

fs viewpoint

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An unsettled world:

The changing world of cash equities and fixed income and how it is impacting asset managers and their service providers

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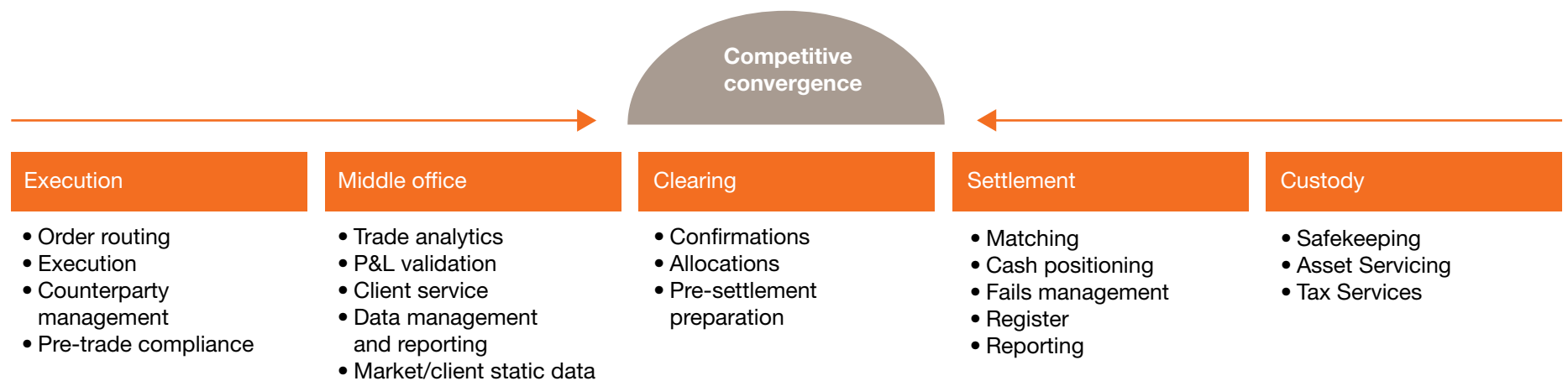
Point of view



The world of cash equities and fixed income is in a period of “competitive convergence” on a global basis. These trends are impacting asset owners and managers, hedge funds, broker-dealers, prime brokers, correspondent clearing firms, and asset servicers in important ways.

The execution-to-custody value chain and the various players involved in this chain have remained relatively stable since the consolidation of custodial providers in the 1990s. The financial crisis, combined with costly new capital and regulatory rules, has:

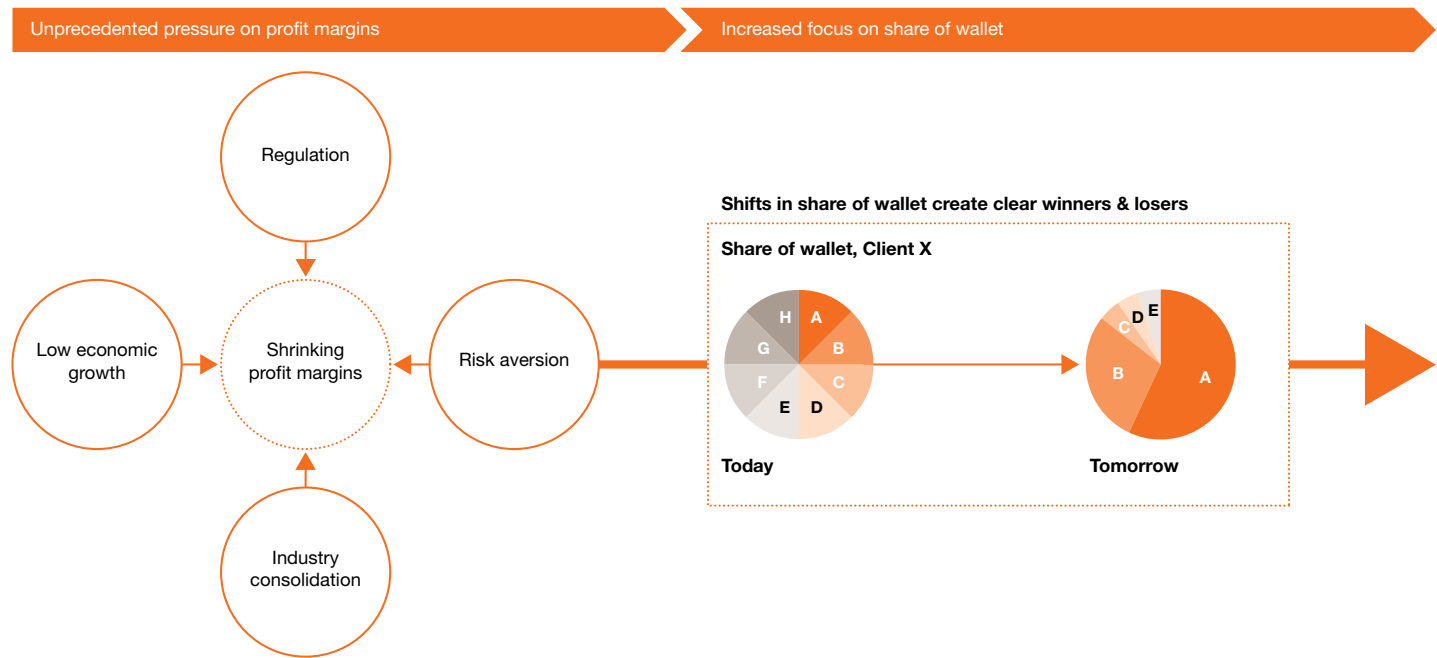
- **Created significant pressure** across the board on asset managers to reduce fees, further impacting their cost structures and charges from service providers.
- **Caused a collapse in revenues** generated in key areas such as securities lending, net interest income on cash balances, and financing.
- **Increased the challenges to business models** for sell-side firms participating in the cash equities and fixed income execution-to-custody value chain.
- After the Lehman failure, generated an **unprecedented concern with risk** and search for diversification in service providers and counterparties.



To adjust to the new market realities, firms are aggressively pushing to change their business models in a number of ways.

Firms are changing their business models by:

- **Eliminating product/service and geographic silos** by collapsing functions and costs across multiple products/services and territories.
- **Outsourcing to or combining capabilities, processes, and functions** with others who possess best-in-class capabilities, scale, and/or cost structures.
- **Better leveraging existing infrastructures** to gain greater scale and cost efficiency from a cost-per-transaction perspective.
- Redoubling their efforts to **create new capital efficient revenue** growth opportunities.
- Focusing on **increasing the share of wallet from existing clients**. Leading firms are taking drastic action and revamping their product offerings, business models, and client relationship strategies to gain “trusted advisor” status with their target clients.

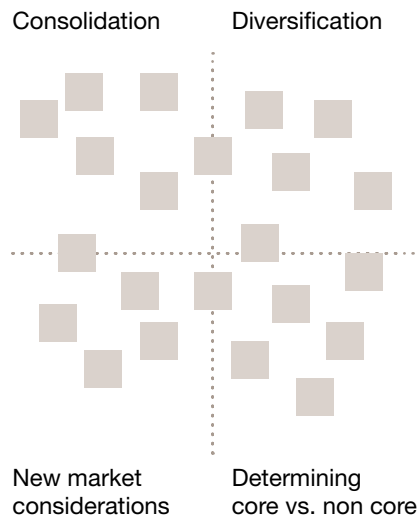


Both buy- and sell-side clients are looking for more product, geographic, and value-chain coverage from their counterparties and service providers. At the same time, they want to maintain sufficient diversity to properly manage single point-of-failure risk.

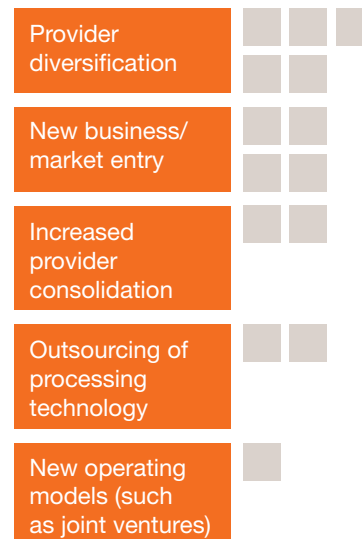
Buy- and sell-side clients are increasingly looking at both consolidation and diversification of counterparties and service providers simultaneously.

These seemingly contradictory trends are manifesting themselves in the following ways:

Key drivers



Emerging trends



Examples

- Hedge funds **increasing diversification** of prime brokerage relationships while many seek to consolidate cash and paid-for securities with a single asset servicer in a “prime custody” relationship.
- Several new players with significant infrastructure **considering market entry** into the correspondent clearing and prime services marketplace in the US, Europe, and Asia.
- **Increasing pace of consolidation** of local custodial, transfer agency and hedge fund servicing businesses into larger global or regional groupings.
- **Technology outsourcing** of core processing technologies in the face of high replacement costs for aging and inefficient internally developed platforms.
- **Outsourcing of non-core processes** such as middle office processing, valuation, tax reporting and the like.
- **Consideration of joint ventures** between various players in the value chain to provide more cost-effective comprehensive post-trade solutions.

In our view, sell-side players and service providers will experience a three-to-five-year period of heightened market competition from existing players, new entrants, and joint ventures.

Sell-side clients and their competitors are striving to achieve the type of scale and breadth of services necessary to survive and prosper in the new world.

Across the board, banks and broker-dealers are looking closely at their business models and their services to determine what they should keep in house, outsource, or offer as services to third parties.

Examples of specific efforts include:

- Several large broker-dealer firms are considering options for leveraging their infrastructures to provide clearing, settlement, and financing services to execution clients.
- Custody banks are in the process of driving aggressive expansion of their outsourcing services, moving beyond traditional areas to include value-added areas such as tax reporting, valuation, and the provision of white-label technology to support third parties.
- “Balance sheet scarcity” and the buy-side desire for diversification has resulted in a number of participants considering potential entry into the professional clearing and prime brokerage businesses.
- Emerging markets in Asia, Europe, and the Middle East are an increasing focus as many new partnerships and models are being considered to lower the costs of doing business in these markets.
- Several firms are consolidating their post-trade environment. Some are moving to self clearing and/or self custody in selected markets. This includes forming strategic partnerships with brokers, correspondent clearers, and global custodians.
- Centralized securities depositories and international central securities depositories are moving further into the asset servicing business, posing a threat to the custody bank dominance in certain aspects of core asset servicing.

In our view, buy-side players will continue to focus on core competencies and engage with service providers, where possible, to outsource functions while managing concentration and operational risk.

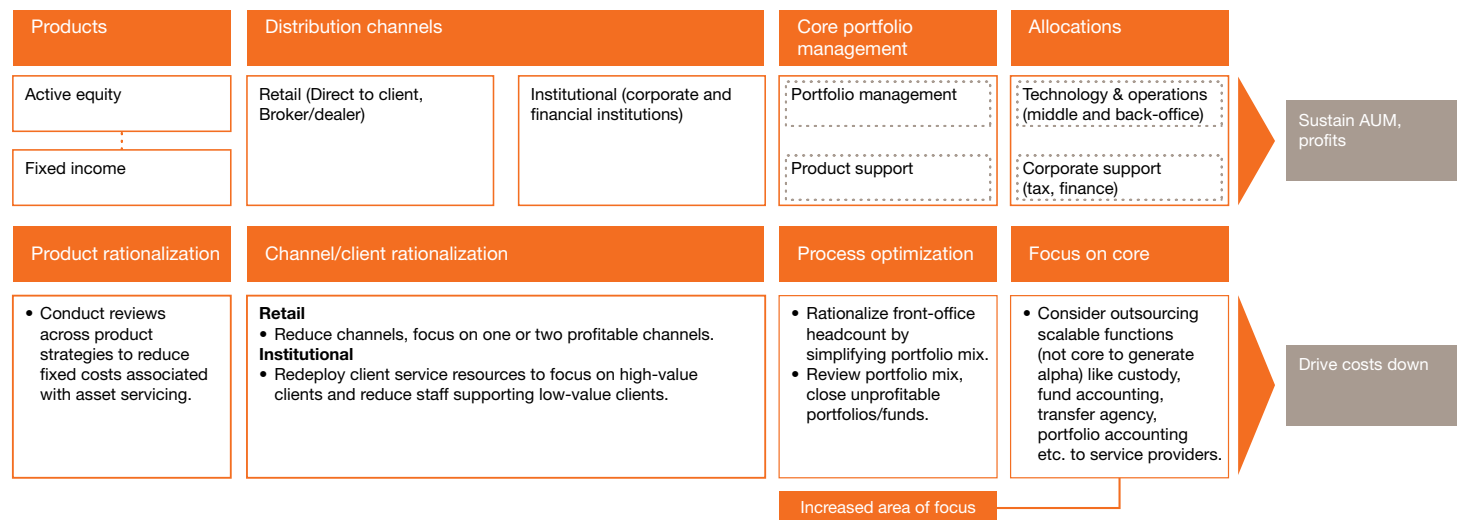
We have observed that most buy-side firms are closely examining their business models to determine what they should keep in house versus what they should outsource. They also are looking at new regulatory and client requirements and considering how best to respond to these requirements in a cost-effective manner. The increased number of service providers and improvements in service-provider capabilities have made it much easier to outsource.

Examples of specific efforts include:

- Several large asset managers have outsourced or are considering outsourcing their middle-office infrastructures to one or several global asset servicers.
- A number of major industry players are considering how to team with software and service providers in order to meet new regulatory requirements.
- An increasing number of firms have engaged with service providers to assist in non-core areas such as finance, systems, and technology infrastructure.

ILLUSTRATIVE

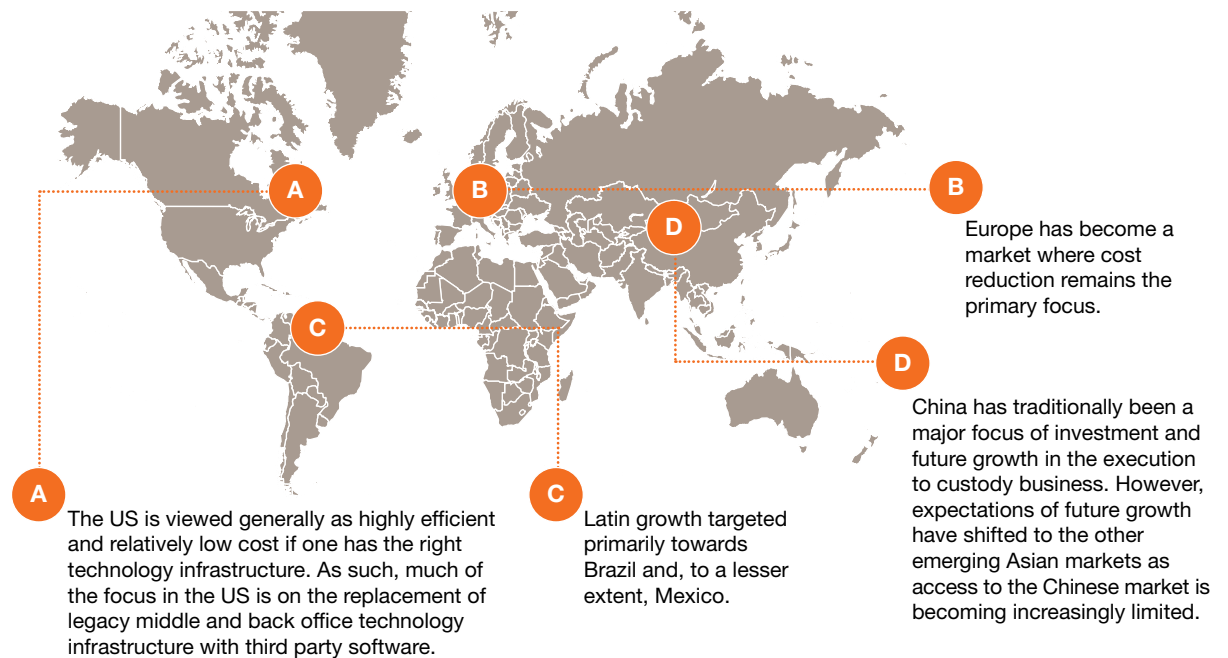
Typical asset management functional value chain



The market is evolving quickly to respond to the changing environment. Leading sell-side firms are increasingly developing a comprehensive range of post-trade services for their buy-side clients.

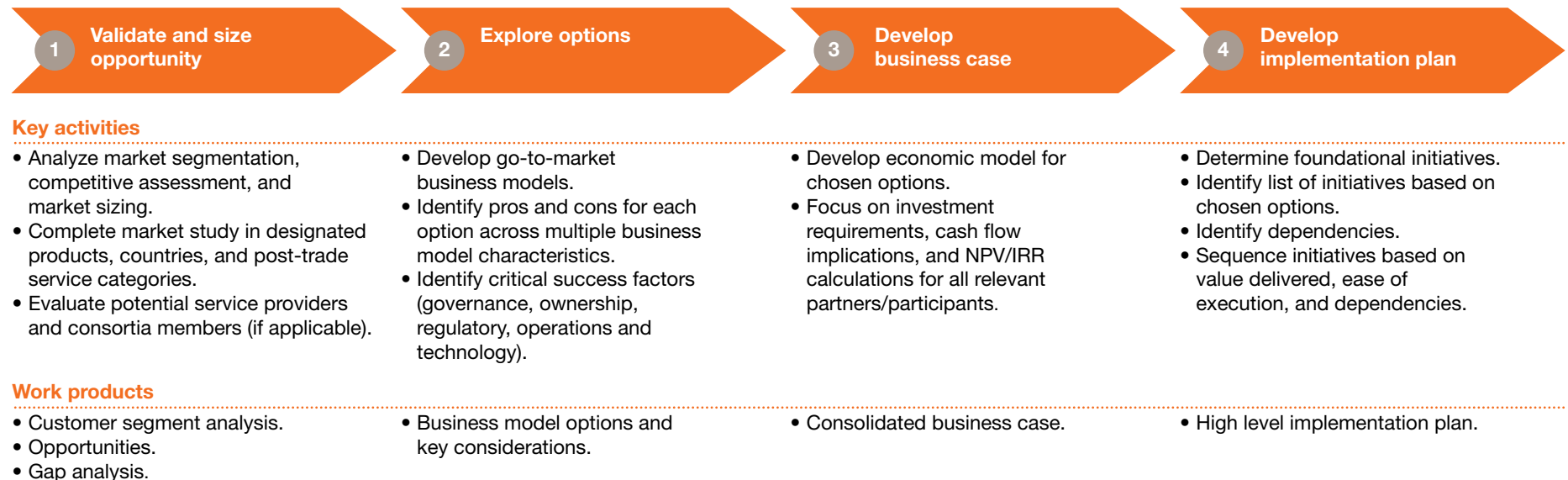
Here are some of the early themes we see as this process evolves:

- Firms are discovering that the competitive landscape, from a service provider's perspective, is increasingly centered around low-cost transaction processing, quality service, and reliability.
- The post-trade services space is increasingly a scale game that requires a highly automated, low cost, robust technology and/or operational platform.
- World class technology and operational excellence are increasingly differentiators between success and failure in the marketplace.
- Banks and broker-dealers without a history of offering services to third parties face significant operational, technological, business model, or cultural challenges to leveraging their infrastructures for the benefit of third parties.
- The geographic locations where investment and growth prospects are brightest have shifted over the last several years. Our clients are increasingly parsing Asia into developed (Hong Kong, Australia, Japan, Singapore, and Indonesia) versus developing markets (India, Malaysia, Vietnam, and China).



Leading market participants are conducting end-to-end analyses of their businesses, costs structures, and options to provide management with the best information to support these key decisions.

TYPICAL APPROACH DEPLOYED



We have observed sell-side players executing various strategies to leverage core market positions to grow their value chains.

Execution and clearing/settlement providers



Leaders offer “one stop shop,” rest under threat

- Typically institutions with large broker dealers with strong algorithmic offerings.
- Offering clearing offerings to high frequency clients as an accommodation in order to make relationship more “sticky.”
- Some providers offering professional clearing (that includes clearing, settlement, custody and financing) bundled with execution.
- Clearing typically offered by leveraging prime brokerage support infrastructure.
- Typically provide multi-currency cross border platforms.
- Have already made significant technology investments.

Correspondent clearing providers



US market remains highly competitive, international expansion difficult

- Focused on US clients and non-US players trading US equities and fixed income.
- Increased convergence from both ends of the trade lifecycle—some providers offering execution services; some partnering with custodians to provide custody services.
- Clearing model outside US is a challenge—requires asset servicing/custody capability.
- Limited momentum in Asia (one provider has used Australia as a ‘test case’ to launch in Asia).
- UK offers some expansion with its back office outsourcing clearing model.
- Typically must handle large volumes and be very price competitive, margins hurt particularly by reduced securities lending volumes and low interest rate environment.

Prime brokers



Leaders well-positioned to serve their clients

- Typically target large global hedge funds.
- Prime brokerage platforms often extended to provide clearing and settlement services for other segments.
- Focus on providing services for multiple asset classes and cover wide geographies/international focus.
- Certain providers offering below-cost custody services (subsidized by other revenue streams).
- Firms looking to leverage all or part of its prime services infrastructure to serve other client segments.

Custody-driven clearing providers



Searching for low capital consumption, yet profitable, business model

- Typically institutions with a custody-driven clearing model and a focus in international markets.
- Large global presence, established sub-custodian networks.
- Large product range, but expensive.
- Focus on service expansion, particularly Asia.
- Some custodians expanding into execution to custody service offerings (especially in Asia due to fragmented nature of market and client need for wide custody reach).
- Innovative technology solutions that span various products and geographies.
- Margin compression with foreign exchange and securities lending volumes having decreased.
- Cost reduction remains an area of focus given scale and geographical complexity.

■ Service offered

■ Service traditionally not offered; potential area of trade lifecycle expansion

In our view, what differentiates leaders are the quality of upfront analyses and execution at the back end.

We have observed the following common themes and lessons learned:

Service providers and sell-side firms

We are seeing an increasing trend of service providers expanding their product ranges and customer segments, and firms (and/or individual business units) looking to leverage their infrastructures and sell services to third parties. In our experience, these firms have encountered the following kinds of issues as they commercialize their products and services:

- Typically, technology spent to equip systems to address third-party, multi-entity processing is significantly higher than estimated.
- There is a lack of appreciation for creating segregated teams focused on client operations for on-boarding, legal, and regulatory issues.
- Additional operational efforts generally need to be taken to segregate client from firm businesses.
- Scalability and stress testing of systems and people should take into account the potential variability of both business types.
- Additional regulatory responsibilities and reporting requirements need to be evaluated and incorporated into business models.
- To the extent that financing is involved, balance sheet and capital requirements are underappreciated or underestimated and must be incorporated into the business plan.

Buy-side firms

The primary focus for buy-side firms is determining which service providers they use and what portions of their value chain they keep in house. Many firms have not established and executed up-front, competent request-for-proposal processes, nor have they engaged the types of resources required on the execution end after a decision is made.

Some typical issues for buy-side firms include:

- Often, a lack of understanding exists of available marketplace solutions. This leads to assumptions that certain services must remain in house. This is particularly the case for middle-office functions.
- In some cases, buy-side firms did not sufficiently engage with other service providers beyond existing vendors. This has resulted in less-than-optimal results in terms of service quality and price.
- From an execution perspective, many of the organizations are relatively small and knowledge is concentrated among a handful of individuals who are difficult to access. During an outsourcing execution phase, for example, this issue becomes a major obstacle.

Competitive intelligence



*Our observations of
industry practices.*

Post-trade examples of cash equities and fixed income

Questions	Peer firm 1		Peer firm 2		Peer firm 3		Peer firm 4	
Integrated PB/WM—IB operations and technology?	No—technology (globally) No—operations (globally) However, technology integration for the future is being considered for the Americas.		No—technology (globally) No—operations (globally)		Yes—technology (globally) No—operations (globally)		Yes—technology (Americas) No—operations (globally)	
Self clearing?	Yes (PB/WM Americas, IB Americas, IB EMEA, IB APAC)		Yes (IB Americas, IB EMEA, IB APAC) Also, PB/WM Americas do not self clear, except for commodities.		Yes (globally)		Yes (PB/WM Americas, PB/WM Europe, IB Americas)	
In-house, proprietary technology or vendor systems?	PB/WM Americas— in-house proprietary	IB Americas— clearing vendor system solution IB EMEA—in-house proprietary IB APAC—in-house proprietary	PB/WM Americas— clearing partnership, except for commodities that use in-house, proprietary systems	IB Americas—in-house proprietary IB EMEA—in-house proprietary IB APAC—in-house proprietary	PB/WM Americas— clearing vendor system solution. Limited portion of business currently being migrated to clearing vendor system solution PB/WM EMEA—in-house proprietary PB/WM APAC—in-house proprietary	IB Americas— clearing vendor system solution with limited portion of business being migrated to this system IB EMEA—in-house proprietary IB APAC—in-house proprietary	PB/WM Americas— clearing vendor system solution PB/WM (Europe): in-house proprietary PB/WM APAC—limited presence	IB Americas— Clearing vendor system solution IB APAC—limited presence
Global or regional model?	Regional, except for select back- and middle-office operational functions that have been centralized using a shared service model		Regional		Global but separate regional model for the Americas		Regional	
Age of in-house technology platform or years since conversion to vendor platforms?	PB /WM Americas—10+ years since conversion	IB Americas—5 years since conversion IB EMEA—10+ years IB APAC—10+ years; upgrading in process	PB/WM Americas—1 year since conversion PB	IB Americas—10+ years IB EMEA—10+ years IB APAC—10+ years	PB/WM Americas—currently converting PB/WM EMEA and APAC—3-to-10 years across products and functions	PB/WM Americas—currently converting PB/WM EMEA and APAC—3-to-10 years across products and functions	PB/WM Americas—4 years since conversion	IB Americas—4 years since conversion
Target technology platform if currently undergoing transformation?	Under evaluation for the Americas		Clearing vendor system solution in 3 years' time for IB Americas		Clearing vendor system solution for Americas		Not applicable for Americas	
Examples of shared functionality?	<ul style="list-style-type: none"> Asset servicing Reference data management 				Securities processing EMEA and APAC		None	
Short-term business goals for cost reduction, scalability, integration, or business expansion?	<ul style="list-style-type: none"> Cost reduction Scalability Service improvement 		<ul style="list-style-type: none"> Cost reduction Scalability 		<ul style="list-style-type: none"> Cost reduction Service improvement Tighter control 			
Long-term business goals for cost reduction, scalability, integration, or business expansion?	<ul style="list-style-type: none"> Cost reduction Scalability Service improvement 		<ul style="list-style-type: none"> Cost reduction Scalability 		<ul style="list-style-type: none"> Business expansion Cost reduction 		Integration and centralization of key business functions using near shoring	

Post-trade examples of cash equities and fixed income

Questions	Peer firm 5		Peer firm 6		Peer firm 7		Peer firm 8	
Integrated PB/IB operations and technology?	No—technology (globally) No—operations (globally)		Yes—technology (globally) No—operations (globally)		Yes—technology (Americas, APAC) No—operations (Americas, APAC)		No—technology (Americas) No—operations (Americas)	
Self clearing?	No—(PB/WM globally) Yes—(IB Americas)		Yes—(globally)		Yes—(Americas, APAC)		Yes—(IB Americas, IB APAC, PB/WM Americas, and PB EMEA)	
In-house, proprietary technology or vendor systems?	PB/WM Americas—service provider, clearing partnership PB/WM EMEA—service provider, clearing partnership		IB Americas—clearing vendor system solution IB EMEA—in-house proprietary IB APAC—in-house proprietary		PB/WM Americas—clearing vendor system solution for equities and in-house proprietary for fixed income and other products PB/WM APAC—Clearing vendor system solution		IB Americas—clearing vendor system solution BPS for equities and in-house proprietary for fixed income and other products IB APAC—clearing vendor system solution	
			PB/WM Americas—in-house proprietary; securities processing integrated across product types and select markets PB/WM EMEA and APAC—in-house proprietary and cross market integration ongoing		IB Americas—in-house proprietary; securities processing integrated across product types and select markets IB EMEA & APAC—in-house proprietary and cross market integration ongoing		PB/WM Americas—clearing vendor system solution PB EMEA—consider converting; reviewing additional clearing vendor system solution products	
							IB Americas—clearing vendor system solution running majority of business; limited portion of business being migrated to this system IB APAC—planned future securities business via clearing vendor system solution platforms	
Global or regional model?	FO—global MO/ BO—regional		Regional, except for select back- and middle- office operational functions that have been centralized or integrated across select markets and product types		Regional		Regional	
Age of in-house technology platform or years since conversion to vendor platforms?	PB/WM (globally)—given utilization of vendor systems in FO and outsourced relationship for MO & BO, technology obsolescence is not an issue		IB Americas—10+ years since conversion		PB/WM (globally)—3-5 years with regular upgrades		IB (globally)—3-5 years with regular upgrades	
					PB/WM Americas—3-4 years since clearing vendor system solution conversion and 10+ years for legacy technology APAC—ongoing conversion		IB Americas—3-4 years since clearing vendor system solution conversion and 10+ years for legacy technology APAC—ongoing conversion	
Target technology platform if currently undergoing transformation?	Not applicable		Not applicable		Clearing vendor system solution for APAC		Clearing vendor system solution in 9 months for IB Americas	
Examples of shared functionality?	Not applicable		<ul style="list-style-type: none"> • Clearing and settlement • Asset servicing 				Not applicable	
Short-term business goals for cost reduction, scalability, integration, or business expansion?	<ul style="list-style-type: none"> • Cost reduction • Future channel consolidation of business support functions across private wealth management continues 		<ul style="list-style-type: none"> • Scalability • Integration 		<ul style="list-style-type: none"> • Cost reduction • Business expansion 		<ul style="list-style-type: none"> • Cost reduction • Scalability 	
Long-term business goals for cost reduction, scalability, integration, or business expansion?	<ul style="list-style-type: none"> • Consolidating clearing: Firm explored consolidated clearing several years ago. However, long term Private Wealth Management contracts proved prohibitive. Organization plans to revisit in the future 		<ul style="list-style-type: none"> • Cost reduction • Scalability • Service improvement 		<ul style="list-style-type: none"> • Cost reduction • Service improvement 		<ul style="list-style-type: none"> • Cost reduction • Scalability 	

A framework for response

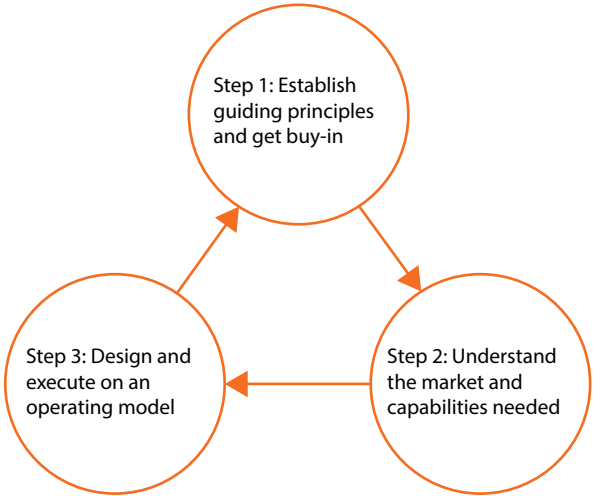


*Our recommended approach
to the issue.*

Providers should identify and begin to address the barriers to implementing an end-to-end product offering, including an operating model and supporting infrastructures.

Key goals:

- Help ensure there is buy-in from the organization on overall end strategy, risk considerations, geographical considerations, and investment required.
- Implement a formal process to solicit and respond positively to customer feedback.
- Structure skin in the game to help ensure implementation of decisions and action on key operating model considerations.



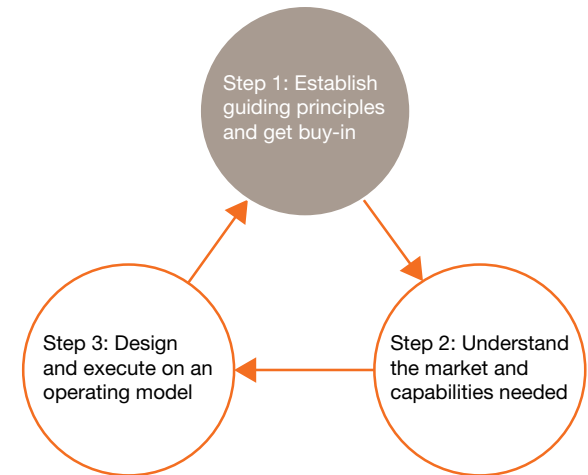
Establish guiding principles

Short term	Medium term	Long term
<ul style="list-style-type: none">• Select several potential and viable operating models.• Develop baseline for the new operating model(s) comparison.• Collect initial feedback from “friendly” clients.• Design a basic, but formal, voice of the customer (VOC) program and pilot it in a business unit.	<ul style="list-style-type: none">• Involve senior executives in the VOC process.• Develop preliminary revenue assumptions and estimates.• Develop initial understanding of how to operate within regulatory requirements without fear of pushing the boundary through consultation and waivers.	<ul style="list-style-type: none">• Implement a formal VOC program across the organization.• Balance risks, rewards, and long-term sustainability.• Prove the concept without becoming mired in execution details.• Discuss conflicts and negotiate according to well-established principles.

Step 1: Establish guiding principles and get buy-in.

Potential areas of opportunity

- Achieve platform efficiencies
- Focus on core business and markets
- Partner/form joint venture with viable provider
- Leverage additional capacity/infrastructure
- Identify efficiencies with other areas of the organization
- Expand into new markets



Sample questions

1

What are potential areas of opportunity?

- What are the top opportunities (discuss potential areas above and other initiative ideas)?
- For what markets/products is this opportunity relevant?
- For what client would this be relevant?
- Who would the most significant competitors be?
- What would the value proposition be?

2

How do the current capabilities compare with those required?

- Does the firm have the product set, technology, and operational infrastructure to provide services associated with this opportunity?
- Assuming the firm capitalizes on this opportunity, which constituents would have visibility into a high-level estimate of start-up costs?

3

What would the firm need to do to capitalize on the opportunity?

- Is this an opportunity that the firm can develop leveraging its infrastructure?
- In your opinion, are there partnership options with other institutions/entities?
- What would the potential operating model be?

4

What are the risk considerations?

Any structural restrictions?

Any regulatory barriers?

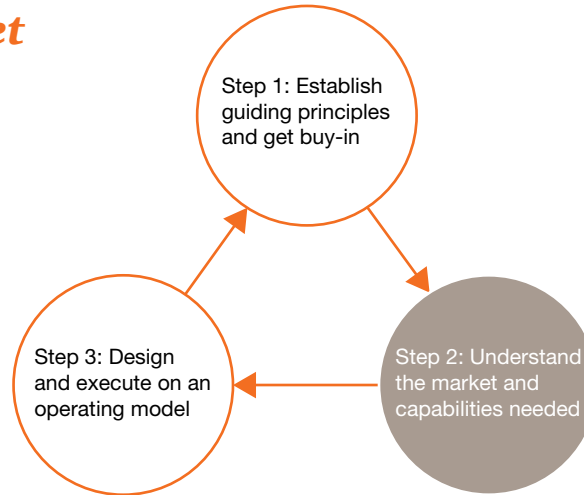
Any political/legal risks?

Any capital controls or restrictions?

Any foreign exchange/currency risks (especially for illiquid products)?

Any franchise or reputational risks?

Step 2: Understand the market and capabilities needed.



Market drivers

Market review
Products
Competitors
Regulations

Market scan

Demand side analysis

Potential opportunities (efficiency plays or new market offerings)

Internal Considerations

People/process
Tech scalability
Cost base
Potential efficiencies

OPS/Technology review

Supply side analysis

Key enablers

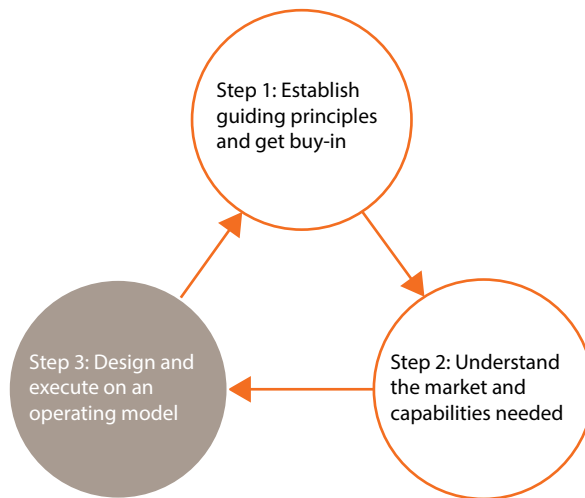
What is the potential?

- What is the size, growth, and nature of the opportunity?
- What are the customer requirements?
- Who would the most significant competitors be?
- What are the potential product and/or service bundles that could be introduced?
- What are the significant regulatory, competitive, and other structural barriers?

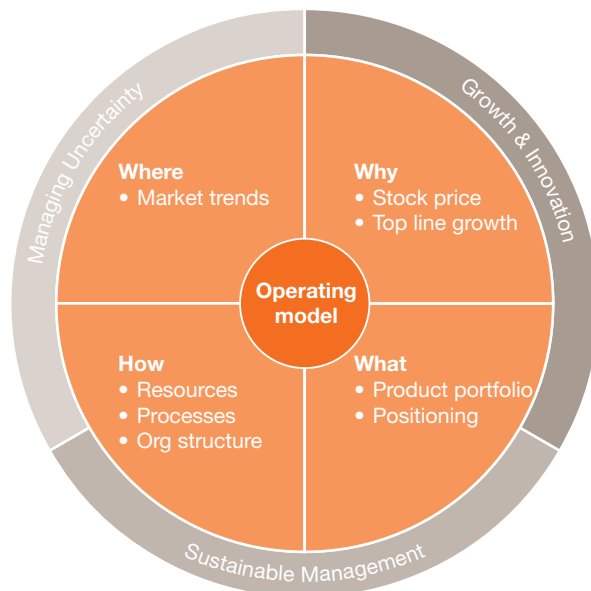
Does this make economic sense?

- What pricing model should be used?
- Assuming a particular market share (specific clients and segments), what revenue can be generated or what cost efficiencies can be achieved?
- Given the current cost structure and estimated start up costs, what are the returns on investment?
- What is the sensitivity of the returns around the key assumptions?
- What is the best operating model?

Step 3: Design and execute an operating model.



Operating model framework



Operating model assessment: Post-trade service models

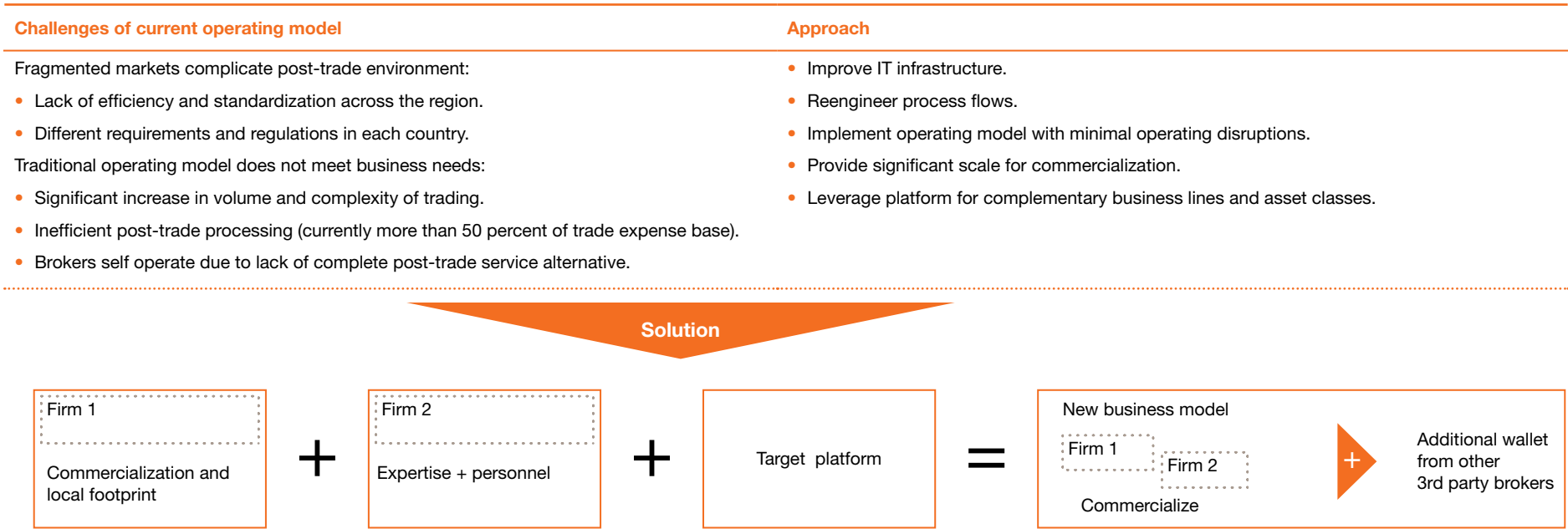
Typically, the operational component is considered first. Based on our experience, however, a number of critical components should be considered and agreed upon prior to operational considerations.

Governance and ownership	Regulatory	Technology and operations
<ul style="list-style-type: none"> Legal structure and location Revenue and profit-sharing model Governance structure, including board and senior management Mandates Strategic plans Principles Conformity Tax and accounting 	<ul style="list-style-type: none"> Hold discussions with regulators to gain their acceptance of concept, structure, and governance model Understand and address their concerns Resolve joint regulatory responsibilities/liabilities Resolve protocol for regulatory exams Gain approval or concurrence from internal risk and compliance Homogenize anti-money laundering policies and methodologies 	<ul style="list-style-type: none"> Design and development of operating model Business, data, and technical architectures Operating principles, standards, and procedures

Benefits

- Provides an integrated approach to addressing demand and evolving market needs.
- Creates an infrastructure and level-resource model that provides scale for short-term volume spikes and long-term growth.
- Creates services or product offerings that can be partnered with other market constituents to create a game-changing play in the industry.
- Manages costs through the leverage of infrastructure.

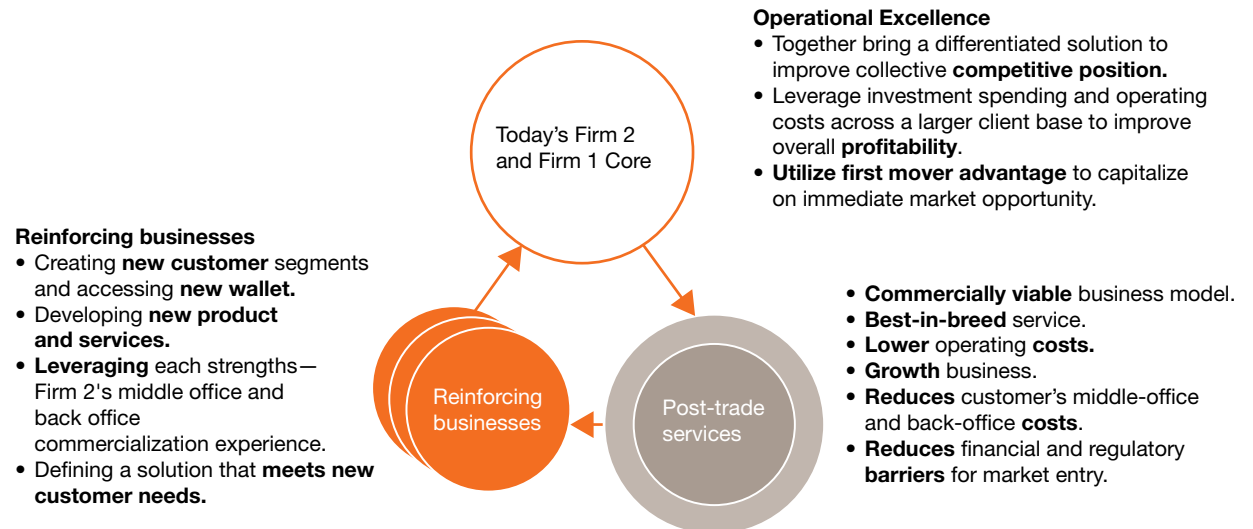
Case study:
Project overview example.



Case study: Market opportunity example.

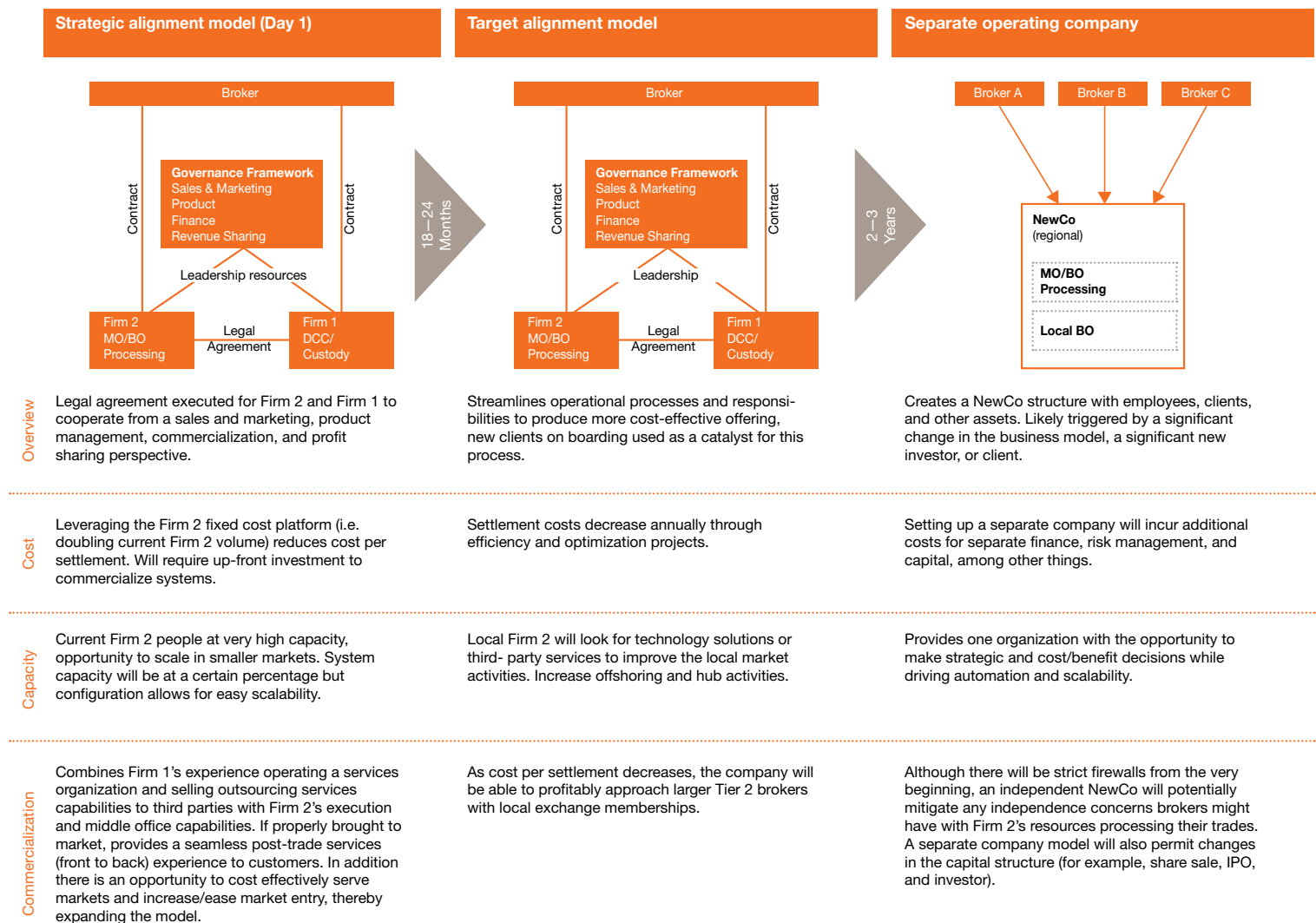
Firm 1 is a leading asset servicer in the region, and Firm 2 is a leading broker.

To support the execution business, Firm 2 has built a world-class, middle-office capability. The market opportunity for both Firm 1 and Firm 2 is to create a seamless post-trade service model in the complex and fragmented market. To capitalize on this market opportunity, a transformation from today's business model will need to occur to identify these new customer segments and products while maximizing each others' systems, processes, and people. This will enable development of a best-in-breed operating model capable of leveraging investments in IT, people, and systems across a wider spectrum of client base.



Case study: Operating model analysis example.

After analyzing eight different models, we reached agreement that the strategic alignment model and Firm 2's subsequent evolution to an operational model presented the greatest opportunity with reduced risk. We have outlined below the progression and each model.



Case study: Guiding principles and model ratings example.

Each of the business models advances the guiding principles, with clear benefits arising from the implementation of both the strategic alignment and target models. The benefits of the separate operating company strategy will depend upon the circumstances, but the hurdle will be high due to additional operating costs, potential risk, and regulatory issues arising from a NewCo structure.

No.	Guiding principle	Strategic alignment model	Target alignment model	Separate operational company
1	Viewed by the market as an innovative, leading-edge service offering			
2	"As-is" Firm 2 trade flow is the baseline for the new operating model comparison		nm	nm
3	Drives additional business to Firm 2 and Firm 1			
4	Operates within regulatory requirements, yet not afraid to push the boundary through consultation and waivers			
5	Leverages "best of breed" approach where there is an overlap between the Firm 2 and Firm 1 people, process, technology, etc.			
6	Must reduce Firm 2's current cost structure and be financially viable on an independent basis			
7	Drives a solution that balances risks, rewards, and long-term sustainability			
8	Focuses on proving the concept without becoming mired in execution details		nm	nm
9	Conflicts will be discussed and negotiated according to principles			

Legend



Does not significantly advance the guiding principle



Partially advances the guiding principle



Fully consistent with the guiding principle

nm Not meaningful

Case study:
Market opportunity summary example.

We see an existing target wallet of approximately US\$xx million and the potential to gain up to xx percent of the market or approximately US\$xx million per year in incremental revenues to be shared by Firm 1 and Firm 2.





The example illustrates the output of a market opportunity assessment.

Client/broker name		Client/broker name		Client/broker name	
Tier 1		Tier 2		Tier 3	
Firm 2		XXX	XXX	XXX	XXX
XXX		XXX	XXX	XXX	XXX
XXX		XXX	XXX	XXX	XXX
XXX		XXX	XXX	XXX	XXX
XXX		XXX	XXX	XXX	XXX
XXX		XXX	XXX	XXX	XXX
XXX		XXX	XXX	XXX	XXX
XXX		XXX	XXX	XXX	XXX
XXX		XXX	XXX	XXX	XXX
XXX		XXX			
				XXX	XXX
				XXX	New Entrant—United States
				XXX	New Entrant—Europe
				XXX	New Entrant—China
				XXX	New Entrant—India
				XXX	New Entrant—Russia
No. of participants		10		19	
Average spend per annum (\$m)		XXX		XXX	
No. of participants		10		30	
Average spend per annum (\$m)		XXX		XXX	

Estimated Total Wallet for MO/BO in Asia PAC~\$330 Million USD					
↓		↓		↓	
Segment 1 Bucket (No. of clients)		Segment 2 Bucket (No. of clients)		Segment 3 Bucket (No. of clients)	
Revenue wallet (USD MM)		Revenue wallet (USD MM)		Revenue wallet (USD MM)	
1		8		16	
4		45		30	
Range		36-50		24-33	
Market share		31%		61%	
Estimated share of wallet (all tiers) \$ 65m-\$ 90m or ~ 24% of Market					

Case study: Technology considerations example.

From a feature or function perspective, the building blocks appear to be in place. However, since the Firm 2 system was built for internal purposes, investments will be needed in the areas of reporting, client interfaces, and access.

	Components	Evaluation criteria	Rating	Analysis
Operational feasibility	<ul style="list-style-type: none"> Performance Security and segregation 	<ul style="list-style-type: none"> Capacity to meet day one/medium term operation Compatibility with Tier 2 brokers' systems System ability to segregate data 		<ul style="list-style-type: none"> The current capacity appears to allow for lower cost addition of additional volume, with transaction throughput being the main determinant of the need for additional infrastructure resources. The Firm 2 solution uses a mix of new and legacy technologies; while the system is able to segregate user data (e.g. by country and business unit), additional stakeholder requirements for segregation will need to be defined and implemented.
Fit for purpose	<ul style="list-style-type: none"> Services provided Future leverage 	<ul style="list-style-type: none"> Functionality to meet differing client needs Scalability 		<ul style="list-style-type: none"> While the current client solution works well for Firm 2, functionality beyond what it requires was not constructed. Additional functionality to meet changing client needs would have to be developed (e.g. client reporting requirements and online portal). Functionality creates significant manual effort for clients requiring multiple deliveries/receipts (e.g. clients of wealth managers). The core infrastructure of the Firm 2 solution is built on a global platform using virtual and grid computing technology. The core infrastructure appears to be quickly scalable to meet changing demands.
Economics	<ul style="list-style-type: none"> Internal investment External investment 	<ul style="list-style-type: none"> Internal costs to program interfaces External costs for required hardware/software 		<ul style="list-style-type: none"> Current capacity reports indicate that the core platform has capacity to on-board clients as well as operate in the near term without substantial infrastructure hardware or software costs. Designing, testing, and building additional capabilities within the systems (as described in the infrastructure timeline) will require resources from both Firm 1 and Firm 2. Estimated cost of these resources will need to be further defined.
Timing	<ul style="list-style-type: none"> Speed to market 	<ul style="list-style-type: none"> Complexity of additional interfaces needed 		<ul style="list-style-type: none"> Further definition of stakeholder requirements for segregation will drive the time needed to implement the solution. Customizing this existing solution is likely shorter than implementing a new comprehensive solution.

Case study:
Initial investment example.

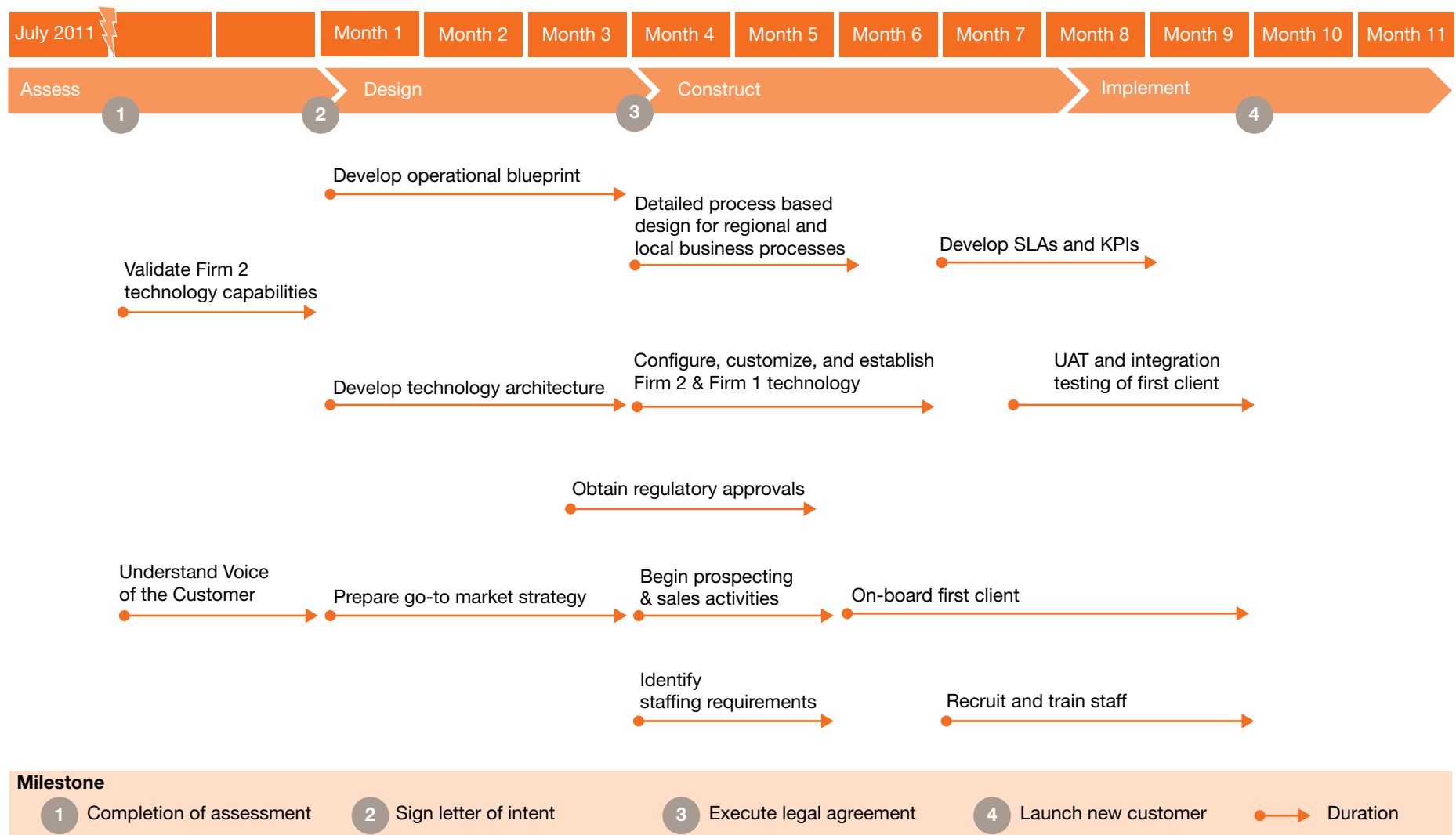
Creating this new business model will require up-front investments* before on boarding the first client. Such investments will be to prepare the Firm 2 infrastructure for third-party access, create a legal framework, fully develop processes and a blueprint design, and address regulatory matters and other necessary actions to commercialize. Outlined below is the estimated initial investment, by category, to set up the business.

One-time costs
Project management (12-18 months)
Blueprint design <ul style="list-style-type: none">• Develop operational blueprint• Identify regulatory requirements• Validate technology capabilities• Perform blueprinting of system interfaces
IT costs <ul style="list-style-type: none">• Firm 2 platform<ul style="list-style-type: none">- Validate Firm 2 technology capabilities- Develop technology architecture- User acceptance testing, first client on boarding, and integration testing• Firm 1 platform<ul style="list-style-type: none">- Configure and customize technology for Firm 2 and Firm 1
Back-office infrastructure, legal, and regulatory <ul style="list-style-type: none">• Firm 2 to build out secure area and billing structure• Structuring and setting up operating contracts• Agreements (such as memorandum of understanding, full agreement, or operating agreement)• In-country approvals• Initializing operation of venture

* The model does not assume ongoing investments or significant IT replacement.

Case study: Project timeline example.

Based on our current analysis, we believe that approximately nine months is needed to launch the new venture from the time Firm 1 and Firm 2 management agree to move forward. We outline below the major tasks and expected duration of each step in the timeline.



Case study: Risks and challenges example.

While this phase of the project was designed to understand the market appetite and feasibility of creating a front-to-back solution, risks and challenges will continue to be raised through full implementation. We have identified below certain risks and challenges that will need to be addressed.

Risks and challenges	Impact	Potential mitigation strategies
Concentration risks for Firm 2 and Firm 1	Senior management of each company, regulators, or potential clients may view concentration with one or two parties too high of a risk.	Study and evaluate concentration, alternatives, and risk mitigation strategies.
Reliance on key persons	Unable to deliver on certain key models.	Identify key people and help ensure commitment; develop succession plans and spread risk across multiple personnel; attract talent.
Unable to reach consensus on legal and commercial terms	Project delayed or not launched.	Involve early Firm 2 and Firm 1 relationships at senior levels and at the business level; leverage successful prior frameworks to start negotiation.
Competitors emerge with better offering	Lack of return on investment and reputational risks.	Monitor industry progress; continue confidentiality requirements.
Current service providers negative reaction	Other business units are negatively impacted.	Evaluate and understand service provider impact and alternatives to satisfying needs.
Market demand and reaction may not be as expected	Tier 2 and Tier 3 clients believe risks outweigh cost advantage.	Perform detailed voice-of-the-customer analysis to obtain buy-in of strategic, brand-defining clients before launch.
Complex project planning and interdependencies required	Delayed time to market resulting in other market solutions arriving first.	Help ensure project specialists are included on the team to drive proper planning, project monitoring, and issue resolution process.
Systems may not respond as anticipated or expected	Inability to meet client expectations, regulatory penalties, and reputational issues.	Begin systems requirements definition and testing as early as possible to make go- or no-go decision.
Unanticipated issues arise for which no contractual understanding exists	Dispute between partners results in negative impact.	Determine approach for unanticipated issues such as arbitration to include in contract.
Negative internal reaction	Employees do not understand the new organization structure and are confused.	Obtain employee buy-in through HR mechanisms (incentives), cultural assimilation, and engaging employees earlier in the process.

Case study: Regulatory considerations example.

The results of the regulatory research in each market indicated that the model should be acceptable from a regulatory perspective, but will need to be approved in each market by the local regulator. In addition, since the clients of the strategic alignment model will also be regulated and involved in a newly outsourced process, we believe that Firm 1 and Firm 2 will want to work with those clients in each market until regulatory risks are mitigated.

Area to consider	Key findings
General conclusions	<ul style="list-style-type: none"> While not required in all markets, regulators should be consulted prior to committing to any changes to the operating model. Regulators will want to see the risk management framework and benefits to the local market before approving any changes to the operating model.
Outsourcing	<ul style="list-style-type: none"> Generally, outsourcing of accountability, responsibility, and decision making are prohibited actions. Execution of processing of transactions is usually permitted. Regulators typically hold outsourcing arrangements to higher expectations than internally managed activities. Regulatory tolerance for errors is minimal and heightened when outsourced. In certain markets, outsourcing is becoming more acceptable than before.
Onshore/offshore	<ul style="list-style-type: none"> Except for Hong Kong and Singapore, regulators generally have a protectionist mindset and are not supportive of offshoring. This mind set can lead to onerous restrictions. Organizations that have received approval have shown that offshoring reduces risks and provides an overall benefit to the local market where offshoring occurs. Regulators generally want to ensure access to offshore data and facilities. They also want assurance that the local market data privacy requirements are maintained, particularly for retail investors. Language concerns are frequently cited as restrictions.
Execution of direct-market access	<ul style="list-style-type: none"> No concerns noted because this is already supported across the markets.
Self execution with third-party middle or back office	<ul style="list-style-type: none"> While viewed as outsourcing, this will follow a proven model with services being provided by well-recognized names (Firm 1 and Firm 2). Firm 1 and Firm 2 should lead efforts on behalf of customers when approaching regulators.

Regulatory reporting—Country heatmap

Country	On-shore in-sourcing	On-shore outsourcing	Off-shore in-sourcing	Off-shore outsourcing
Australia				
Japan				
Korea				
Hong Kong				
Singapore				
Thailand				
Malaysia				
Indonesia				
Philippines				

No reservations in a successful implementation
 Negotiation with the regulator required
 Approval unlikely

How PwC can help



*Our capabilities and
tailored approach.*

PwC Advisory

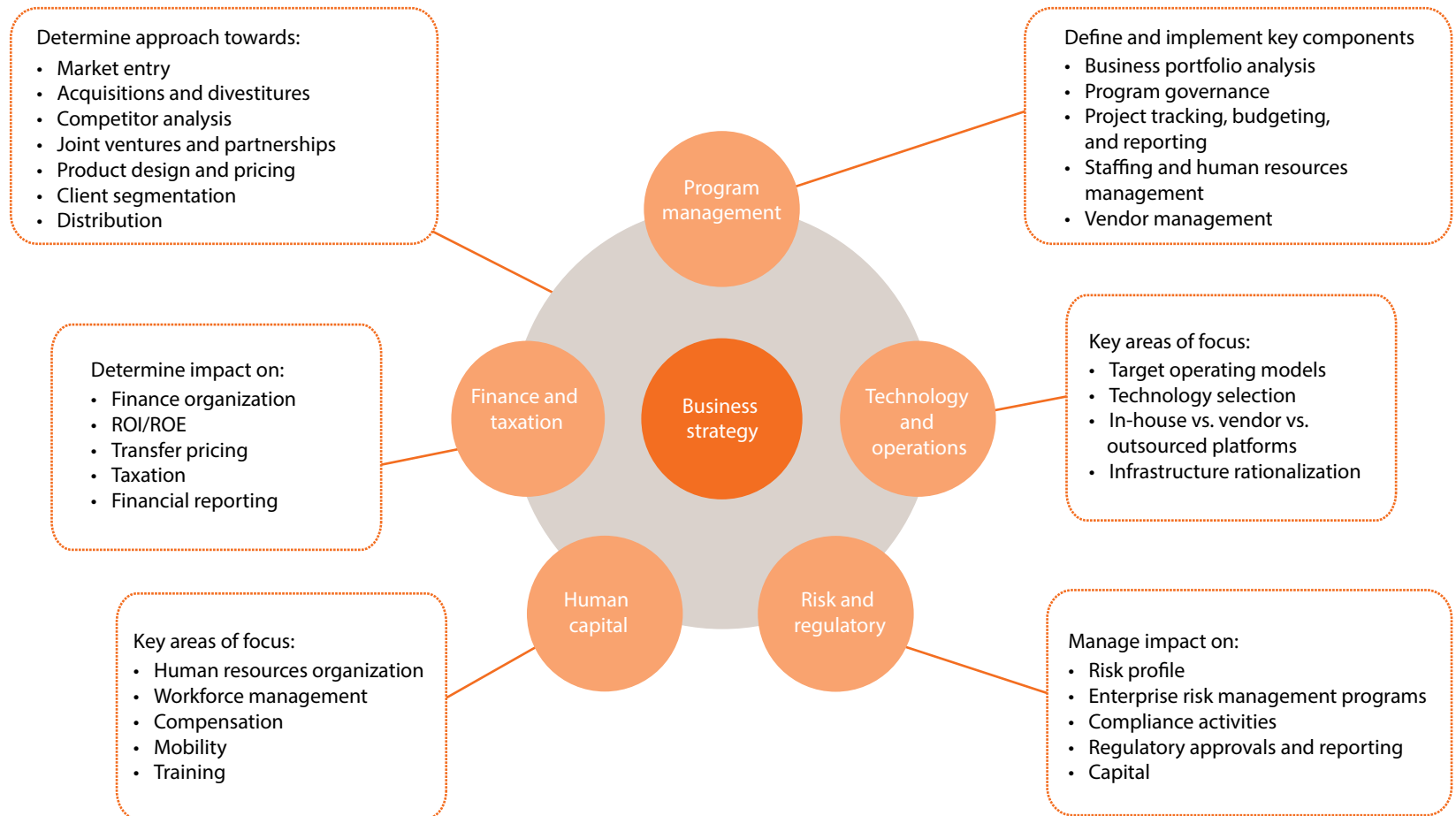
We look across the entire organization—focusing on strategy, structure, people, process, and technology—to help our clients improve business processes, transform organizations, and assist with the implementation of technologies needed to run the business.



Client needs	Issues we help clients address
Innovate and grow profitably	<ul style="list-style-type: none"> Reshaping the IT function into a source of innovation. Transforming business information to drive insight and fact-based decision making. Evaluating acquisition and divestiture strategies to position the organization for the future.
Manage risk and regulation	<ul style="list-style-type: none"> Building a risk-resilient organization. Managing ERP investment and project execution risk. Safeguarding the currency of business; keeping sensitive data out of the wrong hands. Ensuring capital project governance and accountability.
Build effective organizations	<ul style="list-style-type: none"> Establishing effective strategic sourcing and procurement. Realizing competitive advantage through effective sales operations inventory planning. Transforming the close and consolidation process to work for you rather than against you.
Reduce costs	<ul style="list-style-type: none"> Driving efficiency through shared services. Redesigning finance to realize efficiency and competitive advantage. Taking control of cost through effective spend management and cash forecasting practices.
Leverage talent	<ul style="list-style-type: none"> Defining and implementing an effective HR organization. Rethinking pivotal talent.

Our market-tested approach

PwC's approach is multi-disciplinary in nature and aligned to business outcomes desired by our clients. The diagram below lists a number of the key components of typical assignments in this area.



Appendix



Select qualifications.

*Establishment of a joint venture in Asian equities post-trade services—
Two top-10 global investment banks*

Issues	The clients are two of the largest global investment banks and provide a full suite of execution-to-custody services in major Asian markets. Each client had a strategic advantage vis-à-vis the other. One of the clients had a leading execution and middle-office franchise while the other excelled at the clearing and custody aspects of the business. Further, one of the parties had a clear third-party client delivery capability.
Approach	PwC undertook an assessment of the relative strengths of each party, the potential market for the expanded services and the types of legal and regulatory structures that were possible. As a result of the independent analysis, the two parties were able to agree on the target market, optimal legal structure, division of functions, marketing and sales arrangements, and cost/revenue sharing.
Benefits	This initiative provided not only cost reductions to both parties as a result of sharing certain functions, but also new revenues because the venture is selling services to third-party clients. Essentially, the venture is able to offer broker-dealers low-cost, high-quality access to a number of Asian markets. Last, and not least, this effort is proving to be a catalyst for additional joint-venture discussions between the two organizations.

Global post-trade services— Leading European investment bank

Issues

The client is one of the largest European investment banks and provides a full suite of banking services in major financial markets around the world. To address competitive threats and leverage excess infrastructure in operations and technology, the client wanted to assess the market potential for clearing and settling of cash equities while leveraging its execution business and private banking infrastructure. In addition, the client needed visibility into implications of this initiative on its existing platforms, resource needs, operations environment, and partners (including service providers), as well as a target operating model.

Approach

PwC assessed the current situation and developed a detailed market-entry approach to move the client towards its vision. This assessment included both the critical regulatory and capital aspects of the business.

Benefits

This initiative provides the foundation for the client to position new business opportunities to senior business stakeholders on the potential to expand Australian and European businesses to key markets in the US and Europe.

Implementation of post-trade cash equities and fixed income platform—Leading global investment bank

Issues	<p>The client is one of the largest global investment banks and provides a full suite of cash equities and fixed-income execution and clearing services to its clients. In reviewing its technology platform, the client found that its US cash equities and fixed-income clearing platforms were fragmented, inconsistent, expensive to maintain, and in need of significant investment if it was to remain competitive. PwC was asked to undertake an analysis to evaluate platform alternatives and, once selected, assist the client in the implementation of any changes associated with the choices made.</p>
Approach	<p>PwC worked with the client to assess the existing platform, as well as to analyze the vendor and service-provider alternatives in relation to the client's requirements, leveraging our industry and competitive knowledge in that space. As a result of this analysis, the client chose to move from its proprietary platform to one of the vendor solutions reviewed. PwC was then engaged by the client to organize and drive key elements of the platform conversions, including program management, functional design, reporting, and selected configuration and testing activities.</p>
Benefits	<p>This initiative is providing a consistent and lower-cost foundational platform for clearing and settling US equities and fixed income. This saves the client tens of millions of dollars per year and provides it with the ability to cost-effectively scale its activities.</p>

***Establishment of a global
prime services business—
Top-10 European financial
institution***

Issues	The client is one of the leading European and global financial institutions looking to better leverage its existing clearing and settlement infrastructure and to leverage its strong balance sheet to address a perceived “financing gap” in the market after the financial crisis.
Approach	The project included a detailed market-entry study of the market itself and of key global competitors, including those operating in the key Asian markets. Beyond the market study, a detailed business case and implementation plan were created to enable entry into the US and European marketplace. PwC was key in driving each of those aspects of the project, providing resources knowledgeable about the industry, market intelligence through its global network, strong methodologies, and overall project organization. One of the key reasons the client hired PwC was our ability to move from strategy to execution. As the project moves to the execution phase, the client will rely on PwC for key aspects of project execution.
Benefits	This initiative is providing the foundation for the client to position a new business opportunity to senior business stakeholders based on the potential for a new venture in Asia, and to provide its clients and the market with a needed service.

*Establishment of Japanese broker-dealer and clearing business—
Leading global interdealer broker*

Issues	For the leading global interdealer broker, creating this business and capability in Japan was critical to providing its broker-dealer and institutional clients with coverage in all of the key global-equities markets. The particular challenge of this project was to establish a self-clearing broker-dealer as a member of the Tokyo Stock Exchange within a one-year time frame.
Approach	The project involved all aspects of creating a start-up business—assistance in business-plan development, creating an organization model, hiring key resources, selecting technologies, and obtaining key regulatory approvals.
Benefits	The business successfully launched and within two years, the entity owned a 5 percent market share in terms of Japanese equity volumes.

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"An unsettled world: The changing world of cash equities and fixed income and how it is impacting asset managers and their service providers," PwC FS Viewpoint, January 2013. www.pwc.com/fsi.

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