



# ASSESSING MACHINE LEARNING

IF YOUR COMPANY IS NOT GOOD AT ANALYTICS,  
IT'S NOT READY FOR AI

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Management teams often assume they can leapfrog best practices for basic data analytics by going directly to adopting artificial intelligence (AI) and other advanced technologies. But companies that rush into sophisticated AI before reaching a critical mass of automated processes and structured analytics can end up paralyzed. They can become saddled with expensive startup partnerships, impenetrable black-box systems, cumbersome cloud computational clusters, and open-source tool kits without programmers to write code for them.

By contrast, companies with strong basic analytics – such as sales data and market trends – make breakthroughs in complex and critical areas after layering in artificial intelligence. For example, one telecommunications company we worked with can now predict with 75 times more accuracy whether its customers are about to bolt by using machine learning. But the company could only achieve this because it had already automated the processes that made it possible to contact customers quickly and understood their preferences by using more standard analytical techniques. So how can companies tell if they are really ready for AI and other advanced technologies?

## AUTOMATING BASIC PROCESSES

First, managers should ask themselves if they have automated processes in problem areas that cost significant money and slow down operations. Companies need to automate repetitive processes involving substantial amounts of data – especially in areas where intelligence from analytics or speed would be an advantage. Without automating such data feeds first, companies will never discover their new AI systems are reaching the wrong conclusions because they are analyzing outdated data. For example, online retailers

## Companies must have sufficiently automated and structured data analytics to take advantage of new technologies

can adjust product prices daily because they have automated the collection of competitors' prices. But those that still manually check what rivals are charging can require as much as a week to gather the same information. As a result, as one retailer discovered, they can end up with price adjustments perpetually running behind the competition even if they introduce AI, because their data is obsolete.

Without basic automation, strategic visions of solving complex problems at the touch of a button remain elusive. Take fund managers. While the profession is a great candidate for artificial intelligence, many managers spend several weeks manually pulling together data and checking for human errors introduced through reams of Excel spreadsheets. (See Exhibit 1.) This makes them far from ready for artificial intelligence to predict the next risk to client investment portfolios or to model alternative scenarios in real time.

Meanwhile, companies that automate basic data manipulation processes can be proactive. With automated pricing engines, insurers and banks can roll out new offers as fast as online competitors. One traditional insurer, for instance, shifted from updating its quotes every several days to every 15 minutes by simply automating the processes that collect benchmark pricing data. A utility company made its service more competitive by offering customized, real-time pricing and special deals based on automated smart-meter readings, instead of semi-annual in-person visits to homes.

## STRUCTURED DATA ANALYTICS

Once processes critical to achieving an efficiency or goal are automated, managers need to develop structured analytics as well as centralize data processes, so that data collection is standardized and entered only once.

With more centralized information architectures, all systems refer back to the primary “source of truth,” updates propagate to the entire system, and decisions reflect a single view of a customer or issue. A set of structured analytics provides retail category managers, for instance, with a complete picture of historic customer data: It shows them which products were popular with which customers; what sold where; which products customers switched between; and which products they remained loyal to.

Armed with this information, managers can then allocate products better and see why choices are made. By understanding the drivers behind customer decisions, managers can also have much richer conversations about category management with their suppliers – such as explaining that very similar products will be removed to make space for more unique alternatives.

## TRYING OUT AI

After these standard structured analytics are integrated with artificial intelligence, it’s possible to comprehensively predict, explain, and prescribe customer behavior. In the earlier telecommunications company example, managers understood customer characteristics. But they needed artificial intelligence to analyze the wide set of data collected to predict if customers were at risk of leaving. After machine learning techniques identified the customers who presented a “churn risk,” managers then went back to their structured analytics to determine the best way to keep them – and used automated processes to get an appropriate retention offer out fast.

Artificial intelligence systems make a huge difference when unstructured data such as social media, call-center notes, images, or open-ended surveys are also needed to make a judgment. The reason Amazon, for instance, can recommend products to people before they even know they want them is because, using machine learning techniques, it can now layer unstructured data on top of its strong, centralized collection of structured analytics like customers’ payment details, addresses, and product histories.

AI also helps with decisions not based on historic performance. Retailers with strong structured analytics in place can figure out how best to distribute products based on how they are selling. But it takes machine learning techniques to predict how products not yet available for sale will do – partly because no structured data is available.

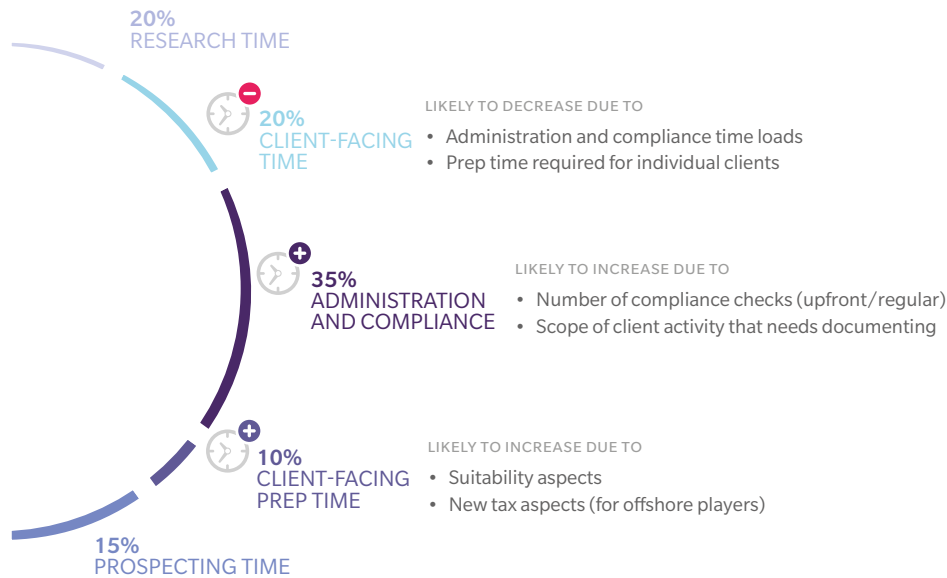
Finally, artificial intelligence systems can make more accurate forecasts based on disparate data sets. Fund managers with a strong base of automated and structured data analytics are predicting with greater accuracy how stocks will perform by applying AI to data sets involving everything from weather data to counting cars in different locations to analyzing supply chains. Some data pioneers are even starting to figure out if companies will gain or lose ground using artificial intelligence systems’ analyses of consumer sentiment data from unrelated social media feeds.

Companies are just beginning to discover the many different ways that AI technologies can potentially reinvent businesses. But one thing is already clear: They must invest time and money to be prepared with sufficiently automated and structured data analytics in order to take full advantage of the new technologies. Like it or not, you can’t afford to skip the basics.

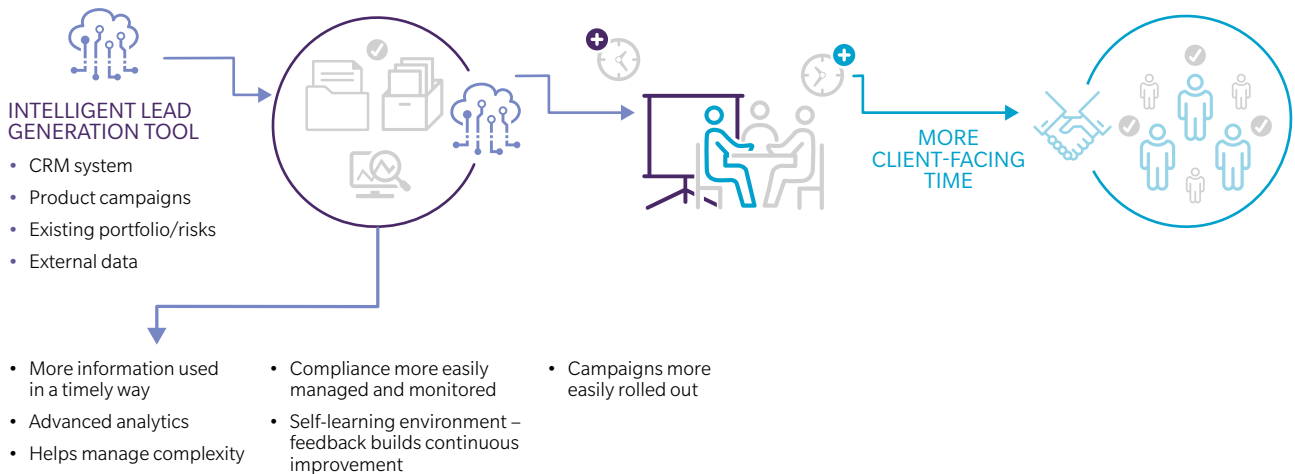
EXHIBIT 1: THE POWER OF IMPROVED ANALYTICS

WITHOUT STRONG BASIC ANALYTICS, THE BURDEN ON BANK RELATIONSHIP MANAGERS TO MEET CLIENT DEMAND FOR RESEARCH, ADMINISTRATION, AND COMPLIANCE CAN BE OVERWHELMING...

Typical allocation of a relationship manager’s time



...BUT WITH PROPER DATA MANAGEMENT, MANAGERS HAVE GREATER CAPACITY – AND MORE ACTIONABLE INSIGHTS  
 Relationship manager’s time is freed up to focus on client-facing activities



Source: Oliver Wyman analysis

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