

MANAGING COMPLEXITY

THE STATE OF THE FINANCIAL SERVICES INDUSTRY 2015

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EXECUTIVE SUMMARY

During the nearly two decade bull run in financial services, from the 1988 peak in interest rates until 2006, banks and insurers became larger and more complex. They increased the number and sophistication of products they offered, added new channels (such as phone and internet) and often expanded internationally. This increased their revenues. But their costs increased at the same rate. Although absolute profits grew, the productivity of financial sector firms has not improved since 2001. And, as we now know, risk grew too.

Since the crisis, ultra-low interest rates and new regulations aimed at limiting risk have reduced the revenue accruing to the increased scale, scope and sophistication of financial firms. But the elevated costs remain. Average returns of large financial firms have fallen from over 20% in the early 2000s to 7% in 2013, the level of utilities companies.

The post-crisis “efficiency imperative” is well recognised. But financial firms are failing to turn themselves around, apparently overwhelmed by their own complexity. Market valuations and analysts’ forecasts reflect scepticism about the prospect of profit growth at banks and insurers.

We surveyed our clients, asking them to rank sources of complexity in their businesses. They identified five important sources: regulation, channel proliferation, systems fragmentation, product proliferation and geographic expansion. These factors do more than drive up operational costs. They cause opacity which undermines decision making and dilutes the influence that managers can exert over the various parts of their firms.

Some financial institutions have reduced their complexity, for example, by shutting down unprofitable foreign operations. But eliminating complexity completely is not an option. Economies of scale, risk diversification, technological advance and ongoing globalisation require financial firms to sustain a large number of diverse customers, to whom they offer many products through a range of channels. To restore profitability, banks and insurers must become better at managing complexity.

Five measures can reduce the costs of complexity while retaining its benefits:

1. Use common metrics, available to all decision makers, to develop **self-knowledge** of the financial institution and its customers
2. Use **advanced statistical analysis** to make tactical decisions involving increasingly complex trade-offs, drawing on the explosive growth of information created by in-house data systems and social media
3. Automate or **standardise** core processes, taking advantage of rapid advances in technology
4. **Delegate** decision making to those closest to the subject matter who therefore have the best information
5. Build a strong **corporate culture** that supports consistent conduct standards without the need for micro-management.

These changes will take several years and (at least) tens of millions of dollars of investment and senior executives’ time. But it must be done to increase the institutional bandwidth and flexibility. Risk-taking firms that depend on private capital cannot survive while returning 7% per annum.

1. INTRODUCTION

Financial institutions are huge and complex organisations. Even a “tiny” bank or insurer has assets worth hundreds of millions of US dollars. Many have assets in the hundreds of billions. They commonly have tens of thousands of employees, working in hundreds or thousands of locations, often spread across many countries. They can have millions of customers to whom they provide hundreds of products and services through a growing variety of channels.

Supervisory agencies are concerned about this complexity because it obscures the risks being taken by individual institutions and their potential to create systemic instability. They doubt executives’ ability to manage risks in the face of such complexity.

Shareholders should also be concerned. Since the financial crisis, the average return of large financial institutions in Europe and the US has fallen to about 7%, the level of utilities companies. New regulatory burdens are part of the reason – higher capital and liquidity requirements and more stringent customer protection rules. But a failure to manage complexity is another reason.

During the nearly two decade bull run for financial services, from the 1988 peak in US interest rates to 2006, financial firms increased revenues by increasing the scale, scope and sophistication of their businesses. But this also added complexity and the risks and operating costs that come with it. The post-crisis regulatory and business environment has reduced the benefits of this complexity but left financial firms with the costs.

Despite advances in technology that firms in other industries have used to improve efficiency dramatically, financial firms have made no productivity gains since 2001. The complexity of financial firms means that senior managers cannot “get a grip” on them. They cannot understand them well enough to make the right decisions, and their influence over outcomes is diluted.

Some are working to simplify their business models, most obviously by withdrawing from certain lines of business or foreign markets. But simplification cannot provide the whole answer. A large bank or insurer will always be a complex business, with many customers, products, channels and staff. Economies of scale, risk diversification and continuing globalisation require it.

Complexity is an unavoidable fact of life for financial firms. They must get better at managing it.

And they can. Financial services firms are not alone in dealing with this challenge. For example, supermarkets, energy firms and airlines face many of the same sources of complexity. Over recent years they have made great progress in managing them successfully. Financial firms can learn from their counterparts in these industries. By using data better, standardising processes and delegating within a strong corporate culture, they can reduce the costs of complexity while reaping its benefits.

2. THE PROBLEM

Over the two decades prior to the global financial crisis (GFC), returns in the financial services industry were similar to returns in other industries and often higher. Since collapsing in the GFC, the returns of financial firms have recovered, but not to pre-crisis levels, nor to the level of other industries (see Exhibit 1). Returns in the healthcare sector average 16%; in technology, they average 18%. Financial services returns now hover around the 7% average of utilities.

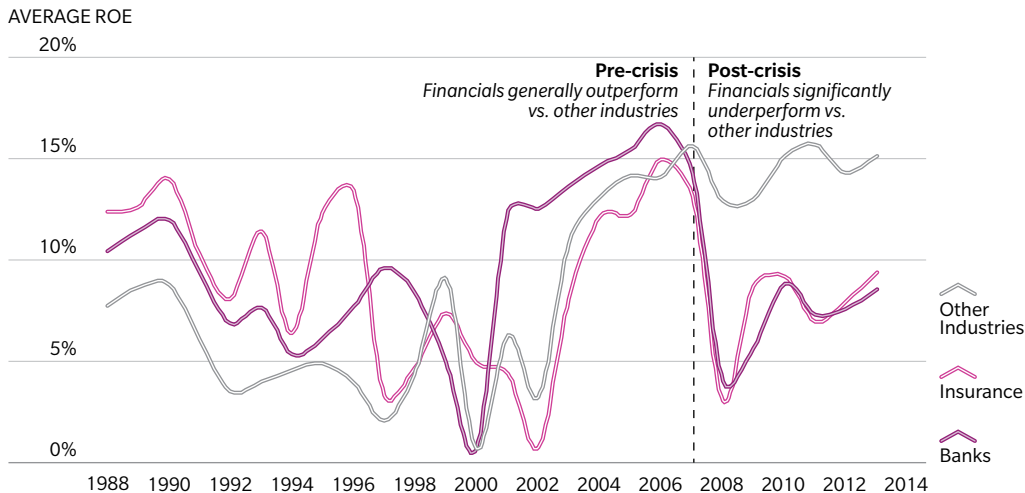
The largest banks have suffered most. Returns of the 8 American and 16 European banks designated GSIBs (global systemically important banks) have declined by 70% since 2006. Increased capital requirements are part of the reason but more important is margin compression caused by ultra-low

interest rates in the US, UK and Eurozone. These low rates have also caused a sharp decline in the returns of life insurers, with their structural exposure to long-dated government and corporate securities.

Prior to the crisis, scale gave an apparently huge advantage, with these large banks returning 31% on tier one equity in 2006 compared with 19% at smaller banks. Now the GSIBs are returning 6% while the rest are averaging 7%.

With capital and liquidity regulations and interest rate policies working against financial firms, management are under pressure to improve operational efficiency. Companies in many industries have made large efficiency gains by taking advantage

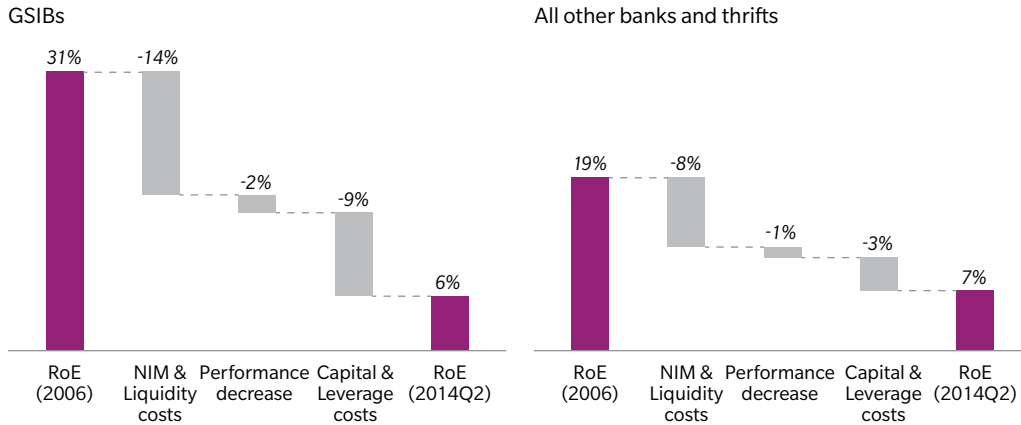
Exhibit 1: Return on Equity (RoE) – Financial Services vs. non-financial sectors, 1988-2013



Source: Thomson Reuters Datastream, Oliver Wyman analysis.

Note: Return on Equity (RoE) is defined as total earnings from continued operations divided by average total equity for the year, where average total equity is estimated taking year-end total equity values for year of reference and previous year. All firms in our sample are drawn from the S&P 1200 index. Other industries sector includes Automotive, Industrials, IT/Tech and Telecoms firms and excludes Energy and Materials, Consumer Goods, Utilities and Real Estate companies.

Exhibit 2: Breakdown of RoE decline, 2006-2014Q2



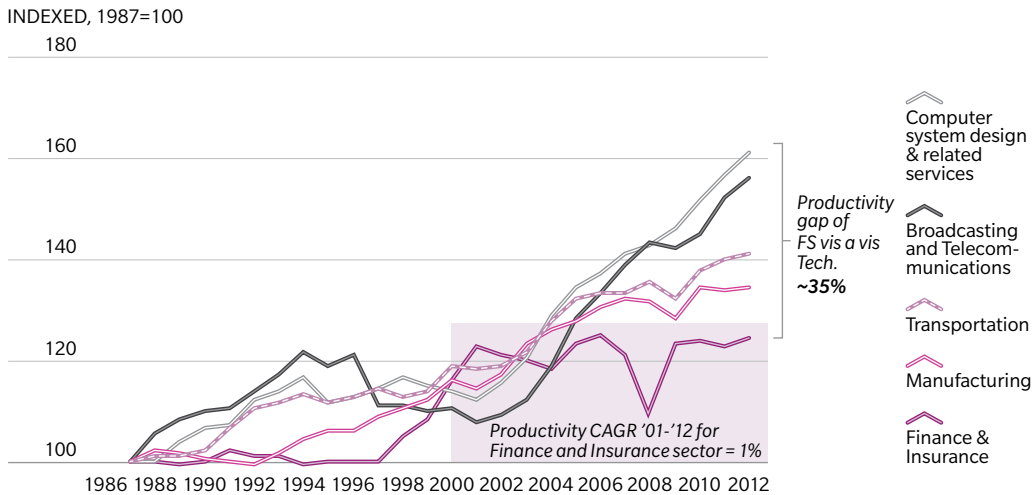
Source: SNL, Oliver Wyman analysis.

Note: RoE is measured as Return on Average Tangible Common Equity to provide accurate breakdown of the decline. Bank returns have been adjusted ceteris paribus and then applied proportionally to the overall decline. Global systemically important banks (GSIBs) consists of the 8 US & 16 EU GSIBs and their key predecessors. All other banks and thrifts consists of >1000 banks. Where 2014Q2 data is unavailable, YE13 results have been used.

of advances in information technology to reduce labour and energy costs. By contrast, the financial sector has made almost no efficiency gains since 2001 (see Exhibit 3).

As financial services revenues exploded from the late 1990s to 2006, so did their operating costs – primarily their labour costs and purchased business services.

Exhibit 3: US multifactor productivity by sector, 1987-2012



Source: Bureau of Labor Statistics (US Department of Labor), Oliver Wyman analysis.

Note: US multifactor productivity is calculated using a Tornqvist chain index where labour costs, capital costs, energy, materials & purchased business services are used to calculate value added output. Financial value-added output measures are adjusted upward by ~10% to ensure conservatism within estimates.

Investors now doubt financial firms' ability to meet their own targets. We compared the 2016 RoE targets of 25 large banks with equity analysts' forecasts. The banks' targets imply aggregate earnings of US\$250 BN. The analysts' forecasts imply earnings of US\$220 BN. Drilling down, the US\$30 BN difference hinges on expectations about operating cost reductions: The analysts expect 15% while the banks promise 20%.¹ Given banks' recent performance on operational efficiency, even the analysts may be optimistic.

Similarly, analysts and investors doubt insurers' ability to lift earnings above their cost of capital. Following the crisis, many insurers saw their market-to-book ratios decline sharply, from around 2 to 1 or even lower.

Why are the senior managers of financial institutions failing to improve efficiency? One important explanation is complexity.

Banks and insurers are typically vast enterprises with many and varied parts. They have assets and liabilities in the hundreds of billions or even trillions of dollars. They have hundreds of thousands or even millions of customers – young, old, men, women, rich, poor, corner stores, multi-national corporations, and everything in between. They have hundreds or even thousands of products, which they sell and service through a variety of channels. They have tens of thousands of staff, with very different roles and backgrounds. And they operate over large geographic areas, often in many countries and, hence, under many jurisdictions and regulatory agencies.

The financial services boom that ran from roughly the late 1980s through to 2006 (with occasional disruptions) was achieved in part by expanding in ways that made financial firms more complex, especially in their jurisdictional scope, product offerings and risk exposures. And the response to the crisis has done little to reduce this complexity, making many banks yet bigger (via the government sponsored takeovers) and further complicating the regulatory environment.

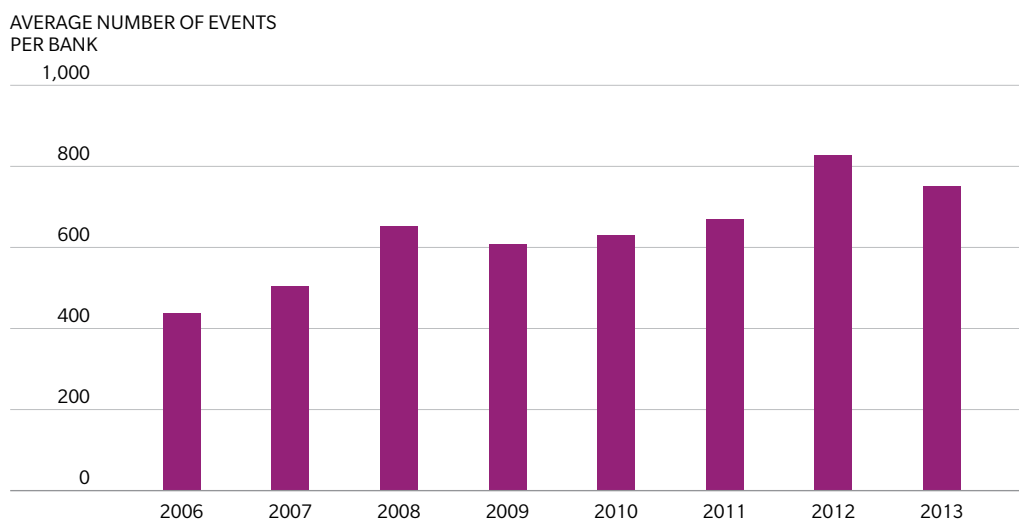
This complexity creates opacity that impedes decision making. Central managers cannot understand all of the products their firm offers, what all the staff do, how much the firm is earning and spending on what, or what risks they are taking where. So they cannot know the best uses of scarce resources, such as capital, operating budget and staff.

Complexity also hinders central managers' ability to control their firms. The farther employees are from central managers – in location, hierarchy or culture – the more difficult it becomes to manage them and the more time and money must be devoted to internal monitoring and coordination. The growing complexity of banks has been accompanied by an expensive growth of middle management. Since 2000, the number of US bank customers has hardly grown but the average number of bank employees per institution has increased by approximately 50%².

1. The 15% cost reduction figure from analysts is the average of stated expectations. The 20% figure attributed to banks is derived by assuming agreement with the analysts about risk-weighted asset (RWA) growth and attributing the difference in expected earnings to additional cost reduction.

2. FDIC, Oliver Wyman analysis.

Exhibit 4: Number of operational losses >US\$20,000 (Major Global Financial Institutions), 2006-2013



Source: 2014 ORX Report on Operational Risk Loss Data.

Note: 67 member companies in 2013, primarily banks but also some asset managers, clearing houses and others.

Regulators seeking to reduce systemic risk are concerned about senior managers' ability to manage financial firms. According to the Liikanen Report, for example, "the difficulties of governance and control have been exacerbated by the shift of bank activity towards more trading and market-related activities. This has made banks more complex and opaque and, by extension, more difficult to manage." The UK's Walker Review, Tim Geithner of the US Financial Stability Board, Sheila Bair of the FDIC and Andrew Bailey of the Prudential Regulation Authority have all expressed similar concerns about the way in which the complexity and opacity of financial firms contributes to systemic risk.

The scope of a firm is determined, in part, by the cost of performing transactions internally rather than externally: for example, the cost of having employees rather than with using contractors, or building components in-house rather than buying them from a third party supplier.³ A firm can reach a size and complexity where management (internal transactions) becomes more expensive than external transactions. At that point it is too big not to fail, regulatory protection aside. This is where large financial firms now stand. If they cannot find ways of reducing the cost of their complexity, they will eventually either reconfigure, shedding lines of business or functions more efficiently done by others, or fail altogether.

3. See Ronald Coase, "The Nature of the Firm". *Economica* 4 (1936). The theory of the firm has advanced since Coase's seminal work but transaction costs are still considered an important part of what explains the scope of firms.

3. SOURCES OF COMPLEXITY

Before looking at ways of managing complexity better, it is useful to understand the sources of complexity at financial institutions. We surveyed our clients, asking them to rank sources of complexity in their businesses and to tell us how well they are now managed. Below we discuss the five of greatest concern to our respondents.

A. Regulation

The regulation of financial services has been evolving for more than 25 years. In 1988, the Basel I framework was imposed on banks. Basel I assigned the same risk weights to borrowers with very different likelihoods of defaulting. This encouraged banks to lend to the high risk borrowers of any given risk weight, since they could charge these borrowers higher rates than safe borrowers while incurring no greater capital charge. Basel I thereby increased systemic risk and encouraged the misallocation of capital.

To remedy this, a transition to Basel II was initiated in the early 2000s. No sooner did its 2007 deadline for compliance arrive than the financial crisis occurred, prompting another wave of regulatory reform, including the replacement of Basel II with Basel III (and, in 2017, “Basel IV” rules for the trading books of European banks).

Nor are these latest reforms settled. About half of the new US regulations expected under Dodd-Frank and a quarter of EU measures, such as new capital requirements for interest rate risk in the banking book and intra-day liquidity requirements, are yet to be finalised. Indeed, with the idea of “light touch regulation” no longer in fashion, regulatory change is likely to persist, with new rules continually required to correct unintended consequences of the previous changes.

Insurers are also facing waves of new regulation covering capital, conduct, distribution and governance. The most

Exhibit 5: Top 5 future sources of complexity in financial institutions

RANK	SOURCES OF COMPLEXITY	% THAT INDICATE IT IS WELL MANAGED TODAY
1	Heightened regulatory scrutiny & compliance requirements	
2	Provision of electronic platforms & multi-channel interaction with customers	
3	Customer demands for wider more bespoke product offerings	
4	Increasingly fragmented core infrastructure	
5	Expanding geographical footprint	

Well managed
 Not well managed

Source: Oliver Wyman State of Financial Services survey 2015.

Note: “Well managed” is defined as “incremental organisational complexities from meeting these challenges have been kept to a minimum”.

significant is the European Union's Solvency II, which specifies capital minima for insurers (as Basel III does for banks). Although Solvency II is nearly agreed and finalised, other areas, such as conduct regulation, remain uncertain and continue to evolve.

Post-crisis regulatory reforms have reduced banks' returns by around 6 percentage points, primarily by increasing the capital and liquidity they must hold. However, they are also suppressing returns by adding to the complexity that financial firms face.

Regulatory compliance now requires much more from banks and insurers: more data collection, more risk analysis, and more monitoring and reporting. The average bank in the US and Europe now has five board committees overseeing risk, whereas before the crisis the average was less than three⁴. Management committees dealing with compliance, risk and conduct have also proliferated, and scores of new compliance and oversight positions have been created. US studies have estimated that even small banks with around US\$10 BN of assets have added 8 to 15 new permanent middle office positions⁵. We estimate that between 2.5% and 3.5% of North American, European and Australian financial institutions' total costs come from meeting the elaborate new regulatory guidelines, equates to US\$0.7-1.5 BN per annum for the coming 2-3 years for large financial firms.⁶

Regulatory developments are also increasing the challenges involved in managing an international portfolio of businesses. National regulators now insist that international financial firms operating in their jurisdiction have local balance sheets that satisfy capital and liquidity rules, and they are demanding accountability from local boards. This is having a "balkanising" effect that makes managing a multinational

portfolio of businesses more complex and less profitable. Indeed, many firms are now withdrawing from foreign markets, thereby reducing diversification and increasing risk.

B. Multi-channel customer interaction

Not very long ago, retail customers interacted with banks and insurers only face-to-face and usually in a branch or office and sometimes through 3rd party brokers. Today they can also interact over the phone, through an ATM or via the internet (perhaps using a mobile device), effectively communicating directly with the back office of the financial institution.

The profusion of channels has greatly improved convenience for customers. But it has generally increased operating expense for large financial firms, because new lower cost channels have usually been an addition to their higher cost predecessors rather than a replacement.

Channel profusion has also added to management complexity. Preference for the growing variety of channels varies not only with the characteristics of the customer, such as age and income, but with the type of transaction (*see Exhibit 6*). And the channel through which a product is sold can make a difference to its value, even after accounting for operational costs. For example, mortgages sold through brokers tend to be higher risk than those sold through a branch.

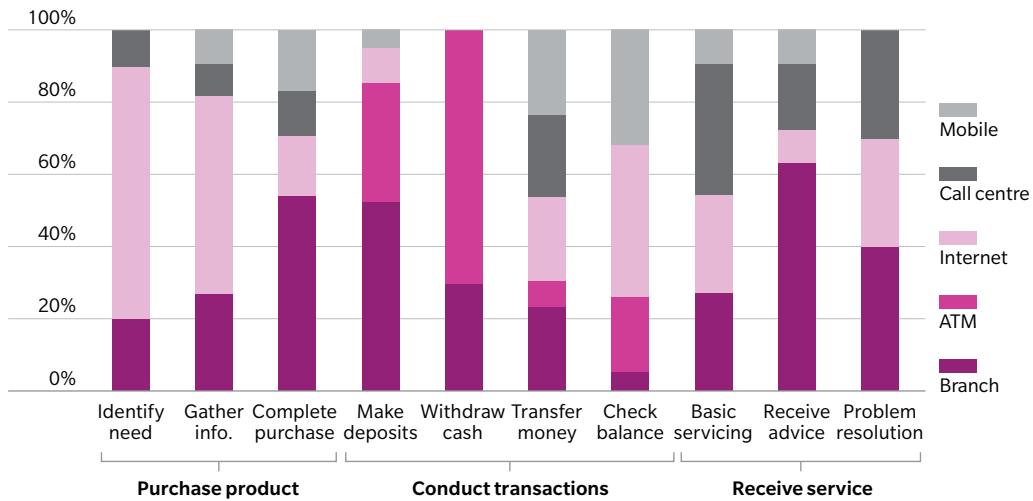
This makes decisions about which products to promote to which customers via which channels extraordinarily complex trade-offs between marginal operating costs, the value of products sold and the likelihood of making sales, not only now but in the future. Channel management, and its interaction

4. Annual reports, Oliver Wyman analysis.

5. Peirce, Robinson & Stratmann: "How are small banks faring under Dodd-Frank?" – February 2014.

6. Investor presentations, Oliver Wyman analysis.

Exhibit 6: US checking account channel preferences by activity, 2013



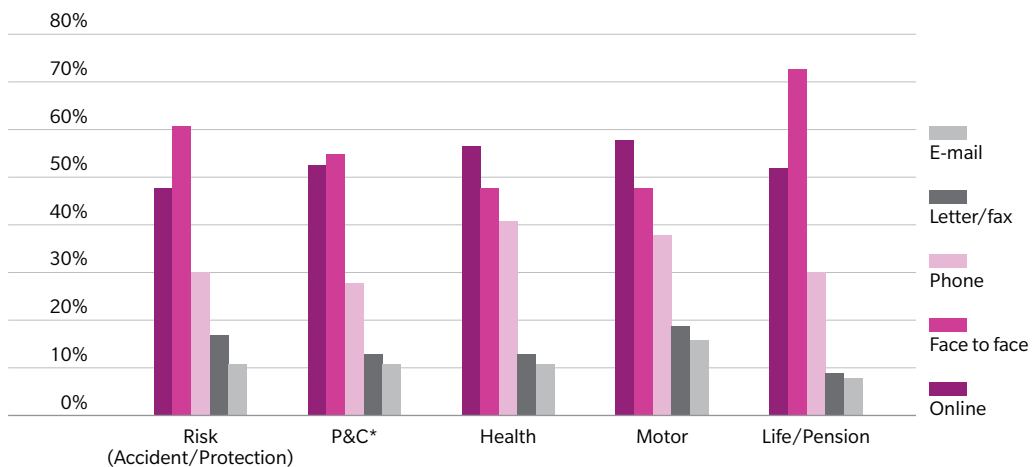
Source: Client example – mass market, Oliver Wyman analysis.

with product design, marketing and pricing, has become a much more difficult task.

Similarly, wholesale banking has been made more complex by the proliferation of execution venues. Besides traditional exchanges, securities can now be traded via Multilateral Trading Facilities (MTFs),

Electronic Communication Networks and Dark Pools. In 2007, over 90% of trades were executed via exchanges; today, more than half of all trades go through alternative venues.⁷ The landscape is even more complex for over-the-counter (OTC) instruments where new reporting mechanisms, execution venues and pricing

Exhibit 7: Customer pathways to insurers in Germany



Source: Versicherungsforen-Themendossier Nr. 4/2014, 28. February 2014.

* Excluding motor insurance.

7. Thomson Reuters Monthly Market Reports, Oliver Wyman analysis.

mechanisms for uncleared OTC instruments are being created. Many banks are contemplating an exit from these products.

Insurance channels have also proliferated over recent years as a result of broadening customer needs, more sophisticated channel management and the emergence of direct channels, such as phone and internet (see Exhibit 7). The same customer will increasingly use multiple channel touch-points in a sales journey. Each pathway requires parallel support from the insurer, driving up the complexity and costs of back office systems and customer servicing.

C. Fragmented systems

The IT infrastructure of most financial firms is fragmented and inconsistent. Data about the same customer or about costs relating to the same product or about revenues attributable to a single relationship are often divided between systems that cannot easily talk to each other. Similarly, the models that measure various risks or customers' values or break-even prices and so on may be spread

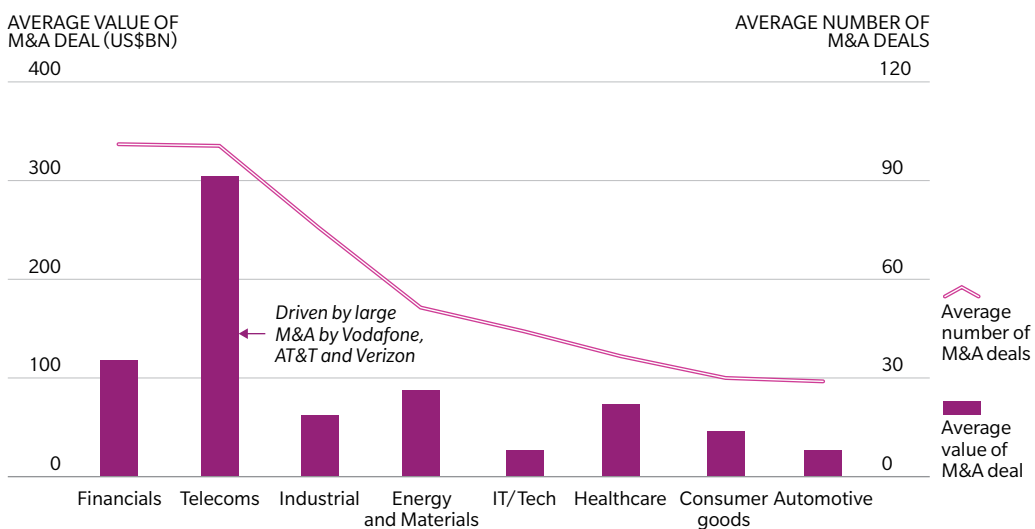
around separate systems within the firm. Sometimes they live in Excel spreadsheets on an employee's desktop.

This fragmentation drives up operating costs, slows the development of new products and hinders managers making decisions that require them to understand the contributions of customers, products and lines of business to the firm's overall performance.

IT fragmentation is sometimes the result of systems having been built separately within the individual business units of the firm. During the pre-crisis boom, this was often the quickest way to capture new business opportunities. Revenues were boosted but at the expense of creating operational complexity.

This "organic" source of IT fragmentation has been exacerbated by mergers and acquisitions (M&A). Over the last 15 years, within the top 100 global corporates, there have been more M&A deals on average in the financial industry than in any other (see Exhibit 8). Integrating the systems of the newly joined institutions is a massive,

Exhibit 8: M&A activity of top 100 corporates by sector, 2001-2013



Source: Dealogic, Thomson Reuters Datastream, Oliver Wyman analysis.

Note: Top 100 corporates by market cap as of 31 July 2014. Only includes deals greater than or equal to \$50 MM in value.

multi-year task. However, many merged entities delayed embarking on this long-term integration effort. Under quarterly earnings pressure to make the M&A deal “deliver”, they instead cut IT and integration budgets.

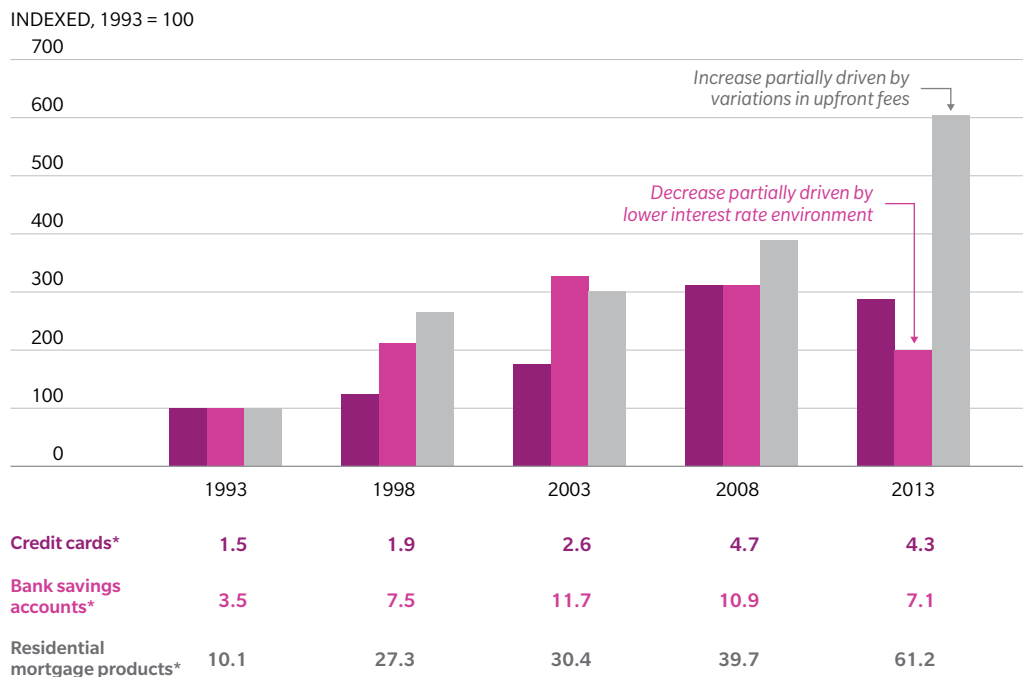
D. Product proliferation

Over the last 20 years, the number of products offered by financial firms has increased dramatically. For example, the average number of mortgage products offered by the top 20 UK banks has grown from 10 in 1993 to 61 today (see Exhibit 9). The number of investment certificates traded in Germany has grown from 113 in 2006 to 1,096 in 2014.⁸ Similar stories could be told in most areas of the financial services.

Pension and life insurance product portfolios are especially likely to contain a large tail of legacy products due to the long-term nature of contractual obligations and the regulatory protection of these commitments. Firms must continue to service “discontinued” product lines over many years until they have run off. Nor is the problem of insurance product proliferation limited to Life. P&C insurers must also track many policy variants and features. This creates complexity without necessarily providing anything distinctive or even visible to the end customer.

Product proliferation creates knock-on complexity in systems, staff training, risk control, marketing and other areas. The cost of this complexity is now being increased

Exhibit 9: Average number of products offered by top 20 UK banks, 1993-2013



Source: Moneyfacts magazine, Oliver Wyman analysis.

* Absolute average, not indexed.

Note: 2013 residential mortgage products have been adjusted for Lloyds – HBOS merger. Top 20 by assets at YE2013.

8. Deutscher Derivate Verband.

by “conduct” regulation which drives up the process costs of selling and servicing financial products.

Not only are product portfolios larger than they were 20 years ago but many financial products are more sophisticated. The use of derivatives, such as collateralised debt obligations (CDO) and credit default swaps (CDS), grew dramatically in the years prior to the financial crisis. Their use has since declined but remains well ahead of where it was 20 years ago. Even retail financial products, such as fixed rate mortgages, often include optionality features that make the risks they entail difficult to understand.

of transactions that cross borders has increased and many financial firms have expanded operations internationally. The share of revenue derived from customers outside of their home markets has been steadily increasing.

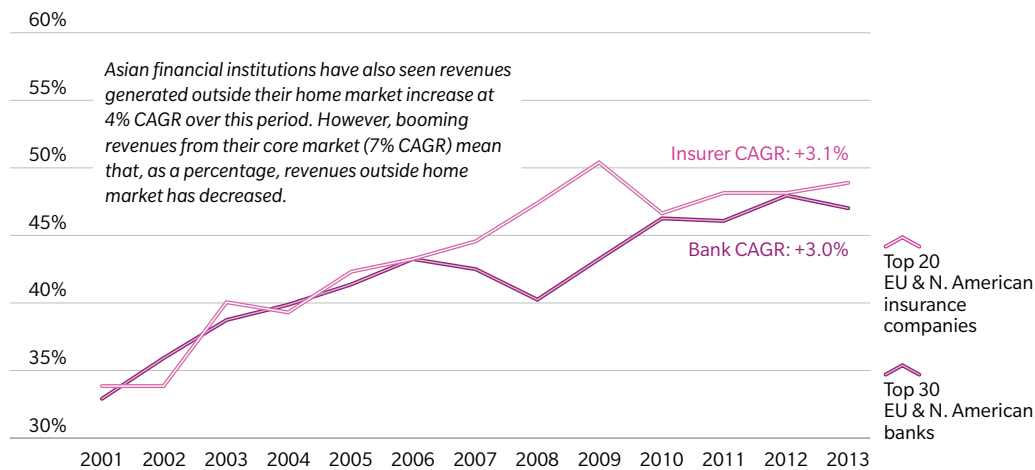
International expansion creates opportunities for new revenues and for risk diversification. But it also makes financial firms more complex. They must deal with a greater variety of customer behaviours and preferences, a greater variety of cultures and educations among employees, a greater variety of economic and competitive environments, and a greater variety of legal systems.

E. Geographic expansion

Since the mid-1980s trade barriers have been consistently lowered and restrictions on the flow of capital across borders have been relaxed. As a consequence, financial markets have globalised. The number

The move to a 24/7 global trading environment has created unforeseen challenges for financial firms. To coordinate global business processes, financial firms need systems that can work across borders and time zones and process the expanded range of transactions and documentation.

Exhibit 10: Average percentage of revenues earned outside home market, 2001-2013



Source: Thomson Reuters Datastream, annual reports, Banker Top 1000 World Banks, Oliver Wyman analysis.

Note: Core market chosen based on geographic segments reported in annual reports; for some banks this represents a country and for others it is a region (e.g. N. America). Corporate charges are excluded. Asian financial institutions are defined as the top 10 banks by YE13 assets where data is available.

4. MANAGING COMPLEXITY BETTER

Simplification is the obvious solution to problems caused by complexity. Some financial firms are taking on the monumental task of harmonising their fragmented IT systems. And some have simplified their business portfolios, selling-off divisions or assets that added to their complexity without making a significant contribution to their core business.

Such simplifications can be valuable beyond any immediate lift in profits. They can free up management and operational bandwidth being squeezed by regulatory burdens “at home”. They can also help firms re-evaluate the core offerings and markets around which they want to build. Where new regulations damage the fundamentals of a current business, firms that would need to invest too much to adapt must exit the affected products or regions.

But simplification cannot provide the whole answer. Complexity is unavoidable for a successful financial firm because it arises out of desirable features of their business models. For example, diversification reduces risk. But diversification entails variety, for example, of customers and jurisdictions. Catering to customers’ needs is also desirable. Since customers have different needs, however, this entails a wide range of products and channels.

Rather than seeking to eliminate complexity, financial firms should seek to manage it better. More specifically, firms must find ways of reducing the costs that arise from complexity. These costs are not only operational. Complexity also causes opacity which undermines decision making

and dilutes the influence that central managers can exert over the various parts of the firm. In other words, complexity makes a firm harder to manage.

But the difficulties are not insuperable. The advanced use of information and of management techniques tailored to large, dispersed entities can significantly reduce the costs of complexity.

A. Self-knowledge

The complexity of financial firms makes them opaque to their managers, owners, creditors and regulators. It is difficult to observe the contributions of customers, products, channels or even entire lines of business to the firm’s revenues, costs and risks. What looks like a highly profitable line of business may in fact involve risks that will result in major losses. Or a product that seems unprofitable may play an important role in retaining customers who then buy other products with wider margins.

The opacity created by the underlying complexity of financial firms is exacerbated by the typical multiplicity of metrics. Many financial firms now use a hodgepodge of different risk and performance measures that reflect their creation in geographic or business “silos”. Performance measurement is ultimately harmonised in central reporting of the group’s position and performance. But these “top of the house” numbers cannot be disaggregated in a way that allows a comparison of the firm’s parts that can properly support decision making.

To overcome this opacity, financial firms need to adopt metrics that allow its various parts to be meaningfully compared. Despite two decades of progress on risk-adjusted performance measures, such as Risk Adjusted Return on Capital (RAROC) and Economic Value Added (EVA), few firms have settled on measures that can properly play this role. If senior executives are to properly understand and direct their institutions, they must do so.

These measures should permeate the firm. For example, the financial controller in head office, the head of a business unit and her sales staff should all have the same view of their performance. Such a common view makes it easier for senior managers to influence their staff, if only by making it easier to communicate with them.

Financial firms have an understandable tendency to focus on the financial drivers of performance, such as interest rates, loss ratios and so on. They have been less interested in the operational drivers of performance. This is a mistake. Financial firms should identify and monitor operational variables that are important to their effectiveness, such as the number of committees and senior executives' time allocated to various tasks, processing error rates and customer complaints. Without this information, it is almost impossible to improve the efficiency of large, complex operations.

However, institutional self-knowledge is not a matter of numbers alone. No metric can capture everything relevant to decision making, such as likely changes in market conditions. To provide a complete picture, numbers expressed in common metrics should be supplemented with a commentary about their significance. This commentary should reflect the best informed opinion available within the organisation, usually combining the view from the top (or centre) with the views of those on the frontline (see 4.D).

B. Analytics

The greater the number of products, channels and types of customer, the more difficult it is to decide what to offer which customer through which channel and at what price. Not only do the decisions become more expensive to make but they are more prone to error. Financial firms have developed sophisticated modelling of risk, which they sometimes use to vary terms and conditions, including price. But they are less advanced in the analysis of other factors relevant to making optimal business decisions, such as customers' likely purchases and channel usage.

The data available for such analysis has exploded over recent years, primarily on account of the "data footprint" consumers create by their use of the internet. At the same time, the cost of storing data has collapsed and computational speed has dramatically increased. To take advantage of these developments, financial firms must change the way they approach data analysis and its use.

First, most firms should establish an enterprise-wide analytics team as a centre of excellence in pattern recognition technology and artificial intelligence (AI), because the relevant skills are scarce. This team should be distinct from any capabilities within Risk, Finance and the business lines. Its role is to provide cutting edge analysis and data-based tools to support business decisions in the line or, sometimes, higher up.

Second, data collection and cleaning should no longer be seen as a back-office support function but as an integral part of the business that can provide an advantage over peers. This requires front office staff to understand what data is useful to the organisation and why. Few employees today understand that financial firms are essentially information businesses.

Third, the incentive structure for the businesses should encourage them to use analytics wherever they can improve decision making. When possible, decisions should be based not on “gut-feel” but on an assessment of hard facts. Managers should be wary of accepting argumentation without the appropriate underlying analytics and fact base. This will improve not only transactional or tactical decisions but strategic decisions, helping to direct investment toward its most valuable uses.

Adopting this analytical approach has already transformed the productivity of firms in some competitive parts of the financial industry (see Case Study 1). The techniques they employ are equally applicable across all of financial services.

C. Standardisation

Standardising processes is a simple but often overlooked way of creating consistency in large, diverse financial services organisations.

Standardised procedures cut costs by reducing the amount of day-to-day micro-management required; they decrease the chance of errors and operational losses; and they provide templates that facilitate expansion and outsourcing. They allow senior managers of large organisations to say, “just do this”.

Shared services have been heralded as a way to achieve standardisation. However, without a prior effort to harmonise processes, sharing services will not on its own reduce complexity. Complexity will simply be shifted into the shared service provider or into other areas of the firm as they develop processes to compensate.

Rather, standardisation can be achieved in one or both of two ways. First is the old-fashioned expedient of specifying desired roles and procedures in writing.

CASE STUDY 1

The “intelligent insurer”: using smarter analytics in insurance

As in most other parts of the financial services industry, insurance requires significant capital and cash outlays to capture relatively low and volatile margins. On top of this permanent challenge, insurers now face new customer habits (such as their increasing tendency to “shop around”, often online) and new competition from non-insurers with attractive brands and deep customer understanding.

This is placing a premium on heavy duty, high speed analytics and on the ability to make effective decisions using it. Leading players are building “new model” analytics capabilities, processes and organisations:

- **“Point of sale” analytics** to screen out fraudulent applications and to predict the customer’s likelihood of renewing, their price sensitivity and their likelihood of buying more than one product
- **Third party “live” data flows** to pinpoint where models of claims outcomes deviate from actual outcomes and rapidly adapt underwriting and pricing
- **Telematics data** to measure actual customer driving behaviour rather than just broad statistical proxies for it
- **Big data performance testing** of pricing and segmentation models based on new customer data for all customers to detect requirements to consider re-pricing specific customer segments
- **Live sales support tools** for agents and brokers that increase productivity in the field while allowing management to optimise commission and rebate structures.

P&C insurers who have built advanced analytics and worked out how to use them to make day-to-day customer value decisions have seen major performance improvements. For example, a leading direct P&C insurer built a dynamic technical pricing capability based on big data technology that identified about US\$30 MM of extra profit from the pilot programme alone, with the potential to lift firm wide profits by more than 10% in the coming years as the full programme gets implemented. Payback on the investment was achieved in less than 6 months.

Bank supervisors are pushing banks to do this. Many are unhappy about the number of complex processes, such as foreign exchange and OTC derivative trading, for which banks cannot provide documentation. Banks are now scrambling to provide the desired documentation of processes and controls to their supervisors.

But the big prize lies in automation. Advances in artificial intelligence (AI) mean that machines will be able to perform many of the cognitive tasks now done by humans. Much of the credit assessment and fraud detection work once performed by humans is now done by computers using various pattern recognition techniques. Other data-based work now usually performed by humans can progressively be replaced by intelligent machines, leaving staff to do the ever-decreasing range of things that only humans can do. The more that financial firms do with machines, the more standardised and manageable their processes will become and the lower their operating costs will be.

Technological advance will be the main driver of progress in financial services over the coming years. Yet few senior executives or board members are tech-savvy. Technology has been regarded as a mere execution issue, a matter for the techies in the back office. In fact, it is a matter of the greatest strategic significance. Senior executives must take an active interest in technology and the transformational possibilities it creates for their businesses.

In other industries, such as IT implementation and air travel (see *Case Study 2*), where firms have dispersed workforces and face major operational risks, relentless process engineering and standardisation has improved service quality and reduced costs and risks. For example, a leading technology company cut their cost base by 10 percent over a 5 year period by identifying 12 core processes and then standardising them globally.

CASE STUDY 2

Standardisation in the Airline industry

Airlines require significant customer trust. Operational incidents can have catastrophic consequences for both the passengers and the business. Non-standardised processes create too many unknowns, raising the cost of monitoring and putting safety and punctuality at risk. Airlines have thus developed rigorous techniques to ensure high-quality, standardised procedures, including:

- Documenting all processes and roles
- Recording and analysing all operational events using advanced software tools
- Employing “safety and standards” representatives in each function
- Creating employee collaboration tools, such as:
 - Internal blogs and Facebook-type sites that enable employees to solve unforeseen problems, such as how to fix a trolley. Employees also provide real-time information about incidents to the centre
 - Standardised customer experience dashboards for all managers to relay daily results to central customer experience teams
- Outsourcing to reduce management complexity rather than costs. 3rd party suppliers are provided with brand standards, such as airline uniforms, and use the same systems and processes, managed through contracts with clear KPIs and financial penalties
- Undertaking business continuity planning with at least annual “fire drill” exercises in which executive, mid-management and floor-level staff enact responses to a major crisis or unforeseen event, such as a volcanic eruption or heavy snow
- Consistent customer service across all channels. For example, a US airline upgraded their phone, mobile and social media channels to provide enhanced and consistent information to customers regarding cancellations and delays. Customer experience scores shot up as a result and they realised \$80 MM in cost savings due to fewer defects in operations.¹

¹ Forrester Research, Customer Experience Index 2014.

We have observed similar exercises at some of our financial services clients. They have identified and standardised 10 common and scalable processes, cutting costs and increasing the speed of product launches. However, most financial firms have not yet moved, and instead are seeking profit growth by adding products and markets while relying on informal staff behaviour. This has created unnecessary inconsistency, expense and risk.

D. Delegation

The standardisation or automation of important, repeatable processes does not mean that financial institutions can be run from the centre. Like an economy, a large complex organisation cannot be well managed on a centralised model. The information on which decisions must be based is widely dispersed across the organisation, much of it unavailable to central managers.

Even when central data is used optimally (see 4.A and 4.B), any CRM or similar system will fail to capture much relevant information, such as the expression on the face of a customer at the counter or the level of support for a local sports team that might be sponsored. Even with the best decision-support analytics, local decision discretion is indispensable.

Rules issued from the centre must protect the brand and manage risks, including the risk of misconduct. But they should provide enough latitude for staff with superior knowledge of the customer, product or local market to make decisions based on that knowledge. Provided they have imbued the culture of the firm (see 4.E), the bank has invested in the appropriate oversight and employees have incentives based on the right performance measures, then decentralised decision-making in a complex organisation should deliver better

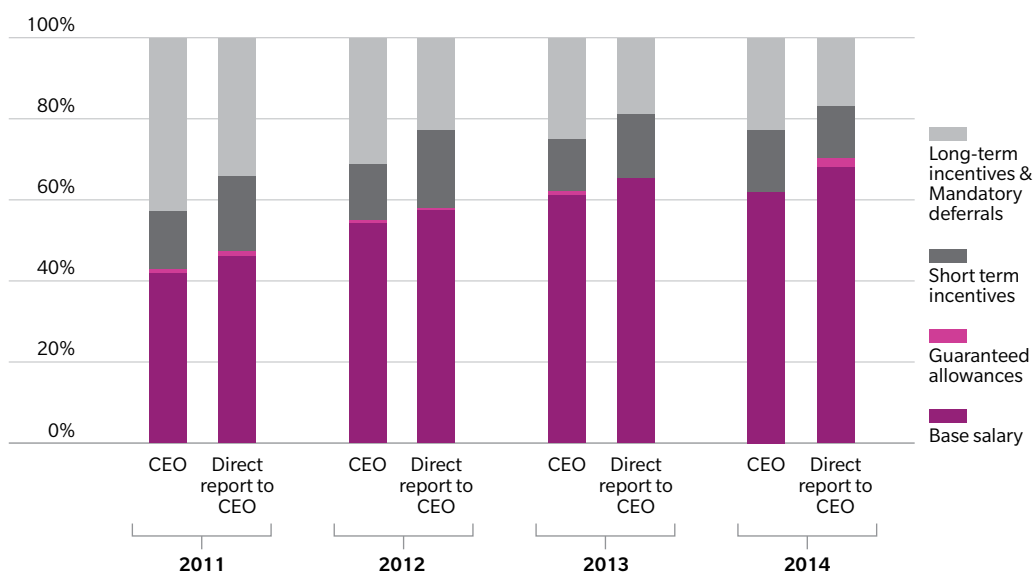
results than the corporate equivalent of a command economy. For example, the common post-crisis practice of reducing both the pay of branch staff and their opportunities for rewarding customer interaction while increasing central oversight is not working, as illustrated by the repeated cases of fraud involving branch employees in all major banks in New York City in 2011, 2013 and 2014.

Staff empowerment not only improves decision making but increases the enthusiasm and entrepreneurial spirit of junior management and other staff. It saves managers from the “tyranny of committees” and liberates senior managers from the chore of micro-management, allowing them to devote themselves to the strategic decisions that should concern them. A firm with performance transparency, automated surveillance, a sound culture and properly empowered staff can succeed with far less hands-on management, allowing it to cut costs by stripping out layers of middle managers and operating officers.

Although regulators seek better managed financial firms, new rules restricting bonus payments relative to base pay unintentionally impede the allocation of decision-making to those with the best information. Staff who do not face a material portion of the costs and benefits of their decisions have little incentive to make optimal trade-offs. If central managers are not allowed to pay informationally privileged staff in a way that creates the right incentives, they will be reluctant to give them decision-making discretion. The firm will instead have to rely on decisions made by central staff who lack important local information.

Indeed, these new compensation rules may deter senior management from making any serious efforts to tackle complexity management. The changes required will take many years to make and to bear fruit (see Section 5). But the new compensation

Exhibit 11: Compensation structure of CEOs & Direct reports



Source: Mercer, "Pan European Financial Services Survey" 2014. Includes European operations of global financial institutions.

rules mean that long-term performance plays an ever smaller part in senior executives' compensation, most of which is now made up by their base salary (see *Exhibit 11*). Compensation rules aimed at making financial firms safer may ultimately damage the way they are managed and thereby add to systemic risk.

E. Culture

With processes automated or standardised and decision making distributed to those with the best information, the management culture must shift away from the old command and control model. Senior executives must direct the organisation by making large strategic decisions, by communicating and inspiring, and by creating a healthy corporate culture.

Corporate culture is crucially important to the success of any enterprise. If every member of a group is inculcated with common values and habits, the cost of managing them drops dramatically. They

will do on their own initiative what would otherwise require constant management intervention to achieve. Indeed, no feasible amount of micro-management can avoid the unwanted consequences of a broken corporate culture.

Prior to the financial crisis, many financial firms failed to create a healthy corporate culture. A series of scandals, from mis-selling mortgages and pensions to Libor price manipulation, testify to this failure. Even after the crisis, the elevated rate of operational loss events (see *Exhibit 3*) indicates an ongoing problem.

A strong culture is relatively easy to produce in small groups, such as families or sports teams. In vast corporations comprising tens of thousands of staff with different roles and backgrounds, distributed across many divisions and locations, the job is much harder. It requires the clear statement of goals and values, and their visible application in practice. Senior executives must not only enforce the values; they must personify them.

Hiring and training must reinforce the culture. So must promotion and other incentive schemes. Specified penalties for transgression must be applied, regardless of the personal productivity of the transgressor. The corporate culture is more valuable than any individual employee.

Alas, corporate culture initiatives at many financial firms do little more than articulate values and intent. Few have programmes that incorporate the hiring, training, performance management and reporting that will promote the desired values.

Senior leaders must focus on creating the right environment rather than continuing with the command and control approach of the past. This requires a shift in the “competency model” of leadership, with a greater emphasis on empathy and on understanding the potential of each member of the team. This empathy must not be misunderstood as a culture of harmony at any price. Employees must feel the need to do the right thing and speak if they see standards not adhered to.

Given the increased amount of change required at financial institutions, we expect a shift towards temporary, team-based work. Transient leadership roles for temporary but important lines of work, such as transformation projects, will need to be made more rewarding than today. These changes will require the career development and remuneration of the top 200 to 500 executives to be approached on a longer term basis than they are today, with rewards based on joint commercial success where individuals feel rewarded by accepting transient leadership roles that can be “retired” – e.g. leadership of major change initiatives.

CASE STUDY 3

Corporate culture in the Oil and Gas industry

Oil and Gas is another industry vulnerable to perceptions of malpractice, especially around health and safety, in which corporate culture is therefore important. The number of fatalities and injuries in the Oil and Gas industry has fallen significantly over the last decade. This has been achieved by a safety-first, zero-fatalities culture with some of the following elements:

- **Safety prioritised over efficiency:** All employees are entitled to “pull the cord” and stop operations for safety-related concerns with no repercussions, even if it results in millions of dollars of operating losses. Management try to instil a “chronic sense of unease” in employees, even on sites where no accident has occurred for a long time, in part by making unannounced site visits. All risk events, from driving a pick-up truck in remote areas to entering a new geography, must be classified, documented and assessed.
- **Safety incentives:** Incentive schemes are designed to reward safety improvements and adherence to safety standards. Top-performing employees are recognised with prizes and sites are given awards for “silent running”: that is, for the absence of accidents over some specified period of time, such as three years. On the flip side, penalties are dispensed for breaking the safety rules. To ensure that such penalties are perceived as fair, employees are surveyed to find out if they understand what is expected of them, feel they can speak up to identify problems and consider the penalties proportionate to the wrongdoings. Having said this, there are mandatory “life-saving rules” set from the top which all employees must abide by. Breaking of these rules can result in termination of employment, while contractors will be barred from any future work with the company.
- **Continuous improvement:** To ensure that safety is continually improved, processes are subject to meticulous detailing and gap assessment. Priority change initiatives are given budgets, actionable targets, owners and KPIs. This process is repeated on a regular basis, typically annually.

5. GETTING THERE

The measures described above will require major programmes of work, especially the first two, which involve systems upgrades. Depending on the systems starting point, we expect the hard elements of this “complexity management programme” would take most financial firms at least three years to execute, and cultural change will take even longer.

Many financial institutions are suffering from “reform fatigue” and their budgets are being strained by work required to comply with new regulations. Nevertheless, senior management must rally the troops, find the budget and make the changes now as the pre-crisis “golden era of banking” is over with low and rising interest rates and increasing capital requirements over the coming years. If they continue to deliver utility-like returns, capital will flow out of financial services and into more dynamic sectors.

Most financial firms can profitably simplify their business models, jettisoning some products, customers or even entire lines of business. Identifying such opportunities and selling off assets should be the first step in the “complexity programme”. It will force senior executives to clarify their firm’s strategy – its core markets, customer segments, products and channels. And it will free up capital to invest in the hard part of the programme.

But it is only the first step. Most large, established financial firms will still need to make the difficult changes described above.

Financial firms have struggled to successfully execute major transformation programmes over recent years. To give the complexity management programme every chance of success, it needs more commitment and endurance from the very top. Our sense from investors is that they are ready to back management in committing the required resources. They realise that only a significant overhaul can change the fortunes of financial institutions.

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