Executive Monitor

Chief Digital Officer

NEW YORK and LONDON, Aug. 31, 2015 (GLOBE NEWSWIRE) -- Organizations are hiring and elevating Chief Digital Officers (CDOs) to forge new initiatives and digital strategies, in line with the digital revolution sweeping the world, according to a study by Boyden Global Executive Search.

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Executive Summary

The most successful companies are those that leverage modern innovations in technology toward their business strategy, regardless of their industry or specialty. This correlation is not incidental. Big data, mobile technology, and other physical and non-physical advancements in technology are changing the way companies operate internally and interact with partners and consumers – within and outside of the tech industry proper.

New technology points to an urgent need for businesses to seriously consider how they can remain competitive among their peers by reducing operating costs, maximising efficiency, and investing in R&D to improve consumer experiences. Recent tech trends, including the use of big data analysis, socially enabled business processes, and physical technologies like drones and fitness wearables can have a transformative impact on the way companies do business.

Companies that have prioritized bringing their operations into the modern age are hiring Chief Digital Officers (CDOs) for their executive suite to oversee the implementation of digitally enabled strategies in all business areas. Among the challenges facing CDOs are enforcing robust cybersecurity tactics to protect increasingly valuable data, integrating business-wide digital infrastructures that are compatible with the organisation’s existing processes, and educating other leaders about the tremendous gains to be realized from these critical modernizing strategies.

Chief Digital Officer

Role

The Chief Digital Officer (CDO) is rapidly cropping up in executive teams across industries, charged with managing a company’s digital projects and implementing its “digital vision.” ¹ This vague job description manifests itself in different ways, depending on the company, its position within the industry, the existing executive team, its products or deliverables, and myriad other factors. CDOs are meant to bridge the gap between Chief Information Officers and Chief Marketing Officers, using knowledge and insights from both realms to craft an end consumer experience that is contemporary, exciting and efficient by virtue of being digitally enabled. The CDO therefore brings insights about brand awareness and consumer experience to the CIO, and insights about interactive branding and messaging to the CMO. In addition to close engagement with the CIO and CMO, however, CDOs must be involved in all areas of the company due to their mission to understand how all segments can activate digital strategies.²

¹ http://www.mckinsey.com/insights/business_technology/bullish_on_digital_mckinsey_global_survey_results
² http://www.deloittedigital.ca/chief-digital-officer
“Clients are engaging us in more and more Chief Digital Officer roles, which are often better driven by the CIO rather than the CMO. CIOs understand the business model, big program delivery and big transformation, which includes data and cybersecurity. Thus, if you’re among the top five percent of CIOs, you’re among the best candidates for CDO positions.”

Vicky Maxwell Davies, Partner, Boyden UK

According to CIO Magazine, there are six distinct priorities that must be addressed by successful CDOs. These include:

- Earning company-wide commitment to implementing digital strategy
- Developing a digital strategy mission statement
- Informing the strategy with data-based experimentation
- Creating a strong network of business and IT innovators
- Speaking multiple business “languages” to communicate clearly with all segments
- Striving to achieve tangible digitization goals

“The Chief Digital Officer plays in the place where enterprise meets the customer, where the revenue is generated and the mission accomplished. They’re in charge of the digital business strategy.”

– David Willis, VP and analyst at Gartner

The CDO is widely becoming an indispensable role within the C-Suite, but there are still those who are reluctant to make a permanent space at the executive level for someone devoted to digital strategy. As the CDO is meant to facilitate the transition from analogue to digital across all business segments, analysts and executives have argued that the position is only useful in the short term and becomes obsolete as the digitization process winds down. While the move to digital platforms is undoubtedly a challenging one for many companies, other analysts argue that the CDO position is ultimately detrimental to the process and could drive a wedge between front- and back-end operations, because it separates the inherently intertwined work of the CIO and the CDO.

“If I’m successful, my role should not exist in three to four years’ time because digital will cut across the whole organization and we will be a fully digitally embraced organization.”

– Sean Cornwell, CDO of Travelex

As many companies continue choosing not to place a CDO in the C-Suite, other executives must be particularly careful to integrate digital strategies into their work, while integrating their separate initiatives to maintain cohesiveness and security. Most importantly, the chief executive must “[monitor] the company’s digital service landscape to ensure that leadership exists within the current organisational structure to exploit digital strategies as they arise.”

Expected CDO Trends

Companies that want to be a digitization bellwether in their industry, expect digital products and services to make up a significant portion of their revenue growth, or face particular difficulties in executing digitization initiatives across organisational boundaries, which could lead to misaligned or duplicated investments or inordinately long implementation times, can benefit tangibly from appointing a Chief Digital Officer, according to analysts at Strategy&.

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5. [http://www.ft.com/intl/cms/s/0/b05082ea-c7e3-11e2-babb-00144fadb0c0.html#axzz3e19iqgRI](http://www.ft.com/intl/cms/s/0/b05082ea-c7e3-11e2-babb-00144fadb0c0.html#axzz3e19iqgRI)
As companies that have already adopted Chief Digital Officers (comprising approximately 25% of businesses in 2015) realize the gains from adding a CDO to their executive suite, other companies, especially in the technology, media, and government/non-profit industries will follow suit. According to e-Marketer, CDO positions will double globally in one year, increasing from 1,000 to 2,000. This is almost 800% more than the 225 CDO posts held in 2012.1 Though more common in technology and various advertising and media sectors, this global phenomenon is projected to span a range of industries.

"In healthcare and life sciences, digital management is playing an important role in company organisation, task allocation and consumer marketing. And the product of this effort is more than digital itself, which is further transforming functions such as the CFO, R&D and operations.”

Sabine Brunthaler, Partner, Boyden Switzerland

Additionally, companies outside the tech industry spearheading the CDO movement, some of which are highlighted in the following section, will encourage similar companies to take full advantage of their own digital capacities through this executive appointment.

**CDOs Beyond Silicon Valley**

Outside of tech, the earliest companies to adopt CDOs into their executive suites have been in the media industry: Agencies, publishers and broadcasters, including Forbes Media Group, Doe-Anderson and HarperCollins, have perceived the potential growth that a CDO can bring about in a climate of steep competition. These companies easily lend themselves to digitization due to the nature of their products and services, and so have seamlessly incorporated CDOs into their executive suites and initiated digitization strategies in hopes of improving efficiency and reducing costs.

An unexpected area of growth for CDO positions has been in public sector and government organizations. As digitization has become more challenging because of institutional and organizational...
“Most global, fast-moving consumer and retail companies have been effective in growing online traffic, brand awareness and digital management. However, Eastern Europe is still a relatively new and unregimented market, and thus the CDO and related functions are still being developed. That has created terrific opportunities for young people who have less experience but great digital ‘feel’ to take on these roles.”

Zbigniew Plaza, Managing Partner, Boyden Poland

barriers, there has risen a more urgent need for CDOs devoted to the challenging task of bringing what are often highly bureaucratic and conservative organizations into the modern era with as little internal friction as possible. In these organizations, where budgets are often tight, the utility of a CDO is particularly evident, as the savings this executive can bring about through digitization will allow them to allocate funds elsewhere in the organization. Chief Digital Officers in government agencies especially are tasked with the singularly important task of protecting infrastructure and sensitive information at the critical nexus of data security and national security.

Noteworthy CDOs

Though CDO is a relatively new position in the C-Suite, the appointment of CDOs at several major brands in the recent past illustrates the growing awareness of the need for quick transformation via an effective digital strategy. Large global organizations that have appointed a CDO reside in all sectors and regions, and include blue-chip brands:

<table>
<thead>
<tr>
<th>Company</th>
<th>Sector</th>
<th>Name</th>
<th>Date</th>
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<tbody>
<tr>
<td>Aetna</td>
<td>Healthcare</td>
<td>Michael Palmer</td>
<td>Feb 2014</td>
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<td>Aviva</td>
<td>Insurance</td>
<td>Andrew Brenn</td>
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<td>BET Networks</td>
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<td>CVS</td>
<td>Retail</td>
<td>Brian Tisser</td>
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<td>Eastern Bank</td>
<td>Financial Services</td>
<td>Dan O'Malley</td>
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<td>H&amp;M</td>
<td>Apparel</td>
<td>Eve Richer</td>
<td>Sept 2014</td>
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<td>Hill Holiday (IPG)</td>
<td>Advertising</td>
<td>Adam Cahil</td>
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<td>Konekanes</td>
<td>Manufacturing</td>
<td>Juna Pankaloski</td>
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<td>L’Oréal</td>
<td>Cosmetics</td>
<td>Lubomira Kochet</td>
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<td>Maxis (WPP)</td>
<td>Advertising</td>
<td>Jonathan Adams</td>
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<td>McDonald’s</td>
<td>Restaurant</td>
<td>Atif Rafiq</td>
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<td>Meredith</td>
<td>Publishing</td>
<td>Andy Wilson</td>
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<td>Peapod</td>
<td>Retail</td>
<td>Brock Weatherup</td>
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<td>Starbucks</td>
<td>Restaurant</td>
<td>Adam Brotman</td>
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<td>The Wet Seal</td>
<td>Apparel</td>
<td>John Kubo</td>
<td>Sept 2014</td>
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<tr>
<td>TOMS</td>
<td>Apparel</td>
<td>Zita Cassizzi</td>
<td>June 2012</td>
</tr>
<tr>
<td>VICE Media</td>
<td>Entertainment</td>
<td>Mike Germano</td>
<td>Dec 2013</td>
</tr>
</tbody>
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Key: Line items in blue denote appointments in August and September, 2014.

Source: [http://www.chiefdigitalofficer.net/the-market-for-chief-digital-officers-heats-up](http://www.chiefdigitalofficer.net/the-market-for-chief-digital-officers-heats-up)

Starbucks

Starbucks was a relatively early adopter of the Chief Digital Officer role, installing Adam Brotman, a former employee of the company’s digital ventures group, in the trending position in 2012. Brotman’s digital vision for the coffee giant involved using digital strategies and technologies to revolutionize the Starbucks customer experience. Brotman’s most successful projects include launching the Starbucks Digital Network, a native homepage that serves as the home screen when customers connect to in-store Wi-Fi; and building a vastly successful in-house e-commerce platform, a new social media engagement strategy, and mobile applications. Through this aggressive change in digital strategy, Brotman has been able to craft a unique experience for Starbucks customers that allows them to engage with the company, its baristas, and their local community to a far greater degree than ever before.


Source: [http://www.chiefdigitalofficer.net/the-market-for-chief-digital-officers-heats-up](http://www.chiefdigitalofficer.net/the-market-for-chief-digital-officers-heats-up)
“In the UK, some government agencies and other public authorities have been successful innovators in digitization. The Inland Revenue has invested heavily in online tax enquiries and digital submission of annual filings. TfL [Transport for London], which runs much of London’s public transportation system, has been able to revolutionize ticketing, payments and information sharing through its robust digital cards and swipe technology. In addition, BBC’s iPlayer has revolutionized catch-up TV and radio with bespoke technology that has led to a leading market share in consumption of digital entertainment and media here.”

Sean Arnold, Partner, Boyden UK

“It’s about creating relevant, meaningful relationships with our customers, both in our stores and online.” – Adam Brotman, CDO of Starbucks

CVS

Brian Tilzer joined CVS as Chief Digital Officer after working as the head of e-commerce at Staples. Tilzer worked to establish the CVS Health Digital Innovation Lab, a large project that aims to improve customer experiences at CVS stores through digital strategy. Tilzer has used the freedom and creativity that comes with his position to experiment with different ways of communicating with CVS customers to make shopping easier and faster – for example, he has headed projects aiming to enable customers to videoconference with doctors at CVS clinics, and communicate about prescriptions via text.

“One big goal… is to connect with start-ups that are developing new healthcare products and services.” – Brian Tilzer, CDO of CVS

The overall expansion of mobile and digital offerings in conjunction with the so-called “digital enablement of healthcare” is expected to propel CVS to the innovative forefront of pharmacy retailers.

“Mobile remains an important part of our digital strategy and we will continue to focus heavily on retail and pharmacy abilities as well as integration across the enterprise, making it easier for our customers to engage with us at any moment.” – Brian Tilzer, CDO of CVS

Renault

Patrick Hoffstetter, recently appointed CDO of global luxury carmaker Renault, came from a position at Yahoo! with the goal of bringing Renault up to speed on the most recent trends in the digital universe and, more specifically, building an internal business structure dedicated to the invention and implementation of digital strategy. Hoffstetter is calling this ambitious coalition of digital strategy initiatives Renault’s Digital Factory. As the name implies, the Factory sees digital initiatives through from concept to execution, with its team working toward the goal of using data and analysis to improve the end consumer experience.

“Very often, the CDO is in charge of strategy and benchmarking and KPI and dashboard, but it’s very rare when he has got his hands on the operation. At Renault, the CDO has an actual digital factory and digital team to manage strategy, all the way from strategy to implementation. I cover the whole digital spectrum from platform to content. We’re not only doing the brain, but the hands and feet. At Renault, the CDO role and the role of the digital factory are quite unique.” – Patrick Hoffstetter, CDO of Renault

While coming into the CDO position with a background in technology has certainly afforded Hoffstetter many advantages, such as a fresh set of eyes from which to evaluate Renault’s existing digital capacities, he has also faced unique challenges as head of the Renault Digital Factory. Renault’s global scale means that there is a strong imperative to keep its digital content and capabilities consistent with its sales strategies, which differ significantly from region to region. While businesses with less international presence do not need to consider the impact of their global digital forums in a region-specific industry, Renault needs to consider how its digital content will interact with its sales strategies in Italy as well as China.

14 http://www.retailingtonline.com/article/cvs%E2%80%99s-digital-strategy-pays
By essence, digital is global. You can’t do something on YouTube or Facebook in France without any potential impact on Brazil or India.” – Patrick Hoffstetter, CDO of Renault

Hoffstetter also works to keep his Digital Factory team as well as the executive team up to speed on the digital climate as it pertains to the business of car manufacturing. The car industry is, according to Hoffstetter, a particularly challenging area for CDOs to operate in, due to the very traditional mind-sets of its businesses’ leadership teams. While CEOs may be willing to integrate a new social media campaign where there was none before, Hoffstetter has found it much more difficult to sell a CEO on the opportunities that big data and digital strategy present for enhancing existing business processes. For this reason, Hoffstetter spends much of his time identifying individuals whose tasks are impacted by Digital Factory initiatives, and providing them with the appropriate training and information to equip them with the necessary skills to optimize digital strategy.

With an eye on global synchronization, and attention to increasing leadership exposure to the possibilities of digital strategies, the Digital Factory has played a transformative role in the way Renault does business in the car manufacturing world.15

Marks & Spencer

A Boyden placement, Carl Dawson was hired to Marks & Spencer as Chief Information Officer in 2014, but the holistic and transformative changes he has made to the business closely align with the initiatives headed by Chief Digital Officers in peer companies. In Marks & Spencer’s pre-Dawson era, the large UK retailer struggled to turn a profit from its online store; Marks & Spencer’s e-commerce division was underperforming, resulting in consecutive quarterly sales declines.16 In cooperation with Laura Wade-Gery, Marks & Spencer’s head of e-commerce, Dawson combined marketing acumen with digital and big data strategy to reinvent the way customers interact with Marks & Spencer in the digital space, eventually recovering sales and accelerating growth.

Most notably, Dawson helped Marks & Spencer understand how its customers want to shop. Previously, the business struggled to increase the percentage of conversions from the online store, which hovered at 16% of the company’s total sales despite millions of website visits per day. Dawson used big data analytics to help the sales team understand that customers tend to use the website to “window shop”, then pick up their selections from brick-and-mortar locations.

In order to cater to the window shopper demographic, Dawson has made dramatic improvements to the Marks & Spencer mobile app, and worked to enhance the customer shopping experience through editorial content and web features, even when the customer is not in the physical store. The “click-and-collect” model of retailing, which is exceedingly common throughout Europe, proved to be highly appealing to Marks & Spencer customers, and Dawson’s eye to digital transformation helped the business realize these trends and preferences. In this way, Dawson has facilitated Marks and Spencer’s digital transformation into a “truly international, multichannel retailer”.17

“Retailers talk about how they cannot have one strategy for stores and another for online, and they must instead work seamlessly together.” – Laura Wade-Gery, Head of E-Commerce at Marks & Spencer

Dawson has also used the better understanding of customer behaviour afforded by data analysis to optimize the digital training offered to sales associates, who must interact with technologically engaged customers, as well as Marks & Spencer executives who can use data to solve problems in other areas of the business, such as inefficient distribution channels and outdated merchandise replenishment systems. In this way, Dawson echoes the common CDO mentality that digital strategy

15 http://sloanreview.mit.edu/article/inside-renaults-digital-factory/
16 http://www.marketingweek.com/2015/01/08/ms-ceo-bolland-marketing-initiatives-are-boosting-brand-love-if-not-sales-yet/
is applicable to all areas of a business and all employee levels, from customer-facing sales associates to company executives who are often reluctant to adopt the cutting-edge technologies necessary to stay competitive.16

“I have a particular focus on making sure we’ve got a high level of technical capability in my team. I think technology is so important to a number of different parts of our business now, so we need to be expert at that. We’re investing in more development and architecture people, and that’s something that will continue for certainly the next three years.” – Carl Dawson, CIO of Marks & Spencer17

The White House

Jason Goldman was a product leader at Twitter and a member of Twitter’s board of directors before becoming the White House’s first CDO in March 2015. He is expected to take the helm of the White House’s digital communications.26 In an interview, Goldman said his main goal is to facilitate conversations through digital platforms – “less being talked to, and more being talked with.”21 Goldman’s expertise from Twitter has served the White House digitization strategy well, as he has worked with the existing digital media team to “spread Obama’s message across the ever-expanding number of digital platforms.” Goldman is a prime example of the value that a CDO can add to a government organization that aims to improve its relationship with its stakeholders and cope with the higher level of scrutiny that comes with its central position in the public eye. By crafting a digital strategy that focuses on the end readers, Goldman works to manage and direct the White House’s relationship with the public as well as protect the president’s reputation.

“The mission of our team is to connect people with purpose.” – Jason Goldman, CDO of the White House

The CDO is also quickly becoming one of Asia’s most sought-after senior technology positions.

Google China

Google China recently hired Tony Chen, an expert and prolific speaker on the topic of digital marketing in China. As Chief Digital Evangelist, his efforts will focus on digital transformation for Chinese advertisers through the application of Google’s latest data/technology-driven solutions. Chen has also served as CDO of GroupM China, where he set digital agendas that integrated solutions in the areas of search, OTV, mobile, ecommerce and social, and was part of the leadership team that tripled the organization’s digital business in a three-year period.22

Executive Hiring

Expected Trends

Job growth is expected to expand as the economy recovers. While firms experienced reductions in staffing in the aftermath of the global financial crisis, companies will enact more aggressive recruitment practices in the short term. The market will compete for high calibre talent at all levels, with an eye towards securing the best candidates for top-level positions. In order to remain competitive, firms of all sizes and in all locations will hone their recruiting strategies to target leadership that understands the changing global landscape and can successfully navigate the requirements of an increasingly diverse, data- and digital-driven world economy.

16 http://www.retail-week.com/analysis-ms-new-it-director-carl-dawsons-to-do-list/5062616.article
17 http://www.retail-week.com/technology/interview-how-ms-pushed-the-reset-button-on-its-technology-strategy/5075635.article
21 http://fortune.com/2015/03/24/obama-chief-digital-officer/
Demand for executive and professional candidates is expected to rise in 2015 and beyond. The most sought-after positions at the senior level include a number of “Chiefs”: Digital Officer, Cyber Security Officer, Innovation Officer, Revenue Officer and Sustainability Officer. These high level executives are particularly needed to address the trends surfacing for businesses around the globe. Companies aim to increase revenue, focus on privacy and security, engage with clients, and reform practices to meet the requirements of the changing healthcare space. The need for senior talent to fill the aforementioned posts will span most industries; however it is thought that the greatest proportion of recruitment will take place in healthcare, social media, and cybersecurity risk management.23

In a recent survey of recruiters, approximately 80% of respondents expected to see a significant rise in the number of executive-level positions: “The economic conditions have improved significantly over 2014. Economic growth and expansion will force businesses to enhance their (executive) presence.” The greatest job growth is expected to be seen in the US, China, India, ASEAN and Africa.24 While there will be an increase in senior-level hiring, organizations will also focus on obtaining the right combination of individuals: “As the economy strengthened in 2014, businesses focused on allocating greater resources to manage their workforces. While rebuilding and expanding is on the corporate agenda, organizations are increasingly focused on the quality of hires over quantity.”25 The CDO will be an individual with a vision and the comprehensive understanding of a broad set of technologies to lead digital transformation.

Firms will also reward quality and performance, as evidenced by the rise in executive compensation. Self-reported data show that total pay (salary and bonus) increased by close to half for CEOs and approximately two thirds for others in the C-Suite.26

"The best Chief Digital Officers are curious, flexible, adaptable, have a view into the future, and are at ease in a change environment. For many companies, CDOs are also effectively taking on the role of Chief Transformation Officer, with the goal of challenging the status quo and taking the business to the next level. Our clients want CDOs who bring fresh insight and know what needs to be done, even if they have never done it before.”

Roger T. Duguay, Managing Partner, Boyden Montreal

Fluctuation in Total Compensation

| Did your total compensation increase, decrease, or stay the same in the last fiscal year?26 |
| CEO/President | Other G-level (not CEO) | EVP/SVP/VP | Director/Executive |
| Stay the same | | | |
| Decrease | | | |
| Increase | | | |


"A CDO is a digitally savvy, business-driven leader who has what it takes to transform a traditional business into a data-driven company. They combine marketing and management experience with technical know-how and strategic vision to align and improve business operations across the enterprise.”

Pierre Fouques Duparc, Leader of Boyden's Global Technology Practice and Managing Partner, Boyden France

It is also interesting to note that executive job candidates and recruiters alike will begin to rely increasingly on social media, with the former networking and researching opportunities and the latter scoping out and vetting potential hires.

**C-Suite Sentiment**

CEOs and other executives recognize the urgent need to stay competitive in their industries through technological advancement and innovative use of increasingly available digital resources. The annual PwC executive survey report reveals that respondents aim to maintain or grow their technological capabilities via numerous avenues, including targeted hiring, training, and investment in lucrative new technologies. 46% of CEOs reported concern that changes in core technologies would disrupt their business to some degree between 2015 and 2020. 75% of surveyed CEOs said “having specific hiring and training strategies to integrate digital technologies throughout the enterprise” is either somewhat or very important in “helping [their] organisations get the most out of their digital investments.” Almost 90% of respondents also placed specific emphasis on the pivotal role that the CEO plays in activating digital investments. It is clear that CEOs believe they are responsible for spearheading digital initiatives within their company and facilitating a culture of innovation.

"The CDO’s new charter is a larger role which includes guiding and navigating the organisation through the storm of digital transformation. The CDO’s new role allows the CMO to continue with the core task of ensuring a healthy presence in markets, while the CIO remains in charge of managing enterprise IT. When the CDO, CMO and CIO work together as a team, the organisation will emerge wiser and stronger than before.”

Dinesh Mirchandani, Managing Partner, Boyden India and Global Board Member, Association of Executive Search Consultants

Source: [http://www.pwc.com/gx/en/ceo-survey/2015/explore-the-data.jhtml](http://www.pwc.com/gx/en/ceo-survey/2015/explore-the-data.jhtml)

Source: [http://www.pwc.com/gx/en/ceo-survey/2015/explore-the-data.jhtml](http://www.pwc.com/gx/en/ceo-survey/2015/explore-the-data.jhtml)

[27](https://agenda.weforum.org/2015/05/why-tomorrows-c-suite-should-be-built-today)
CEOs in the technology industry reported that they face similar struggles and anxieties to CEOs in other industries, with the primary outlier being concern over government regulation and development. While CEOs outside the tech industry prioritized other concerns over government regulation, tech CEOs placed an extremely high premium on government investment in digital infrastructures and an “innovation ecosystem” conducive to the development of better technologies.

Despite the comparatively robust growth that many companies have enjoyed as the economy continues its recovery from the 2008 financial crisis, CEOs remain insecure about the stability of the economy, and are wary of their businesses’ sensitivity to lagging market conditions. A Reuters study showed that American CEOs are pessimistic about the economy for the second half of 2015, which translates to deflated expected earnings, reduced or stagnating investment, and decelerated recruiting.28 A KPMG study that surveyed 100 tech industry leaders in the United States unveiled similar results and concerns among C-Suite executives, adding that research and development would slow significantly, with tech companies instead looking to add technological capability, customers, and employee expertise through merger and acquisition activity. As tech companies struggle to maintain their competitive edge due to constant inflows of new businesses and disruptive technologies, executives in the industry should remain especially watchful for advantageous M&A opportunities.

**Adding assets, blocking competitors**

Q: Which of the following will be among the most important drivers of mergers and acquisitions in your company?

| Access to new technology and products | 65% |
| Access to new customers/users         | 49% |
| Access to engineering and other talent| 31% |
| Control over strategic assets to defend against competition | 28% |

**Industry Trends**

**Big Data, Cloud, Mobile & the Internet of Things**

“Big data” has become one of the most common buzz phrases in the technology sector over the past few years. The topic also tops industry trend lists and is expected to continue to play a role throughout 2015 and beyond. Big data, the cloud, mobile technology, and the Internet of Things are evolving together to render the world more interconnected than ever before, which makes the various devices they network and influence more powerful.

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Big data has evolved in the recent past and will continue to make its mark on the technology sector, moving data and information “from obscurity to centrality and relevance”. With big data, certain information, traditionally reserved for specialists and experts, is now accessible for the general population. This includes social media data, sensor data, and unstructured data, among others. Big data has begun to permeate and drive the growth of the cloud as well. In the future, it is not precisely clear how big data will impact the way we operate as individuals and as businesses, but it is clear that an influential tool has been created.

Mobile technology has existed for some time, but the extent to which we rely on it has vastly increased and will continue to do so. Smart devices have opened up a world of opportunities for both businesses and consumers, offering more ways to engage, interact, educate, and make purchases. It is projected that by 2020, there will be 50 billion connected devices. In addition, Gartner has predicted “an increased emphasis on serving the needs of the mobile user in diverse contexts and environments, as opposed to focusing on devices alone.”

“Increasingly, it’s the overall environment that will need to adapt to the requirements of the mobile user. This will continue to raise significant management challenges for IT organizations as they lose control of user endpoint devices. It will also require increased attention to user experience design.” – David Cearley, VP and Gartner Fellow

Cloud technology will continue to converge with mobile to produce a more thoroughly interconnected environment. It makes mobile and smart devices more powerful by synchronizing content and applications, and addressing application portability across devices. Analysts expect that over time, a unified model could emerge in which one “cloud” can be used by all as needed. Enterprises should consider cloud service providers now for their data management needs, and work to establish the necessary infrastructure and integration for the future. They should also design applications with a cloud model in mind to ensure that eventual transitions are as seamless as possible.

The cloud has many benefits. Among them are reduction of the overall cost of data management and providing “greater agility and reduced complexity.” However, while the advantages are clear, there are also a number of challenges that businesses should consider and plan for – namely security, concerns about performance, and integration, among others.

“Cloud is the new style of elastically scalable, self-service computing, and both internal applications and external applications will be built on this new style.” – David Cearley, Vice President and Gartner Fellow

The Internet of Things (IoT) has emerged as the “third wave in the development of the Internet.” The IoT makes it possible to connect anything and everything to the Internet, giving “things” the ability to produce real-time information. “Essentially, things become agents for themselves, for people and for businesses.” Businesses are beginning to use algorithms and automated judgement for decision-making, and this will continue to be prominent in the coming months and years. Big data has, in fact, enabled IoT, equipping organizations with the tools to extract information from considerably

Don Leon, Partner, Boyden New York
larger data sets with greater cost effectiveness than traditional technology. As the amount of data collected by connected devices swells, we expect increased investment in analytical platforms and visualization technologies that will allow business managers to make sense of the information and react to it.39

A related trend expected to impact recruitment and employee engagement, made possible by big data, the cloud and IoT, is HR analytics, including optimizing workflow and tracking overall employee happiness and satisfaction. The C-Suite has begun to rely on these processes to gauge the organization’s environment. Companies that have already adopted this as part of their business strategy will see the benefits, and those that have not will need to catch up or be left behind.39 HR analytics could be a very powerful tool for executives across industries, and one of the important ways that big data can permeate companies and add value to their bottom line.

Socially Enabled Business Processes

As businesses fight to remain relevant and profitable by creating products that consumers can integrate into their digital life, socially enabled business processes are allowing companies to carry this same intuition into the workplace, revolutionizing the way employees communicate with end consumers and one another.

With respect to business-to-consumer communications, more businesses are growing their social media presence and interacting with consumers in a personalized manner. Domino’s Pizza allows customers to place an order by sending a tweet to their designated “Tweet-A-Pizza” account. Facebook has rolled out a “messenger for business” platform that allows businesses to use Facebook Messenger to field customer concerns. The emphasis is on making social commerce seamlessly integrated, while remaining unobtrusive and preserving individual privacy. Industry leaders are now looking for ways to eliminate the leap from the company’s social media pages to its website to create a positive shopper experience that accommodates rapidly shrinking consumer attention spans.

“What if the actual purchase could take place within the social network, and the shopper didn’t have to have the jarring experience of being directed to another site? By enabling social experiences with payments capabilities, businesses will reduce the friction of online shopping even further.”40

– Tomás Campos of Blackhawk Network

Executives are also introducing internal social media platforms to their employees, thereby reducing operating costs and connecting employees more efficiently. Employees can collaborate, track each other’s progress, and gain a better understanding of wider company projects more efficiently through social media than through traditional office communications like email. In addition to improving productivity through the de-compartmentalization of labour, introducing internal socially enabled business processes can help employers shape company culture and connect with employees on more personal terms.

Social networks will continue to facilitate trust and interconnectivity within the office and in the greater sphere of e-commerce, and effective executives will carefully consider how they can best apply these digital strategies to their own businesses. Additionally, while these technologies and social media capabilities are highly useful when used correctly, they can also be easily abused and exploited. Company leadership must therefore pair socially enabled business process initiatives with appropriate regulation and policies dictating appropriate use of digital channels of communication. Messaging with customers through Twitter, for example, must agree with the company’s established brand, while employee social media platforms should be clearly defined as an extension of the workplace.

“Big data is the most critical business challenge for corporates in every sector as data warehousing, data mining and business intelligence are steering executive-level decisions across entire organisations. All the ‘go-to-market’ units, R&D, innovation, production, financial control and investment decisions are now strongly affected by data and digital management.”

Andreas Landgrebe, Managing Partner, Boyden Austria and Central & Eastern Europe

Security and Privacy

With businesses increasingly depending on big data, business analytics, and socially enabled business processes for daily operations, cybersecurity has become a top priority for executives who wish to keep abreast of the massive data breaches littering newspaper headlines with increasing frequency. Cybersecurity presents a particular challenge as dependence on big data and analytics grows without a clear understanding of who owns the data and who is responsible for managing and protecting it.41

According to a PwC study conducted at the end of 2014, there were an estimated 42.8 million security incidents detected by respondents, resulting in the theft or corruption of billions of records and a 48% increase over 2013, as indicated by the chart below. This higher incidence of data hacking led to greater investment in companies dedicated to providing cybersecurity to businesses. The issue of cybersecurity is so pressing that 30 of the most prominent publicly traded cybersecurity companies have grown at a rate 19% faster than the S&P 500 in the past year.42

Source: http://www.pwc.com/gx/en/consulting-services/information-security-survey/key-findings.jhtml#finding1

Cybersecurity will continue to present a significant challenge to both government entities and private companies, due to the increasing sophistication of cybercrime. Information technology has responded to this higher degree of sophistication with a new focus on rapid detection and attack of security breaches, rather than the construction of virtual protective walls around company networks.

42 http://www.businessinsider.in/Cyberattacks-are-exploding-and-investors-are-cashing-in/articleshow/47679060.cms
“Investment in digital functions is growing as companies realize the rapid ROI. Talent for CDOs and digital managers is scarce, and thus we’re seeing a trend to attract managers with strong media and online experience. Companies are also working to develop talent from within marketing or other connected areas of the organisation.”

Pedro de Valle, Managing Partner, Boyden Argentina

Executives should consider cybercrimes and those who commit them to be a real threat. Cybercrime operations are increasingly organized, technologically complex and business-like. Executives must respond to threats swiftly, and in their cybersecurity strategies, assume that they have already experienced a data breach that requires immediate detection and elimination. Chief information security officers and their IT teams must play prominent roles in the development of digital projects throughout the company to ensure that they do not present unnecessary threats to cybersecurity.

A highly connected and integrated network can also strengthen a company’s security in three prominent ways which are now being employed by companies aiming to protect themselves against cyber threats: Networks can be used as sensors to detect weaknesses in cybersecurity, including the time and point at which data is breached. IT departments are strategically segmenting their networks to contain security threats and prevent them from spreading throughout the network and causing more extensive damage. And, automated cross-network threat mitigation is being used to further minimize business disruption due to cyber threats.

Executives across industries must emphasize the importance of IT and cybersecurity in order to effectively combat the cyber threats that will continue to inundate their companies. In spite of the clear trend of the rising incidence of data breaches, however, spending on cybersecurity declined by 4% in 2014. There are many compelling initiatives and technologies that savvy IT departments can pursue to grow their business, but cybersecurity must be kept a top priority for IT and executives alike.

“It is no longer realistic to think that a strong perimeter defence will stop attacks. Instead of focusing on how to keep attackers out, enterprises should be asking what is the quickest way to identify ongoing attacks and mitigate their damage.”

— Andrew Wild, Chief Information Security Officer of Lancope

**Reversing a three-year trend**

The average information security budget dipped to $4.1 million, down 4% over last year. Security spending remains stalled at only 3.8% of the overall IT budget.

Source: [http://www.pwc.com/gx/en/consulting-services/information-security-survey/key-findings.html#finding1](http://www.pwc.com/gx/en/consulting-services/information-security-survey/key-findings.html#finding1)

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