



cutting through complexity

INFORMATION TECHNOLOGY SERVICES

Moving Agility to the CIO Agenda

Towards Enterprise-Grade
Agile Management

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EXECUTIVE SUMMARY

CIOs are inherently positioned to facilitate the transition to new digital business models based on Agile processes and structures and supported by digital innovation. But the reality is that many senior IT executives have difficulty working out where to begin and how to proceed. On the one hand, they can draw from a rich arsenal of Agile methods, tools and examples for software development, but on the other hand, it is not always obvious how to turn this knowledge into an actionable framework for increasing agility above and beyond application development.

KPMG member firms have already helped several organizations turn Agile knowledge into powerful approaches for delivering effective results in several areas, including unexpected ones such as meeting SOX requirements. Based on this broad experience we recommend CIOs structure their agility agendas across three types:

- 1) Launching new digital business capabilities based on innovative technologies such as cloud, social, mobile and advanced analytics;
- 2) Developing an effective governance and portfolio management framework for guiding the allocation of resources between innovative capabilities and the legacy core; and
- 3) Applying Agile frameworks like Scrum, not only to accelerate software development but to bring agility to business process transformation as well.

Organizations embarking on agility-enabling initiatives follow similar learning curves and steps as they advance from understanding how Agile methods work to attaining high levels of organizational agility and process maturity. Success depends on the ability to overcome the barriers that stagger or stall many implementations. Specifically when it comes to Agile frameworks, CIOs need to be aware of a few pitfalls, including focusing too narrowly on application development projects, failing to address the need for more collaborative and less formal decision-making processes between business stakeholders and IT experts, and using misplaced service contracts and structures to separate the business functions from IT, as many organizations used to do in the past.

DRIVING AGILITY ABOVE AND BEYOND APPLICATION DEVELOPMENT

Business leaders increasingly view agility as a critical imperative for competing in today's economy¹. The concept originated in product design and manufacturing, but during recent years has been successfully applied in the IT industry to accelerate product innovation and address complexity, cost, quality and lifecycle management issues related to software development and delivery².

As IT innovation continues to enable an ever-expanding wave of complementary business innovation across all industries, a variety of studies point to the necessity of making organizational structures more agile in order to leverage these rapid advances in technology-based innovation and quickly convert them into compelling products³.

For example, research from Gartner shows that the synergy of mobile, social, cloud and analytics has driven the fast adoption of innovative business practices and processes that are now morphing into new platforms for digital business⁴. Meanwhile Forrester ranks agility as the single most important capability that enables organizations to survive and thrive in today's turbulent world, through attributes such as "channel integration," "infrastructure elasticity" and "software innovation"⁵.

CIOs operating at the nexus between business and IT are inherently positioned to drive the transformation to digitization and greater organizational agility. But reality demonstrates that many senior IT executives have difficulty working out

where to begin and how to proceed. On the one hand, they can draw on Agile – a rich management framework consisting of principles, concepts, structures, methods and tools for software development, including Extreme Programming (XP), Scrum, Kanban, Lean Software Development, variants of these and more. On the other hand, it is often difficult to develop agile capabilities beyond software development if business owners and other IT stakeholders are not conversant with the same Agile methods and rules.

In this paper we apply KPMG member "firms' experience from several client" engagements to answer the question: "What should CIOs do to translate their mastery of Agile for application development into an actionable framework

for increasing overall organizational agility?"

Given the significance and scope of organizational agility, CIOs need to partner with the business and IT stakeholders as change agents and enablers to drive agility and take responsibility for the outcomes. Readers already familiar with Agile methods like Scrum will recognize the similarity between this role and how product owners and Scrum masters help stakeholders (business and process executives, software developers and IT suppliers) identify and reach consensus on what needs to be done; and to confront and remove the obstacles that impede progress, stay focused and advance towards future goals.

ORGANIZATIONAL AGILITY COMES IN THREE FLAVORS

Turning agility into a business imperative requires consensus among stakeholders on goals and means. This isn't always easy, because expectations and perceptions change over time, and in most cases agility is not only a moving target but the change driver as well. CIOs can facilitate consensus building around the agility imperative by developing an agenda that incorporates three types including strategic, portfolio, and operational agility⁶.

STRATEGIC AGILITY IDENTIFIES AND SEIZES AGILITY-ENABLING OPPORTUNITIES

CIOs have always been expected to run an efficient and effective IT organization that supports the business but more recently they are expected to also identify and apply IT innovation directly into creating differentiated products and services. Even more challenging, the rate of change is much faster and time to market is the most important metric. Today's examples

of such agility-enabling technologies and solutions include mobile and cloud-based digital platforms for product development, process automation and digital business; analytics for accelerating decision support; and social media for enabling faster communication and deeper engagement with customers.

Under the current wave of technology innovation and solutions, a critical aspect of the CIO's agility-enabling job is the

re-thinking of traditional IT management capabilities for planning, building and running applications. The result is the deployment of a new operating model for IT⁷. The business expectations from this new model are faster and more flexible communication with customers and partners, shorter development lifecycles, rapid return on investments, continuous process improvement and feedback loops, and better risk mitigation. Arguably, one of the most effective approaches for

1 <http://www.kpmginfo.com/ceo-study/documents/ceo-study1.pdf>

2 L. Mathiassen and J. Pries-Heje, Business agility and diffusion of information technology, European Journal of Information Systems (2006) 15, 116-119, <http://www.springerlink.com/ejiijournal/v15/n2/pdf/3000610a.pdf>

3 E. Brynjolfsson & A. McAfee, The Race Against The Machine (2011), <http://raceagainstthemachine.com/>

4 <http://www.gartner.com/doc/2933218?srcld=1-3132930191#a-14327807>

5 <http://searchcio.techtarget.com/tip/Forrester-Achieve-business-agility-by-adopting-these-10-attributes>

6 <https://hbr.org/2009/02/how-to-thrive-in-turbulent-markets>

7 <http://www.kpmg-institutes.com/content/dam/kpmg/advisory-institute/pdf/2014/next-generation-it-operating-models.pdf>

ORGANIZATIONAL AGILITY COMES IN THREE FLAVORS CONT...

delivering these benefits relies on Agile, the management framework that many startups and technology giants like IBM and Microsoft, and more recently Amazon, Apple, Google and Facebook have been using alike, to accelerate the delivery of their products and services and compete in the IT industry (see Figure 1). The framework has also been adopted by many Fortune 500 companies to accelerate the digitization of business processes, and has occasionally been generalized and applied to product development above and beyond software development⁸.

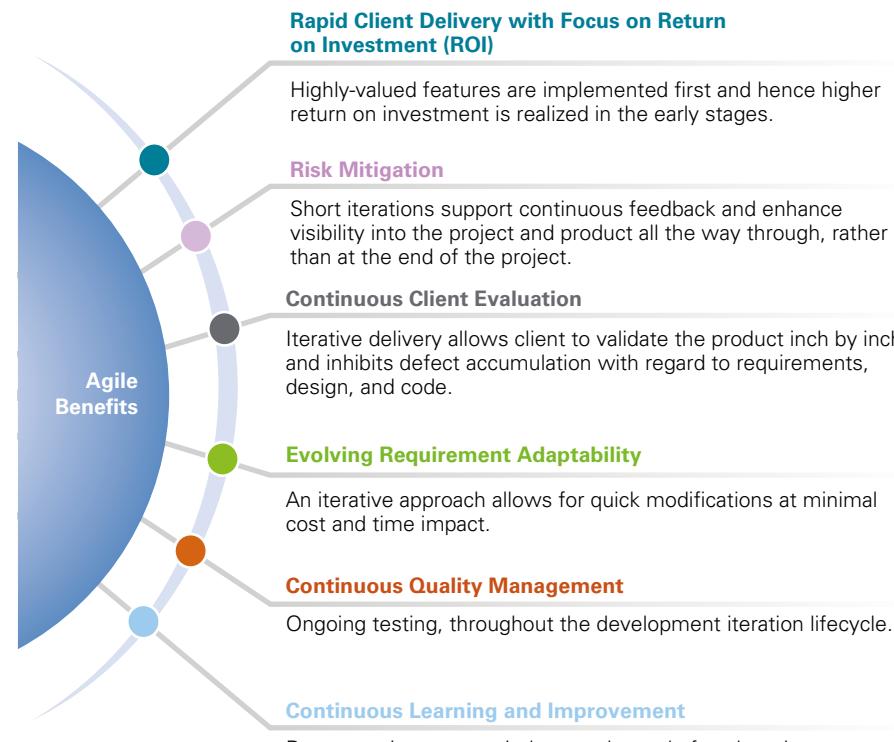
PORTFOLIO AGILITY FACILITATES THE FLEXIBLE ALLOCATION OF RESOURCES

Traditionally IT organizations have played the role of service suppliers to business stakeholders, as they have taken responsibility for the timely delivery of robust, reliable, standardized, scalable systems by using yearly planning and budgeting cycles, waterfall models for software development, and standardized processes based on best-practice frameworks like ITIL for IT delivery and support⁹. After decades of continuous improvement, this approach has become common practice and it is extensively applied by IT organizations across all industries to keep the costs and risks of technology investments under control, and proactively manage the ever-increasing complexity of IT systems through carefully planned quarterly or yearly upgrades and rationalization cycles.

Given the advent of agility-enabling technologies and Agile methods and tools, which make possible the release of new functionality and changes on daily and weekly cycles, IT organizations also need more flexible planning and budgeting cycles as well as more efficient operational processes to exploit the potential benefits of the new technologies and management frameworks. But changing the traditional IT model requires time and resources, and is not risk-free. To avoid undesired disruptions, many CIOs are looking at "bimodal"¹⁰ or "two-speed"¹¹ transformation strategies leading to hybrid IT models¹² which continue to run and improve traditional capabilities while permitting the deployment of more agile ones.

To make the hybrid IT model work, CIOs need an effective governance and portfolio management framework for guiding business stakeholders through the allocation of resources between traditional core IT and new digital innovation. KPMG member firms have developed such a framework for client organizations to help them manage the growing complexity of their applications and transition from reactive inventory management to proactive application portfolio optimization (APO) and innovation. The framework, which has been validated during numerous client engagements, is aimed at increasing business agility and value from technology investments, controlling complexity and costs, and mitigating operational risks¹³.

FIGURE 1: WHY SUCCESSFUL ORGANIZATIONS USE AGILE METHODS LIKE SCRUM FOR PRODUCT DEVELOPMENT



8 Jeff Sutherland, *Scrum: The Art of Doing Twice the Work in Half the Time*, the Crown Publishing Group, 2014 <http://www.amazon.com/Scrum-Doing-Twice-Work-Half/dp/038534645X>

9 <http://www.itlibrary.org/>

10 <http://www.forbes.com/sites/howardbaldwin/2014/01/17/the-cios-dilemma-making-the-leap-to-the-next-phase-of-computing/>

11 http://www.mckinsey.com/insights/business_technology/reinventing_it_to_support_digitization

12 <http://www.kpmg-institutes.com/content/dam/kpmg/advisory-institute/pdf/2014/next-generation-it-operating-models.pdf>

13 <http://www.kpmg-institutes.com/institutes/advisory-institute/articles/2014/10/optimizing-application-portfolio.html>

ORGANIZATIONAL AGILITY COMES IN THREE FLAVORS CONT...

OPERATIONAL AGILITY ENABLES NEW AND MORE EFFECTIVE WAYS OF WORKING

In addition to improving agility through effective governance and proactive portfolio optimizations, CIOs need to champion and support the deployment of faster and more flexible work processes based on optimized communications and shorter delivery cycles. One of the most successful Agile approaches supporting these new processes and ways of working is Scrum, a management concept which revolves around lean management principles, a collaborative structure and a fast, iterative process, known as "sprint" (see Figure 2).

A good way to get familiar and experiment with Agile frameworks like Scrum is through application development projects. But the methodology can also be described as a generalized succession of steps that can be easily applied to any initiative aimed at creating or improving products, services or capabilities:

- **Establish the project structure and assign roles and responsibilities.** Scrum projects are typically flat, interactive groups where business people and domain experts work collaboratively, communicating face-to-face when possible. Scrum projects have three roles: product or capability owner, scrum master and team.

- **Create and prioritize the product backlog.** This is the list of requirements and roadmap that need to be implemented in order to translate the product vision or desired change state into reality. The backlog evolves over the product lifecycle. The product owner consults with stakeholders and the team to align expectations versus what can be done. She estimates the work, articulates criteria for calling the work done, and prioritizes the backlog.
- **Plan and execute sprints.** Sprints are fixed length development cycles no longer than two to four weeks. During sprints the team works autonomously on backlog items that are fixed once the sprint plan has been agreed. Therefore it is important that the product owner makes sure during planning that the team clearly understands what needs to be done. Then, during execution the scrum master coordinates the effort of the autonomous team according to the envisaged progression of the work and facilitates daily communication with the team members.
- **Demonstrate tangible results and review the sprint.** At the end of each sprint the team demonstrates to stakeholders tangible results in terms of the work they have completed. If the product is still a work in progress, these results should be a completed part or feature. Then the team reviews the sprint to evaluate what worked well, what didn't, and what they need to improve in the next sprint.

FIGURE 2: KEY DIFFERENCES BETWEEN TRADITIONAL AND AGILE PROJECT MANAGEMENT



ORGANIZATIONAL AGILITY COMES IN THREE FLAVORS CONT...

Organizations that have implemented Scrum have also discovered that this Agile framework has the power to accelerate and improve not only software development but essentially any kind of

project requiring fast, accurate and efficient implementation. KPMG member firms have already helped several organizations turn Scrum into a powerful approach for delivering effective results in less

expected areas such as meeting SOX requirements. But expanding Scrum above and beyond application development is not trivial. CIOs need to help stakeholders embrace the Agile mindset and remove any

obstacles hindering the implementation of Agile projects through a sustainable organizational change approach.

FACING AND REMOVING THE OBSTACLES IMPEDED PROGRESS

Deployment of Agile requires a mindset change and a shift in the way organizations work, and is likely to be subject to the same obstacles that occur during most organizational change initiatives¹⁴. In addition, Agile methods require CIOs to be aware of a few more pitfalls:

- **Too narrow focus on application development.** The advantage of developing software more quickly than traditional methods will fade away if the development process is not aligned with other IT roles and processes in the context of shared business objectives. Therefore CIOs need to make sure that the implementation of Agile makes the leap beyond software development to address the entire lifecycle of applications and IT services, including for example the transition from development to production through test, validation, deployment, change and configuration management capabilities, IT operations, and continual service improvement.
- **Traditional IT management structures and mindset.** Traditional IT management models separate the roles of "business

customers" and "IT suppliers" even when "suppliers" are internal functions, which should share and be measured on the same goals as their "customers". Moreover, when the organization uses formal accountability models that give full ownership of IT costs and risks to IT silos, the traditional model puts a hard stop to collaboration and innovation. CIOs can improve the situation by deploying Scrum-style project structures and roles that encourage the business and IT functions to collaborate and focus on common goals, instead of driving them apart through misplaced service contracts and chargeback mechanisms.

• **Misaligned IT planning and budgeting processes.** Many organizations measure and monitor their IT budgets based on benchmark numbers that cap IT spending as a percentage of revenue. They also employ strategic roadmaps covering three- to five-year periods that identify infrastructure gaps and new needs, followed by a lengthy and cumbersome approval process to fund specific projects that address them. This highly structured

and slow approach falls short in the world of digital innovation and agile processes where new initiatives need to be completed within a few weeks or months. KPMG expects that during the coming years the majority of CIOs are likely to address this challenge through hybrid or bimodal IT, an operating model that will continue to use the traditional budgeting, planning and approval approach for core IT, while deploying a more fluid business-driven planning process based on Agile principles for the digital business¹⁵.

• **Inappropriate IT governance.** Organizations implementing bimodal IT operating models will need new and improved IT governance and portfolio management capabilities. As already discussed, these will need to replace the traditional structures and mindset which separate business and IT with a collaborative decision-making approach, where the business stakeholders take ownership of IT outcomes and clearly answer fundamental questions such as: How much should the organization spend

on new applications versus managing the existing ones? Which applications are business critical, and which are nice to have? What levels of performance does the organization expect from its application portfolio? What levels of risk is the organization prepared to accept from developing new applications and maintaining the existing ones?

• **Mistaken compliance policies.** In many organizations compliance is perceived as an obstacle to agility, especially when it consists of onerous documentation, cumbersome control and heavyweight processes. Along with inappropriate governance, this approach needs a mindset change to reaffirm that compliance is about transparency – and transparency doesn't necessarily require heavy documentation and command and control structures. CIOs need to facilitate the development of compliance policies and processes aligned with the organization's needs for more visibility, controls and security, while at the same time eliminating non-value adding activities and bureaucracy.

14 Jeffrey Pfeffer, Robert I. Sutton, *The Knowing-Doing Gap: How Smart Companies Turn Knowledge into Action*, Harvard Business Press, January 2000

15 <http://www.kpmg-institutes.com/content/dam/kpmg/advisory-institute/pdf/2014/next-generation-it-operating-models.pdf>

PROGRESSING TOWARDS GREATER ORGANIZATIONAL AGILITY

KPMG member firms have worked with several CIO clients during agility-enabling initiatives that started inside application development using frameworks like Scrum and expanded to improve the flexibility of IT and business capabilities. Based on this experience, we recommend the following steps for implementing these initiatives:

- **Increase awareness.** The deployment of Agile requires a cultural change and a shift in the way the organization operates. Therefore, starting with IT and business leaders and other potential change agents, the entire organization will need to develop an understanding of how it works and embrace it over time. It is critical that stakeholders develop a common understanding of why the organization needs Agile, and how it needs to manage change to facilitate its implementation. An effective way to achieve this is to expose the organization to professionals who have been through the process, and can provide maturity assessments, training and coaching during the subsequent deployment steps.
- **Launch a small taskforce.** Its mission is to incubate Agile and translate practices and methodological concepts such as the Scrum process, roles, daily rituals, and tools into the organization's realities and language; train the stakeholders and

coach them during pilot projects; and monitor these projects and measure their impact on performance against pre-specified metrics, like schedule, effort, and quality. A critical aspect of deploying this new way of working and structure is to abandon traditional and often mistaken planning, governance and compliance processes in favor of a collaborative partnership relationship, as described in the previous section. (See Sidebar 1)

- **Institutionalize.** As the piloted methodology begins to show performance improvements, the organization needs to set the stage for a larger deployment process supported by best practice methods and tools. Eventually, the taskforce evolves into an Agile center of excellence (CoE), which is responsible for: refining and tuning the Agile framework; selecting, implementing and tuning the portfolio of Agile tools that have proved the most effective in practice; providing training and championing productivity, cost containment, and delivery excellence; guiding project teams through the entire course of Agile deployment; and providing quantitative and qualitative evidence of benefits accumulated and overall maturity improvements (see Figure 3).

KPMG MEMBER FIRMS HAVE HELPED A DEVELOPMENT ORGANIZATION IN THE FINANCE INDUSTRY TO UNDERSTAND AND LAUNCH AGILE



CASE STUDY KPMG helps development organization in the finance industry to understand and launch Agile.



REQUIREMENT The client wanted to understand the fundamentals of Agile, and if found useful, wanted to transform all the projects operating in traditional methods to Agile Scrum methodology. Candidates for training were Project and Program Managers, Designers, Developers, Testers, and Quality Assurance personnel.

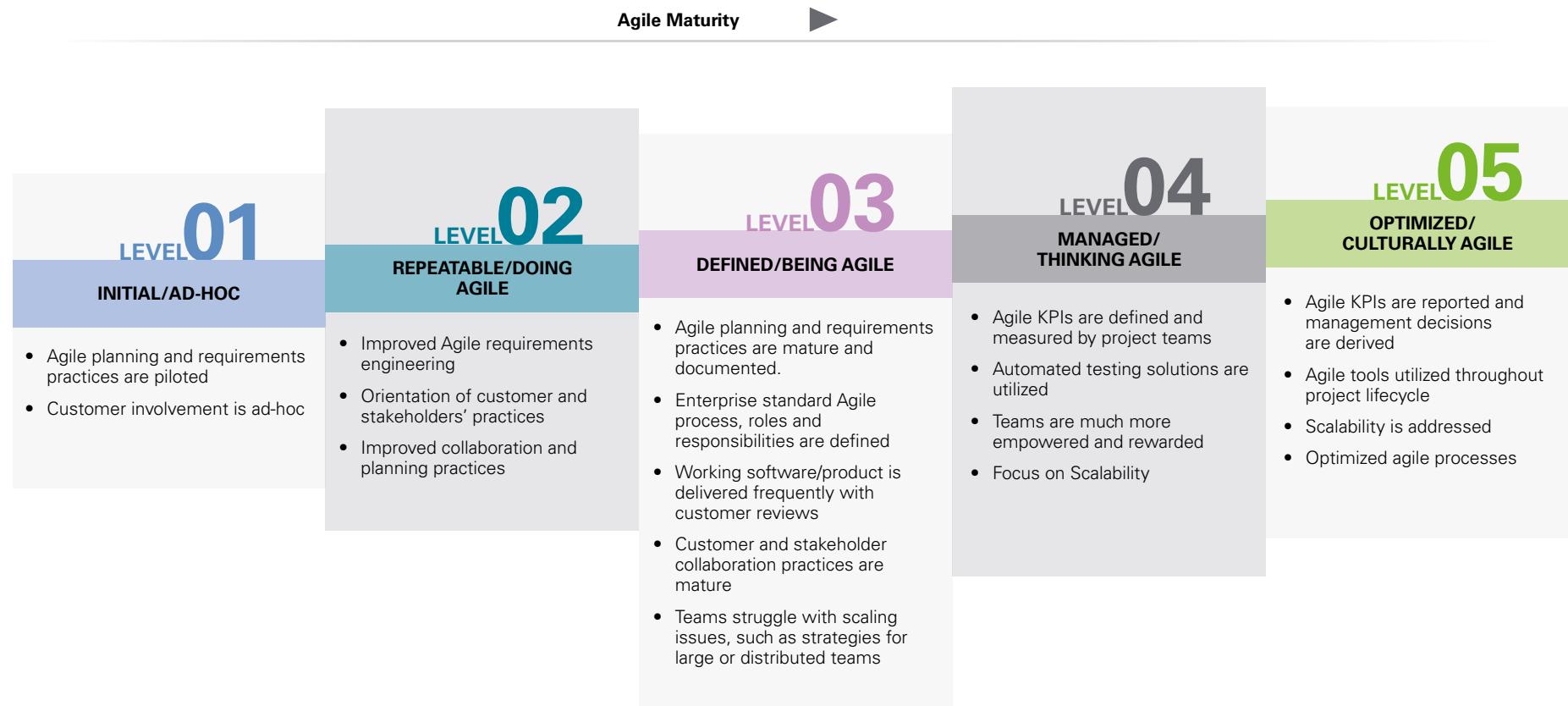


CUTTING THROUGH COMPLEXITY KPMG developed detailed and broad-ranging training material on Agile practices to help the organization establish Agile practices and coach teams on them. Several case studies and exercises were integrated into the course, so that the participants received first hand exposure to the concepts of Scrum methodology.

KPMG delivered a range of insights and training and received positive feedback. The training then led to a consulting engagement, where actual coaching of Projects to the Agile world was delivered.

PROGRESSING TOWARDS GREATER ORGANIZATIONAL AGILITY CONTINUED

FIGURE 3: USING FIVE LEVELS TO MONITOR MATURITY IN AGILE INITIATIVES

16 <http://guide.agilealliance.org/guide/scrumofscrums.html>

PROGRESSING TOWARDS GREATER ORGANIZATIONAL AGILITY CONT...

- **Scale up.** The CoE starts applying Agile to larger and more complex projects using techniques like Scrum of Scrums¹⁶. The organization also dedicates additional effort to: marketing Agile via deliberate evangelization campaigns; forming communities of practice; creating contextual and customized workshops to address specific business needs; creating customized training modules to cover the entire organization; and managing the portfolio of Agile methods and tools for optimal business results.

- **Broaden scope.** As the Agile implementation continues to gain momentum and scale, the focus turns to broadening the scope of the framework beyond application development. The goal is to identify new areas of process improvement, move away from silo optimization, and expand the Agile framework into a broad organizational capability. (See Sidebar2)

HOW KPMG CAN HELP

KPMG member firms offer a number of capabilities for Agile development and management. We are recognized for our relentless focus on creating business value by balancing cost, performance and risk. Our expert consultants deliver a broad portfolio of Agile-related services including organization-wide deployment, maturity assessments, Lean methodology adoption, program management and training, and facilitation and coaching at all levels of the organization. We have the deep levels of management expertise required to facilitate the development of the governance, security, compliance, planning and portfolio management capabilities which make Agile initiatives succeed or fail.

Based on our hands-on experience, member firm professionals can also efficiently assess agility challenges with a business-centric approach that leverages tools and market comparators to analyze benefits, cost and risks at an aggregate level. Equally importantly, we provide a valuable understanding of current Agile trends and insights across several industries and in different geographies. Last but not least, member firms have broad experience in business transformation and its critical importance in defining Agile strategies, assessing change readiness, and providing guidance for IT leaders.

AN INTERNATIONAL PERSONAL CARE PRODUCTS COMPANY USES AGILE TO IMPLEMENT SOX REQUIREMENTS



CASE STUDY KPMG member firms helped an international personal-care products company to implement SOX requirements.



REQUIREMENT The client needed to implement SOX requirements for the IT area of a particular country where the company had operations. The IT function had gone through several changes and there were many open points that required to be taken care of to fulfill SOX requirements in a short time frame (procedures that had to be adjusted to reflect changes in the IT area, configuration items that had to be put under control, etc.). The company wanted to fulfill the regulatory requirements, but also to improve from the implementation of those changes. They also needed to do it in a very short time frame.



CUTTING THROUGH COMPLEXITY KPMG used an agile approach to the development of the required assets, building a “product backlog” featuring the requirements to be fulfilled and their priority according to their impact in compliance. The team used a virtual taskboard to improve collaboration and allow the client to view the status of the project all the time (a plus given the criticality of the endeavor).

KPMG enabled the client to fulfil the requirements on time, also setting a good base for IT process improvement.

¹⁶ <http://guide.agilealliance.org/guide/scrumofscrums.html>

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