

The Gulf Cooperative Council's Big Data Opportunity

How The GCC Can Use Big Data To Be More Competitive

by Brian Hopkins

November 20, 2015 | Updated: November 23, 2015

Why Read This Report

The Middle East is a new frontier for business innovation. In particular, the possibilities for using big data and advanced analytics to improve regional outcomes are enormous — and the region needs these capabilities to maintain its hard-won global advantage. This report analyzes the big data challenges and opportunities for the Gulf Cooperative Council (GCC) countries: the Kingdom of Bahrain, the Kingdom of Saudi Arabia, the State of Kuwait, the State of Qatar, the Sultanate of Oman, and the United Arab Emirates (UAE). Enterprise architects should read it to understand how to apply big data proof-of-concept energy and investment dollars.

Key Takeaways

Big Data Will Help GCC Countries Innovate

The Arabian Peninsula has developed into a global powerhouse, but a few troubles are brewing. Focusing on technology readiness and innovation can help GCC countries maintain their competitive edge. Big data can create new innovative capabilities in education, healthcare, transportation, and labor market efficiency, which are all areas in need of improvement.

Big Data Will Not Be Enough: Gulf Companies Must Be Customer-Obsessed

Big data can help firms turn data into insight, but unless they focus that insight on winning, serving, and retaining customers, they will miss opportunities. A new class of digital competitor is evolving beyond big data to focus on insights. Middle Eastern businesses must learn from insight masters to turn data into differentiating customer engagements.

Solve People Issues First

A lack of skilled data pros will be the largest big data issue for Middle Eastern enterprises. More of the workforce must become data-savvy, especially in the field of data science. Firms and governments must also hire people in leadership positions who understand data and analytics. Finally, government must empower its citizens through training and help businesses use data to improve regional profitability and customer engagement.

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Forrester interviewed four Middle Eastern user companies, including Al Safeer Group of Companies and First Gulf Bank, as well as one consultancy, Information Age for I.T. Consultations.

Related Research Documents

[The CIO's Blueprint For Strategy In The Age Of The Customer](#)

[Digital Insights Are The New Currency Of Business](#)

[Reset On Big Data](#)

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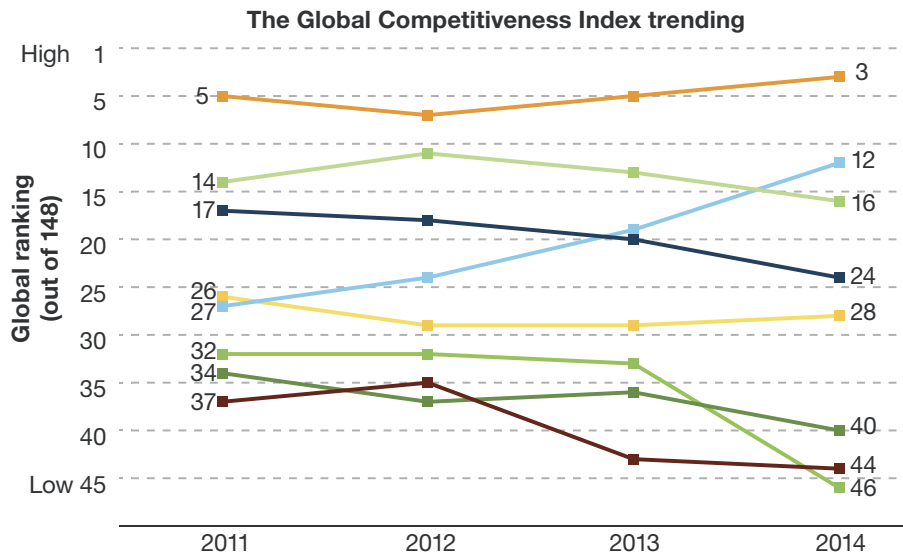
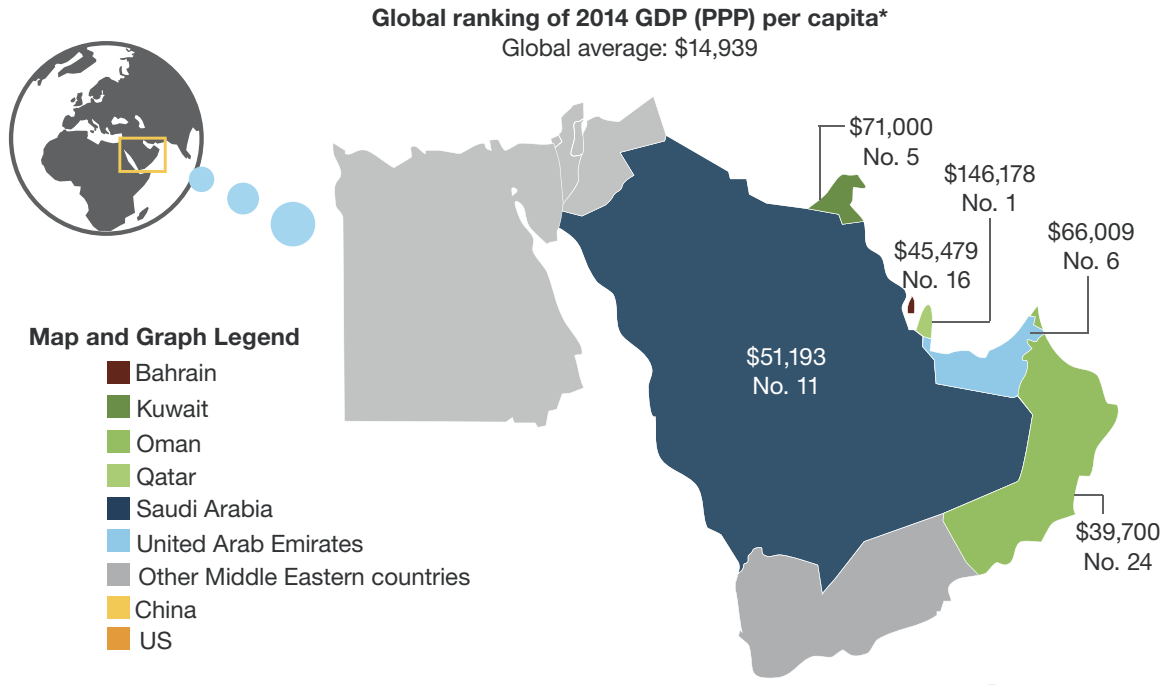
The Gulf Cooperation Council Region Is A Global Powerhouse

The Arabian Peninsula has become prosperous and globally competitive (see Figure 1).¹ With a regional gross domestic product (GDP) of \$1.6 trillion, member states of the Cooperation Council for the Arab States of the Gulf (colloquially, the Gulf Cooperation Council, or GCC), boast some of the highest GDP per capita incomes in the world.² Despite their powerful position, the downward trend of a few countries' Global Competitiveness Index rankings suggests that trouble is brewing. In "The Global Competitiveness Report 2014-2015," the World Economic Forum (WEF) identified several problem areas common to the region:³

1. **Education and health.** Saudi Arabia lost four positions in the 2014 ranking, mainly due to its need to improve primary and higher education. Education was also a factor in the three-position decline of Qatar, and the report mentioned it as an area needing improvement in the United Arab Emirates. Saudi Arabia and Qatar both ranked below their peers in terms of population health care as well.
2. **Use of information and communication technologies (ICTs).** The report encouraged all GCC countries to improve their use of ICTs to increase worker productivity and business innovation.
3. **The business environment.** For the region to improve global competitive in the nonhydrocarbon sector, the WEF recommended improving workforce efficiency and opening up economies to foreign trade. It also mentioned reducing the administrative barriers to small business.
4. **Infrastructure improvement.** The report cited strong infrastructure as an advantage for several GCC countries, including the UAE, which ranks third globally. However, the report goes on to advise Qatar, which is a leader in many other competitive factors, that it needs infrastructure improvement.

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FIGURE 1 GCC Members Are Among The World's Most Competitive Countries



Source: Klaus Schwab, "The Global Competitiveness Report 2014 - 2015," World Economic Forum, September 2, 2014

*Source: The World Bank website

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Big Data Will Be Key To Maintaining GCC Competitive Advantage

Forrester defines big data as:

The practices and technology that close the gap between the data available and the ability to turn that data into business insight.

Our definition is a call to action.⁴ Enterprise architects must be on a continuous journey to close the gap between data and insight or risk losing competitive advantage. Forrester finds some Gulf companies demonstrating success in their journeys, while many are still navigating the regional challenges of big data through proofs of concept and partners. For example:

- › **Success: A commercial bank does advanced analytics on consumer data in the cloud.** A regional bank in the UAE formed a business intelligence unit for consumer banking in 2007. The unit performs neural network machine learning analytics in the Microsoft cloud to identify leads. Currently, it's working to improve the performance of its social media analytics model as well. Based on social sentiment, the bank calibrates its business model every seven days, but big data solutions promise to reduce this to every few hours.
- › **Success: The Safer Group creates smart supply chain management.** Al Safer Group of Companies includes one of the largest retail chains in the Middle East. Kumar Prason, its group CIO, told Forrester that the Group has intelligently automated its entire supply chain. Specifically, the Safer Group automated every touchpoint necessary to reorder purchased products, and built-in intelligence drives the whole process. Mr. Prason noted that three years of hard data integration and governance work finally made it possible.
- › **Challenge: Vendors must adapt technology to Arabic.** Much of big data analytics involves making sense of unstructured text and analytics, such as using call center notes or agent notes to diagnose and fix customer problems. But according to Dr. Salah Alnajem, associate professor of computational linguistics and natural language processing at Kuwait University and founder and CEO of Information Age for I.T. Consultations, vendors are just starting to adapt text analytics and natural language processing to work with Arabic.
- › **Challenge: Leaders confront a technical and management skills gap.** Several technology leaders that Forrester interviewed mentioned a skills gap. This is not surprising, given the fact that the majority of big data and advanced analytics educational opportunities are in the West.⁵ One interview also noted gaps in the typical senior technology manager's understanding of big data and advanced analytics as a problem.

Big Data Creates Readiness And Innovation, Which Benefit Many Other Areas

Technology readiness and technology-enabled business innovation are two of the 12 pillars of global competitive advantage identified by the World Economic Forum (see Figure 2).⁶ Moreover, the report tightly links big data and advanced analytics to the improved use of ICTs as a means to drive

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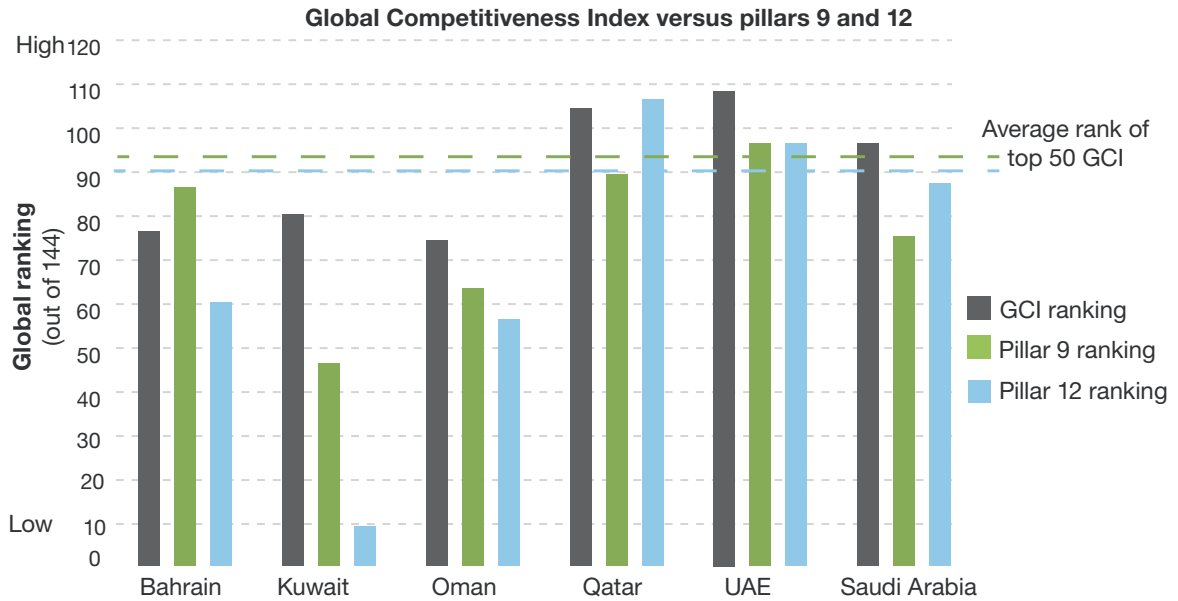
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innovation. For example, when Forrester asked global and data analytics decision-makers what types of analytics are most likely to drive innovation and create new growth for their firms, the No. 3 response was “predictive analytics.”⁷ While large-scale predictive analytics can help drive innovative business improvements through recommendations engines and churn models, GCC countries must think bigger about big data. Big data analytics offers mature capabilities that can help the region maintain its global competitive advantage. For example, big data analytics can help:

- › **Improve health outcomes.** Ranked No. 12 globally on the Global Competitiveness Index, the UAE is the most competitive country in the GCC. But its lagging rank (No. 38) for healthcare and primary education (pillar 4) proves it needs to raise the bar.⁸ Big data use cases for healthcare are well documented and include population health management, fraud and waste detection, and rare disease identification.⁹
- › **Improve education.** The WEF’s report recommended improvements in the quality of teaching and the relevance of curricula.¹⁰ Advanced text analytics can help. For example, Dr. Salah Alnajem is collaborating with SAS to develop natural language processing tools that work with Arabic. Using advanced analytics tools, governments can help schools improve online courses and more deeply assess educational gaps by evaluating social media.
- › **Improve the transportation infrastructure.** Qatar fell three places in 2014, to No. 16 in overall global competitiveness. The WEF analysis revealed that Qatar needed to improve its transportation infrastructure at a fundamental level.¹¹ Techniques such as large-scale machine learning can help by providing better predictive maintenance capability. For example, Siemens Mobility Services uses real-time data from trains to enable European operators to better predict and prevent maintenance issues.¹²
- › **Enhance labor market efficiency.** At No. 24, Saudi Arabia lost four places in the 2014 Global Competitiveness Index. If left unaddressed, the country’s mediocre labor market efficiency (ranked No. 64 globally) could threaten its overall performance.¹³ Mobile location analytics can help by providing insight about the behavior of the growing population of young people in the country. It could also help improve mobile engagement between employers, governments, and employable citizens.

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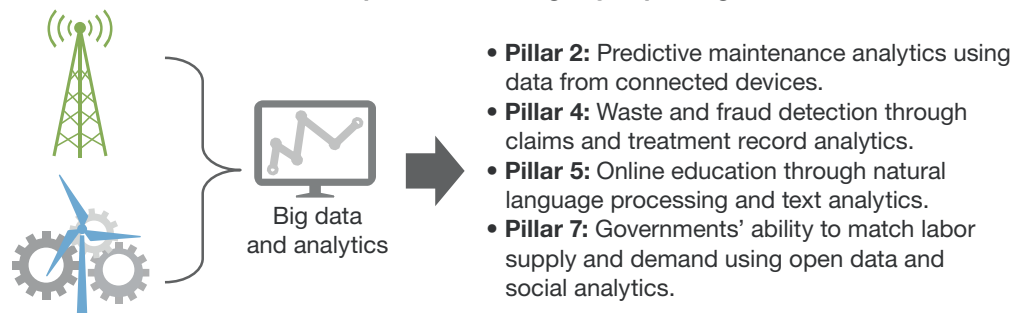
FIGURE 2 Big Data Can Help Improve Business Innovation



12 Pillars of Global Competitiveness

Pillar 1: Institutions	Pillar 5: Higher education and training	Pillar 9: Technological readiness
Pillar 2: Infrastructure	Pillar 6: Goods market efficiency	Pillar 10: Market size
Pillar 3: Macroeconomic environment	Pillar 7: Labor market efficiency	Pillar 11: Business sophistication
Pillar 4: Health and primary education	Pillar 8: Financial market development	Pillar 12: Innovation

Big data technology readiness (part of pillar 9) and people (part of pillar 12) will help GCC countries maintain competitive advantage by improving:



Source: Klaus Schwab, "The Global Competitiveness Report 2014 - 2015," World Economic Forum, September 2, 2014

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GCC Countries Must Become Customer-Obsessed And Insight-Driven

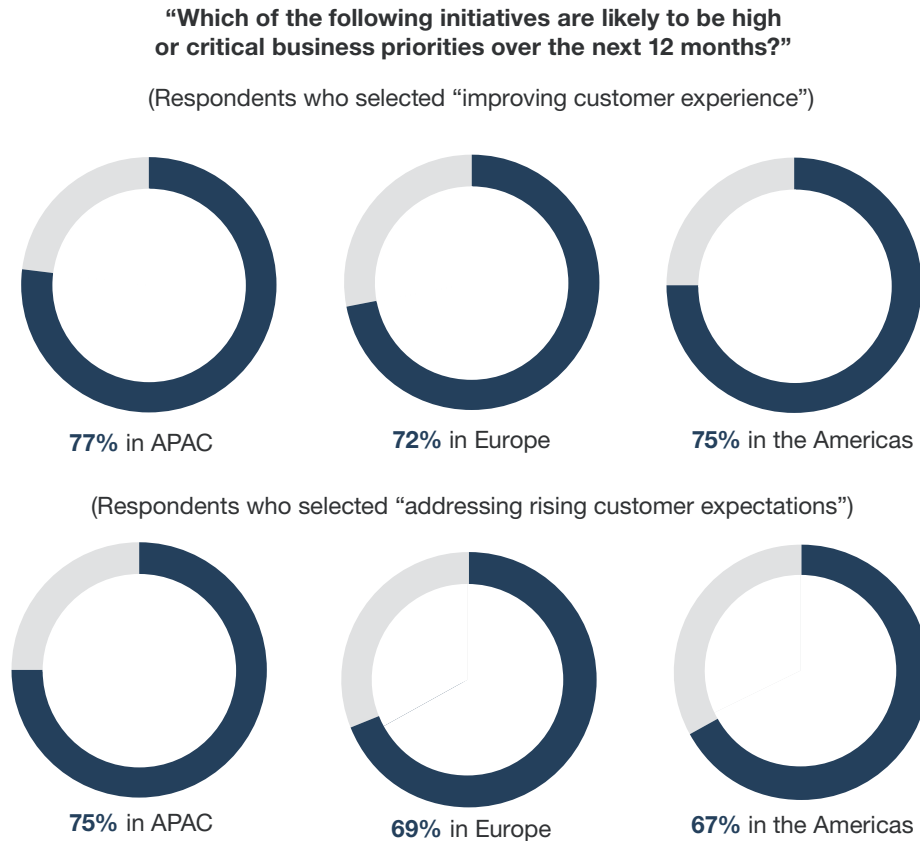
While big data investment can help GCC governments and businesses partner to sustain global advantage, they will need to do more to ensure that regional economies and businesses flourish in the 21st century. The reason is a shift in power from businesses and governments to consumers and citizens that started in 2010. Forrester calls this the age of the customer, and it's a global force (see Figure 3).¹⁴

A business strategy of customer obsession is the only way to succeed in the age of the customer. Customer-obsessed firms focus strategy, energy, and budget on processes that enhance knowledge of and engagement with customers and prioritize these over maintaining traditional competitive barriers. Our interviews with businesses operating in the Arabian Peninsula confirmed that the age of the customer has indeed landed in the region:

- › **The Safer Group uses big data analytics to optimize consumer engagement.** Kumar Prasoon told Forrester how the Safer Group's investment in basic data integration and governance led to more-sophisticated big data capabilities. For example, it is using video analytics to mine shopper foot-traffic patterns and optimize merchandising and personnel placement.
- › **Two regional banks say customers are their top priority.** The Arabian Peninsula is a power center for international finance. Even these financial giants aren't immune to the dynamics of digitally empowered citizens and have responded by elevating the importance of understanding and serving customer through personalized engagements:

"We want to be a customer-centric bank. That means we need to improve how we understand and service our customers to give them exactly what they want." (VP of IT applications, Middle Eastern bank)

FIGURE 3 Business Priorities Indicate That Customer Obsession Is A Global Phenomenon



Base: 714 to 1,307 data and analytics decision-makers from the designated regions

Source: Forrester’s Global Business Technographics® Data And Analytics Survey, 2015

Big Data Will Not Be Enough: GCC Companies Must Become Insight-Driven

All the excitement and investment in big data will ultimately fall short. Why? Because it solves only part of the problem — turning more data into “interesting insights.” It will leave your business wanting as it seeks to become customer-obsessed. How so? Because systems of engagement that touch customers are the most important focus areas, and your firm will need to connect data, insights, and action to win, serve, and retain them.¹⁵ Big data alone can’t do this because it:

- › **Doesn’t validate the value of insights against business outcomes.** Data scientists are great at finding insights in data; ask Assad Shaik, who manages 200 of them at PNC Financial Services Group. But only insights that have proven valuable *for a given business outcome* are worth your time.

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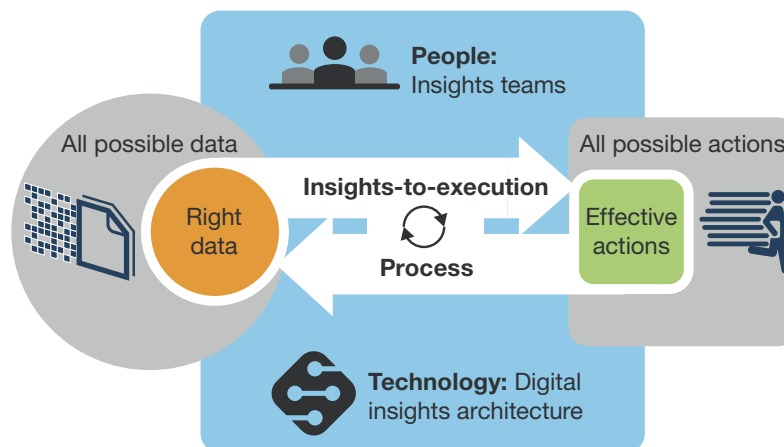
- › **Doesn't deliver insights to the roles and processes that create actions.** Big data processes stop once you have developed and tuned models or created reports and visualizations. This leaves it up to other business staff and separately managed developers to take action based on the data-derived insight.
- › **Doesn't create continuous learning.** Even if you instrument everything and vacuum in all that digital exhaust, you won't be any smarter unless you have activated the people and processes necessary to discover why your insights did or didn't create the desired actions and outcomes. Leading firms measure outcomes and refine actions to wring the most value out of their hard-earned insights.

GCC Enterprises Must Learn From Insight Masters

Forrester sees a new class of digital predator arising: the insight master.¹⁶ These firms embed insights, and the systems for finding and implementing them, into the fabric of their businesses. They go beyond big data by building insight platforms, standing up insight teams, and deploying digital insights into processes and application software.

GCC governments and regional businesses intent on pursuing big data and analytics will fully succeed only if they can get beyond big data talk and become insight-driven. Only digital insight — that is, new knowledge from data, tested for value and implemented in software — will create the action that businesspeople expect when you talk about big data. Forrester's "Digital Insights Are The New Currency Of Business" report provides deeper analysis of this concept and a description of the systems of insight that firms are building to connect data to action (see Figure 4).¹⁷

FIGURE 4 Systems Of Insights Drive Business Actions With People, Processes, And Technology



Source: "Digital Insights Are The New Currency Of Business" Forrester report

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Recommendations

To Become Insight-Driven, Start With People

The first wave of big data technology is approaching maturity. For example, 58% of global data and technology decision-makers report that by 2016, their firms will have implemented Hadoop.¹⁸ The challenges that Middle Eastern firms face lie in skills, culture, and government. Accordingly, enterprise architects in the region should focus efforts around building systems of insight by first addressing basic people issues:

- › **Encourage young people to pursue data science educations.** Data science has become a hot educational curriculum, but it's Western institutions that most commonly teach it. However, courses are becoming available in the Gulf region. For example, the Big Data Science School is offering a professional certification workshop in December 2015 in Dubai.¹⁹
- › **Promote data and analytics talent into senior leadership positions.** Senior business leaders must firmly grasp the value of improved data and analytics capabilities to drive the necessary cultural changes. However, according to the executives we spoke with, institutions and businesses in the region tend to promote leaders based on other criteria. This must change, as insight-driven transformation must start at the top.
- › **Strongly support open data and eGovernment initiatives.** Governments in the region must follow the lead of the front-runners in this area. For example, Bahrain's open government data portal aims to promote transparency and e-participation in government and to inspire innovation.²⁰ Other projects, like Yemen's eGovernment initiative, have generated new public data sets and promoted collaboration between ministries, to the benefit of businesses and citizens.²¹ Look to this older example for early inspiration.

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Supplemental Material

Survey Methodology

Forrester's Global Business Technographics® Data And Analytics Survey, 2015 was fielded from January 2015 through March 2015 of 3,005 business and technology decision-makers located in Australia, Brazil, Canada, China, France, Germany, India, New Zealand, the UK, and US from companies with 100 or more employees.

Forrester's Business Technographics provides demand-side insight into the priorities, investments, and customer journeys of business and technology decision-makers and the workforce across the globe. Forrester collects data insights from qualified respondents in 10 countries spanning the Americas, Europe, and Asia. Business Technographics uses only superior data sources and advanced data-cleaning techniques to ensure the highest data quality.

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Endnotes

- ¹ Member states of the Cooperation Council for the Arab States of The Gulf are the Kingdom of Bahrain, the Kingdom of Saudi Arabia, the State of Kuwait, the State of Qatar, the Sultanate of Oman, and the United Arab Emirates. Source: The Cooperation Council for the Arab States of the Gulf (<http://www.gcc-sg.org/eng/>).
- ² The World Bank's calculations of GDP (PPP) per capita income in 2014 yielded that Qatar was ranked No. 1, Kuwait was No. 5, the UAE was No. 6, Saudi Arabia was No. 11, and Bahrain was No. 16. For reference, the United States was No. 10. Source: "Indicators," The World Bank (<http://data.worldbank.org/indicator>).
- ³ Source: Klaus Schwab, "The Global Competitiveness Report 2014 - 2015," World Economic Forum, September 2, 2014 (<http://www.weforum.org/reports/global-competitiveness-report-2014-2015>).
- ⁴ Forrester's definition stands in contrast to the more traditional views of big data that highlight arbitrarily defined characteristics of data, such as being voluminous or having high velocity or varied formats. This view of big data is not actionable.
- ⁵ Forrester performed Internet searches using terms like "data science education in []" and "big data training in []," using various combinations of region and country names. The majority of relevant results existed in North America, with Europe second and Asia Pacific third. We found very few opportunities for education and training in the Middle East. Additionally, we investigated the curriculum of top universities in Saudi Arabia and the UAE. While we found course descriptions that addressed aspects of big data as it pertains to computer science, we found no business courses.
- ⁶ Source: Klaus Schwab, "The Global Competitiveness Report 2014 - 2015," World Economic Forum, September 2, 2014 (<http://www.weforum.org/reports/global-competitiveness-report-2014-2015>).
- ⁷ We asked respondents to tell us which types of analytics are most likely to drive innovation and create new growth for their departments. Forty-three percent of global data and analytics decision-makers selected performance analytics, while 37% selected reporting. Predictive analytics was a close third, with 35% saying it would drive innovation and growth. Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015.
- ⁸ Source: Klaus Schwab, "The Global Competitiveness Report 2014-2015," World Economic Forum, September 2, 2014 (<http://www.weforum.org/reports/global-competitiveness-report-2014-2015>).
- ⁹ In the healthcare industry, knowledge driven by big data is changing the shape of research, clinical, and administrative operations; standards of care; and even fundamental business models. For analysis on major applications of big data in the industry, see the "[Seven Ways Big Data Improves Healthcare Outcomes](#)" Forrester report.
- ¹⁰ Source: Klaus Schwab, "The Global Competitiveness Report 2014-2015," World Economic Forum, September 2, 2014 (<http://www.weforum.org/reports/global-competitiveness-report-2014-2015>).
- ¹¹ Source: Klaus Schwab, "The Global Competitiveness Report 2014-2015," World Economic Forum, September 2, 2014 (<http://www.weforum.org/reports/global-competitiveness-report-2014-2015>).
- ¹² Source: "Breakthrough Teradata Software Pushes the Analytic Edge with Internet of Things Data," Teradata press release, October 19, 2015 (<http://www.teradata.com/News-Releases/2015/Breakthrough-Teradata-Software-Pushes-the-Analytic-Edge-with-Internet-of-Things-Data/?LangType=1033&LangSelect=true>).
- ¹³ Source: Klaus Schwab, "The Global Competitiveness Report 2014-2015," World Economic Forum, September 2, 2014 (<http://www.weforum.org/reports/global-competitiveness-report-2014-2015>).
- ¹⁴ Forrester defines the age of the customer as a 20-year business cycle in which the most successful enterprises will reinvent themselves to systematically understand and serve increasingly powerful customers. This report explains: 1) how to achieve the right mix of IT and BT; 2) which methods will help you build a highly effective BT portfolio; and 3) how to improve collaboration with other executives in your company who are also meeting the customer challenge. See the "[Technology Management In The Age Of The Customer](#)" Forrester report.

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¹⁵ For an in-depth description of systems of engagement, see the “[Mobile Is The New Face Of Engagement](#)” Forrester report.

¹⁶ To learn how two insight masters, Stitch Fix and Tesla Motors, use systems of insight to deliver differentiating customer experiences, see the “[Transform Customer Experiences With Systems Of Insight](#)” Forrester report.

¹⁷ Leaders are fusing a new business discipline with technology to create systems of insight. This combination of people, process, and technology closes the gap between insights and action. See the “[Digital Insights Are The New Currency Of Business](#)” Forrester report.

¹⁸ Source: Forrester’s Global Business Technographics Data And Analytics Survey, 2015.

¹⁹ Source: “Big Data Science Professional Certification Workshop,” Big Data Science School, December 13-15, 2015 (http://bigdatascienceschool.com/workshops/dubai_20151214).

²⁰ Source: Bahrain Open Data Portal (<http://www.data.gov.bh/>).

²¹ Source: Greg Wilson, “Yemen kicks off US\$ 60 million e-government initiative,” ArabianBusiness.com, October 8, 2002 (<http://www.arabianbusiness.com/yemen-kicks-off-us-60-million-e-government-initiative-139451.html>).

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