10Minutes
on making big decisions

pwc

Balance the art of instinct with the science of data and analytics

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03: Upping the sophistication of decision making brings more options, insights, and accountability.

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When it comes to making your most important business decisions, there are a plethora of factors to consider. Company leaders often rely on gut instinct to guide them—what we think of as the 'art' of strategic decision making. But what about the 'science' side of the equation: data and analytics?

Consider that 85% of CEOs told us that data and analytics creates value for their organizations.[1] The question becomes—where and how are they realizing that value? One area ripe for the picking is strategic decision making.

We believe superior decision making—done with confidence, clarity, and agility—is only possible through a combination of art and science.

And most businesses have only begun to achieve this delicate balance: While 94% of respondents in PwC's *Global Data & Analytics Survey 2014: Big Decisions* said that senior management believe they are prepared to make their next big decision, just 38% relied on data and analytics to do so.

Right now, a majority of businesses aren't unlocking data possibilities, and therefore, are unable to achieve the level of speed and sophistication in decision making that today's environment demands.

Rethink how you make big decisions

1. What's on the line?
Company leaders need to take a hard look at strategic decision making: Executives place the average value of their big decisions, defined as the most significant decisions about the strategic direction of the business (i.e., not concerned with day-to-day operations), at 25% of future profitability.[2]

2. How do new ways of decision making affect your business?
Nearly all executives (96%) have previously discounted data they don't understand.[3] The benefits of unlocking data's potential to guide, validate, or challenge your instincts can inspire greater confidence and expedite decision making.

3. Does it work?
Executives from companies that have changed the way they make their biggest decisions as a result of data and analytics are nearly three times as likely to report significant improvements in strategic decision making as those from companies that have not done so.[4]

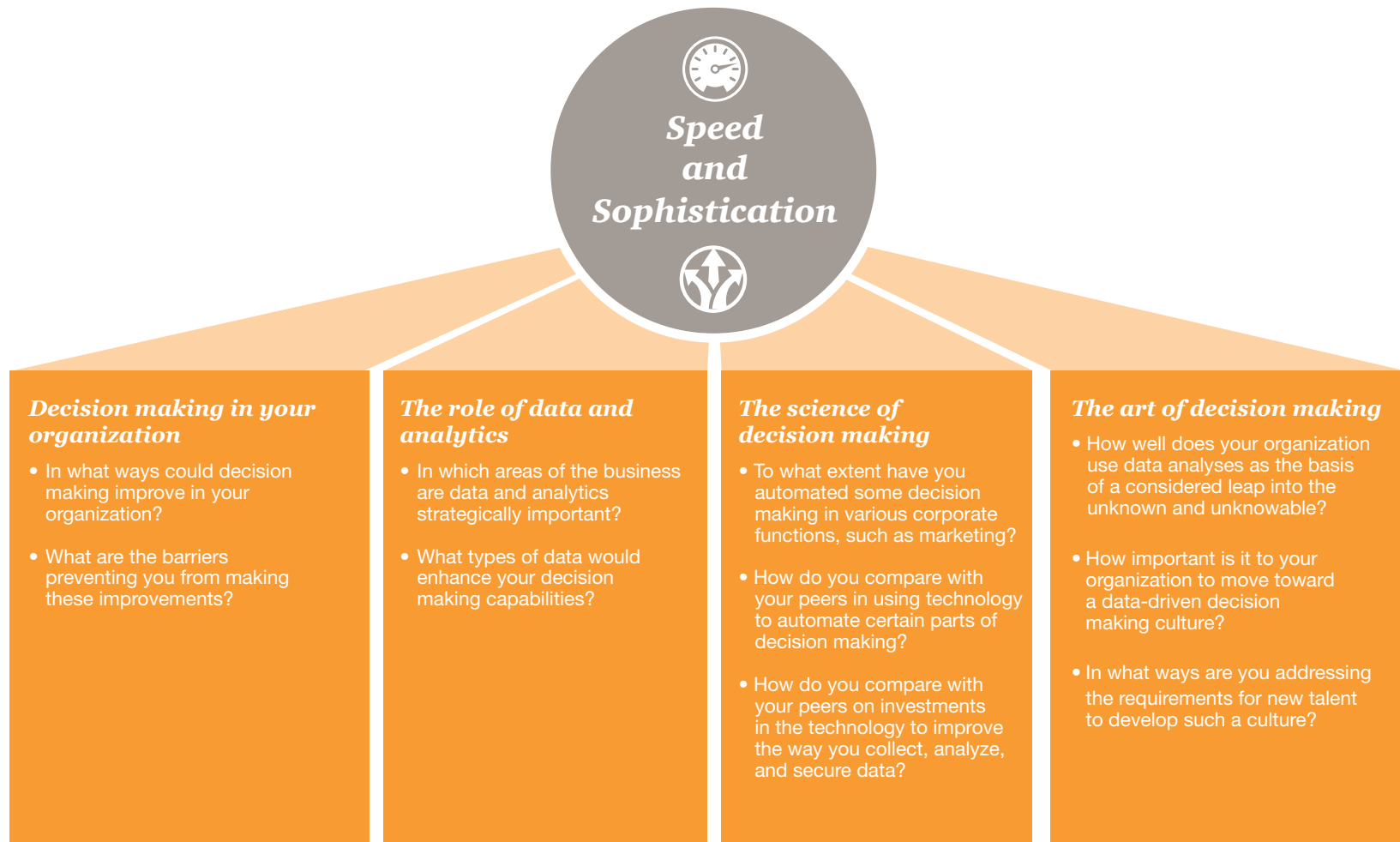1 PwC, *18th Annual Global CEO Survey*, January 2015.

2 PwC, *Global Data & Analytics Survey 2014: Big Decisions™*, September 2014.

3 Ibid.

4 Ibid.

At a glance

Does your organization's big decision making process need an upgrade? Assess how quickly you make and implement decisions, the tools, techniques, and data you use, and how prepared you are to act.
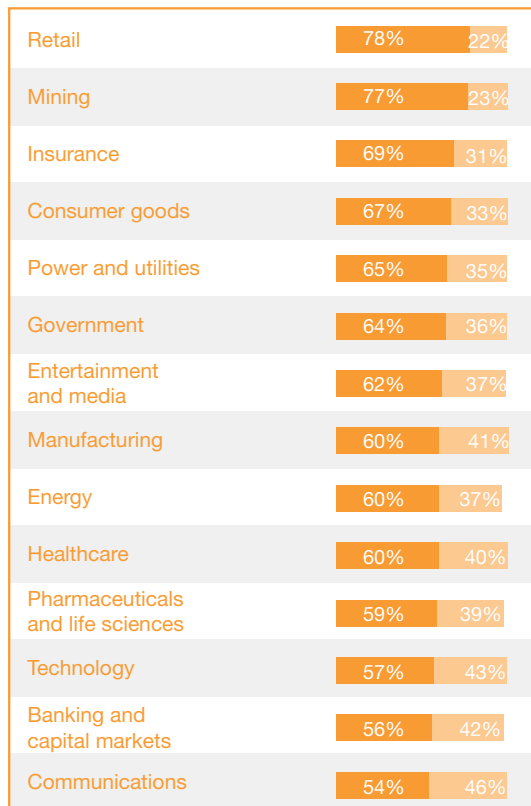
Speed and Sophistication

Decision making in your organization

- In what ways could decision making improve in your organization?

- What are the barriers preventing you from making these improvements?

The role of data and analytics

- In which areas of the business are data and analytics strategically important?

- What types of data would enhance your decision making capabilities?

The science of decision making

- To what extent have you automated some decision making in various corporate functions, such as marketing?

- How do you compare with your peers in using technology to automate certain parts of decision making?

- How do you compare with your peers on investments in the technology to improve the way you collect, analyze, and secure data?

The art of decision making

- How well does your organization use data analyses as the basis of a considered leap into the unknown and unknowable?

- How important is it to your organization to move toward a data-driven decision making culture?

- In what ways are you addressing the requirements for new talent to develop such a culture?

01

Upgrade how you anticipate and make decisions

Executives' decision making today: Art vs. science

What did you rely on most to make your last big decision—Art: intuition and experience of self and others; or Science: data and analytics input?

Industry	Art	Science
Retail	78%	22%
Mining	77%	23%
Insurance	69%	31%
Consumer goods	67%	33%
Power and utilities	65%	35%
Government	64%	36%
Entertainment and media	62%	37%
Manufacturing	60%	41%
Energy	60%	37%
Healthcare	60%	40%
Pharmaceuticals and life sciences	59%	39%
Technology	57%	43%
Banking and capital markets	56%	42%
Communications	54%	46%

■ Art   ■ Science

Source: PwC, *Global Data & Analytics Survey 2014: Big Decisions™*

In too many companies, decision making is out of balance. The majority of the executives in our survey admit to having previously discounted data analysis that they didn't understand. They believe there is limited direct benefit of data and analytics to their role. Most executives in our survey also agree that big decision making is a domain better left to intuition and experience. And a large majority would go so far as to say that relying on data analysis has been detrimental to their business in the past.

For all of the excitement around the potential uses of data and analytics, there remains a fundamental skepticism about, if not outright frustration with, the practical use and application of data and analytics for big decisions at the executive level.

Yet, there are executives who do see the potential, especially in industries such as communications or technology. These business leaders said they most relied on in-house data and expert analysis to make their most recent strategic decision.

Frame the opportunity

The majority of respondents (59%) in our survey pegged their next big decision at a value of $100 million or more. And 16% said its impact to the business was in the $1 billion to $5 billion range.[5] How you approach these pivotal decisions matters.

A global biotechnology company planned to bring a disruptive genetics product to market. Its leading technology was available from few others and it had the potential to be a low-cost leader. The big decision: how to price the new product, taking into account trade-offs among market share, revenue, and profitability?

In making this decision, the business unit leader initially based the decision-making process on intuition, targeting a model that offered the core product at a lower price and charging more for the test kits that were used with the product (think razor and razor-blades model). To test the assumption—and apply some science—the company built a simulation model that looked at five components: consideration, production, market pricing, competitor, and content.
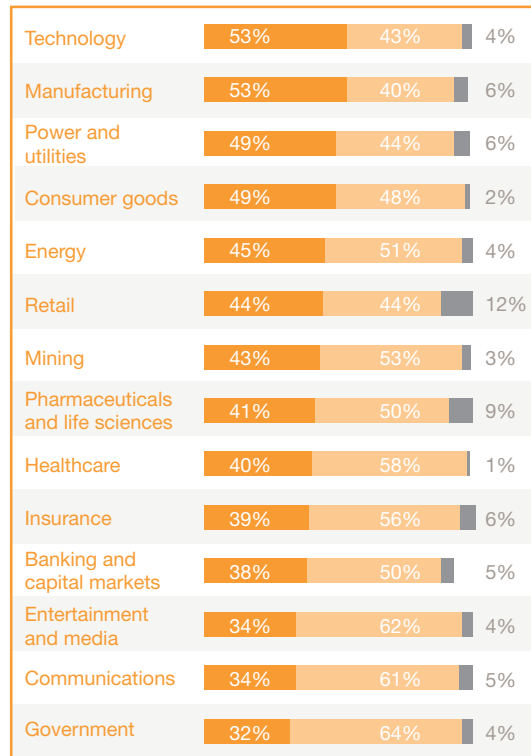
After evaluating different scenarios, the company identified an optimized pricing strategy that maximized profit over a five-year timeframe—and improved return on product launch by 200% compared with its original strategy. The analysis also zeroed in on factors beyond pricing—such as channel strategy, product portfolio, and release schedule—that would be critical to success.

5   PwC, *Global Data & Analytics Survey 2014: Big Decisions™*, September 2014.

Get to the answers more quickly and confidently

How frequently executives make decisions

How often do you expect to make a big decision in the next 12 months?

	Monthly or more frequently	Quarterly or half yearly	Annually or less frequently
Technology	53%	43%	4%
Manufacturing	53%	40%	6%
Power and utilities	49%	44%	6%
Consumer goods	49%	48%	2%
Energy	45%	51%	4%
Retail	44%	44%	12%
Mining	43%	53%	3%
Pharmaceuticals and life sciences	41%	50%	9%
Healthcare	40%	58%	1%
Insurance	39%	56%	6%
Banking and capital markets	38%	50%	5%
Entertainment and media	34%	62%	4%
Communications	34%	61%	5%
Government	32%	64%	4%

■ Monthly or more frequently   Quarterly or half yearly   Annually or less frequently

Note: Totals may not add up to 100% because they omit respondents selecting Other.

Source: PwC, *Global Data & Analytics Survey 2014: Big Decisions™*

A critical aspect of decision making is timeliness. This was an important consideration for a global consumer packaged goods company that set a goal to double revenue (while controlling costs) within an eight-year period. Its thousands of salespeople in as many distribution points worldwide would be the key to success as much as its data models or analytic techniques.

The company developed a system that provided the sales force with dashboards accessible via their smartphones, empowering sales reps to make informed decisions about stock levels more quickly. This prevented fewer stock-outs and lost revenue. Today, seven real-time data streams feed statistical models that help company leaders direct a multitude of daily decisions in the field, at the time salespeople need the information. The result of providing this intelligence in the moment was an immediate 5% to 7% revenue gain and the basis for a plan to use additional analytical-based approaches to meet growth goals.

From reporting to forecasting

Similarly, companies can accelerate decision making even by changing how a single function uses and acts upon data. For example, a multinational technology company had relied on manual processes—phone calls, emails, sending hard copy documents via postal mail—for tax reporting and research needs. Then it overhauled its data collection, standardized its processes and work papers, and consolidated data to a single location. As a result, tax reporting became more efficient and the company began to fully take advantage of the data for forecasting and analysis. It could now quickly answer questions about the impact of warehouse distribution locations or transfer pricing in just 10% of the time it used to take.

The same benefits can be seen when using data and analytics in internal audit, for example, enabling the function to move beyond reporting and influence decisions around risk or compliance.[6]

More decisions—more frequently

Organizations that improve the speed of their decision making can take advantage of fleeting opportunities that less nimble competitors are unable to act on. They can make more decisions in the time it would take a slower competitor to scope, assess, and reach a single decision. Global expansion decisions, for example, are strategic and expensive and can consume considerable time and resources. Systematically applying data and analytics across all dimensions of a business—considering everything from supply chain to tax regimes—enables you to allocate precious investment funds more quickly and with greater confidence.

6 PwC, *2015 State of the Internal Audit Profession*.

03

Achieve more sophistication— options and insights

Why not use data and analytics?

What do you consider to be the biggest barriers or issues that prevent you from making greater use of data and data analysis when making big decisions?

	Data quality and accuracy	Other execs lack expertise	Limited direct benefit to role	Data overload
Banking and capital markets	●			
Communications		●		
Consumer goods	●			
Energy	●			
Entertainment and media			●	
Government			●	
Healthcare		●		
Insurance			●	
Manufacturing			●	
Mining	●			
Pharmaceuticals and life sciences	●			
Power and utilities		●		
Retail				●
Technology	●			

Sophisticated decision making is not simply about analyzing more variables, crunching larger data sets, or running complex models. It requires a fundamental change in mindset, with senior managers—and everyone down the line— internalizing a data-driven approach and having confidence in both the inputs and the insights.

Anticipate the unknown

Some of the most important decisions you will make—which competitors to collaborate with or which new industries to enter, for example—are filled with uncertainty. This was the situation facing a Fortune 500 insurance company that saw the auto insurance business change as services moved online and became commoditized. The company sought to predict the potential market for selling life insurance online.

It distilled that larger question into three specific ones that it could explore with distinct data sets:

- *How would new healthcare regulations and the proliferation of electronic medical records impact online sales?*

- *How much marketing effort would it take to make consumers feel comfortable shopping for life insurance in this new way?*

- *What kinds of upcoming technology changes would make online sales more viable?*

Finding the answers required combining macroeconomic data, consumer data, and technology advancement data, modeled out five to ten years. The company also wanted to find out who its most promising sales prospects would be. Again it took advantage of third-party data sets that showed life insurance customers, their net worth, demographics, digital acumen, and time spent online.

Armed with its new model, the company can now identify the prospects most likely to shop online and create marketing programs to target them. Most important, the model is flexible enough to be adjusted for improving economic conditions, new competition in the market, or changes in adoption rates.

Four ways to improve your decision making today

Where executives see room for improvement

What aspects of the big decision-making process at your organization need to change the most in the next two years?

	Number of people involved	Data analysis quality	Use of external data	Use of internal data
Banking and capital markets	●			
Communications	●			
Consumer goods		●		
Energy	●			
Entertainment and media	●			
Government			●	
Healthcare	●	●		
Insurance	●			
Manufacturing	●			
Mining		●		●
Pharmaceuticals and life sciences	●			
Power and utilities	●			
Retail	●			
Technology	●	●		

Source: PwC, *Global Data & Analytics Survey 2014: Big Decisions™*

There's a strong sense among business leaders that they may be missing out on opportunities: Just one-fifth (21%) told us that they feel fully prepared to make their next big decision.[7] Our four-step framework can help you systematically focus on achieving better outcomes.

1. Link decisions to shareholder value

Build decision maps that specify how different decisions you make impact shareholder value. For example, a global Fortune 100 agriculture and chemicals company sought to maximize its net return per acre—a key driver of shareholder value. It identified 15 critical decision sets, from planning through harvesting, such as: *How can we maximize yield, under different weather conditions, as they evolve during the season?*

2. Evaluate alternatives and impacts

Start by identifying the trends that could have the biggest impact on your industry, then consider how your company might respond. A grocer, for example, might identify three strategies for dealing with an online competitor: move to locally grown foods, compete with a wide breadth of offerings, and focus on loyalty memberships and promotions. The company would then evaluate how changes to strategy would require changes to its operating model.

3. Apply a value-and-results lens

A primary goal here is to identify—and remove—barriers to effective decision making. A life sciences company sought to improve decisions about product launches. It identified a number of impediments, including unclear decision rights and discomfort among senior executives in interpreting analysis results. It then targeted each barrier; for example, clarifying decision rights and introducing training programs.

4. Adopt a structured test-and-learn approach

A rigorous approach to decision making enables you to make every decision—big and small—with the same level of speed and sophistication. You can create a blueprint that lays out how your organization makes decisions—how often they are made and revisited, who is accountable, what inputs are considered, and the level of analysis. As you try and refine new approaches, like applying predictive analytics or testing out simulation, you can update your decision-making blueprint.

7 PwC, *Global Data & Analytics Survey 2014: Big Decisions™*, September 2014.

If you have more than 10 minutes

PwC's Global Data & Analytics Survey 2014: Big Decisions™

Our global survey of 1,135 executives, conducted by The Economist Intelligence Unit, looks at the most significant decisions about the strategic direction of the business and the impact of data and analytics.

Case study: Using information advantage to deliver superior profitability

Operating in an industry with slim margins and little room for error, airlines rely heavily on route optimization and planning to assure their profitability. See how we helped a major domestic US carrier frame the issues more clearly and use advanced analytics to achieve the profitable schedules they were seeking.

The art and science of big decisions

Get more insights on how executives can cultivate the role that instinct plays in our increasingly data-driven world.

Diagnostic: PwC's Big Decisions™ Sophistication and Speed Matrix

Learn if your organization is outperforming its competitors in the use of data and analytics in big decision making, or where resources or investment may be needed.

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How PwC can help

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