



HfS Blueprint Report

Mortgage As-a-Service Excerpt for TCS

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Executive Summary



Introduction to the 2016 HfS Blueprint Report: Mortgage As-a-Service

- The Mortgage As-a-Service Blueprint for 2016 is an analysis of the business process services and outsourcing market for mortgage. This Blueprint builds on the Mortgage BPO Blueprint report we published in 2014, reviewing in more detail the market and service provider adoption of the <u>Eight Ideals of the As-a-Service Economy</u> for redefining the value of sourcing engagements.
- This Blueprint covers market trends direction, as well as analysis of 11 service providers. Unlike other quadrants and matrices, the HfS Blueprint identifies relevant differentials between service providers across a number of facets under two main categories: innovation and execution.
- For this 2016 report, HfS has increased the attention paid to innovation criteria in particular and adopted the new 2016 Blueprint Grid layout to assess service providers. This Grid now recognizes up-and-coming service providers (High Potentials) that are scoring higher on innovation criteria than on execution criteria as the providers invest and collaborate with clients and in services that move to a more business outcome-focused, flexible, and talent- and technology-enabled mortgage operations.
- The Grid includes a new grouping for established, high-execution service providers (Execution Powerhouses) that have maintained effective delivery operations but need to innovate capabilities and offerings further. That is in addition to the existing rankings for highest overall performance (Winner's Circle) and a strong combination of innovation and execution performance (High Performers).



Mortgage As-a-Service Value Chain – Core Processes

Sales & Marketing	Pre-Underwriting	Processing	Underwriting	Closing	Servicing	Defaults
 Product Development Prospect and Lead Generation Direct Sales 	 LOS Data Entry LOS Data Validation Data Lock in LOS 	 Document Checks Ordering External Data VOE/VOM/VOR Initial Disclosure and Truth In Lending Preparation 	 Automated Underwriting Manual Underwriting 	 Document Prep Scheduling Closing Funding Trailing Documentation Appraisal and other Risk Reviews 	 Payment Processing Taxes and Escrow Management Customer Care Investor Reporting Management 	 Collections Default and Property Identification Foreclosure Loan Modifications Dispositions Securitization Reviews

Analytics

Loan Origination System (LOS) Licensing and Maintenance

Document Management

HfS Value Chain Definition: Value chain refers to the series of departments that carry out value-creating activities to design, produce, market, deliver, and support a company's product or service. In this usage, we refer to the range of primary processes and support services that providers offer to their clients.



Executive Summary

- An Industry Recognizing the Need for Change: We see a marked departure in the market dialogue, away from labor arbitrage and manual "lift and shift" processes, and towards using a combination of technology platforms, analytical insights, automation, digitization and other accelerators to redesign processes and drive more value in sourcing engagements. Several lenders in our research described their mortgage processes as complex, broken and in need of help to compete with non-traditional lenders and faster cycle times. Said one, "Our industry needs to go through massive business process reengineering efforts...so many lenders don't have processes documented still, we need to start there, find ways to improve cycle times and create better experiences for borrowers."
- Regulation Is Driving New Areas of Demand: The Consumer Financial Protection Bureau in the U.S. is continuing to roll out regulatory reform for financial institutions, such as its October 2015 Home Mortgage Disclosures Act amendments to dictate how lenders maintain, report, and publicly disclose information about mortgages.
 - Leading technology and service providers are starting to proactively monitor these industry changes and is an area clients expect more guidance and recommendations from them, e.g. how the disclosures would affect LOS systems and data flows to maintain compliance.
 - Additionally, the audit and due diligence reporting back to CFPB is increasingly getting more complicated and frequent, making it challenging for lenders to keep pace with assurance.
 We see services and accelerators coming from service providers to address this regulatory pressure.
 - We also see multiple service providers start to use speech analytics and other Intelligent Automation capabilities to significantly improve compliance testing during call monitoring and QA activities in call centers.

Executive Summary (contd.)

- Some Service Expansion Since 2014: The 2014 Mortgage BPO Blueprint found that service providers had strengths in certain parts of the mortgage value chain, in particular, servicing and fulfilment in the refinance category, with limited interest in foreclosure-default management.
 - With greater purchase originations, we see the mortgage operations market become more broad-based in the work sought from lenders.
 - Accordingly, service providers have grown both their technology and process capabilities in originations and servicing in the last two years, with a couple that have foreclosure and default management work today.
 - State licenses are required to have more of an end-to-end portfolio in originations, from processing, underwriting to closing/post-closing. This is an area where a number of service providers are trying to actively close gaps today. We expect the majority of providers focused on this market to complete acquiring requisite licenses in the next year to meet client demands.
 - Residential markets continue to be the mainstay of most mortgage operations work outsourced today. There are a couple of service providers (Accenture, Wipro) that have the deep domain capabilities to venture into commercial real estate and other areas of consumer lending.



State of the Mortgage As-a-Service Market

- As-a-Service Winners are service providers that have the strongest vision for As-a-Service delivery in the mortgage industry, and are driving collaborative engagements with clients to bring the vision to life. They are making significant investments in future capabilities in automation, technology and borrower experience management to continue to increase the value over time:
 - Accenture, Cognizant, TCS, Wipro
- The High Performers have high execution capabilities, are growing their client bases as a result of investments in future capabilities and innovation. These service providers have the pieces in place for As-a-Service delivery, and need to focus on consistently bringing these capabilities to clients and scaling up with broad, multiclient solutions:
 - Genpact, Infosys, ISGN/Firstsource, Sutherland Global Services, WNS
- The Execution Powerhouses are strong in operational excellence with ubiquitous technology platforms in their respective markets, and need to focus on value chain expansion and innovation in their services stack:
 - Unisys, Xerox

AS-A-SERVICE ECONOMY

Use of operating models, enabling technologies and talent to drive business outcomes through outsourcing. The focus is on what matters to the end consumer.

HfS uses the word "economy" to describe the next phase of outsourcing as a new way of engaging and managing resources to deliver services.

The 8 Ideals of the As-a-Service Economy:

- 1. Write Off Legacy
- 2. Design Thinking
- 3. Intelligent Engagement
- 4. Brokers of Capability
- 5. Intelligent Automation
- 6. Accessible and Actionable Data
- 7. Holistic Security
- 8. Plug-and-Play Digital Services

Source: <u>Beware of the Smoke: Your Platform Is Burning</u> by HfS Research, 2015



Market Overview



The Mortgage Industry Is Staring At Significant Transformation

- Regulation and homebuyers are steadily shifting the entire mortgage industry towards being more digitally enabled. An example of the change can be found with Bill Emerson, CEO of Quicken Loans, stepping in late <u>last year</u> as the 2016 Chairman of the Mortgage Bankers Association. Quicken is heralded as one of the disruptive forces in the mortgage competitive landscape that is driving the next wave of mortgage buying. What are they doing differently? Reorienting interactions around borrowers—a revolutionary concept for an industry steeped in tradition, used to setting the terms for all parties in the loan lifecycle including borrowers.
- New generations of millennial homebuyers as well as older technologically-savvy borrowers interpret that reorientation as enabling "digital," likening it to other experiences they already enjoy in their consumer lives. E-mortgage/e-closing has existed as a concept for a while, but it has mostly been limited to a move to digitization and online forms from paper based documentation and reviews.
- This move to paperless delivery is still an ongoing effort, especially as regulation forces more disclosures and information into the hands of potential homebuyers. But fundamentally, the borrower experience has remained static. In becoming digitally driven, lenders have a long way to go in thinking about e-mortgage beyond digitization, and borrower experiences that are built on new engagement strategies, especially as the market shifts to more purchase originations.



This Creates An Opportunity For Service Providers To Help Lenders Create Competitive Advantages

- Borrowers are increasingly looking for three key benefits in their interactions with agents, brokers, and lenders:
 - Simplification in the processes, handoffs and interactions
 - Transparency in the loan terms and costs, application progress
 - Control in document and information exchanges, decision making
- This doesn't imply that all mortgage activity will transition to digital in the near future. To the contrary, the infrequent and complex nature of home buying often demands 'high touch' customer service and advocacy, especially for first-time homebuyers.
- Even in these cases, however, the use of digital technology can greatly help, in both facilitating interactions and in creating operational efficiencies at the back-end to speed up applications and free up loan officers' time. Emerson has <u>stated</u> that the more efficient and effective the back-office is by using technology, the better a lender will do in the marketplace.



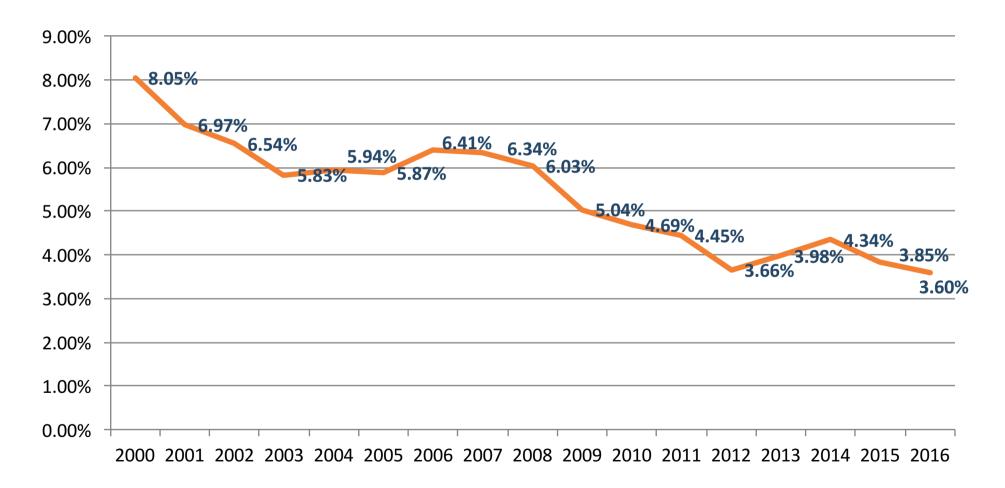
This Creates An Opportunity For Service Providers To Help Lenders Create Competitive Advantages, Continued

- This impacts the service provider landscape that runs mortgage operations, as financial institutions consider:
 - Strategies and operations In origination, servicing and foreclosure-default management that focus on borrower experience
 - Removing cost across the board but especially in origination
 - Scaling internal capacities to new market volumes and sourcing for volatility
 - Addressing broken or inefficient processes especially with automation
 - Replacing existing loan/servicing platforms or finding enabling technologies to solve for gaps
 - Looking for deeper insights on their operations and their portfolios



30 Year Rates Continue Downward— and Are At A 3 Year Low Currently

Average 30 Year Mortgage Rates (%), United States 2000-2016

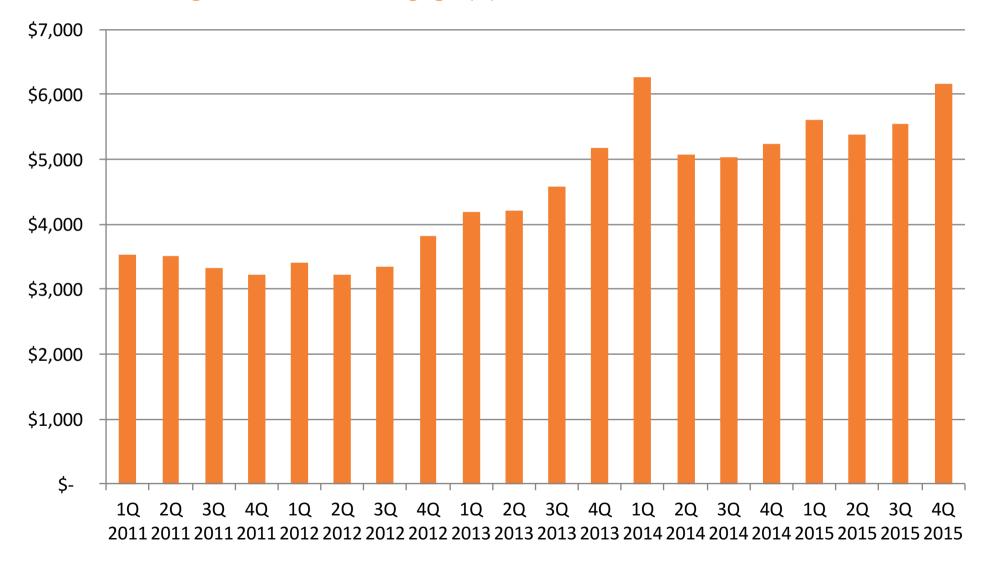


Source: Freddie Mac. 2016 data is for May 2016, all others are annual average rates



The Rising Costs of Mortgage Origination Are Draining Profitability

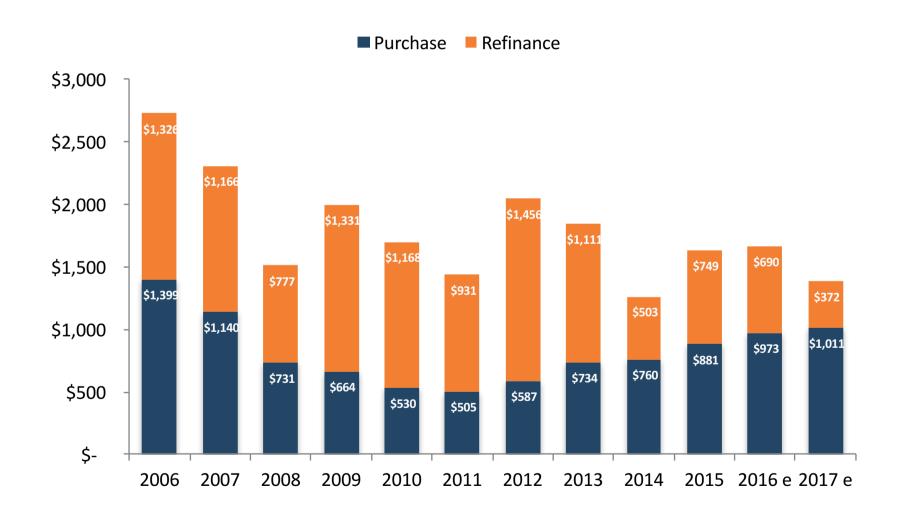
Net Cost to Originate A New Mortgage (\$)





However, The Mix Is Changing: Purchase Originations Are Steadily Eclipsing Refinance

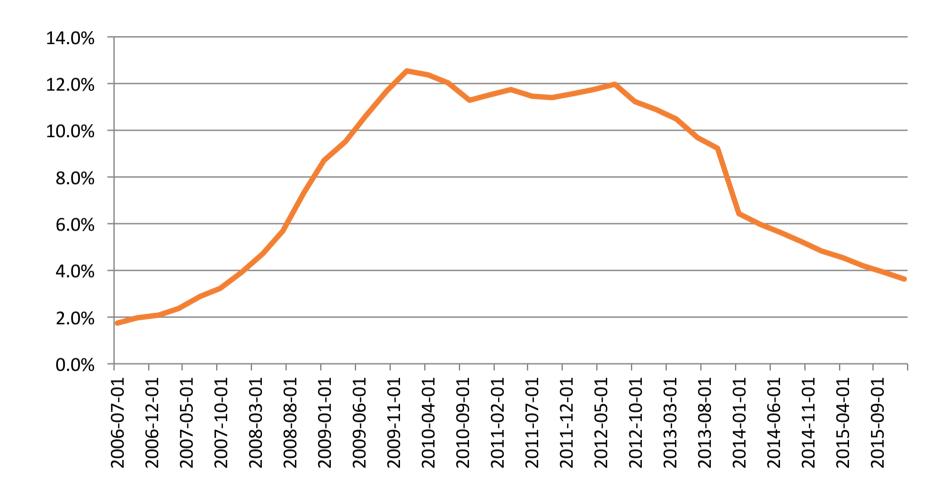
Mortgage Origination Estimates (\$ Billions), One- to four-family homes





Delinquency Rates Are Steadily Dropping Due To The Rebounding Economy

Delinquency Rate on Loans Secured by Real Estate, Top 100 Banks



Source: Federal Reserve Bank of St Louis

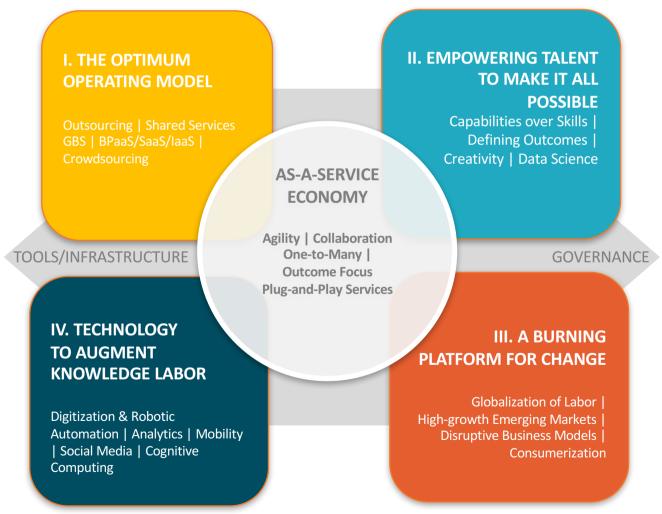


Journey to Mortgage As-a-Service



Welcome to the As-a-Service Economy

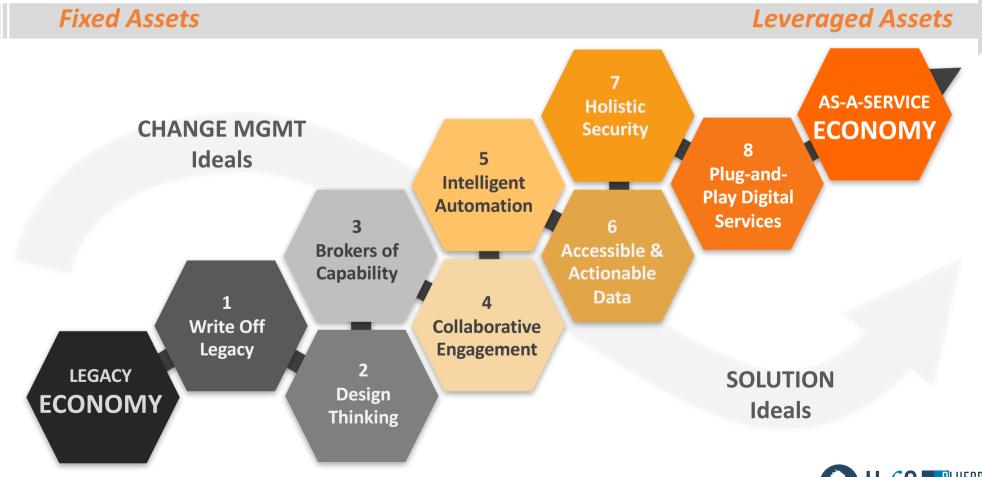
HfS uses the word "economy" to emphasize that the emerging next phase of outsourcing is a more flexible, outcome focused way of engaging and managing resources to deliver services. Operating in the As-a-Service Economy means architecting use of increasingly mature operating models, enabling technologies and talent to drive targeted business outcomes. The focus is on value to the consumer.





Journey to the As-a-Service Economy

- Moving into the As-a-Service Economy means changing the nature and focus of engagement among enterprise buyers, service providers, and advisors
- "As-a-Service" unleashes people talent to drive new value through smarter combinations of talent and technology focused on business results beyond cost reduction



Mortgage is at the Start of the Journey, Adopting the Ideals of the As-a-Service Economy

IDEAL	AS-A-SERVICE IDEAL DEFINITION	NON EXISTENT	INITIAL	EXPANSIVE	EXTENSIVE	ALL PERVASIVE
Write Off Legacy	Using platform based solutions, DevOps, and API ecosystems for more agile, less exception oriented systems and processes		2016			
Design Thinking	Understanding the business context to reimagine processes aligned with meeting client needs	2016				
Brokers of Capability	Orienting governance to source expertise from all available sources, both internally and externally, to address capability gaps			2016		
Collaborative Engagement	Ensuring relationships are contracted to drive sustained expertise and defined outcomes			2016		
Intelligent Automation	Using of automation and cognitive computing to blend analytics, talent, and technology		2016			
Accessible & Actionable Data	Applying analytics models, techniques and insights from big data, real-time			2016		
Holistic Security	Proactively managing digital data across service chain of people, systems & processes		2016			
Plug and Play Digital Business Services	Plugging into "ready to go" business-outcome focused, people / process / technology solutions with security measures	2016				



How As-a-Service Is Taking Shape in Mortgage: Writing Off Legacy

Legacy technology investments that limit agility and create exceptions addressed by adding internal and external FTEs



Using platform-based solutions, DevOps, and API ecosystems for more agile, less-exception-oriented systems



Writing off legacy for mortgage clients is not about technology replacements alone, although that landscape is diverse and changing. Many lenders are at the point of sunsetting legacy systems including AS/400 to opt for more agile systems. This is coupled with a number of home grown applications and standard platforms such as Black Knight that lenders have to maintain and upgrade, all towards adapting to the changing business environment. It is in this "contextualizing" where service providers are starting to help mortgage clients write off legacy—by bringing an understanding of the industry's challenges and opportunities that lie at the intersection of business and technology. We are starting to see examples of lenders that are partnering with service providers on both process transformation and new technology adoption programs, where a few providers have developed capabilities to address risk mitigation during change, whether that is a legacy system sunset and migration to a new loan origination system, regulatory change, employee retraining or creating the space for experimenting with new technology solutions in a collaborative manner.

- Cognizant has a multidisciplinary practice called Cognizant Digital Works which is charged with helping clients
 manage ongoing innovations to become digital businesses. Digital labs has developed an e-mortgage solution
 that streamlines the loan application process for borrowers by making them available on a mobile app.
- TCS helped a leading bank from Canada that wanted to improve its pull through rates, auto decision rates and turnaround time. TCS achieved this by defining the future state model for the client, operationalizing the process modification and implementation in the LoS, and the criteria for routing deals to credit support and implementation. In addition to these goals, the initiative also improved end client experience, and enhanced the credit knowledge within the origination phase.

How As-a-Service Is Taking Shape in Mortgage: Design Thinking

Resolving problems by looking first at the process as the source of the solution



Understanding the business context to reimagine processes aligned with meeting client needs

2 Design Thinking

• HfS believes that Design Thinking, when applied effectively, provides a continuous method to discover, define, rethink and address business problems. It offers service providers and buyers a new way to engage as partners to define and achieve common goals and outcomes, tapping into the resources of both parties and beyond. With mortgage, we see only a couple of service providers making progress with this approach in order to redefine their relationships with banking and mortgage clients and the work and value they deliver. On the flipside, the majority of mortgage clients in our research were yet to fully understand the potential of using design thinking with their service provider, making this a nascent concept for this market as of today. We expect the service providers leading the charge on design thinking in mortgage to help more clients in this industry write off legacy in the next few years.

Examples:

Sutherland has the most impactful example of using design thinking to redesign mortgage operations. Its "mortgage process of the future" was developed after using design thinking for a client's origination process. Sutherland found 90% inefficiencies across 600 origination components, in areas such as borrower interactions, document capturing, and handoffs between different parties. By redesigning processes around the borrower, the service provider reduced redundancies to the point of guaranteeing a 22 day cycle time for 90% of loans, including the sales process, fulfilment and other components. It is now exploring similar implementations with other mortgage clients.



How As-a-Service Is Taking Shape in Mortgage: Brokers of Capability

Focusing governance and operations staff on managing to the letter of the contract and the decimal points of service levels



Orienting governance to source expertise from all available sources, both internally and externally, to address capability gaps

3 Brokers of Capability

Being a broker of capability is about articulating a business problem or opportunity, the desired outcomes, and then coordinating and facilitating across internal and external entities to reach those results. This is an evolving role with a handful of mortgage clients HfS spoke to during this research, where they are focusing on and taking accountability to close capability gaps with the help of internal groups and service providers. In one case, a Lending Operations Director described how closely integrated he wanted his operational environment to be, and as a result he works directly with his service provider's offshore team instead of account managers, involving the team in management meetings, setting strategic and operational priorities across the enterprise. Service providers as well are expanding their range of partnerships, especially with technology vendors, to be able to bring true process transformation.

- An Accenture's client described how Accenture is working with them to solve a business challenge, which is the high cost for data extraction and indexing because of a technology vendor that the client works with. Accenture brought resources onsite from across its global locations to help the client evaluate different ways to embed automation and drive down cost in the loan lifecycle. The client mentioned that Accenture is helping them look at alternate technology vendors and the internal/external teams are "learning together."
- Sutherland has helped steer one of its largest mortgage clients in fulfilment away from a task-oriented governance model. The service provider had 25 SLAs that micromanaged borrower contacting. The two parties restructured business contracts that are now based on metrics such as—revenues, number of loans closed, pull through rates, cost, engagement experience as measured by NPS, etc. and the quality of the files from a business regulatory perspective.

How As-a-Service Is Taking Shape in Mortgage: Collaborative Engagement

Evaluating relationships on baselines of cost, effort, and labor



Ensuring relationships are contracted to drive sustained expertise and outcomes

4 Collaborative Engagement

• At the core of the As-a-Service Economy—linking the solution ideals to the change management ideals that make a solution effective over the long term—is collaborative engagement. Service providers and buyers that are able to foster a "partnership" culture over time have the best chances to drive sustained value by contracting for outcomes. Instead of a rigid and directive, arms-length, SLA-focused environment, both parties are viewed as equals, with two way feedback, collaboration and accountability for success and innovation in the engagement. We see a few examples of this type of progressive sourcing in the mortgage space.

- "Do we have a collaborative engagement? Absolutely!" remarked one of Wipro's mortgage clients. He described that even though the engagement with Wipro is new, they have developed a strong collaborative environment, with learning opportunities on both sides. As the client got up to speed, they appreciated Wipro's account manager and the team's way of engaging and collaborating openly—identifying areas for training or calibration, running analytics and reporting for more clarity, and pushing back on new ideas based on industry experience.
- Genpact has been proactively suggesting a shift to outcome driven contracts and is starting to see some success with this around full loan to closing transactions. As a result, the service provider has one of the highest gainsharing revenues for this industry vertical. One of its clients, a mortgage registry utility, commends Genpact for its trusted relationship, where it provides valuable feedback to make process improvements up the chain.



How As-a-Service Is Taking Shape in Mortgage: Intelligent Automation

Operating fragmented processes across multiple technologies with significant manual interventions



Using automation and cognitive computing to blend analytics, talent, and technology



- Most mortgage clients in our research are at the start of their journey on what we call Intelligent Automation—using software and technology to do routine tasks, and enhancing it through machine learning and natural language processing, and moving up the curve with artificial intelligence. Service providers on their part have been very active—with a few more proactive than others—to recommend the piloting and deployment of third party and proprietary automation technologies. A client described one provider as being "very persistent in their recommendations on automation".
- This gives us the sense that automation, with robotic process automation (RPA) at the outset, is seeing a slower take-up in mortgage than other areas of the services industry. Several clients described their LOS and servicing platforms and internal infrastructure as being difficult to envision automation use cases, with concerns about regulatory oversight and due diligence.
- However, these legacy environments with clunky data exchanges and workarounds are prime candidates for RPA technology, which suggests the need for service providers to better describe and contextualize their capabilities in this space along the lines of regulatory concerns.
- Where providers don't own the LOS' and are remotely logging in, Intelligent Automation is the next bastion of
 effective operations. This explains the initial success that some providers have had with RPA we expect
 greater adoption as more industry examples develop.



How As-a-Service Is Taking Shape in Mortgage: Intelligent Automation (continued)

Operating fragmented processes across multiple technologies with significant manual interventions



Using automation and cognitive computing to blend analytics, talent, and technology



- Cognizant has an organization-wide initiative to build cross-business unit automation frameworks and maturity models to speed up institutionalization and adoption, which mortgage clients are starting to value as they form their own automation committees. Cognizant has used RPA, OCR and other automation technologies in the areas of claims, document indexing, QA for voice, email, chat correspondence, document requests, payoff quotes generation, escrow/tax analysis, check/wires entries, extraction of data from documents for QA and loan setup.
- Accenture is very active in automation, and several clients rated it as the frontrunner in bringing them opportunities to embed automation for more intelligent mortgage operations. For a major bank, Accenture is working through a list of 25 automation opportunities, and the client described the service provider as helping them write off/work around legacy. For them, Accenture has deployed automation in the credit space, automated manual reporting tasks, payment applications and is now evaluating the creation of intuitive, user-friendly servicing dashboards on top of legacy applications with automated data extraction.
- Infosys has already deployed automation tools with 3 of its 7 clients, with an intent to create a commoditized RPA offering within the year for each of the other clients to deliver similar results in areas like auto-decisioning, underwriting assistance, audits, and loan boarding.
- Wipro's HOLMES, a cognitive computing based solution, is being deployed for various scenarios like KYC and help desk automation and the service provider is currently building use cases for mortgage loan origination.



How As-a-Service Is Taking Shape in Mortgage: Accessible and Actionable Data

Performing ad-hoc analysis of unstructured data with little integration or business context



Applying analytics models, techniques, and insights from big data in real-time



The most effective analytics—analysis of data for insight that leads then to plan and action—starts with aggregated, cleansed, and standardized processes and data. We see great examples of service provider capability in creating and embedding analytical insights and data into different parts of the mortgage value chain, understanding the key triggers/outcomes in the process. The key areas we see progress in mortgage analytics are in predictive modeling for loan origination to help prioritize underwriter time and understand likelihood to close, predictive loan default and delinquency modeling to determine propensity to default, and loan fraud detection to help the appraisal process. Other examples relate to call center efficiencies, portfolio, risk and regulatory compliance reporting and analytics, and managing and improving the data coming from processes. Collecting and maintaining good quality data in the loan lifecycle is still a challenge for a lot of lenders, and is an area where service providers are stepping up with solutions in the areas such as Know Your Customer (KYC).

- WNS has extensive experience in advanced mortgage analytics, offered as a standalone service to clients. It is now actively extending this team to its larger mortgage BPO engagements for data scrubbing, reporting and predictive modeling to provide customer and business insights across the mortgage value chain. For example, it builds retention models to prevent borrower attrition where it manages this process for a mortgage client.
- Genpact has analytics bundling in two major areas in mortgage BPO—underwriting and customer prescreening and targeting. It also has a utility for KYC to help banking clients with due diligence and onboarding.



How As-a-Service Is Taking Shape in Mortgage: Holistic Security

Responding reactively with post-event fixes; little focus on end-to-end process value chains



Proactively managing digital data across a service chain of people, systems, and processes

7 Holistic Security

Holistic Security is the proactive management across internal and external people, process, and technology. Often the focus is on the systems, but in business process services and in sourcing engagements, people and process become a significant factor in managing and securing data. Banking and mortgage clients have traditionally had very stringent data protection laws, but today with more regulatory and compliance audits on data security, we see more activity in this area in the form of control reviews and frequent site audits. While most service providers have their own standards and guidelines for data storage/archival/destruction/encryption, we believe the lack of a shared culture for holistic security by both buyers and service providers is a major inhibitor for mortgage As-a-Service. Risk and compliance management continues to mature. However to derive the most powerful benefits of As-a-Service, including analytics, advanced RPA, cloud delivery, and collaboration around data, buyers have to balance control measures within all parts of the loan lifecycle and instead work with their service provider to find a model to continuously mitigate both data breach and repertory risks in mortgage.

- Genpact has a structured controllership framework, multi-level audit structure and experience of undergoing audits with global regulatory bodies
- Sutherland Global Services has experience as a registered mortgage bank, which gives its clients confidence for reporting & regulatory know-how, and execution in the origination process in particular.



How As-a-Service Is Taking Shape in Mortgage: Plug-and-Play Business Services

Undertaking complex and often painful technology transitions to reach a steady state



Plugging into "ready to go" business outcome-focused, people, process, and technology with security measures

8 Plug & Play Digital Services

The concept of delivering mortgage As-a-Service, using plug and play business services is still in its infancy. An As-a-Service solution that includes a single contract for people, process and technology for an end-to-end process, contracted to deliver outcomes, is well positioned for the majority of loans that lenders originate today in residential mortgage. By defining and complying with a prescribed process, lenders would be able to reduce their cost to originate, have more compliant loans, improved experience for borrowers and reduced buy-back risk. Of utmost importance to IT, this would reduce the complexity of the client's technology landscape, however it must be balanced with selecting a partner whose product vision aligns with the lender. The building blocks for such a proposition already exist with a few service providers, albeit with limited execution as of today. From our research, we are starting to see readiness from smaller banks to undertake POCs in this new model, which will take a few years to gain momentum on the back of these collective industry experiences.

- Accenture Credit Services (ACS) is undertaking research to understand the current state of mortgage operations, and clients' perceptions of and outlook on Mortgage As-a-Service, with a particular focus on how its point solutions (outsourcing, LOS platform, analytics) could be leveraged in an As-a-Service delivery model.
- With its CreditEdge platform, Infosys has created an As-a-Service offering, delivered in the cloud on a managed service and outcome-based pricing model (per loan). This is live with a leading U.S. based commercial real estate servicer, where Infosys manages a commercial real estate portfolio, delivering a faster turnaround time on loan boarding and improving operational efficiency.
- Wipro, Genpact, Xerox and Cognizant have made investments to bolster their As-a-Service portfolios on the back of proprietary mortgage platforms.

Research Methodology



Research Methodology

Data Summary

Data was collected in Q2 2016, covering buyers, service providers, and advisors/influencers of mortgage operations.

Participating Service Providers









GENERATING IMPACT™











High performance. Delivered.



This Report Is Based On:

- Tales from the Trenches: Interviews with buyers who have evaluated service providers and experienced their services. Some contacts were provided by service providers, and others were interviews conducted with HfS Executive Council members and participants in our extensive market research.
- Sell-Side Executive Briefings: Structured discussions with service providers regarding their vision, strategy, capability, and examples of innovation and execution.
- Publicly Available Information: Thought leadership, investor analyst materials, website information, presentations given by senior executives, industry events, etc.



Mortgage As-a-Service Value Chain – Core Processes

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Loan Origination System (LOS) Licensing and Maintenance

Document Management

HfS Value Chain Definition: Value chain refers to the series of departments that carry out value-creating activities to design, produce, market, deliver, and support a company's product or service. In this usage, we refer to the range of primary processes and support services that providers offer to their clients.



Guide to the Blueprint Grid

To distinguish service providers that show competitive differentiation in a particular line of delivery with progress in realizing the "As-a-Service Economy" of business outcome—oriented, on-demand talent and technology services, HfS awards these providers the "As-a-Service Winner's Circle" designation.

		EXECUTION	INNOVATION
	As-a-Service Winners Circle show excellence recognized by clients in the 8 Ideals in execution and innovation	Collaborative relationships with clients, services executed with a combination of talent and technology as appropriate, and flexible arrangements.	Articulate vision and a "new way of thinking," have recognizable investments in future capabilities, strong client feedback, and are driving new insights and models.
•	High Performers demonstrate strong capabilities but lack an innovative vision or momentum in execution of the vision	Execute some of the following areas with excellence: worthwhile relationships with clients, services executed with "green lights," and flexibility when meeting clients' needs.	Typically, describe a vision and plans to invest in future capabilities and partnerships for As-a-Service, and illustrate an ability to leverage digital technologies and/or develop new insights with clients.
•	High Potentials demonstrate vision and strategy but have yet to gain momentum in execution of it	Early results and proof points from examples in new service areas or innovative service models, but lack scale, broad impact, and momentum in the capability under review.	Well-plotted strategy and thought leadership, showcased use of newer technologies and/or roadmap, and talent development plans.
	Execution Powerhouses demonstrate solid, reliable execution but have yet to show significant innovation or vision	Evidence of operational excellence; however, still more of a directive engagement between a service provider and its clients.	Less evident vision and investment in future-oriented capability, such as skills development, "intelligent operations," or digital technologies.



HfS Blueprint Scoring Percentage Breakdown

Execution Criteria = 100%

1. Quality of Account Management Team	15%
2. Integration of Customer Feedback and Collaborative Models of Engagement	10%
3. Flexibility to Deliver Point and End to End Solutions	10%
4. Actual Delivery of Solutions (Origination, Servicing, Foreclosure)	25%
5. Experience Delivering To Top 50 Lenders	10%
6. Configurability of Solutions To Multiple Geographic Locations	5%
7. Ability to Attract and Retain Key Skills	10%
8. Model For Continuous Improvement	5%
9. Effectiveness of Analytics Teams on Client Performance	5%
10. Financial Returns for Key Clients	5%

Innovation Criteria = 100%

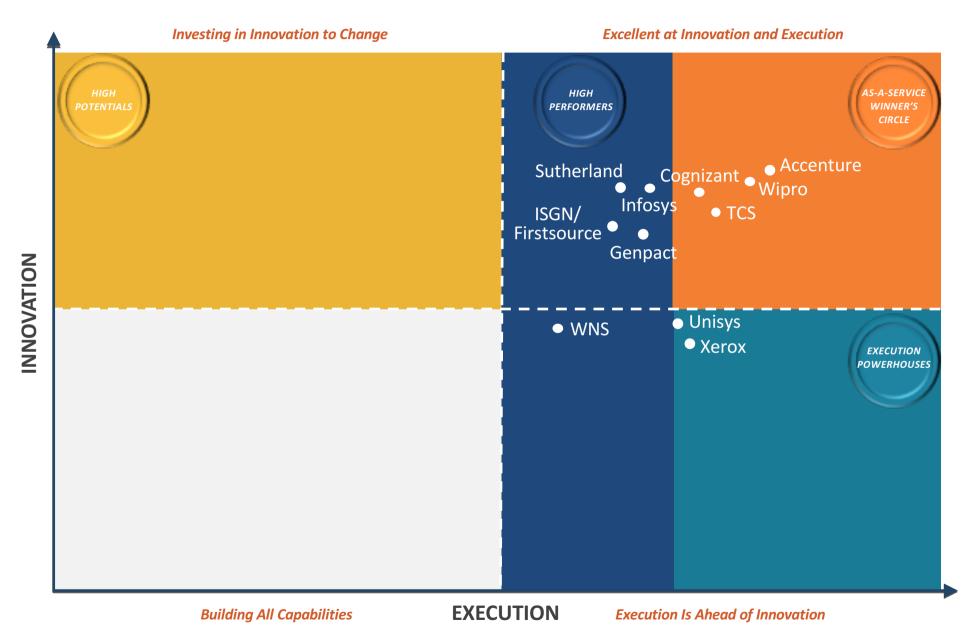
1. Vision for Mortgage As-s-Service Market Evolution	15%
2. Approach To Helping Clients Write Off Legacy	10%
3. Vision For The Deployment of Intelligent Automation	15%
4. Roadmap for MOS (Internal and 3rd Party) Usage	15%
5. Concepts for New Commercial Models for Mortgage Operations	10%
6. Delivery of Accessible and Actionable Data Analytics	20%
7. Solutions for Holistic Security in Mortgage Operations	5%
8. Response to Regulatory Requirements	10%



Service Provider Analysis



HfS Blueprint: Mortgage As-a-Service 2016



HfS LUEPRINT REPORTS

Major Service Provider Dynamics: Highlights

EXECUTION

- Quality of Account Management: Clients value service providers that can foster good account managers — that are willing to listen and understand unique client challenges, act as true partners to the business and broker capabilities across internal and external lines to deliver a solution. Accenture, Cognizant and TCS win in this regard, with their customercentric account management practices.
- Ability to Attract and Retain Key Skills: Accenture, Genpact, WNS and Wipro received consistently positive feedback on their ability to attract and retain a broad range of mortgage technology, analytical and process professionals. In particular, their mortgage industry training and certifications programs in place is industry leading.
- Flexibility In Catering to Different Client Needs: While a lot of the service providers focus on the top 50 lenders, regional banks, credit unions and mid-size or smaller lenders and subservicers present a different opportunity for those that can scale according to the needs of different clients. Infosys, WNS, Sutherland, Unisys, and ISGN/Firstsource scored particularly high for their flexibility.
- Actual Delivery of Services: Service providers have experience in servicing different parts of the loan lifecycle over the years. For example, Sutherland and ISGN/Firstsource's origination capabilities are comparatively strong versus their competitors. Meanwhile, TCS' default management is industry leading, and Accenture and Cognizant have developed a more end-to-end delivery capability.

INNOVATION

- Vision for Mortgage As-a-Service: Accenture, Cognizant, Genpact, ISGN/Firstsource and Infosys have developed a vision for Mortgage As-a-Service and are at the forefront of exploring this delivery model in the next few years, bringing together process and analytical talent and technology-based solutions.
- Introducing Intelligent Automation into Mortgage: Clients are carefully evaluating their options with automation, and are increasingly leaning on their trusted service providers to lead with examples from other industries in how to go beyond macros and workflow and into RPA and cognitive automation. Accenture, Infosys, and TCS have made the most progress in implementations as of today.
- Delivery of Accessible and Actionable Data Analytics: Our research highlighted client readiness for and expectations around providing better analytics and reporting in mortgage operations, along with the fundamental need to collect and maintain good quality data in the entire loan lifecycle. Wipro, Genpact, WNS and Cognizant had the most compelling examples of embedded and As-a-Service analytics services.
- Approach To Helping Clients Write Off Legacy: Service providers are approaching organizational change in different ways for mortgage clients, resulting in a number of examples where we are starting to see examples of lenders partnering with service providers on process transformation as well as new technology adoption programs. Accenture, Sutherland, Cognizant, TCS and Wipro are making progress on helping their mortgage clients write off legacy toward delivering more intelligent operations.



TCS

Winner's Circle

A strong process partner to mortgage clients that is rapidly expanding market presence using "ValueBPSTM" framework



Blueprint Leading Highlights

- · Actual Delivery Of Services
- Experience Delivering To Top 50 Lenders
- Ability to Attract and Retain Key Skills
- Vision For The Deployment of Intelligent Automation
- Integration of Customer Feedback and Collaborative Models of Engagement
- Flexibility to Deliver Point and End to End Solutions

Offering Maturity

Origination: 47%

Servicing: 23%

Default: 30%

•	• Significant Market Expansion Across Geographies: Since the last Blueprint, TCS has
	grown significantly – going from 10 to 31 mortgage operations clients, witnessing a 40%
	CAGR in the last two years. It has used its experience and capabilities inherited from its
	2009 Citi captive acquisition to craft a compelling mortgage operations offering. TCS'
	market push in the last couple of years that has helped it grow includes an increased
	focus on industry-specific technology solutions and organizing its commercial teams,
	particularly leaning on IT accounts for BPO expansion. TCS has one of the largest
	mortgage operations practices globally, and clients find confidence in accessing
	mortgage talent at scale with the service provider today.

Strengths

- Intelligent Automation through ValueBPS™: TCS attributes its growth to taking solutions
 to new clients using its ValueBPS framework, which help outline business outcomes
 beyond operational metrics, and technology and process improvement initiatives to
 achieve them RPA being a key element. Existing clients are also starting to find value in
 this approach from TCS, and commend the service provider's focus on automation in
 areas such as underwriting where manual interventions slow down cycle time.
- Investment in 'Non-Intrusive' Technology Solutions: HfS sees value in TCS' strategy of developing non-intrusive platforms that can straddle clients' LOS systems to simplify processes and remove bottlenecks. Its m-mortgage and COB onboarding platform are examples of differentiating solutions that will help TCS solve critical pain-points for its mortgage clients in improving internal and external interactions and document/workflow management, all with a view to improve the borrower experience. This signals progress on TCS' vision for the market since 2014.

• Competing Against 'As-a-Service' Propositions: Instead of building on its proprietary Bancs platform for the U.S. mortgage market, TCS is going to market with its bolt on solutions like m-mortgage. As one of the market leaders in this industry, it will increasingly have to compete against its peers of a similar size that have proprietary LOS/MOS systems and are developing As-a-Service offerings around it to offer a combination of technology, people and process expertise.

Challenges

- Pruther Embedding Analytics Into Mortgage Operations:
 Although TCS has made inroads in developing analytically driven processes in default management and origination, clients would like these services to be further offered across the board. HfS expects to see ongoing investment by TCS to leverage its banking analytics practice and build out greater analytics-driven mortgage processes.
- Contracting For Outcomes: TCS has made strategic relationships with some of its mortgage clients to help them redesign and improve operations, using ValueBPS and its technology solutions. In the next year, HfS expects to see a greater percentage of TCS' engagements moving from FTE based pricing to outcome based pricing.

Relevant Acquisitions / Partnerships	Key Clients	Global Operations	Proprietary Technologies / Platforms
Acquisitions: N/A Partnerships: Kofax for document/workflow management Partnership with Big 4 consulting firm for Customer Onboarding program Captiva to support document management platform NEWGEN for mobile banking solutions Conciliac for data reconciliation tools SourceHOV for mailroom services A2iA and mquotient for handwriting word recognition Rosslyn Analytics for data and analytics	 31 Mortgage Operations clients, including: A leading global bank Largest independent mortgage bankers in the U.S. Largest NBFC in India Fortune 500 financial services annuity provider A leading bank in Canada North Carolina based servicer California based residential mortgage lender Leading wholesale bank U.S. financial and consumer information provider Leading U.S. financial Institution 	 Headcount/Locations: 9,000 across 13 key locations globally India: Mumbai, Chennai, Gandhinagar, Delhi & Gurgaon, Pune, Kolkata North America: Cincinnati, OH, Midland, TX The Philippines: Manila Latin America: Quito (Ecuador), Santiago (Chile), Guadalajara (Mexico) 	 m-Mortgage: Mobile based on-boarding solution CROMA: Collections platform DPaaS: Tool for customer on-boarding management eKYC: Tool for managing front end as well as back end operations TCS BaNCS: Platform option to run entire origination process T-Scribe: A legacy document & data extraction device TCS' DCAMS (Digital Customer Acquisition Management System): Tool for tracking loan life cycle



Market Direction and Recommendations

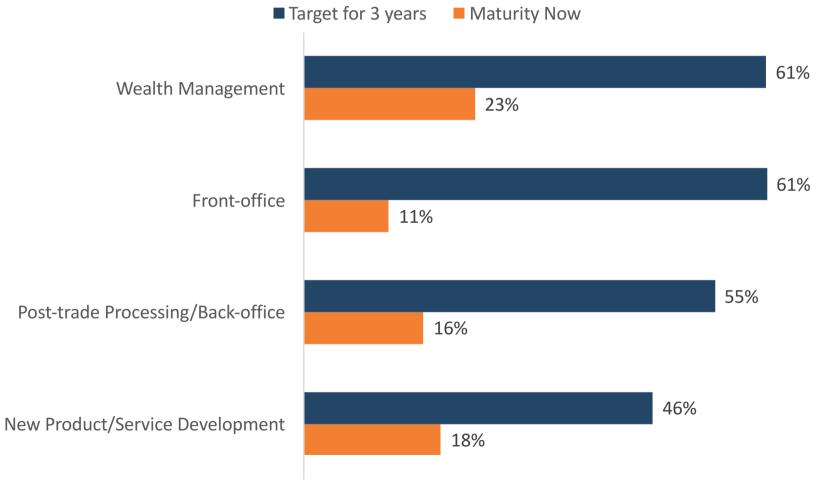


Where to Next for Mortgage As-a-Service

- Greater Alignment of Services Around MOS Platforms: Service providers like Wipro, Accenture and Genpact that have made investments in acquiring MOS technology vendors have goals of providing a broader, end-to-end portfolio in mortgage, including people, process and technology. This is an indicator of a vision for providing Mortgage As-a-Service. However, most of the acquisitions made were of independently branded software solutions, accompanied by their own branding legacies. Infosys took a different approach with its startup acquisition to create CreditEdge. In the next two years, we expect these service providers to further integrate these technology buys into their portfolios and shape the thinking around Mortgage As-a-Service with more client implementations.
- Traction on Process Automation: It has taken a while for process automation to cautiously make its way to the forefront of conversations in mortgage operations, due to its troubled "robosigning" past. We are now seeing greater understanding by both service providers and buyers to start thinking practically and implementing different kinds of automation technologies (RPA, intelligent OCR, etc.) across various parts of the mortgage services value chain. Today thus represents the early vanguard and the arrival of RPA in mortgage, leading us to believe that adoption will be fairly rapid over the next 12-18 months.
- Digital Will Drive Disruption at the Top: Several of the big lenders that HfS interviewed are still playing the "wait and watch" game on digital disruption, in particular the strides made by fintech startups and non-traditional banks in the mortgage industry. While "push button, get mortgage" might not be the path for all the Top 50 to go down, lenders are initiating more conversation and strategy around how digital components can help them look at traditional operations differently. The goal for many will be to make borrower experiences more transparent, enabling more self-service and removing duplication in efforts and documentation. Service providers will have a big role to play in this, from a process reimagining perspective, as well as ultimately configuring the digital components that link these activities back to onboarding and origination platforms.

Financial Institutions Have Ambitious 3 Yr Goals For Operational Maturity – With A Customer First Strategy

Which of your business functions are the most mature in terms of intelligent operations now? Where would you like them to be in 3 years? (Scale 1-5, just 4&5)



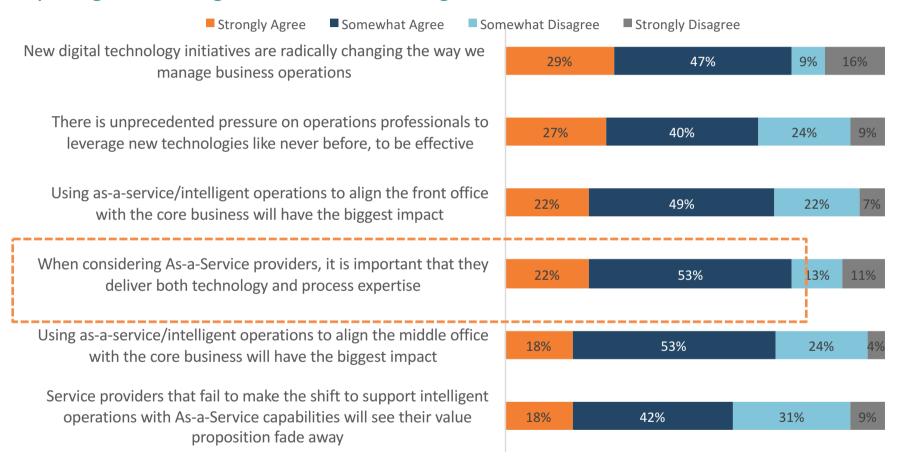
Source: "Intelligent Operations" Study, HfS Research 2016

Sample: BFS Buyers = 67



BFS Buyers Believe That As-a-Service Providers Must Deliver Both Technology And Process Expertise....

Do you agree or disagree with the following statements?



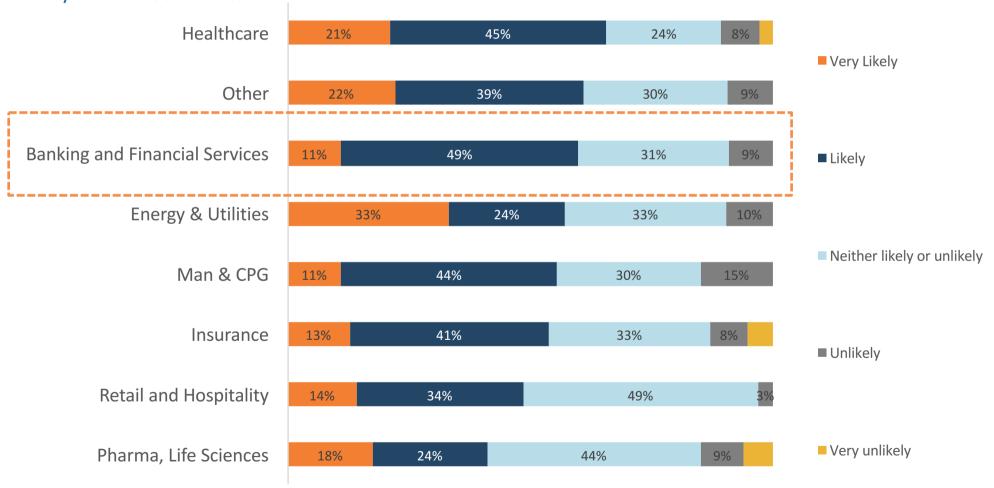
Source: "Intelligent Operations" Study, HfS Research 2016

Sample: BFS Buyers = 67



...And Are Likely To Switch Providers If Necessary To Power The Next Phase Of Growth

How likely is it that you are going to switch out primary service providers which fail to evolve legacy service delivery to Intelligent Operations when you renew your next phase of ITO and/or BPO contracts?



Source: "Intelligent Operations" Study, HfS Research 2016

Sample: BFS Buyers = 67



Mortgage As-a-Service Will Start To Gain Traction In The Next Three Years, Through Collaborative Engagements

IDEAL	AS-A-SERVICE IDEAL DEFINITION	NON EXISTENT	INITIAL	EXPANSIVE	EXTENSIVE	ALL PERVASIVE
Write Off Legacy	Using platform based solutions, DevOps, and API ecosystems for more agile, less exception oriented systems and processes		2016	2019		
Design Thinking	Understanding the business context to reimagine processes aligned with meeting client needs	2016	2019			
Brokers of Capability	Orienting governance to source expertise from all available sources, both internally and externally, to address capability gaps		2016	2019		
Collaborative Engagement	Ensuring relationships are contracted to drive sustained expertise and defined outcomes			2016	2019	
Intelligent Automation	Using of automation and cognitive computing to blend analytics, talent, and technology		2016		2019	
Accessible & Actionable Data	Applying analytics models, techniques and insights from big data, real-time		2016		2019	
Holistic Security	Proactively managing digital data across service chain of people, systems & processes		2016	2019		
Plug and Play Digital Business Services	Plugging into "ready to go" business-outcome focused, people / process / technology solutions with security measures	2016		2019		



2016-17 Recommendations: Enterprise Buyers

- Mobilize Internally and Externally to Drive Mortgage As-a-Service: Realizing the vision for Mortgage As-a-Service will require multiple parties within the lending organization to come together and share a desired outcome so that they can then coordinate for new ways of working. The whole process should create a different kind of experience for the company, and thereby for the borrowers. This will require shared services heads and third-party service providers to play key roles as partners that help lenders chip away at their traditional practices, towards a new borrower paradigm—valuing simplification, transparency, and control in the property buying experience.
- Identify the Innovative Providers—and Challenge Them Further: Mortgage lenders typically work with multiple service providers for various outsourced work, sometimes inheriting contracts from acquired entities, or older multi-tower deals. We recommend you as an enterprise buyer take the time to do some litmus testing on who in your service provider mix is really thinking about changing the traditional labor arbitrage model, and willing to invest in partnering on developing and offering you a broader set of choices for what solutions you adopt and how they interact with your own retained organization. In one example, we heard of a major mortgage lender that did this exercise specifically around automation, and found one service provider that really came through with opportunities for revenue cannibalization and new commercial models—and an action plan for the staff affected—and one that simply put together a list of quick fixes that could have been made years ago with a little effort. Following from the previous point, trusted service partners will play a key role in the success of rolling out your digital strategy.
- Find Ways to Break Internal Deadlocks with the Help of Your Service Provider: "They bring us more stuff than we can handle with our slow pace of change" was a frequent response to our interview question to lenders on whether their service providers are innovative. Buyers in this industry are aware of their need to respond to "fintech" and "digital disruption." However, internal bureaucracies, tradition and inertia are holding them back. This is an area where service providers can help to break down silos, and reorient conversations and concerns around the business outcomes. Design thinking is a relevant tool that can help you work with your service provider in a manner that facilitates long-term success.

2016-17 Recommendations: Service Providers

- Focus on Flexible and Global Delivery Capabilities: One of the biggest business imperatives that lenders outlined for the next two years was the responding quickly to the changing business environment. "How do we continue to grow in volume and market share and blueprint, with more and more M&A and business expansion, without actually growing physical presence in North America? Rates will go up at some point, and we'll still have to maintain our production levels we will always need cheaper, better, faster." Lenders still look for that next level of flexibility in scale and speed to market with business processes, and several outlined the need for service providers to work on this aspect, along with adding more onshore and nearshore delivery capabilities.
- As-a-Service Platforms Must Further Address this Need for Flexibility: Service providers that have proprietary technology platforms for this industry must have a clear understanding of their potential clients' needs around flexibility/agility, balanced with their appetite for writing off legacy. SaaS delivery models with variable, transaction-based prices, capable of scaling up and down will address business flexibility. However, in a lot of cases, lenders might not be able to do a complete overhaul of legacy LOS', or want to select modular slivers of capability to augment existing processes. Service providers must continue to develop progressive product paths, tightly coupled with redesigning/improving services from application to post-closing. However, they will need to be able to work at the pace of this market on its slow march to As-a-Service.
- Clients Value Industry Expertise—Continue Down the Industrialization Path: The most and the least satisfied mortgage clients in our research pointed to the caliber of talent at different levels within their service providers' organizations. Several clients were in awe of the rigorous mortgage industry training that leading service providers undertake, and the associated certifications and licensing associated that they have to maintain. These education and training opportunities are increasing the analytical, industry, and automation capability of each service provider, that can then further strengthened with appointing more leadership roles around risk and compliance, and SMEs within mortgage. This investment will drive new levels of value and deepen relationships with clients.

About the Author



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Overview

- Tracks verticalized technology-enabled operations in insurance and retail
- Tracks enterprise analytics services and marketing and digital customer experience management services
- Conducts Blueprint reports across service areas in global sourcing

Previous Experience

- Project Manager in the sourcing research wing of the business research and consulting firm ValueNotes, encompassing a range of responsibilities, including research product design and development for the outsourcing community, management of custom research engagements, and development of thought leadership through targeted content and community interaction
- Niche BPO and KPO coverage, including analytics, medical transcription, market research, and e-learning
- Bespoke engagements, including in-depth competitive intelligence studies, market and investment opportunity assessments, demand-side surveys, and marketing communication optimization for outsourcing buyers, providers, consultants, and investors

Education

- Bachelor's in Business Administration, Symbiosis International University, India
- Master's in Marketing Management with Beta Gamma Sigma honors, Aston Business School, UK



About HfS Research

HfS Research is The Services Research Company™—the leading analyst authority and global community for business operations and IT services. The firm helps enterprises validate their global operating models with world-class research and peer networking.

HfS Research coined the term <u>The As-a-Service Economy</u> to illustrate the challenges and opportunities facing enterprises needing to rearchitect their operations to thrive in an age of digital disruption, while grappling with an increasingly complex global business environment. HfS created the Eight Ideals of <u>Being As-a-Service</u> as a guiding framework to help service buyers and providers address these challenges and seize the initiative.

With specific focus on the digitization of business processes, intelligent automation and outsourcing, HfS has deep industry expertise in healthcare, life sciences, retail, manufacturing, energy, utilities, telecommunications and financial services. HfS uses its groundbreaking Blueprint Methodology™ to evaluate the ability of service and technology providers to innovate and execute the Eight Ideals.

HfS facilitates a thriving and dynamic global community of more than 100,000 active subscribers, which adds richness to its research. In addition, HfS holds several <u>Service Leaders Summits</u> every year, bringing together senior service buyers, providers and technology suppliers in an intimate forum to develop collective recommendations—for the industry and add depth to the firm's research publications and analyst offerings.

Now in its tenth year of publication, HfS Research's acclaimed blog <u>Horses for Sources</u> is the most widely read and trusted destination for unfettered collective insight, research and open debate about sourcing industry issues and developments. Horses for Sources and the HfS network of sites receive more than a million web visits a year.

HfS was named Analyst Firm of the Year for 2016, alongside Gartner and Forrester, by leading analyst observer InfluencerRelations.

