

## Big data Time for a lean approach in financial services



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# Executive summary

## **A lean approach to big data is a stepping stone to social finance**

The proliferation of so-called 'big data' and the increasing capability and reducing cost of technology are very seductive for retail financial services organisations seeking to improve their customer engagement and operational performance. But many simply do not appreciate the real costs – in terms of money and time – that burden 'big' approaches to big data programmes. And very few understand that the strength and quality of customer engagement bear little relation to the tools that have been bought. Rather than rushing into big data programmes, organisations need to invest in a 'lean' approach to data and analytics, which will align all business capabilities, including strategy, people, processes and technology, towards a more socially connected customer.

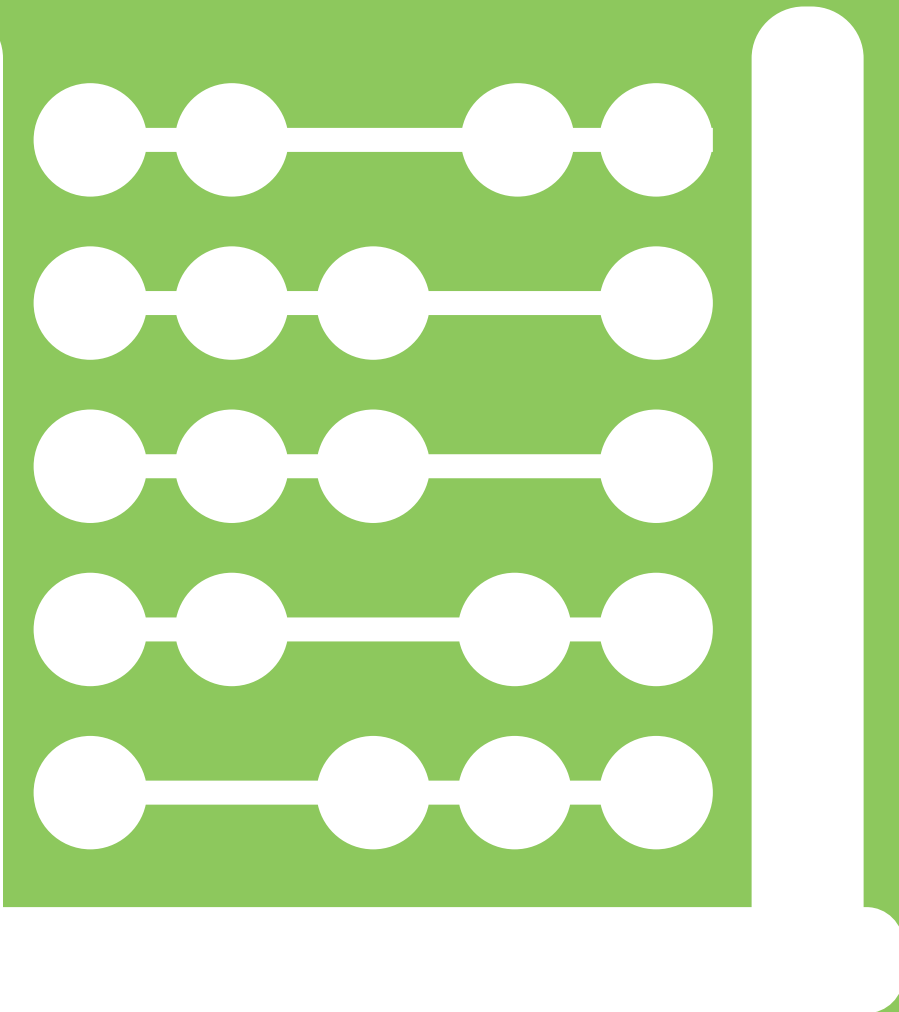
A lean approach will help organisations focus only on the data needed to deliver specific business outcomes. The insights they extract will allow customers to engage with their bank or insurer in innovative and exciting ways. For the organisation, lean can help improve productivity and efficiency. It can also help to create a lasting and memorable brand in our increasingly digital world.

With a little creative thinking and a focused, lean approach, organisations can create a positive groundswell of support in favour of their products and services. Lean offers something unique and inspiring, something that connects with customers and inspires loyalty and trust.

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**A lean approach will help organisations focus only on the data needed to deliver specific business outcomes.**

# Beware the promise of big data



### Data volume and complexity are exploding

Firms in the financial services sector, like almost all organisations, are coming under increasing pressure to exploit so-called 'big data' to enhance service differentiation, reduce risk and improve performance. They are implementing large-scale data analytics programmes to make use of the burgeoning quantities of information available in the expanding 'digital universe'. Such programmes seek to collect, store, manage and analyse data from a range of sources to identify insights that can be used to help decision-making.

When you take a look at the digital universe, it is easy to see why organisations are so interested. The research company, IDC, released its fifth digital universe report last year in which it claimed that the total amount of data created and replicated in 2011 would exceed 1.8 zettabytes – an amount equivalent to a stack of books stretching from the Earth to Pluto and back ten times.<sup>1</sup> Much of this data is created by individuals, using social networks to connect with other people and organisations in new and exciting ways.

Every day, for instance, we send 294 billion emails and share one billion items on Facebook; every minute we post 170,000 'tweets' to Twitter, 3,000 photos to Flickr and 48 hours of video to YouTube.<sup>2</sup> In the mobile world, there are now more than five billion mobile phones.<sup>3</sup> Consumer demand is also booming for other mobile devices, ranging from tablets and ebook readers to smartphones and wireless-enabled cameras. By 2020, IDC forecasts that the digital universe will have grown nearly 20-fold to contain approximately 35 zettabytes of data.

For financial institutions, big data is now seen as a strategic imperative for dealing with the acute stress of renewed economic uncertainty, increasing regulation, proposed banking sector reforms and the legacy of customer mistrust following Payment Protection Insurance mis-selling and the credit crisis of 2008.

### But big data does not automatically deliver big value

As data warehouses start to overflow, and as the need for more relevant and timely analysis begins to put strain on traditional business intelligence tools, firms cannot afford to get carried away with the marketing hype surrounding big data.

On the other hand, data is absolutely necessary to provide the evidence to support new customer engagement initiatives. Several firms in both banking and insurance have recently launched new initiatives that attempt to engage customers in new ways, particularly in the online or mobile worlds. While such initiatives may appear attractive in the short term, how can firms sustain these activities in an efficient and effective manner without using data to measure their success?

Big data programmes are not without risk, especially for organisations already struggling in today's complex and highly regulated operating environment. They can either become misdirected by their singular focus on data volume, variety and velocity, or the initiatives lack the necessary supporting evidence needed to make them successful.

Converting big data programmes into successful activities that deliver meaningful business insight and provide sustained high-quality customer relationships can be costly, risky and sometimes fruitless. Although managing the increasing complexity of data is critical to the future success of the organisation, new initiatives should concentrate only on what is necessary to achieve the required business outcomes. While mastery of the data is important, it is not by itself a sufficient condition for success.



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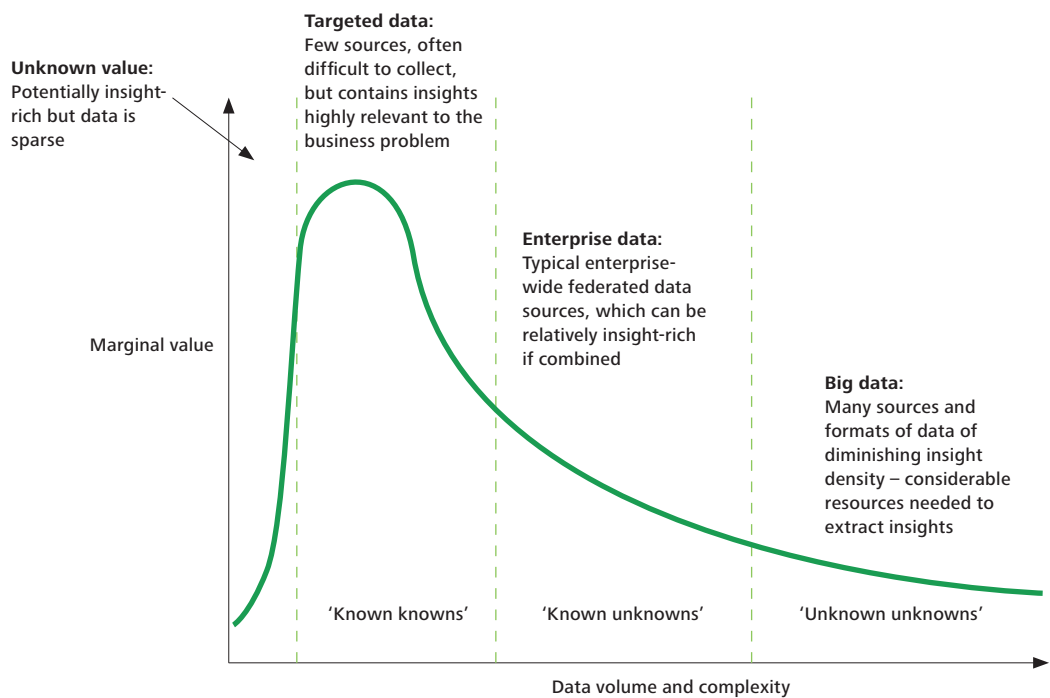
## 75 per cent

of senior executives from over 500 companies say that they are wasting more than half the data they already hold.

Big data hype also tempts organisations to seek new external sources of data, with particular emphasis these days on social media. But according to recent big data research by the Economist Intelligence Unit, more than 75 per cent of senior executives from over 500 companies say that they are wasting more than half the data they already hold.<sup>4</sup> And if the Pareto principle holds – that is, 80 per cent of the value comes from 20 per cent of the data – then in their haste to embrace new external data sources, firms are potentially missing out on significant value.

Organisations do find it hard to deal with their enterprise data because their IT estates are too difficult to navigate compared to the openness of the Internet, for example. Mergers and acquisitions, as well as legacy systems developed decades ago, have created ‘brown-field’ environments in which valuable data is often locked up in organisational ‘stove-pipes’. The net result is that big data activities can all too easily focus on data which has the lowest potential to add value, thus wasting time, cost and effort.

Figure 1. The relationship between data’s value and its volume and complexity



Source: Deloitte LLP

### Firms are caught between a rock and a hard place

Buying in great swathes of new technology and importing new data will improve inputs rather than outputs, while services provided to customers will remain utilitarian and transactional in nature. In addition, strategic impact will be hard to achieve through point-to-point interactions that fail to provide the firm with a complete and accurate view of the customer. But without an injection of big data, retail financial services will become increasingly boring and customers will lose interest and trust. Firms will lose revenue.

Big data has become a mantra for all organisations interested in improving their performance and gaining competitive advantage. So how should the retail financial services sector approach it? And is big data even the right place to start looking for a new customer experience?

Rather than collecting more data, and spending more time and money managing it, firms must use their existing enterprise data in combination with other sources of highly targeted data in a more intelligent way. They must adopt a new 'lean' approach to big data, which is more appropriate to continuing uncertain economic conditions and the modern needs of the new 'connected customer'.

Firms are now presented with the opportunity to become accessible and direct like never before. Social networks and the new generation of smartphones enable customers to use and interact with firms whenever they want and from wherever they may be. Data and analytics that enable firms to focus on connected customers have the potential to create the greatest strategic impact.

By taking this approach, rather than having a blind focus on big data, financial institutions can withstand the increasing external pressures faced by their retail divisions and look forward to a future in which they listen, learn and engage better with their customers.

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**Organisations need to invest in a lean approach to data and analytics, which aligns all business capabilities, including strategy, people, processes and technology.**

# Slimming down big data





### A lean approach

Big data programmes become 'fat' as a result of their ill-advised attempts to capture, store and analyse ever-greater volumes, varieties and velocities of data. Because organisations do not appreciate precisely what problem they are addressing, or where in the data the insights are hiding, they assume that an exhaustive approach is the best way of unearthing value. This produces some unhelpful side effects: applying expensive analytics to data which has little or no inherent business value results in wasted effort, and applying the same set of analytics to every business problem increases costs and prolongs timescales. As a result, there is a discontinuity between big data inputs and desired business outputs, and the full benefits of these programmes are rarely achieved.

Waste in big data programmes could include the time, money or effort spent:

- collecting, storing and managing data that ultimately has little or no bearing on the business outcome
- installing and using analytics technology whose functionality is not well aligned to the needs of the business process or service
- extracting and applying analytical insights that are not relevant to the business outcome
- launching new services without the right measurements to nurture and improve them in the long term.

Big data approaches need to be streamlined into something smarter and leaner. Lean manufacturing is well known for its focus on eliminating waste in order to improve the effectiveness of outputs – and many organisations are adopting the principles of lean manufacturing to improve a range of internal processes.

We can adapt this approach further to develop a set of lean principles for big data, as illustrated in Figure 2:

#### 1. Define business process and agree

##### customer-focused objectives:

Divide the business challenge or business process into specific, manageable elements that are focused on the desired outcomes from the customer's perspective

#### 2. Identify relevant data assets:

Identify only that data which is needed to measure and inform the outcome

#### 3. Design analysis framework:

Identify and configure the processing steps needed to collect, store, analyse and visualise the data, ensuring that these steps are fully integrated into the business process or service

#### 4. Implement analytics and measure outcomes:

Implement the analytics steps and collect data to measure the performance of the business process or service

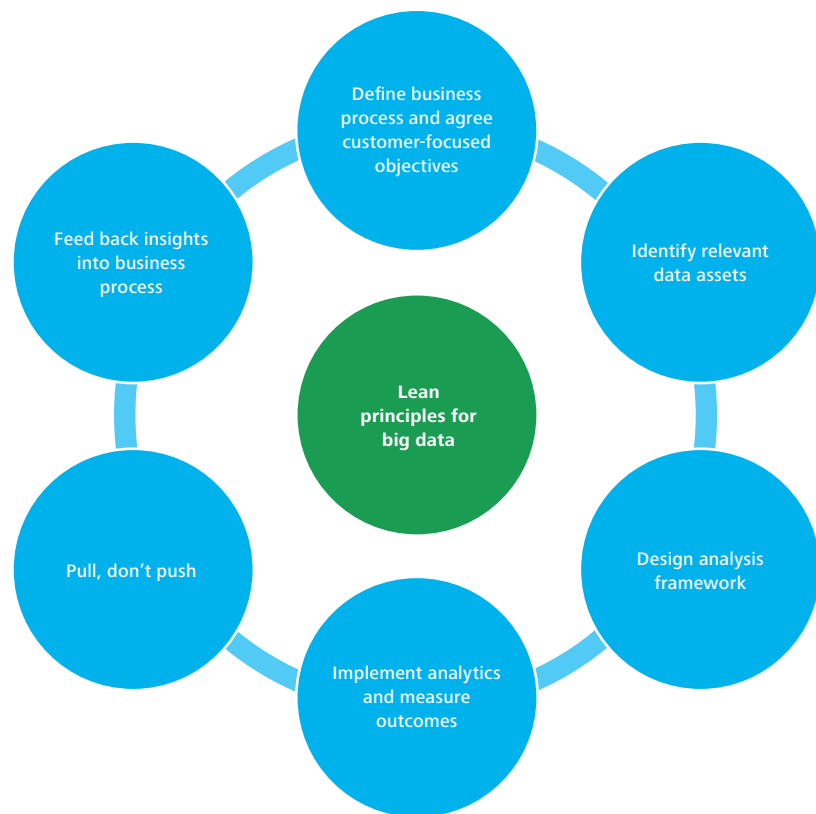
#### 5. Pull, don't push:

Focus analytics efforts only on those elements of the service the customer demands, ensuring that the effort is proportionate to the value derived by the customer and the business

#### 6. Feed back insights into business process:

Strive for perfection by continually removing waste from the process, in the form of low-value data, poor-quality data or unnecessary analytics. Feed the analytics insights back into each element of the business process to refine the outcome on an ongoing basis.

Figure 2. Lean principles for big data programmes



Source: Deloitte LLP

Lean implies a rigorous and relentless focus on the customer and outcome, so that the data used and analytics implemented deliver the full benefits to the customer. The firm will also know that the time, effort and cost expended was in proportion to the value delivered; thus return on investment is maximised.

Lean also implies that 'big bang' big data approaches are not necessary. Organisations can select specific business processes or services on which to focus their efforts – starting small, if necessary, before widening their scope and seeking other applications. And because the lean approach is embedded into the business process, the risk that isolated 'islands' of analytical activity will emerge is minimised. Lessons learned on one programme can inform the activities on another; data and technology can flow from one to another.

Lean ensures that the full weight of business capability can be brought to bear on specific customer or operational outcomes – focusing not just on technology, but also people, processes, governance and strategy. The analytics applied to the data are focused on these elements and the insights extracted from the data are used to refine the process and continuously improve it. In this way, a lean approach unifies business capabilities that have traditionally existed in separate silos.

As far as the customer is concerned, new services come with a stronger guarantee of interaction and feedback with the firm, because the data collected about the service – and the customer's views of it – provide the essential evidence needed to improve it on an ongoing basis.

Lean ensures that the full weight of business capability can be brought to bear on specific customer or operational outcomes – focusing not just on technology, but also people, processes, governance and strategy.

# The lean approach in practice



**From sentiment analysis to social engagement**

Social media has become a topic of considerable interest to organisations seeking a better understanding of their customers and what they really think about their brand and services. The micro-blogging and social networking site Twitter, for example, now sends and receives as many as 200 million ‘tweets’ every day – equivalent to approximately eight terabytes of unstructured data. By any standard, this would certainly qualify as ‘big data’. Such is the volume of messages around certain key trends that organisations can now perform meaningful analyses of the data to infer not just sentiment – whether someone’s views are positive, negative or neutral – but also identify keywords and trends, and all-important influencing relationships between users of the networking site.

Although at first sight it may be tempting to analyse this big data, mining Twitter and other social networking sites for sentiment will not help all organisations achieve their desired outcomes. For example, applying our first lean principle, we might set a business objective of improving the positive sentiment expressed about the firm by its customers. In order to improve the sentiment, we first have to be able to measure it. Therefore, applying the second lean principle, we can identify Twitter as a potential source of data but we may conclude that there are insufficient tweets about the brand to allow us to perform a meaningful analysis. Indeed, the level of conversation about all firms is generally low because retail financial services are not a popular topic of online conversation.

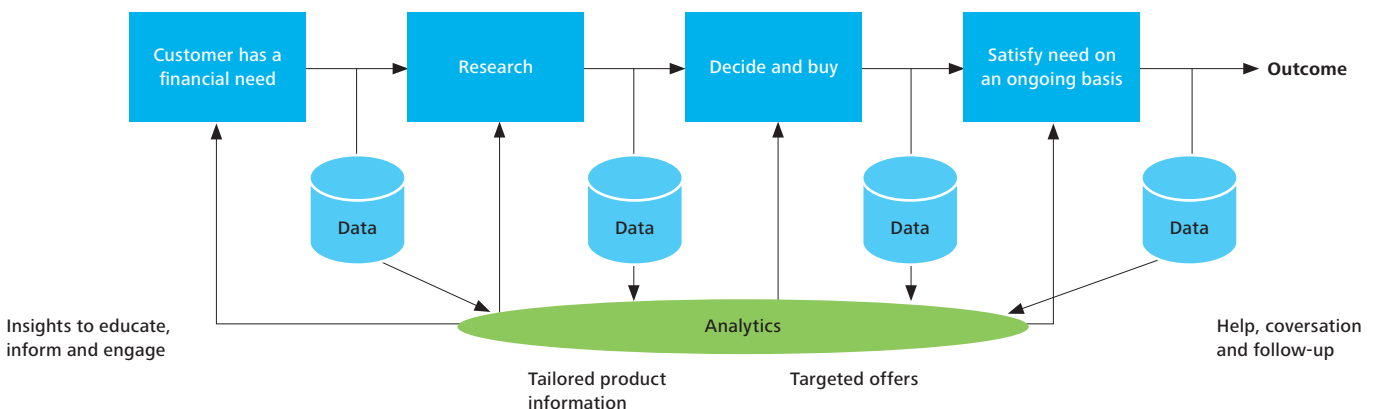
Does this mean that the firm should ignore sentiment analysis? No, but there is no point in analysing sentiment on social media unless your customers are engaged with you in an online conversation. There are plenty of examples of new products, services and companies seeking to tap into the social world. HelloWallet, Mint.com and Figlo, for example, bring together a customer’s financial data and present it to them in a new and engaging way. Kiboo and SmartyPig are online banking and savings services that aim to educate and engage customers by making savings targets public so that friends and family can get involved.

Such schemes will only be successful if appropriate data measurements are taken, analysed and fed back into the process. If firms are to build new and innovative service models, they need to ensure that a lean data and analytics approach provides the insights that will help to increase their social connectivity and keep the firm more in tune with the customers it serves. For the first time, the right data – in the form of the firm’s existing customer data together with social media – is now available for it to become a social organisation, where customers are at the heart of the services being provided. And if the relationship between the firm and customer changes from ‘push to pull’, then social analytics takes on an entirely different complexion.



Twitter now sends and receives as many as **200 million** ‘tweets’ every day.

**Figure 3. The lean approach in practice – engaging customers in new ways**



Source: Deloitte LLP

Customers who self-serve are much more likely to become engaged in an online conversation with the firm, which can then be mined and analysed in conjunction with other customer data, such as call centre records, for sentiment and other qualities in accordance with the lean principles. The insights extracted from the data analysis can be used to inform and improve the quality of the service and the nature of the engagement with the customer.

Social banking and insurance helps individual customers to put their money into the right context for them; it also changes the rules of engagement between firms and customers from 'fire-and-forget' financial transactions to ongoing social interaction. Firms can use this increased level of interaction to tap into the creativity of individual customers and social networks, using their feedback (on whatever forum it is provided) to help design even better services or products. Such 'co-creation' activities ensure that maximum impact is achieved when new products and services are brought to market.

**Figure 4. Examples of products and services designed to engage customers in new ways**

How it works	
<b>Kiboo</b>	Kiboo is an online banking service aimed at a younger demographic and seeks not only to provide a savings account but to educate savers on good financial management and help them to learn about how their money works for them.
<b>Smartypig</b>	Smartypig allows savers to set public goals or savings targets and helps them to reach these targets by combining cashback savings and rewards with an interest rate and an element of 'gamification' using social networking sites. It is designed to shift consumer behaviour to a 'save-then-spend' mentality.

Source: Kiboo and Smartypig

Further examples of innovative products and services are provided in the Appendix.

For customers more accustomed to a financial institution's traditional transactional relationship, this type of 'service inversion' offers outstanding customer service and gives much greater relevance and meaning to their engagements with the firm. For retail financial institutions, service inversion will improve productivity, make marketing campaigns more effective and believable, and will ultimately deliver greater competitive advantage.

**Figure 5. The benefits of social banking and insurance, and service inversion**

Service inversion	
Shifting to a 'pull' model where the customer feels helped and empowered	Making connections to independent communities or social networks
Building mutual value-based engagements for both organisation and customers	Connecting internal expertise of employees and extending collaboration to customers, partners and suppliers
Encouraging interactions between customers	Generating opportunities for enhanced marketing, sales and service operations

Source: Deloitte LLP

In the long term, social banking, social insurance and service inversion create data of enormous value to the firm and the customer – data that individual customers could and should be encouraged to use. For example, the combination of traditional sources of credit risk data and data from social interactions can help banks better understand the quantitative and qualitative aspects of an individual's credit risk. Providing this insight back to customers may incentivise them to improve their risk rating.

### From location data to business convergence

Location data provides much-needed spatial context for many types of service. For example, linking insurance claims data to location data allows insurers to determine the historical risks associated with particular geographic areas and postcodes – essential intelligence for pricing insurance products accurately.

But, according to our lean principles, we cannot assume that the use of location data by itself in other areas will automatically provide value. Much like our arguments for social banking and insurance, and service inversion, an organisation first needs to engage customers using a business model or service that has location as a principal component. It then needs to collect the data that allows it to measure and feed back to improve the service on an ongoing basis.

Given the continuing proliferation of mobile devices, such as smartphones and tablets, which allow customers to engage with organisations wherever they are and whenever they want, location-based financial services have to be inherently mobile themselves.

We are already seeing new smartphone and tablet applications that help customers with their financial needs while on the move: Expensify and ATM Hunter are two applications that provide simple but effective services using location data. Further details of innovative products and services are provided in the Appendix.

By location, we mean any part of the service that is rendered more effective by knowing where the customer is or where other resources are in relation to the customer. For example, the GPS location provided by a smartphone could potentially be used by an application to determine whether the customer is at home, in a shop, in a car dealership, commuting to work, visiting friends or family, or anywhere else. In combination with the social banking and service inversion approach, this rich contextual information can be used by customers to 'pull' financial services that are tailored not just to them as a person, but also to where they are and what they are doing. Services using location data thus become increasingly dynamic.

This argument strongly suggests that future banking and insurance services can be made more effective and more engaging through organisational tie-ups – between firms and mobile operators, firms and retailers, or firms and travel operators. Indeed, our increasingly digital and mobile lives encourage much greater business convergence. Mergers and joint ventures may be one way of addressing future business needs, but data sharing between organisations linked together by the customer's social connections is, perhaps, a better and more pragmatic first step towards delivering innovative location-enhanced financial services.

**Figure 6. Examples of smartphone apps that provide services underpinned by location data**

How it works	
<b>Expensify</b>	The Expensify application synchronises credit cards and bank accounts to track purchases as they happen. For any purchases that are made with cash or are not eligible for electronic receipts, the phone becomes a receipt scanner and the application will scan the image and pull out the merchant, date and amount of the transaction.
<b>ATM Hunter, from MasterCard</b>	Using the iPhone's Global Positioning System (GPS), the ATM Hunter application lets users tailor their search based on what they want to do. If they need to make a deposit or use their own bank to avoid fees, they can search for a specific bank's cash machines. However, if they just need cash, they can search for all nearby cash machine locations.

Source: Expensify and MasterCard

# Getting the right outcome





### The new 'mother of invention'

In today's highly volatile market, it is more critical than ever that organisations use their data to enhance service differentiation, reduce risk and improve performance. Unfortunately, big data has become the new 'mother of invention' that is compelling organisations to invest in new technologies to analyse bigger and more complex data. Before they commit to such programmes, however, they should consider whether this input-oriented approach will help them to achieve their desired business outcomes. Rather than pumping time and money into big data, a lean approach enables organisations to use only those data and tools that are needed to improve customer engagement and retention. A lean approach also enables organisations to understand how to integrate data assets and analytics into their products, services and business operations.

Without a lean approach, what will be the big data standard for the financial services and insurance industry in the future? There are two possible options. Firstly, organisations simply elect not to invest in big data and attempt to make do with their existing assets. In this case, new initiatives to engage today's socially connected customers are more likely to fail because the evidence needed to support them in the long term is lacking. And those that do succeed – or at least appear to succeed – are unlikely to make efficient use of business capabilities, including technology, people and processes. Ultimately, we are very likely to see a return to 'boring banking' and 'boring insurance', where the most that firms can do is continue to deliver the traditional transactional experience of a high street establishment simply replicated online. With no way of understanding or engaging with their connected customers, firms that choose this path will, in all likelihood, lose out to organisations more willing or more able to exploit their data.

Secondly, organisations invest heavily in collecting, storing, managing and analysing big data in the hope of stumbling across useful insights. In this case, the insights have some potential to be useful in delivering better outcomes but at considerable additional – and wasteful – expenditure.

Senior management may struggle to justify the cost of long-term efforts to improve business outputs. Insights may be patchy, leaving some elements of the business with no increase in performance. Without a more focused plan or strategy in place, this too will prove to be a misguided approach.

When costs need to be brought down and risks reduced, the 'fat' approaches to big data that are currently fuelling market hype will burn time and money that most organisations simply cannot spare. Firms that fail to meet the expectations of their customers, or offer an open and honest standard of banking, are likely to see a rapid transfer of accounts and business to organisations more able to make good use of their data. Organisations, therefore, need to apply a lean approach to ensure that they can engage their customers in new, exciting and more helpful ways and ultimately deliver the desired business outcomes.

### A lean approach increases efficiency and improves performance

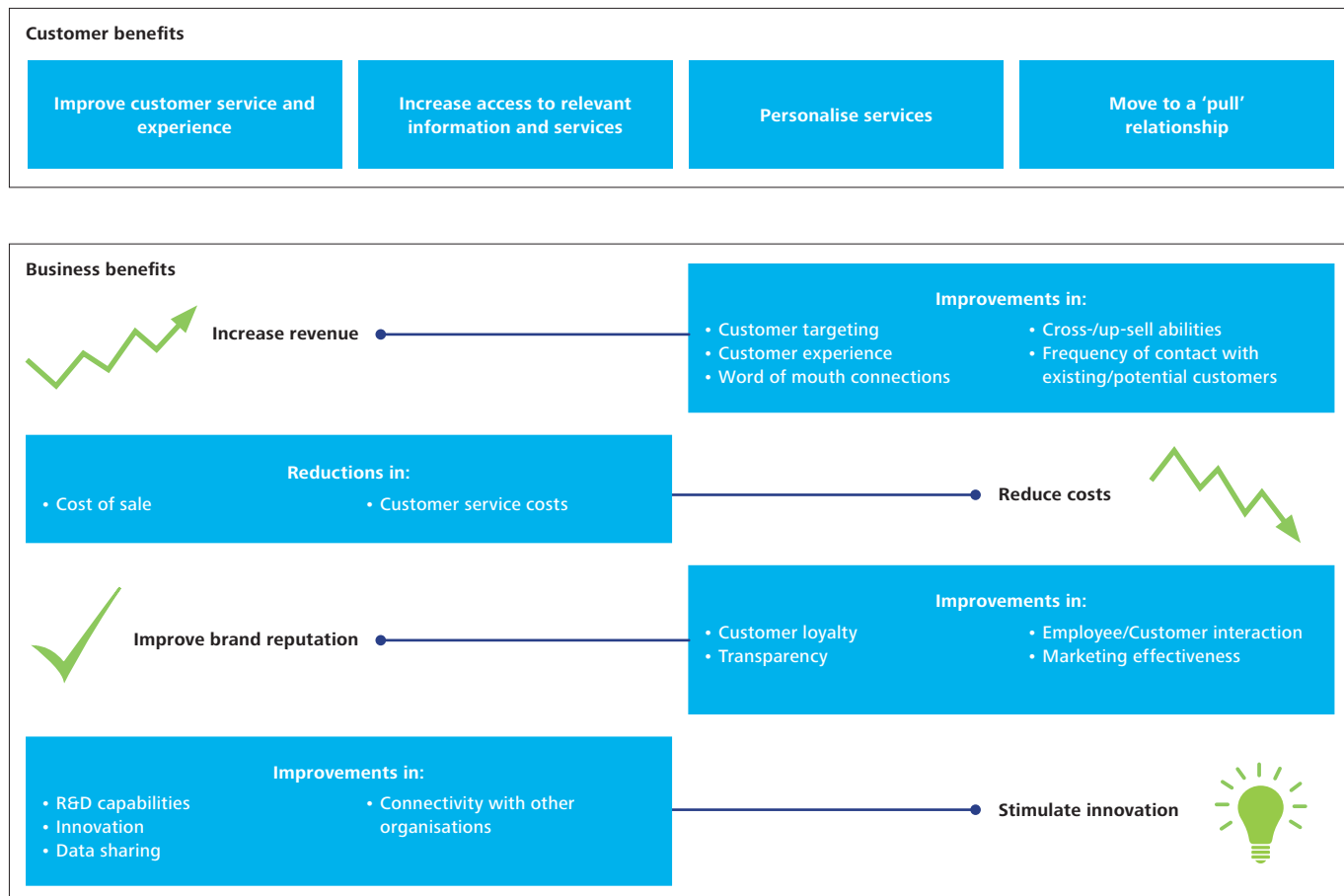
Taking a lean approach, financial institutions will be able to invert the traditional service model, placing customers and the social community at the centre of everything they do. Their products and services will be personalised, dynamic and built from the customers' perspective. Some of these solutions will be fashioned by customers working collaboratively with the firm. Data will be used to measure customers' engagement and analytical insights – whether positive, neutral or negative – to improve the quality of service and reshape the retail financial services industry.

Information-based business models, which are aligned with online and mobile channels, will improve productivity and efficiency, and reduce cost, time and effort compared to traditional transactional mechanisms or human-to-human engagement. Over time, customers will become responsible for their own data, information and reporting. The firm will then be able to measure its return not just in terms of revenue and profit, but also in terms of customer awareness, engagement and action.



A lean approach also enables organisations to understand how to integrate data assets and analytics into their products, services and business operations.

Figure 7. Overall benefits of taking a lean approach to big data



Source: Deloitte LLP

### Next steps

There are five simple steps that an organisation can take to start a lean approach to big data:

#### 1. Develop awareness

- Identify the key business issues or outcomes that data and analytics can support – one or two trial programmes. Start small but think ‘big’
- Identify other areas within the business that may already be tackling social connectivity or business convergence, and draw on their experience
- Identify the key steps in each business process and use the lean principles to identify data that can be used to measure progress towards these outcomes.

#### 2. Explore

- Assess business maturity, data quality and other relevant capabilities needed
- Listen to customers and their needs
- Assess competitors’ activities
- Explore data-sharing possibilities with service providers in other industries to exploit the increasing intersection of data – especially location data – around customers.

#### 3. Build a strategy and roadmap

- Define your strategy and build a business case
- Define key priorities and requirements
- Choose and design only those data resources and analytics necessary to extract the relevant insights needed to improve the process
- Develop a roadmap for your deployment.

#### 4. Deploy

- Deploy analytics in accordance with the strategy and roadmap.

#### 5. Learn and expand

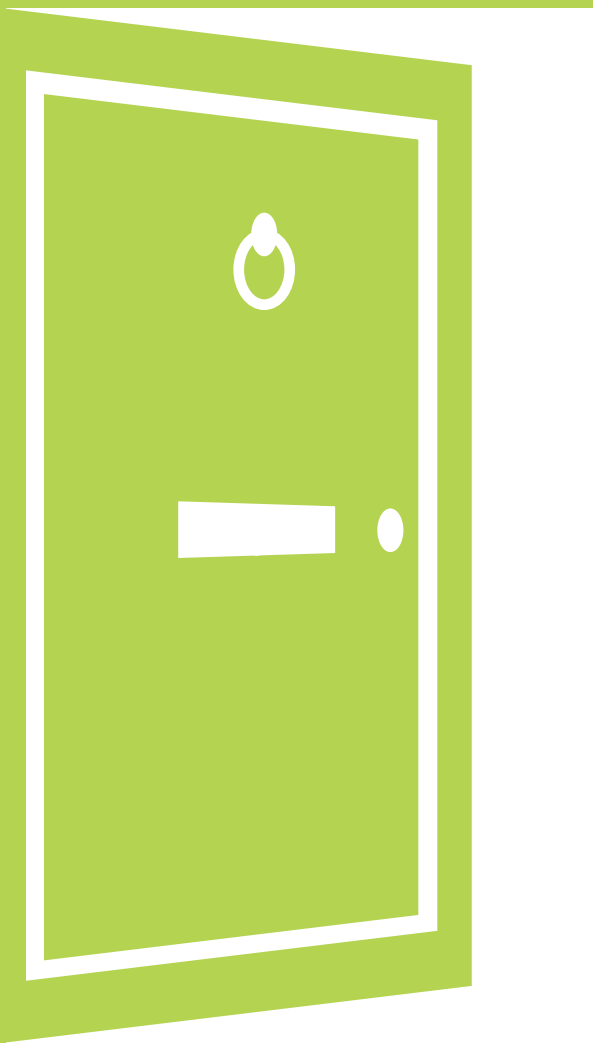
- Assess results and feed back into the business process to improve customer engagement
- Use the experience to assess and enhance business capabilities where needed, including strategy, controls and governance, people and technology elements.

Data and technology are fundamentally changing the nature and structure of the provider and customer relationship. With a little creative thinking and a focused, lean approach, firms can create a positive groundswell of support in favour of their products and services.

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# Appendix



### The 'art of the possible'

Analytics technology is changing all the time and new data sources are likely to emerge that can provide answers to almost every conceivable business problem. This, though, is part of the seductive power of the 'big data' concept: when technology has the potential to provide all the answers, organisations tend to focus their efforts on implementing it to the exclusion of everything else. This is the 'big bang' big data problem.

That is why, when we consider the 'art of the possible' for retail financial services institutions, we have not looked at such pure technology needs; instead, we have looked for examples of the kinds of products and services that illustrate our concepts of social banking and insurance, service inversion and business convergence.

We have separated these examples into the following areas:

- Rewards and discounts
- Financial management
- Targeted offerings
- Financial education
- Savings and investments
- Security
- Smartphone applications
- Payments
- Miscellaneous.

The descriptions provided in this Appendix have been sourced from the public websites of the companies listed.

### Rewards and discounts

How it works	
<b>Billeo</b>	The Billeo Shopsmart™ iPad application enhances online shopping by searching for rewards and discounts that are relevant to consumers and delivering them as they shop. Additional features include an 'eWallet' facility which safely stores payment and shipping information, reducing checkout time.
<b>Bundle</b>	Bundle uses data from the US Government, from aggregated, anonymised spending transactions from banks and other sources to derive personalised recommendations on restaurants, bars and shops. Consumers can find out what type of people go to a place, how often people go back, and get recommendations based on places they are known to like through analysis of their spending.
<b>FreeMonee</b>	Stores and restaurants looking for ways to find new customers make monetary gifts available for delivery via the FreeMonee gift network. Financial institutions use the network to deliver FreeMonee gifts to customers based on their purchase history and spending data.
<b>Linkable networks</b>	Consumers can register with Linkable in order to gain discounts and cashback rewards. After the secure credit or debit card registration process, consumers can click, scan or text when they see an ad with the Linkables name or logo, and the savings offer is stored to the registered card. After purchase, savings appear automatically in the consumer's account.
<b>Quidco</b>	Quidco has a mobile phone application which uses smartphone GPS technology to enable consumers to track nearby deals. Quidco partners with retailers to offer discounts and cashback rewards which are then transferred to the consumer's bank account on a twice-monthly basis.

## Financial management

How it works	
<b>Figlo</b>	Figlo Platform helps consumers monitor their income, spending, savings and investments. All information is available 24/7 through a secure online interface. Features include a lifeline, which is useful for spotting trends such as shortages, and monitoring and alerts for consumers with investment interests. It is accessible across different devices.
<b>HelloWallet</b>	Stores financial information in one place and offers advice on how to make more from the financial resources available to the consumer based on data such as spend categorisation, cashflow forecasting, behavioural analysis and savings targets.
<b>Mint</b>	Mint automatically pulls all financial information into one place, allowing consumers to see their entire financial picture. Mint connects to almost every US financial institution with internet banking capability, from checking to credit cards to retirement accounts and more – saving hours of data entry.

## Targeted offerings

How it works	
<b>Afiniate</b>	Afiniate's InsightEngine discovers patterns in, or changes to, customers' financial profiles. It then matches this information to specific product/service offerings based on criteria which customers have defined. An alert is then sent to the appropriate point of contact who can act on this cross-/up-/deep-sell opportunity.
<b>Backbase</b>	Backbase Portal is a web 2.0 customer engagement platform, which helps increase online revenue and acquire and retain customers. Smart targeting functionality allows the definition of cross-/up-sell scenarios for advanced targeting based on behaviour tracking, customer profiling and segmentation.
<b>Finacle, from Infosys</b>	Finacle Analyz™, which is integrated with Finacle's universal banking solution, provides holistic customer analytics for banks. Key modules include customer profitability and lifetime-value analysis, attrition and loyalty analysis, transaction behaviour analysis and service-request analysis – all aimed at enhancing customer experience and value.

## Financial education

How it works	
<b>Kiboo</b>	Kiboo is an online banking service aimed at a younger demographic and seeks not only to provide a savings account but to educate savers on good financial management and help them to learn about how their money works for them.
<b>Smartypig</b>	Smartypig allows savers to set public goals or savings targets and helps them to reach these targets by combining cashback savings and rewards with an interest rate and an element of 'gamification' using social networking sites. It is designed to shift consumer behaviour to a 'save-then-spend' mentality.

## Savings and investments

How it works	
<b>InvestorBee</b>	InvestorBee is a tool which helps investors decide upon potential investments. InvestorBee has created the UK's largest database of real investors which can track what they are doing and the results they are achieving. Features include virtual investments which show hypothetical returns on any given investment strategy.
<b>Nutmeg</b>	Nutmeg is a savings and investment partnership where savers can stipulate the level of risk they are willing to accept, monthly contributions and savings goal. Nutmeg then creates an optimal, diversified mix of investments tailored to each savings goal.
<b>RateSetter</b>	Launched in 2009, RateSetter is an innovative peer-to-peer finance company, which helps individuals lend and borrow money. Borrowers say how much money they need, then they set the interest rate they are happy to pay. Savers say how much money they want to invest, then they set the interest they are happy to receive. RateSetter matches lenders to borrowers. The company believes it is the only peer-to-peer lending company to have repaid every penny of expected capital and interest to savers, which it has managed through the creation of a provision fund.

## Security

How it works	
<b>ID Analytics</b>	ID Analytics uses ID Network, personal topology and advanced analytics capabilities to build a picture of consumer behaviour so that unusual or suspicious behaviour can be quickly and easily identified. Any potentially fraudulent transactions can be stopped before they are completed if identified as such by the consumer.
<b>Ping Identity</b>	Ping Identity delivers simple proven and secure cloud identity management for customers and employees through cloud single sign-on, secure mobile access, API security and centralised cloud access control.

## Smartphone applications

How it works	
<b>ATM Hunter, from MasterCard</b>	Using the iPhone's Global Positioning System, the ATM Hunter application lets users tailor their search based on what they want to do. If they need to make a deposit or use their own bank to avoid fees, they can search for a specific bank's cash machines. However, if they just need cash, they can search for all nearby cash machine locations.
<b>CreditExpert, from Experian</b>	This application provides Creditexpert.co.uk members with access to their Experian credit score on the move, as well as alerts notifying them of changes to their credit report. The Experian credit score available is the latest one requested by the member on the CreditExpert website.
<b>Direct Debit</b>	Consumers register each of their direct debits on the application to receive a reminder of when a payment is due to go out. If they are short of cash at any point, they will have time to move money around, arrange an overdraft or contact the biller to make other payment arrangements, thereby keeping control of their finances.
<b>Expensify</b>	The Expensify application synchronises credit cards and bank accounts to track purchases as they happen. For any purchases that are made with cash or are not eligible for electronic receipts, the phone becomes a receipt scanner and the application will scan the image and pull out the merchant, date and amount of the transaction.
<b>iPayslips</b>	iPayslips provides customisable payments and deductions to enable accurate checking, storage, recall, forecast and analysis of all of a UK consumer's payslips over an unlimited number of employments. It is fully compliant with Her Majesty's Revenue & Customs specifications for tax and National Insurance Contributions.
<b>Kony</b>	Features of the robust Kony mobile banking application allow customers to view/search transactions, make transfers, pay bills, deposit cheques and make person-to-person payments. Customers can also get branch and cash machine locations, manage loyalty programmes, provide feedback and open new accounts.
<b>My Piggy Bank</b>	My Piggy Bank lets consumers keep track of income and expenses in an easy and fast way by organising their finances into categories. For those who travel, there are various currencies available that are automatically integrated within the system. Expenses can be geo-located for easy reference.

## Payments

How it works	
<b>Ixaris</b>	The Ixaris Opn platform allows developers to create and run their own global payment applications using open loop virtual or physical cards under the Visa and MasterCard schemes. It allows for branded payment experiences through the issue of branded cash machine cards, e-wallets and virtual Visa cards.

## Miscellaneous

How it works	
<b>Billfloat</b>	Billfloat pays customer bills from over 2,500 suppliers in the US, allowing the customer to pay 30 days later, thus avoiding bank charges and negative credit rating impact. A small bill payment processing fee and interest payment applies but this is considerably less than most bank charges.
<b>Ready Receipts</b>	Receipts from participating online merchants can be sent to a Ready Receipts account for future reference and easy retrieval. A similar service will soon be available for receipts acquired at physical store locations.



# Notes

- 1 Extracting Value from Chaos, IDC, 28 June 2011 and subsequent calculation by Deloitte LLP. See also <http://www.emc.com/collateral/analyst-reports/idc-extracting-value-from-chaos-ar.pdf>
- 2 Internet statistics from the Royal Pingdom blog. See also: <http://royal.pingdom.com/2011/01/12/internet-2010-in-numbers/>
- 3 Mobile phone statistics from Wireless Intelligence, July 2010. See also: <http://www.wirelessintelligence.com/analysis/2010/07/global-mobile-connections-surpass-5-billion-milestone/> and <http://www.dslreports.com/shownews/Wireless-Users-Send-5-Billion-SMS-A-Day-107515>
- 4 Big data – Harnessing a game-changing asset, Economist Intelligence Unit, September 2011.

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