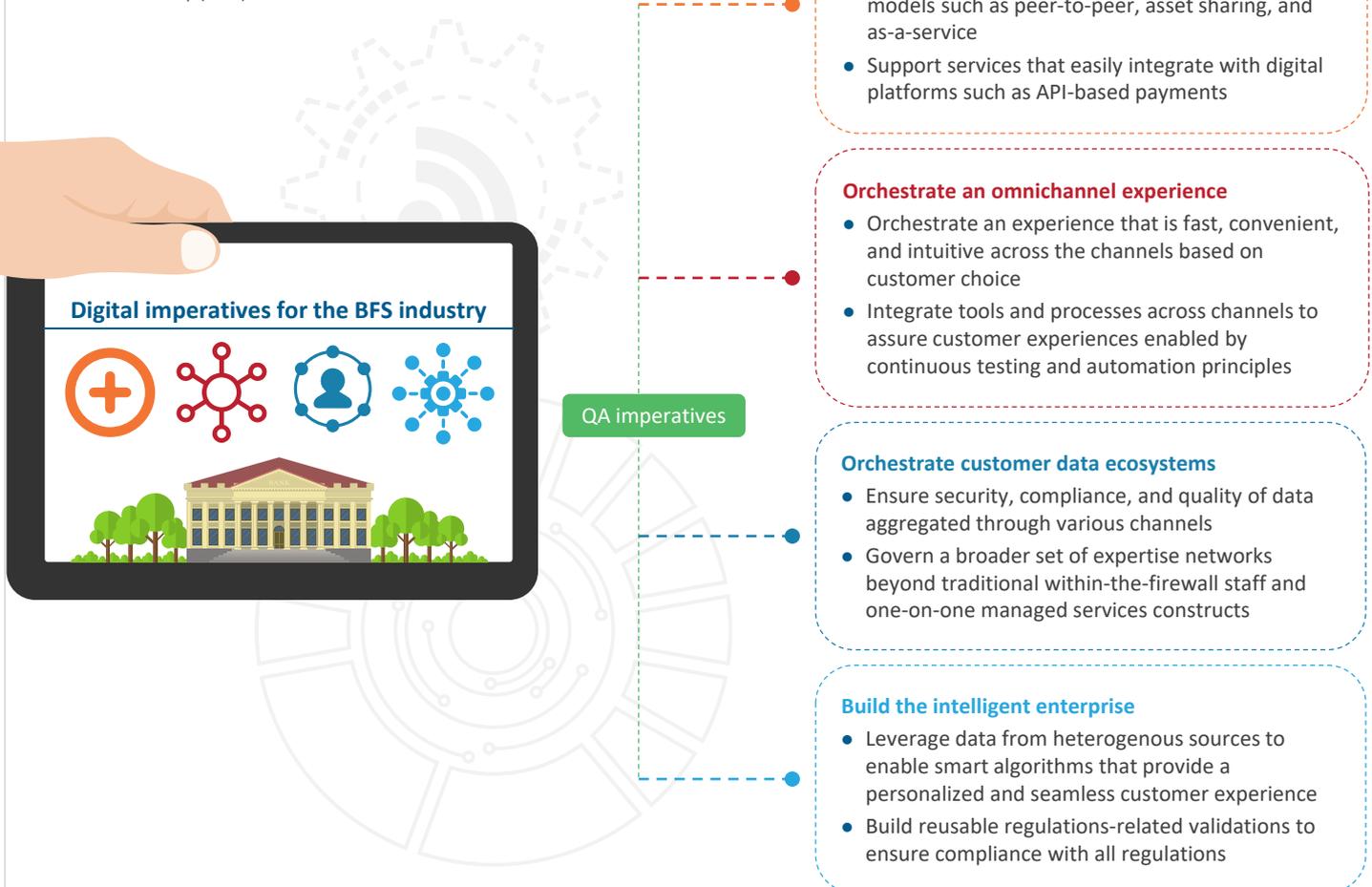
- Links with business outcomes
- An end-to-end customer experience
- Speed-to-value for digital business processes
- Cross-functional talent
- The ability to rapidly assemble and disassemble technology building blocks in an agnostic manner

The reimagined QA function will need to enable a strong governance mechanism to enforce accountability in a shared environment with incentives aligned to guarantee business outcomes.

**EXHIBIT 3**

Characteristics of a digital bank

Source: Everest Group (2018)

**Digital imperatives for the BFS industry**

QA imperatives

**Support new products and services**
- Assure performance, security, scalability, and user experience of bank-orchestrated new business models such as peer-to-peer, asset sharing, and as-a-service
- Support services that easily integrate with digital platforms such as API-based payments

**Orchestrate an omnichannel experience**
- Orchestrate an experience that is fast, convenient, and intuitive across the channels based on customer choice
- Integrate tools and processes across channels to assure customer experiences enabled by continuous testing and automation principles

**Orchestrate customer data ecosystems**
- Ensure security, compliance, and quality of data aggregated through various channels
- Govern a broader set of expertise networks beyond traditional within-the-firewall staff and one-on-one managed services constructs

**Build the intelligent enterprise**
- Leverage data from heterogenous sources to enable smart algorithms that provide a personalized and seamless customer experience
- Build reusable regulations-related validations to ensure compliance with all regulations
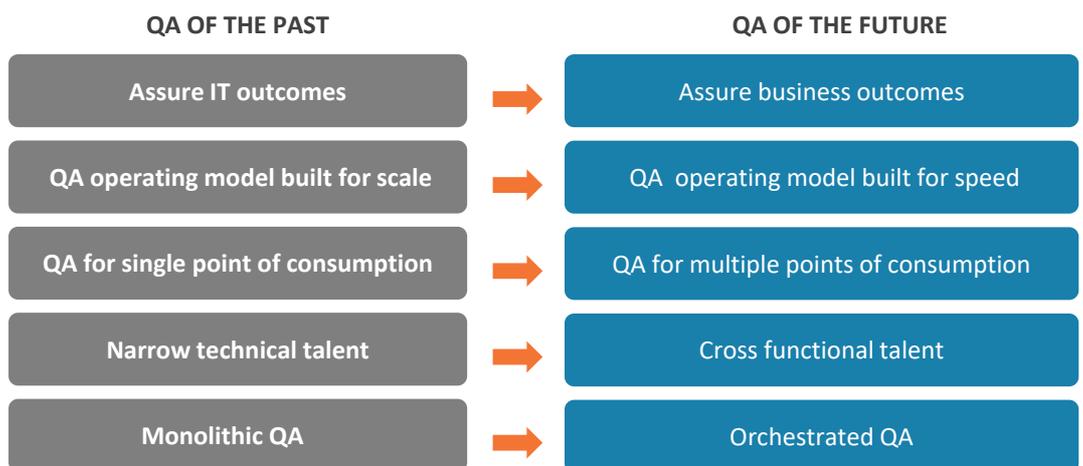
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**Four imperatives of the new BFS business model and their impact on enterprise QA**

1. **Build the intelligent enterprise**: Banks and providers of financial services will use analytics, automation, and cognitive technologies as "enterprise glue" to bind together different components of a customer journey. Intelligent systems will be used to improve the speed and accuracy of decision-making, as well as to provide a frictionless customer experience. QA services must be able to assure improved business process outcomes through intelligent decision recommendations

2. **Support new products and services**: Banks and providers of financial services will have to adapt their traditional models, and facilitate the emergence of new business models such as asset sharing, peer-to-peer, and pay-per-use. These models must necessarily be supported by a technology backbone that is constantly evolving, always resilient, and facilitating near-instantaneous provisioning and consumption of financial services. The QA operating model must necessarily adapt to support the speed of change at which technology-enabled business services are provided

3. **Orchestrate omnichannel experiences**: Lifestyle experiences will be provided to consumers through a multitude of digital and physical channels. Further, BFS firms will be able to provide tailored recommendations, financial advice, and offers by understanding unique customer needs. QA services will need to be tailored to ensure a consistent experience across a multitude of channels spanning different stages of the user journey. The corresponding QA talent model needs to include cross-functional knowledge of technology, interface design, and appropriate business context

4. **Orchestrate customer data ecosystems**: Banks and providers of financial services will have to manage the integrity of customer data and identity across an ecosystem spanning regulators and other third parties. Correspondingly, the QA function will have to assure complex data across an extended ecosystem and ensure continuous validation and protection of customer identity and customer data

**EXHIBIT 4**

QA imperatives for the future of BFS

Source: Everest Group (2018)

| QA OF THE PAST | | QA OF THE FUTURE |
|---|---|---|
| Assure IT outcomes | → | Assure business outcomes |
| QA operating model built for scale | → | QA operating model built for speed |
| QA for single point of consumption | → | QA for multiple points of consumption |
| Narrow technical talent | → | Cross functional talent |
| Monolithic QA | → | Orchestrated QA |

For the QA function of the future to be business outcome-aligned it needs to transition from a monolithic model to an orchestrated QA organization model. We explore the ingredients needed to build this future model of QA with the help of a set of illustrative use cases within the BFS industry.

## Building the intelligent enterprise: QA for next-generation mortgage processing

**Everest Group take:**

Data-centric BFS firms backed by sophisticated AI engines will be running quasi-autonomous and faster business processes. The QA function will need to evolve to assure the quality of business decisions based on automated business rules and inputs from AI engines. Business outcomes assurance and a talent model that understands the design of intelligent operations and experience models are the cornerstones of this future QA operating model.
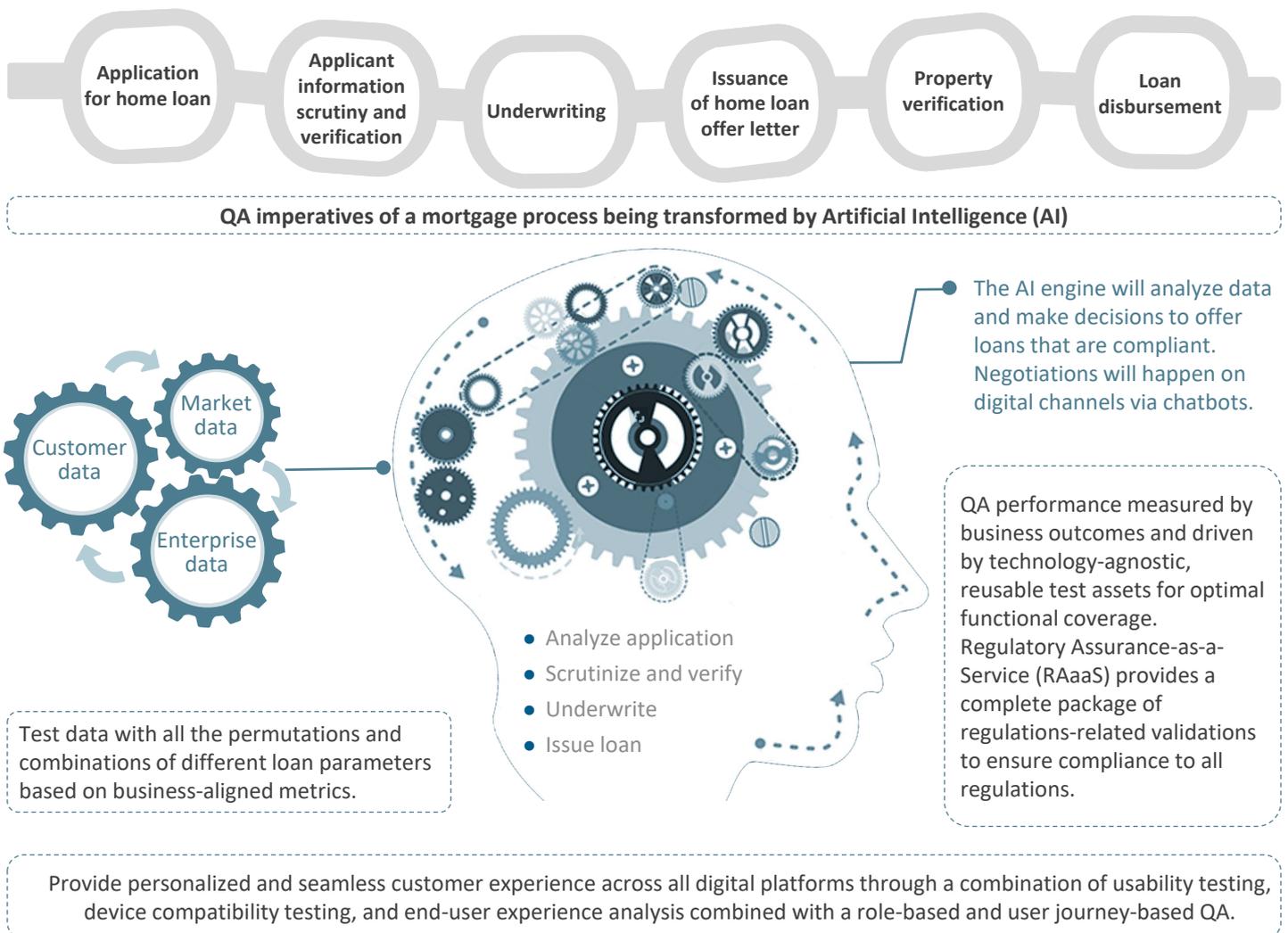
**Mortgage processing of the future**

- **Industry context**: Traditionally, the process from loan application to approval and disbursement is long and drawn out and fraught with manual operations and delays

**EXHIBIT 5**

QA imperatives for the future of mortgage experiences

Source: Everest Group (2018)



Application for home loan → Applicant information scrutiny and verification → Underwriting → Issuance of home loan offer letter → Property verification → Loan disbursement

**QA imperatives of a mortgage process being transformed by Artificial Intelligence (AI)**

The AI engine will analyze data and make decisions to offer loans that are compliant. Negotiations will happen on digital channels via chatbots.

Customer data, Market data, Enterprise data

- Analyze application
- Scrutinize and verify
- Underwrite
- Issue loan

QA performance measured by business outcomes and driven by technology-agnostic, reusable test assets for optimal functional coverage. Regulatory Assurance-as-a-Service (RAaaS) provides a complete package of regulations-related validations to ensure compliance to all regulations.

Test data with all the permutations and combinations of different loan parameters based on business-aligned metrics.

Provide personalized and seamless customer experience across all digital platforms through a combination of usability testing, device compatibility testing, and end-user experience analysis combined with a role-based and user journey-based QA.

- **Mortgage of the future**: An intuitive, frictionless digital borrowing experience is the key to a lender's success. Creating this experience requires integration of data feeds from third-party providers, data from the user him/herself (from self-service systems), and cognitive bots for operations

- **QA for mortgage processing of the future**: The enterprise QA function imperatives for the AI-enabled mortgage value chain requires adoption of principles of QA orchestration:
  - Test data with all permutations and combinations of the different loan parameters based on pre-set business metrics and thresholds executed through automated components-based testing scenarios for accelerated QA
  - Provide personalized and seamless customer experience across all digital platforms through a combination of usability testing, device compatibility testing, and end-user experience analysis, combined with a role-based and user journey-based QA
  - Align with the Regulatory Assurance-as-a-Service (RAaaS) offering to provide a complete package of compliance-related validations to ensure compliance with all regulations
  - QA orchestration for a day-in-a-life scenario through service virtualization of credit check and third party validations such as employer, address, and income to create required test data for multiple business process scenarios
  - Measure performance of the QA function by business outcomes (speed, accuracy of recommendations, and customer experience) and driven by technology-agnostic, reusable test assets for optimal functional coverage
  - As AI technologies evolve, the role of QA will need to evolve to assure digital ethics and ensure decisions made by machine learning algorithms are free of biases. The QA ecosystem should include a non-deterministic QA engine to assure the ethics and fairness of the AI engines at the center of business processes

## Support new products and services: QA for next generation payments

**Everest Group take:**

Emerging business models such as peer-to-peer and asset sharing are fundamentally disrupting how services are consumed across industries. The QA function of a digital bank will have to seamlessly integrate with these new business models and the corresponding technology landscapes of ecosystem partners as well as assure performance, security, and user experience.

### Quality assurance for digital Peer-to-Peer (P2P) payments

- **Industry context:** Adoption of disruptive business models such as peer-to-peer and asset sharing is influencing customers' lifestyle and commercial experiences. BFS firms need to enable these emerging business models and adopt them to orchestrate experiences for customers. The payments area has seen significant disruption in the past few years due to the rise of real-time payments, P2P payments, cryptocurrencies, and machine learning-based payment fraud detection systems

- **Payments of the future**: Consumer and business payments manifest in various ways across channels such as mobile, e-commerce websites, smart devices, and social media applications. The rise of P2P payments presents a unique opportunity for BFS firms to enable new payment methods such as e-wallets (e.g., Apple Pay, Google Pay), social media apps (e.g., WeChat, PayTm), virtual agents / bots (e.g., Mypoolin, Masterpass chatbot), and wearables (e.g., Token, FitBit Pay). BFS firms are also competing in this space by launching their P2P payment offerings as well (e.g., Zelle is a consortium of bank-operated P2P payments platform)

**EXHIBIT 6**

QA imperatives for digital P2P payments

Source: Everest Group (2018)

**Integration with the ecosystem**

- Integration testing of open APIs and wallet applications
- Ecosystem assurance when integrating applications between payment networks, issuer services, and third-party processors
- Tools orchestration for cloud-based micro services apps to enable time-to-market through DevOps and automation

**User experience**

- Assuring a seamless payment experience for customers across all channels and devices such as mobile and wearables
- Test user interface to ensure usability, accessibility, and device compatibility

**Scalability and security**

- Validate biometrics (e.g., fingerprint and voice) and other authentication mechanisms across channels and devices
- Scalability and security testing across payment platforms and channels

**Performance assurance**

- Stress and volume testing on payment gateways and devices across multiple platforms using cloud-based testing tools
- Validating performance across all aspects of the digital payments lifecycle

- **QA orchestration for the future of payments**: The enterprise QA function needs to assure seamless digital payment experiences by integrating with the traditional and emerging payments ecosystem. Regulations such as Payments Service Directive 2 and other open banking initiatives are further expanding payments ecosystem imperatives to create an open payments system enabled through APIs. The QA function needs to keep pace with rapid adoption of new devices and channels (such as IoT) to support product innovation

- **Continuously evolving QA practices**: The QA strategy of the future will address the rapid evolution of the industry through:
  - Automated API testing to assure third-party services: Ecosystem assurance for integration of payment network, issuer services, and third party processors in a continuous delivery context comprising microservices based on open APIs
  - Building on top of the ubiquitous social experience: Assure the payments experience across emerging channels such as social media, wallet apps, mobile application platforms, and wearables / IoT devices. To do so will require testing of tools and process for emerging technologies such as chatbots, virtual assistants, and biometric tools such as fingerprint and face recognition
  - Assurance for payments reliability and scalability: QA tools and processes to test the resiliency of the payment network to handle fault tolerance. Build reusable assets for security and vulnerability testing to manage financial crimes prevention and compliance
  - Enabling customer choice: Expand the QA ecosystem to integrate all traditional and emerging channels to ensure customer access through the channel of their choice to interact with banks and consume banking services

## Orchestrating omnichannel experiences: QA for next-generation wealth management

**Everest Group take:**
BFS customers are looking for an experience that is fast, convenient, and intuitive across all channels. Enterprise QA effort to build such an omnichannel experience will require deep awareness of customer and industry context, multi-device ecosystems, and orchestration of channel data.

### Quality orchestration for wealth management of the future

- **Industry context:** The wealth management industry has traditionally focused on providing personalized advisory services to High Net Worth (HNW) individuals and institutional investors through a physical and people-heavy model

- **Wealth management of the future:** The rise of digital channel adoption, democratization of assets, and AI-enabled automated investment advisory services has fundamentally disrupted the wealth management industry. The emergence of the mass affluent as a target customer segment and the pervasiveness of digital experiences across customer segments require wealth management firms to build an omnichannel experience

**EXHIBIT 7**

QA imperatives for building omnichannel digital experiences

Source: Everest Group (2018)



**Personalized**

Understand not only the current needs of the customers, but also detect the potential needs (e.g., life goals) and provide relevant customizable solutions

**Ubiquitous**

- Access to wealth services anytime, anywhere, and from any device
- Rise of hybrid advisory with expectations of high digital channel availability

**Easy**
- Seamless user experience across channels and types of transaction
- Integrated financial solutions that are simple to consume

**Secure**

**Responsive**

- Transparency in fees, products, and financials
- High level of security features that do not create friction in the customer experience

- Quick response to customer queries across the channel of their choice
- Context-aware responses in real-time

- Integrate the QA strategy for mobile, online, and wearables by including performance, accessibility, user experience, and security validations
- End-to-end business assurance by simulating scenarios of asset category, risk appetite, valuation, and time horizon-based goals setup
- Wealth planning for customers' various commercial and lifestyle needs necessitates role- and goal-based user journey validation
- Quality assurance of wealth planning tools for advisors that integrate data from internal and external (e.g., social media) systems

- **QA orchestration for building wealth management experiences of the future**:
  The enterprise QA function imperatives for building omnichannel experiences
  requires integration of tools and processes across channels to assure customer
  experiences enabled by continuous testing and automation principles:
  - End-to-end business assurance by simulating scenarios of asset category,
    risk appetite, valuation, and time horizon-based goals setup
  - Wealth planning for customers' various commercial and lifestyle needs necessitates
    role- and goal-based user journey validation
  - Quality assurance of wealth planning tools for advisors that integrates data from
    internal and external  (e.g., social media) systems
  - Integrated QA strategy for mobile, online, and wearables by including performance,
    accessibility, user experience, and security validations
  - Leverage technologies such as customer data analytics, cognitive vision, machine
    learning, and Robotic Process Automation (RPA) to deliver and validate features
    such as facial and image recognition, remote advisory, real-time portfolio health
    checks, personalized customer behavior-based analytics, rules-based advisory,
    and intelligent recommendation of next-best action to customers

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## Orchestrating data ecosystems: QA for next-generation KYC

**Everest Group take:**
Adoption of industry utilities and/or marketplaces in BFS will result in a set of networked QA communities participating as prosumers of data via digital platforms, governed by logical and security partitions, which will, in turn, eliminate duplication of processes by continuous validation of customer identity and enable a seamless customer experience. The QA function will have to evolve to maintain and secure a current version of customer data and customer identity across the ecosystem.
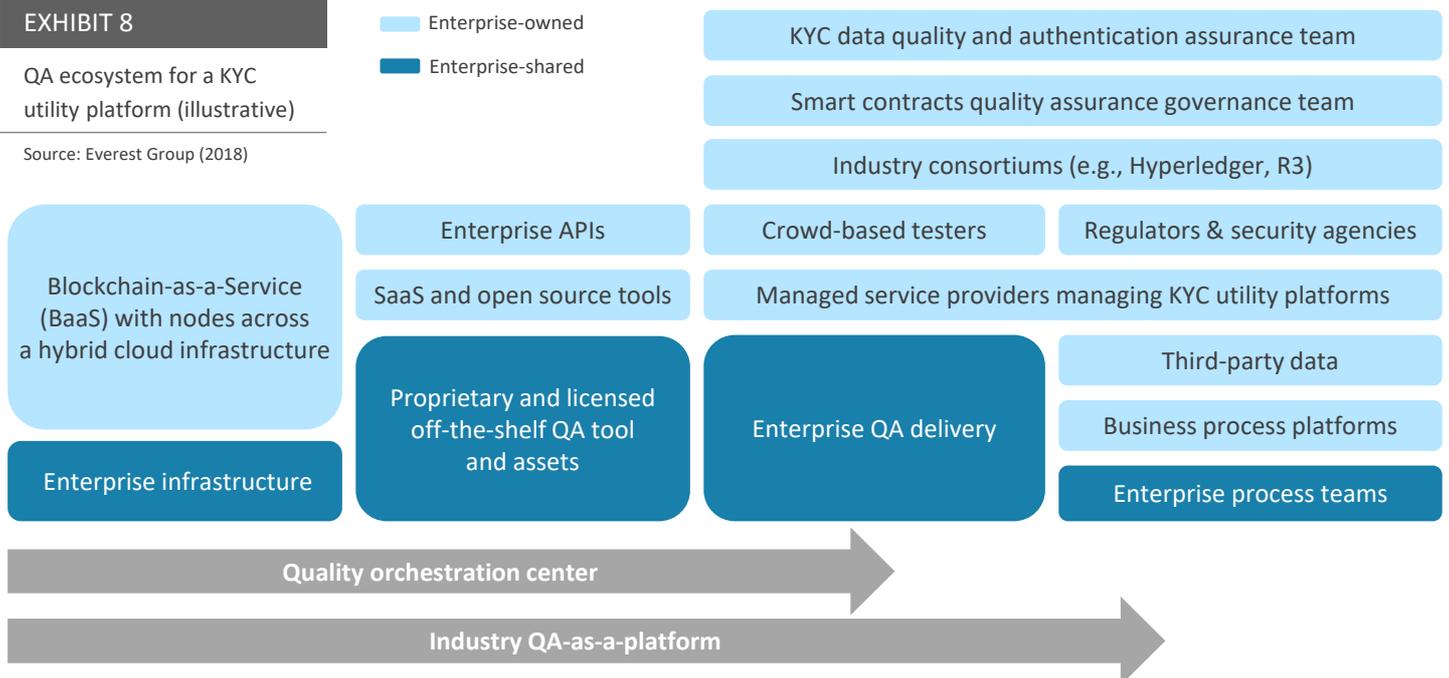
### Seamless customer onboarding experience – utility KYC on blockchain

- **Industry context:** In the traditional Know Your Customer (KYC) function, each financial services firm performs its KYC function independently. The KYC process is a friction point in the customer onboarding journey and increases BFS firms' cost to serve

- **KYC utility on blockchain:** Distributed ledger technology can integrate trust, immutability, and shared consensus mechanisms to reimagine the KYC function. A blockchain-based KYC utility platform will allow firms to conduct KYC once for a customer and use that information across a set of institutions via customer-controlled authorization that is triggered as a smart contract request, eliminating the need to repeat the KYC process multiple times for each customer across organization, thereby reducing customer onboarding costs and improving the onboarding experience. This utility will contain shared tools, process, data, and technology:

  – Enterprise-owned: BFS firms need to align their existing infrastructure, tools, process, and delivery teams to easily integrate with the KYC utility ecosystem

  – Enterprise-shared: The success of consortiums managing such utilities lies in strong governance, well-aligned incentives, and equal contribution by participants. Each participant will have to build consensus on shared resources and technology/data standards for the ecosystem-wide shared platform

### EXHIBIT 8

QA ecosystem for a KYC utility platform (illustrative)

Source: Everest Group (2018)



Legend:
- Enterprise-owned
- Enterprise-shared

KYC data quality and authentication assurance team

Smart contracts quality assurance governance team

Industry consortiums (e.g., Hyperledger, R3)

Enterprise APIs

Crowd-based testers

Regulators & security agencies

Blockchain-as-a-Service (BaaS) with nodes across a hybrid cloud infrastructure

SaaS and open source tools

Managed service providers managing KYC utility platforms

Proprietary and licensed off-the-shelf QA tool and assets

Enterprise QA delivery

Third-party data

Business process platforms

Enterprise infrastructure

Enterprise process teams

**Quality orchestration center**

**Industry QA-as-a-platform**

- **QA imperatives for a KYC utility on blockchain**: To support the adoption of a digital KYC utility, the QA function will have to orchestrate an ecosystem of technology, talent, and business process expertise in a rapid, agnostic, and flexible model:
  - QA strategies will need to govern a broader set of expertise networks beyond traditional within-the-firewall staff and one-on-one managed services constructs
  - Enterprise QA ecosystems will include open source communities, security and automation experts, government and industry consortiums, blockchain technology consortiums, and special interest groups that will collectively enable a shared economy for QA technology, process expertise, and global talent
  - The QA toolset should enable interoperability for blockchain platforms by building on top of a platform-agnostic framework
  - The auditability and transparency enabled by the underlying blockchain technology should be integrated with compliance processes while adhering to all cybersecurity compliance requirements and emerging standards
  - Security testing of block transaction messages, encryption algorithms, and key-based wallet apps in addition to validation of role-based block visibility privileges ensure high levels of governance of the blockchain-enabled ecosystem
  - QA tools and processes for smart contracts running on multiple nodes of the ecosystem will need to be tested not only for functional and security requirements but also for usability and experience
  - QA strategies for KYC on blockchain will need to accommodate business assurance of KYC workflows that extend beyond organizations' firewalls

## QA orchestration center – platform approach to scale the heterogenous QA environment

**Everest Group take:**

A deep analysis of the use cases outlined in this paper points to the evolution of a heterogenous QA environment of resources that are internal, shared, or external to the BFS organization. This scenario is distinct from the homogenous environment of standardized and centralized QA operations. Scaling the orchestration of a heterogenous environment will require QA services to be delivered from a flexible, shared platform that can operate across heterogenous technology and talent to deliver business outcomes at speed and scale.

### Homogeneous environments to scale traditional QA operations

- Enterprises have traditionally scaled QA operations introducing a set of standardized tools, solutions, and operations leading to centralization of QA function
- Progressive standardization led to a homogenous environment that restricted open innovation and the ability of the QA organization to collaborate with the ecosystem
- Centralization of QA operations increased the distance between business and QA teams. The effectiveness of the QA function was measured by operational metrics were not well correlated with business outcomes

### The homogenous-to-heterogenous QA environment continuum

- The transformative elements in the BFS industry are forcing QA operations to be truly domain and business-aligned
- QA organizations need to manage an environment of multiple tools, solutions, operating principles, and an ecosystem of partners to deliver customer-centric innovations
- The QA organization needs to orchestrate internal, shared, and external resources, giving rise to an heterogenous environment
- This continuum of the QA environment has, at one end, the homogenous or standardized QA model built for scale and, at the other end, an orchestrated QA model that needs to manage a heterogenous environment within the context of an extended BFS ecosystem

### Platform thinking for QA to scale the heterogenous QA environment

- The heterogenous end of the QA continuum comes with its own complexity
- BFS firms require their QA organization to be agile and open to integrate with the vast innovation ecosystem. At the same time, scalability of the QA operations is key for BFS firms to manage the complex weave of applications, data, and infrastructure
- A platform-based mindset for QA can unlock both speed and scale for the heterogenous QA environment
- QA platform-enabled scalability needs to be designed for domain, business outcomes, and for delivering customer-centric experiences
- Platform thinking for QA reimagines the QA function from a siloed business process to a value-creation proposition aligned with the BFS firm's business objectives
- The platform will focus on building assets and QA talent that aligns with the ever evolving regulatory requirements for the BFS industry
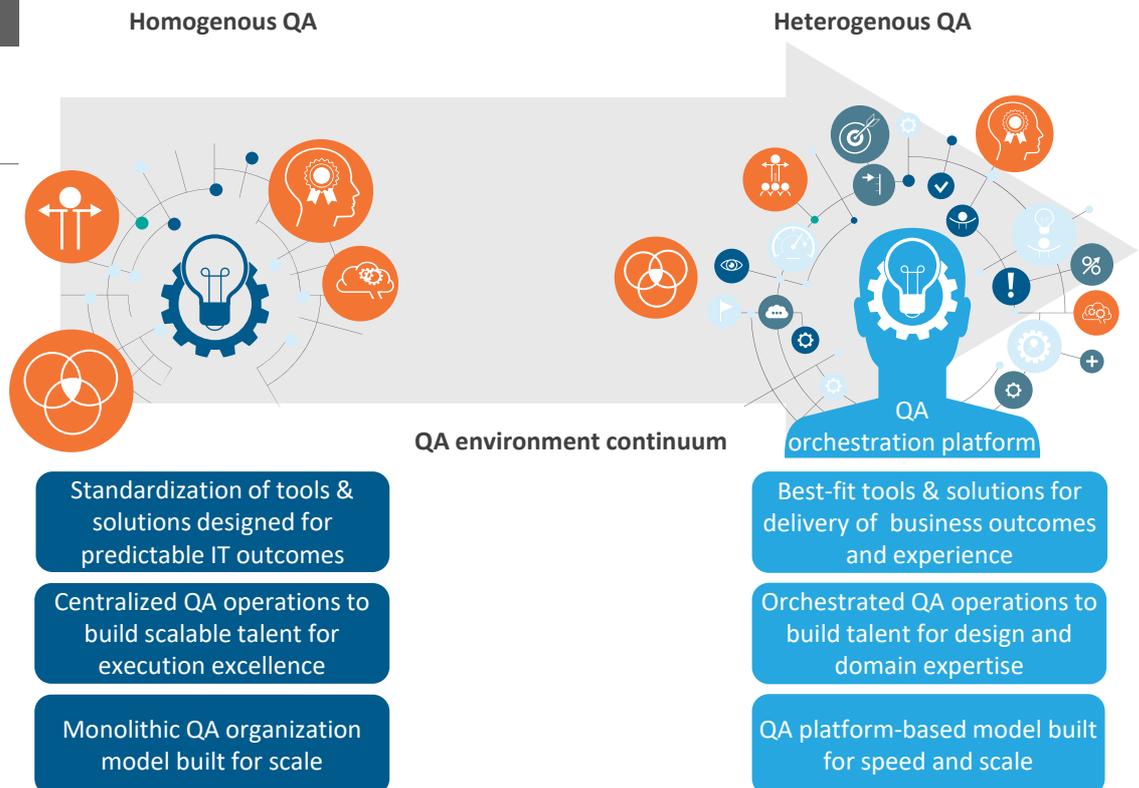
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## Winning characteristics of a QA platform

- **Not a one-size-fits-all approach:** The diversity and fragmentation of the QA technology stack within each enterprise mandates a unique approach to building its QA platform

- **Open:** This platform is a loosely coupled platform with the ability to stitch modular components of tools and solutions from the ecosystem (internal, shared, and external). Seamless integration through APIs and modularity allows the platform not only to stitch tools together but also to deliver services through the ecosystem (e.g., crowdsourced QA). These modular components should be designed to deliver specific QA outcomes for an enterprise scale while being technology agnostic for higher interoperability

- **As-a-service catalogue:** An built-in repository of QA tools and solutions made available through as-a-service catalogues will be critical to enable easy consumption of services and offerings by ecosystem partners

- **Secure:** The platform should enable secured and compliant operations with several built-in security components and the ability to use best-of-breed third-party security solutions

- **Metrics:** The ability to measure business outcomes through the QA services delivered using the platform would require the platform to monitor and report QA performance metrics

- **AI-enabled:** The QA platform should have built-in machine learning components to learn QA activities as the platform produces user data and eventually automate several operations

- **Shared QA:** The QA platform will enable a participatory/consortium approach for delivery of value beyond organization-level boundaries. In its ideal state, this approach should create value for the entire ecosystem that is more than the sum of the parts for each participant in the form of societal and sustainability benefits

**EXHIBIT 9**

Platform approach to scaling a heterogenous QA environment

Source: Everest Group (2018)

**Homogenous QA**

**Heterogenous QA**



QA orchestration platform

**QA environment continuum**

| Standardization of tools & solutions designed for predictable IT outcomes | Best-fit tools & solutions for delivery of business outcomes and experience |
| Centralized QA operations to build scalable talent for execution excellence | Orchestrated QA operations to build talent for design and domain expertise |
| Monolithic QA organization model built for scale | QA platform-based model built for speed and scale |

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## Conclusion

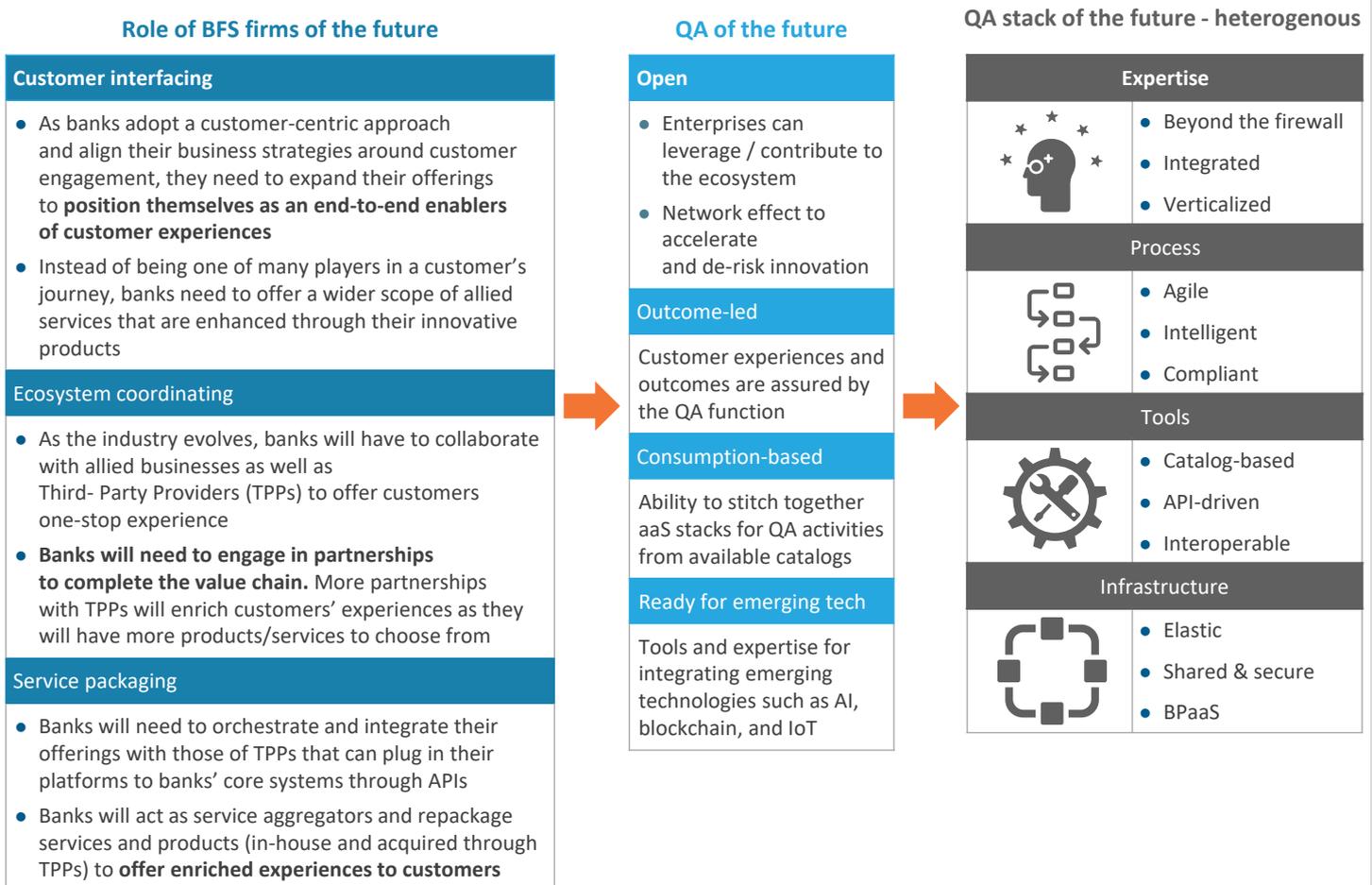### Aligning the QA agenda for the future role of banks and financial services firms

Supporting digital innovation to build differentiated lifestyle experiences is at the heart of BFS enterprises' QA agenda. In order to deliver value beyond the initial labor arbitrage and the incremental process improvements, enterprise QA needs to innovate at a pace that keeps up with rapid technology disruption and changing business models.

This, in turn, requires the QA function to leverage / contribute to the ecosystem with a focus on enabling differentiated digital experiences for customers. The consumption model for the QA services will need to evolve to govern and manage proprietary and shared resources being offering in an as-a-service model. Enterprise QA teams will need to keep pace with the emerging technologies to help accelerate the product innovation cycle.

**EXHIBIT 10**

QA stack of the future for the BFS industry

Source: Everest Group (2018)

**QA orchestration center – platformization of QA for a heterogenous environment**

### Role of BFS firms of the future

**Customer interfacing**

- As banks adopt a customer-centric approach and align their business strategies around customer engagement, they need to expand their offerings to **position themselves as an end-to-end enablers of customer experiences**
- Instead of being one of many players in a customer's journey, banks need to offer a wider scope of allied services that are enhanced through their innovative products

**Ecosystem coordinating**

- As the industry evolves, banks will have to collaborate with allied businesses as well as Third- Party Providers (TPPs) to offer customers one-stop experience
- **Banks will need to engage in partnerships to complete the value chain.** More partnerships with TPPs will enrich customers' experiences as they will have more products/services to choose from

**Service packaging**

- Banks will need to orchestrate and integrate their offerings with those of TPPs that can plug in their platforms to banks' core systems through APIs
- Banks will act as service aggregators and repackage services and products (in-house and acquired through TPPs) to **offer enriched experiences to customers**

### QA of the future

**Open**

- Enterprises can leverage / contribute to the ecosystem
- Network effect to accelerate and de-risk innovation

**Outcome-led**

Customer experiences and outcomes are assured by the QA function

**Consumption-based**

Ability to stitch together aaS stacks for QA activities from available catalogs

**Ready for emerging tech**

Tools and expertise for integrating emerging technologies such as AI, blockchain, and IoT

### QA stack of the future - heterogenous

**Expertise**
- Beyond the firewall
- Integrated
- Verticalized

**Process**
- Agile
- Intelligent
- Compliant

**Tools**
- Catalog-based
- API-driven
- Interoperable

**Infrastructure**
- Elastic
- Shared & secure
- BPaaS

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Elements of the new orchestrator model are already in place in the market. QA infrastructure is heavily cloud-based, tool integration is increasingly driven through API libraries, and digital business processes are increasingly being run from standard platforms. What is needed is a vision to orchestrate these disparate elements into coherent stacks that enterprises can assemble and disassemble at will and link QA metrics to improvements in digital experiences and processes.

## The QA continuum and the platform thinking approach for QA

- The evolution of a heterogenous QA environment of resources that are internal, shared, or external to the BFS organizations is distinctive from the homogenous environment of standardized and centralized QA operations

- Scaling the orchestration of a heterogenous environment will require QA services to be delivered from a flexible, shared platform that can operate across heterogenous technologies and talent to deliver business outcomes at speed and scale

- The platform thinking approach to QA orchestration helps the industry move beyond a siloed view of QA and align it to business outcomes. It also pushes the organizational boundaries to create a shared approach to QA to support intra- and inter-industry ecosystems

- The enterprise technology stack is fragmented and diverse, which requires a unique QA platform thinking approach that stitches modular, loosely coupled, and business outcome-aligned QA components on a technology-agnostic platform for enterprise speed and scale

- AI enablement of the modular QA components combined with reusable domain and compliance-specific components enable automation of business assurance functions

## Appendix: Additional use cases for quality orchestration in BFS

### Quality orchestration use cases to fuel BFS innovation

The role of QA becomes even more important as BFS firms look to align their business and IT strategies to support the change and direction required for their transformation. QA plays the role of assuring the business outcomes of digital initiatives. As we examine the potential for innovation within the BFS industry, we find use cases for a quality orchestration approach.

**EXHIBIT 11**

Examples of QA orchestration use cases across BFS industry

Source: Everest Group (2018)

| Use case | Current scenario | Transformation potential | Role of QA |
|---|---|---|---|
| Delivering a secured open banking experience – API performance, security, and scalability assurance | Third parties have built siloed applications that pull data through consumer devices or screen scraping | Banks will create a developer platform where it can expose services and data-rich APIs for third-parties to build applications for their existing customers, thereby accelerating the pace of innovation | Reimagining the home buying experience through a digital marketplace |
| Digital treasury and FX risk management | Treasury firms across the organization use manual processes and internal solutions | Banks can provide digital treasury platforms through which the treasury organization can get end-to-end visibility into their treasury operations as well as advise them to better manage their risks | Banks enter the home buying journey only during the mortgage application process |
| Reimagining the home buying experience through a digital marketplace | Banks enter the home buying journey only during the mortgage application process | Consumers will be able to experience the complete home buying experience via the mobile app. The bank will churn customer data and suggest preferences in the form of best-fit options. The bank also will help customers visit the site, arrange for the least expensive and most reliable loan options, offer moving services, insurance, and even help in connecting with interior designers | Enterprise QA will need to orchestrate across firewalled and open ecosystems, spanning multiple industry stakeholders. Banks will redefine future experiences through their capability to act as one-stop shops providing end-to-end experience assurance |

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