



## Predictions: People & Process Trends - 2018

**RFG Perspective:** Unlike the previous few years, there will be global economic and geopolitical tailwinds in 2018, which will enable more businesses to increase their IT budgets. Additionally, the disintermediation impacts of the digital economy are disrupting businesses – and whole industries – that must be addressed by corporate executives before their firms' revenues are usurped by new or transformed competitors. More business executives recognize the need for cloud computing and collaboration and strategic planning with IT executives. To address these challenges, business and IT executives must re-examine their culture, people and process concerns. Externally, IT executives will have to work with non-IT teams to improve and restructure processes to meet the digital world's analytics, mass personalization and mobility requirements that demand more collaborative, interactive, personal, and predictive real-time information. Simultaneously, IT executives will have to address the data and service level concerns that impact business outcomes, productivity, revenues and security so that there is more confidence in IT and the organization as a whole. Internally, IT executives will need to increase their focus on analytics, automation, componentization, machine learning, operations effectiveness, orchestration, and security so that IT can deliver more and better offerings quicker and at a lower cost while protecting the organization from cybersecurity attacks and vulnerabilities.

The 2017 geopolitical changes did not map to most predictions. The Trump administration had both positive and negative effects that were greatly different than predicted. Brexit and the shakiness of the Merkel government are reshaping expectations within the EU and beyond. Turmoil in the Middle East and the concern of war with North Korea are adding to the waves of uncertainty. In fact, across the globe there is an awareness of a new world order taking shape. Moreover, regulations such as the general data protection regulation (GDPR) and Payment Service Directive 2 (PSD2) and cybersecurity breaches like those at Equifax and Yahoo! are forcing businesses to reconsider their culture and processes. Therefore, executives must invest in transforming their business and drive process improvements to remain competitive, help contain costs, enhance compliance, minimize risks, and improve resource utilization. Below are the top dozen areas RFG projects will be the focus of people and process improvement initiatives in 2018.

**Automation/machine learning/orchestration** – The requirement for data center transformation and the move to containers and hybrid and multi-cloud environments will add to the complexity of operations. The number of components to address will grow by orders of magnitude while the rate of change will become more rapid with new workloads going into production daily. To achieve this while containing costs, IT executives will be pushing vendors to deliver more automation and orchestration tools and easier to use products and services as well as taking advantage of selected cloud solutions. IT departments will need more than a 10x improvement in productivity and new processes that eliminate all or almost all manual interventions. In support of this, DevOps must become more integrated within the organization and the standard of operation. IT executives and staff should expect development to take over a number of operation tasks and thereby dramatically slice operational costs. New machine learning software, sensors and autonomic systems will be needed to provide content that can be continuously delivered without failures and grasped intuitively. Furthermore, the demand



for increased IT services without commensurate budget increases will force IT executives to pursue selected cloud and productivity solutions to satisfy the business side of the house. Thus, analytics software for IT, automation software, container and virtualization techniques, and integrated solutions that orchestrate and simplify operations and/or prevent potential problems from occurring will be attractive initiatives for many IT executives throughout the year.

**Chargebacks** – The movement to clouds and the digital economy has enabled the implementation of more accurate, itemized chargebacks and cost accountability. As much of this cloud usage is driven by the lines of business, the chargebacks are by processor and/or storage usage plus data transfers but the reality is that each chargeback bill is tied to a specific application. The business unit executives see in fine detail what they are paying for. IT executives should embrace this and gain buy-in from the executive management team to roll this out across the board so that there is accountability and IT cost containment becomes a performance measurement for line of business executives. IT executives that are able to implement financially-meaningful chargebacks will be better at linking IT expenditures to business initiatives and thereby improve funding sources and enable better allocation of IT resources. However, while IT executives need to advance their chargeback capabilities in 2018, most will not make it a high priority and as a result, this lack of chargeback transformation will hurt IT executives' reputations.

**Compliance** – Another year and a new round of regulations are taking effect. Keeping up with the constant change is not only a major challenge but also can be a major risk exposure. Two major regulations that organizations will need to address are GDPR and PSD2. GDPR will hit virtually any firm that has any level of business inside of the EU. Companies will have to comply to the tracking and "right to be forgotten" requirements or be prepared to incur a penalty that could be up to four percent of annual global revenues. While PSD2 is also a European regulation, the equivalent rules are become the norm globally due to the rise of Amazon, ApplePay, PayPal, and other FinTechs. Thus, IT executives will be hard pressed to keep up with compliance requirements globally while improving users' support for compliance. IT executives will need to work with auditors and regulators to develop better proactive processes that reduce the cost of compliance and risk exposure. RFG expects to see public examples made of one or more firms that fail to meet compliance criteria.

**DevOps** – Everyone will talk about DevOps and their shift to it. However, success will require a dramatic change in the culture and expectations of IT and IT operations – and that will be a struggle for most firms. If IT succeeds, the delivery of code changes in less than a day, a day or a week will greatly impact business and IT processes and corporate competitiveness. The full implementation of DevOps will represent a true cultural change to an organization. Development will become more collaborative with and subsume parts of Operations and make IT responsive to the business like it has never been. DevOps will initially be used for new applications where the teams can avoid being bogged down by existing processes and resistance to change, and will incorporate APIs, containers and microservices. However, the "nirvana" of rolling out DevOps across the enterprise will



take time (years) to flow through the organization and executives should be prepared for the active, and passive, resistance to the change. IT executives need to establish and continuously monitor DevOps metrics that drive cultural and process change if the organization is to succeed. 2018 may prove to be the year that DevOps becomes mainstream in an organization (one or more groups use it as standard procedure) – or it could be the year it falls into the trough of disillusionment – destroyed by culture and poor management.

**Innovation** – With disintermediation hitting enterprises in multiple sectors, companies will need to innovate to remain competitive. The new entrants are customer-focused and offer omnichannel, real-time solutions whereas old-line companies are still product focused and most offer the same level of customer service they offered for decades. To compete, enterprises need to create new customer front-ends that meet the new customer service requirements. The new solutions cannot be add-ons or just plain enhancements on top of existing system; they need to be innovative greenfield packages. Successful companies will develop creative user-friendly, mass-personalized solutions from scratch using APIs and pretending to be independent business units. Companies that choose to add another layer of complexity on top of their patchwork quilt of applications will likely have projects that fail or will develop non-competitive solutions that does little to advance their business position.

**Multi-Cloud Management** – The inclusion and reality of multiple clouds into the IT management mix greatly complicates the management of operations. Regardless of whether IT is the cloud service provider itself or outsources it or both, IT has assumed multiple user and vendor relationship management roles. This will require staff to address requirements gathering, analysis, and priorities plus brokering and orchestration of services and management of the billing, operations, procurement and delivery cycles. The shift to hybrid and multi-cloud integrated with traditional data center operations will have a major impact on organizational structures and job descriptions, roles and responsibilities. IT will also have to find ways to breach cloud opacity (whether it be for infrastructure or SaaS services) so that it can manage and secure applications, data, infrastructure, and operations, as corporate accountability remains with company executives. RFG expects 2018 to be a challenging year for addressing this issue.

**Operations effectiveness** – This will once again be an initiative for many IT operations units. As has been the case over the years the factors driving improvement will be automation, containerization, hybrid and multi-cloud computing, orchestration, standardization, and consolidation along with virtualization. However, initiative effectiveness requires IT executives to be able to measure and monitor the key data center (and cloud) metrics, which for many will remain a challenge despite all the tools on the market. IT executives could reduce operational costs by 50 percent or more if they had the right tools and applied the resources to address the problem points. As in 2017 most shops still operate with numerous zombie servers in operation (up to 20 percent of systems in some instances); yet RFG envisages little to no action will be taken to shut them down. In fact, the shift to containerization will also result in zombie workloads



running unless DevOps or operations staff are able to effectively monitor their environments. Thus, RFG expects minor advances in efficiency overall – including shifting resources to the cloud – due to resistance and resource and funding constraints. But for those IT executives successfully addressing operations efficiency, there will be major double-digit operational gains. RFG notes there is an interesting dichotomy as relates to the development life cycle: movement of development to external cloud service providers (CSPs) may or may not reduce operational costs but most will see a significant gain in the speed of delivery, which will get rave reviews from the business side of the house.

**Procurement** – With the requirements for agility and security and the shift to the cloud computing model, more attention will need to be paid to the procurement process, new compliance requirements, and supplier relationship management in 2018. 2017 has once again demonstrated that constructing a contract with good pricing and terms and conditions is difficult and can take six months or more. And even with that users end up having to accept opacity and barely acceptable terms as the major players like Amazon, IBM, and Microsoft have the clout to force users to accept their terms. Thus, for 2018 RFG expects a majority of cloud procurement efforts to lead to disappointment later on as shortcomings in vendor-biased contract terms and conditions come to the fore during the implementation phase. Business and IT executives need to establish procurement strategies and vendor performance metrics that can be effectively measured and monitored so that year-over-year improvements can be made. The major areas most likely to be focused upon are spend management, security and compliance, and supplier selection and management. While much of spend management will concentrate upon external expenditures, key internal metrics should be tracked as well.

**Security** – The use of analytics, cognitive computing, and machine learning will help improve real-time analysis but security issues will still be top of mind in 2018. The Equifax and Yahoo! breaches continue to demonstrate that companies (and governments) still have significant holes in their cybersecurity structures. Moreover, the Amazon data breaches expose the problems users have with correctly securing their data at the cloud service provider (CSP). 2018 will produce more of the same. On top of that most users have become impervious to the impacts caused by use of insecure mobile apps and devices and insecure IoT devices. It is evident from examining the breaches that organizations have less of a technology problem than people and process failures (including the application of configurations, encryption, and patches). Furthermore, the lack of CSP transparency will remain an issue and an exposure in 2018 as the CSPs do not feel the urgency to address the issues. While there are some players coming together to find automated, proactive ways to enforce and validate compliance, RFG expects little improvement at most IT organizations and instead, the cost of compliance and security will increase once again without a perception of risk abatement.

**Staffing/Skills** – IT executives will do limited hiring again this year with budgets expected to grow by less than five percent while firms will rely more on cloud services, consulting, and outsourcing services. There will be some shifts on suppliers and resource



country-pool usage as advanced cloud offerings, geopolitical changes and economic factors drive IT executives to select alternative solutions. Less than 40 percent of organizations will invest in staffing for GDPR, which is not a good sign. As more and more cloud and outside services are used, the need for internal staff to be highly skilled and technical so that they can do implementations diminishes while the demand for architects, designers and management increases.

**Standardization** – Abstraction layers help. More and more IT executives recognize the need for modernization and standardization but advancement will require a continued collaborative executive push and involvement. The shift to DevOps is part of this movement but progress will not measure up to desire, as implementing DevOps grates against most existing corporate cultures. Culture tends to win out more often than not. Thus, the need for collaboration and cooperation amongst business and IT executives. The migration to clouds is exposing the fact that standardization is a complex topic with multiple options – some open and others proprietary – and can result in undesired proprietary choices. Proper use of abstraction layers can alleviate some of the issues but most companies will be challenged to deliver abstraction layers such that movement amongst clouds is not complex. 2018 will be another year where large enterprises attempt to sort through the options and find standards that can be used corporate-wide. One process change gaining traction is the move towards APIs and away from service oriented architecture (SOA). RFG expects success in this area to be mixed in 2018, as many will struggle to get it right. IT executives should recognize standardization projects are multi-year initiatives that can be baked into other projects and act accordingly.

**SLAs/SLOs** – Most IT executives and cloud providers have yet to provide the service levels businesses are demanding for their business- and mission-critical systems. More and better service level objectives (for internal shops) and SLAs for cloud providers are required. IT executives should push providers (and themselves) for SLAs (and SLOs) covering availability, accountability, compliance, performance, resiliency, and security. But IT executives should not expect the CSPs to easily comply – it is not in their best interests. Nonetheless, IT executives should not relax their SLA/SLO requirements, especially if they hope to meet or exceed the business needs; nor should business executives lower the bar. Companies that address these issues correctly will be the winners in 2018; others will struggle and fall behind.

**Transformation** – The paradigm shift from administrators or operators handling vertical stacks – from databases, networks, and infrastructure to applications and containers – to horizontal instance and stack management is a massive transformation of IT operations. Nonetheless, this restructuring will occur over time, mostly driven by the movement to cloud, which is gaining momentum in 2018. A restructuring from the inefficient siloed approach to horizontal cross-domain layered operations is a substantial restructuring of operations and changes the job descriptions and responsibilities of the operations teams. One of the big challenges in this type of reorganization is finding the skills required for the new positions. Whereas in the old world in-depth IT knowledge is key but in the new horizontally layered world business knowledge, oral and written communications, and





negotiation skills are paramount. The majority of existing IT staff at most companies do not possess the required skills, which will have to be backfilled through hiring or retraining. However, there is one caution IT executives must keep in mind: this shift is not the target structure but a step in the process of reorganizing into a full DevOps organization and building an even more varied target architecture. There are a number of landmines existing in this paradigm shift and many will experience failures along the way.

**RFG POV:** 2018 will be another challenging year for IT executives. People and process issues will have to be addressed if IT executives hope to achieve their goals for the year and avoid penalties and security breaches. IT needs to integrate itself with the business and work collaboratively to enhance operations (whether onsite or in the cloud) and innovate new, simpler approaches to doing business. Additionally, IT executives will need to invest in DevOps and other process improvements to help contain costs, enhance compliance, increase flexibility and responsiveness, minimize risks, and improve resource utilization. IT executives should collaborate with business and financial executives so that IT budgets, plans and strategies dovetail with the business and remain tightly integrated with the business throughout the year.

*Additional relevant research is available at [www.rfgonline.com](http://www.rfgonline.com). Interested readers should contact RFG Client Services to arrange further discussion or interview with Mr. Cal Braunstein.*

self-healing networks and self-learning technology.

That requires balancing customer experience, security, and network speed and capabilities.