**Canon**

CANON BUSINESS PROCESS SERVICES, INC.

BUSINESS PROCESS OUTSOURCING
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
ROBOTIC PROCESS AUTOMATION
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
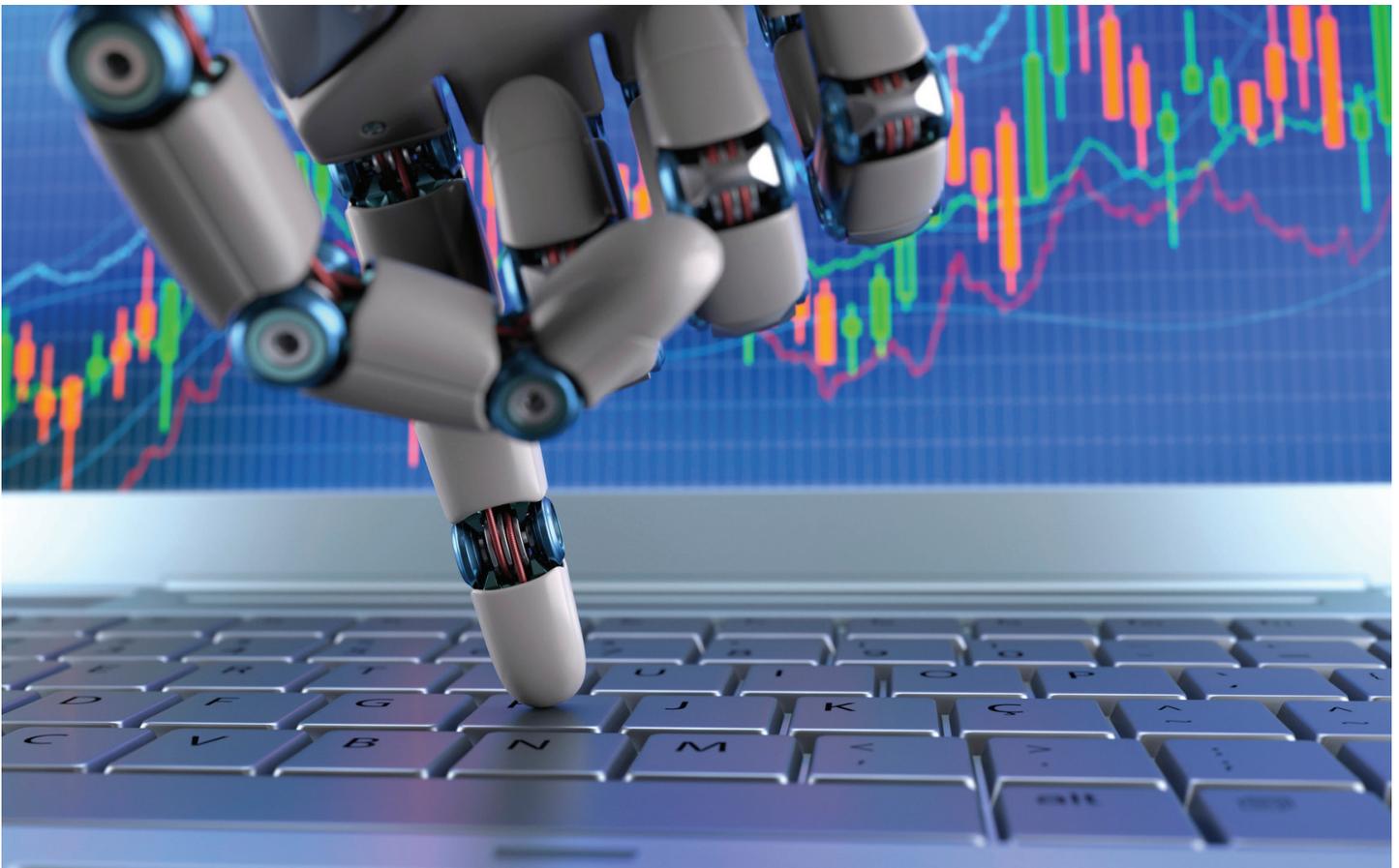WHITE PAPER

# Understanding Robotic Process Automation: Value Proposition, Deployment Model and Use Cases

by The Hackett Group

## Are you realizing the benefits of RPA in 2017?



Canon Business Process Services is pleased to provide you with important research on the potential benefits of Robotic Process Automation, a relatively new method for process automation and application integration that can reduce process costs and cycle time. Learn about the nine value drivers for RPA and how companies can benefit from an RPA deployment.

For more information about how Canon Business Process Services can help your company improve business processes and efficiency, please call 888-623-2668 or visit cbps.canon.com.

![The Hackett Group — World Class Defined and Enabled]

*Understanding Robotic Process Automation*

# Value Proposition, Deployment Model and Use Cases

*By Erik Dorr, Martijn Geerling and Jim O'Connor*

## Executive Summary

The value proposition of robotic process automation is based on its low barriers to adoption: reasonable cost, high speed of solution development, and limited dependency on IT resources. While the potential benefits are real, service delivery organizations must be very deliberate in developing their RPA plans, basing them on a solid understanding of the technology and its applicability. RPA deployment plans must be tied into the roadmap for the business processes and enabling business applications that are to be integrated or automated using RPA technology, since they are intrinsically linked.

### About this research

This is the second in a three-part series on robotic process automation. In Part 1, we define RPA, analyze its current-state maturity and adoption, and project its future adoption trends.

In Part 2, we analyze RPA's value proposition and look at how RPA is used.

In Part 3, we present a model of RPA use-case evaluation criteria and offer recommendations for developing business cases and a roadmap for adoption.

Parts of this series draw on a roundtable featuring members of our Global Business Services Executive Advisory Program whose companies are early adopters of RPA technology in G&A processes. The event was conducted in early 2016.

Additionally, to support this research we interviewed and conducted briefings with the major RPA technology vendors and a number of BPOs.

## Understanding the RPA Value Proposition

Robotic process automation, or RPA, is a relatively new method for process automation and application integration. The technology automates processes and integrates applications by emulating user interactions with applications at the user interface level, which is a relatively unsophisticated method. Further, because robots run on individual desktops, RPA is inherently hard to govern, especially at the enterprise level.

Nevertheless, the technology can be an extremely effective opportunistic approach to automation and application integration. The greatest deployment opportunity for RPA is in fragmented application landscapes with labor-intensive, repetitive, manual processes. It is unsurprising that early adopters of RPA are in financial services, utilities and telecommunications, industries working with many legacy systems built decades ago. Extending this concept to more generic back-office processes, the companies that will benefit most from RPA are those with a fragmented business application landscape (including multiple instances of different ERPs and proprietary systems), which is difficult to integrate at the application or database level.

Rather than the technology itself, then, RPA's value proposition is based on its speed and ease of development and deployment. These translate into the following set of value drivers:

- **Ability to bypass the IT organization:** In many companies, the IT organization is backlogged with commitments to large, complex projects or high-priority, client-facing applications. Furthermore, using traditional IT toolsets and methods for application integration is complex, slow and costly, making them unsuitable for many of the smaller application integration or automation projects typically addressed by RPA. Therefore, despite their high potential to improve process

performance, many opportunistic application integration projects in business services functions (e.g., finance, HR, IT, procurement) will never make it to the top of the change-request queue or into the approved and funded IT project portfolio. Because RPA does not require IT development resources and needs a very limited technical infrastructure, businesses are able to undertake these projects by themselves.

- **Short development cycle time:** Participants in our roundtable reported typical time-lines of six to eight weeks to develop and deploy RPA, dramatically less than tradi-tional, IT-led application integration projects. However, much more time was spent on change management and selection of pilot projects.

- **Low initial investment threshold:** An initial, small-scale RPA application can be developed at low cost, in some cases for as little as $20,000; costs rarely exceed $100,000. This is an extremely low threshold for organizations to pilot the technology and conduct a proof of concept. In today's uncertain business environment, organi-zations are extremely cautious about committing to a multimillion-dollar upgrade or consolidation project to integrate applications and business processes. This makes the alternative RPA-based, short-cycle, low-cost approach extremely compelling. Further-more, approval for investment in a low-cost RPA project will be easier to obtain than for an expensive application upgrade.

- **High ROI:** In the early stages of RPA adoption, companies will usually pursue opportunities with high potential to reduce labor cost. RPA vendors are claiming to deliver as much as 60-80% in savings. Feedback from some roundtable participants indicated the returns are much more modest, at 20%-30%, but still significant. It is important to understand that RPA automates individual activities and tasks, but not entire processes. As a result, measurement of labor-cost savings is very sensitive to the definition of the scope of baseline labor cost *(see sidebar at left)*.

- **Auditability, consistency, error rates:** Execution of routine tasks by humans is prone to errors and inconsistent application of rules. Robots apply the same set of rules consistently and operate without errors. Furthermore, all tasks executed by robots are recorded, and these execution logs are auditable. For processes that are subject to rigid auditability and compliance regulation, this may be the primary value driver for replacing human operators with robots. In addition to cost savings, the most important benefits cited by roundtable participants from RPA deployment are improved quality and reduced cycle time.

- **Analytics:** RPA allows business services organizations to collect data about task execution, which can be used for analytical purposes. This can include work volume patterns, exceptions, cycle times and errors. Insights gained from such analysis may be used in a number of ways, such as supporting process improvement initiatives.

- **Scalability:** Human capacity is difficult to scale in situations where demand fluctuates, leading to backlogs or overcapacity. In contrast, robots operate at whatever speed is demanded by the work volume. Multiple robots can be deployed when demand exceeds the capacity of a single robot. However, this raises the question of who manages the robotic workforce. Roundtable participants asserted that companies need to develop teams with a distinct skill set for managing RPA deployments, whether for business as usual, to assign work to robots, monitor performance, or to more generally integrate RPA into the organizational structure. Most agreed that RPA deployment is not technically complex and fits well with continuous improvement capabilities and placement in a GBS environment.

- **Sourcing model economics:** The value of most BPO arrangements is based on labor arbitrage, with the BPO running labor-intensive processes offshore. Emerging RPA-based, technology-intensive alternatives for service delivery change the economics of BPO arrangements. RPA may let companies move work back in-house, usually through their GBS organization, and execute at lower cost. It also gives companies more leverage to pressure their BPO providers to automate service delivery themselves and pass on the cost savings from efficiency gains.

- **Onshore, offshore, nearshore economics:** RPA also changes the economics of captive GBS organizations' offshore/onshore sourcing-model decisions. Shifting from labor-intensive to technology-intensive service delivery favors onshore service delivery. For some processes, onshore delivery would be preferred for its closer proximity to customers, better cultural fit and quality of work, yet the work is executed offshore due to its lower cost. RPA may change this, inducing GBS organizations to move service delivery back onshore. For processes that gain no value from proximity to customers, RPA business cases will be most compelling for work with the highest labor cost, which may be onshore, offshore or nearshore.

## Understanding RPA Use Cases

In Part 1 of this series, we defined RPA; at this point, we understand its value proposition. Next, we examine how robots are deployed. For this, it is necessary to understand the role of business applications and human operators in executing automated business processes. For illustrative purposes, we analyze an employee data management process.[1] Employee data management consists of subprocesses, such as initial data setup of new hires. In turn, initial data setup may be broken down into multiple activities, including company system setup. In **Fig. 1**, this activity comprises setting up the new employee in a number of different systems and sending a request to IT to issue a laptop and set up the new hire in various internal IT systems.[2]

**FIG. 1   Employee data setup**
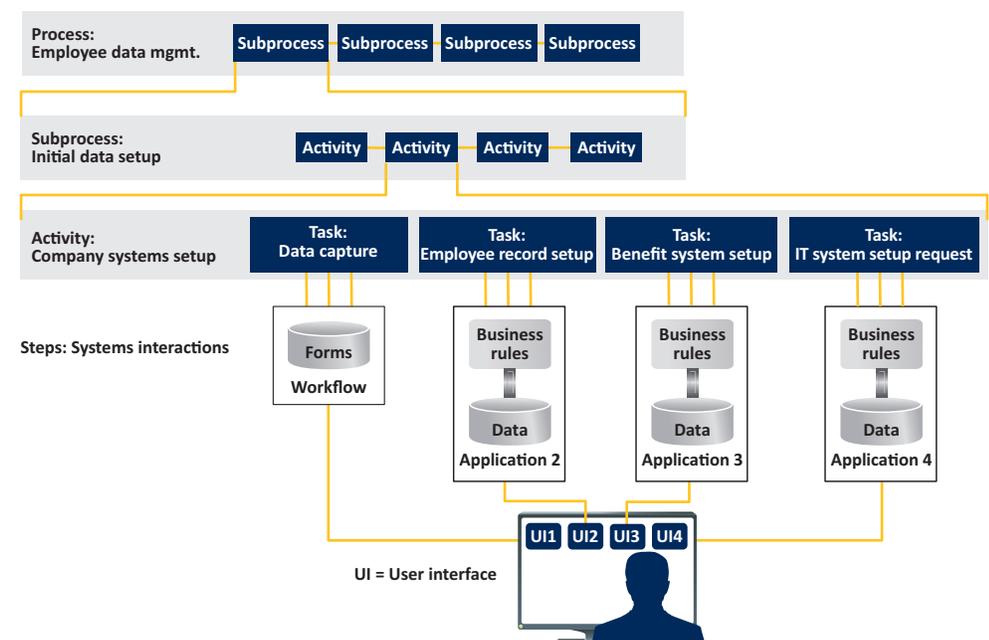


Source: The Hackett Group

In this example, a human operator may be capturing data from electronic or paper forms and entering it into multiple information systems, each of which requires a separate login and has a different user interface. Absent any errors in the new-employee information that has been submitted or other conditions that trigger exceptions, the tasks executed by the human operator are strictly repetitive in nature and based on fixed rules. The number of work hours consumed by the company system setup activity depends on the complexity of the individual systems, the number of different systems where setup for the new hire is required, and, of course, the volume of new hires.

---

[1]   Employee data management is part of a higher-level, end-to-end HR process (hire-to-retire), not shown.

[2]   In practice, initial data setup may touch many more siloed systems, such as building security, company credit card and other systems that track company assets.

## Process digitization and the RPA lifecycle

The complete digitization of business support processes is expected to happen over a long time horizon subject to several factors. The pace of modernization of technology platforms and their ability to support native digital processes is an important external constraint. Internally, investment in digital transformation and prioritization of this investment dictate the pace of digitization of legacy processes and systems.

Therefore, despite its finite lifespan, in processes like the ones discussed in this report, deploying RPA may dramatically reduce the cost of execution and offer significant ROI. Further, the monetary savings generated by RPA deployment in legacy processes may be reinvested in more strategic digital transformation opportunities in the core business.

## RPA-Based Application Integration and Task Automation

In the company system setup example on the previous page, RPA handles the activity through a software robot on a desktop that emulates execution of the tasks previously performed by a human operator. The robot is developed by documenting and capturing the tasks and steps within applications executed by the human operator (Fig. 2).

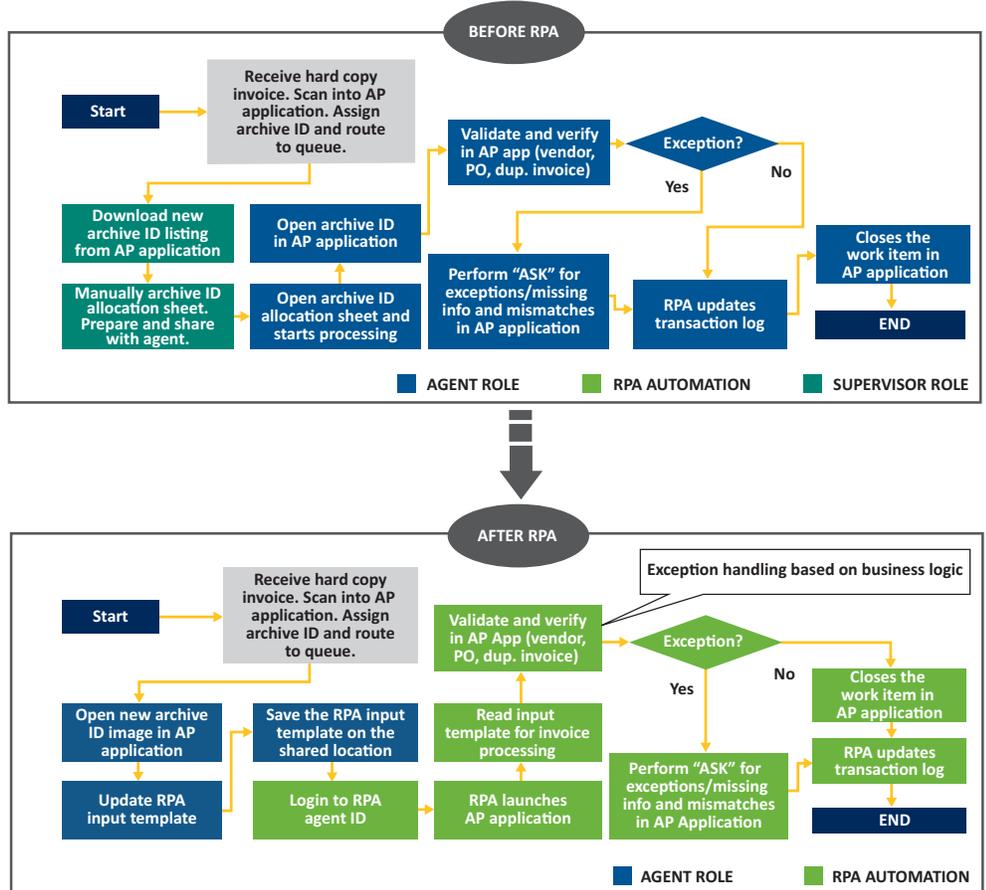FIG. 2   Employee data setup: RPA use case
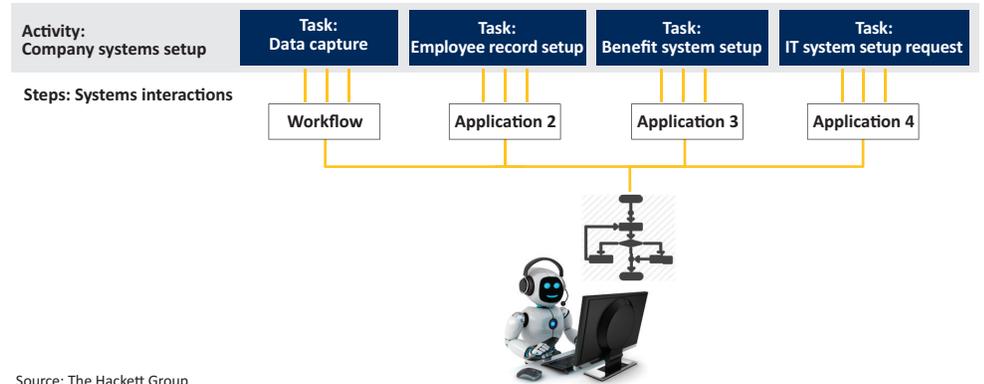
Source: The Hackett Group

Development is most often done using a graphical process-mapping tool that defines the sequence of activities and tasks as well as business rules. Inserting a robot into the process flow requires digitization of information. In this example, the robot compels the data capture task to deliver information in a structured, digital format. If the original input is captured in hard copy, this information needs to be either manually entered into an e-form or converted from image to structured data using OCR technology. The robot is deployed from a centrally managed environment, typically executing a queue of work triggered by a human operator. Any exceptions are routed to a human operator. Note that the robot automates lower-level tasks or activities, not processes. In this example, while the robot could alleviate the workload of an HR clerk responsible for the employee data management process, RPA will not fully automate or integrate the entire higher-level process.

## RPA in Action: A Use Case for Accounts Payable Processing

Next, we show a real-world example of an RPA deployment in AP processing, provided by a global BPO service provider with experience in developing RPA capabilities (Fig. 3). In this subprocess, a paper invoice is received and invoice information is digitized. Information is entered and validated in the accounts payable system before any further processing. In the example shown, RPA is inserted into the process flow for data entry, launching the AP application and data validation.

**FIG. 3   RPA in accounts payable processing**



BEFORE RPA

Start

Receive hard copy invoice. Scan into AP application. Assign archive ID and route to queue.

Validate and verify in AP app (vendor, PO, dup. invoice)

Exception?
Yes    No

Download new archive ID listing from AP application

Open archive ID in AP application

Closes the work item in AP application

Manually archive ID allocation sheet. Prepare and share with agent.

Open archive ID allocation sheet and starts processing

Perform "ASK" for exceptions/missing info and mismatches in AP application

RPA updates transaction log

END

AGENT ROLE    RPA AUTOMATION    SUPERVISOR ROLE

AFTER RPA

Exception handling based on business logic

Start

Receive hard copy invoice. Scan into AP application. Assign archive ID and route to queue.

Validate and verify in AP App (vendor, PO, dup. invoice)

Exception?
Yes    No

Open new archive ID image in AP application

Save the RPA input template on the shared location

Read input template for invoice processing

Closes the work item in AP application

Update RPA input template

Login to RPA agent ID

RPA launches AP application

Perform "ASK" for exceptions/missing info and mismatches in AP Application

RPA updates transaction log

END

AGENT ROLE    RPA AUTOMATION

**Source: Global BPO Service Provider**

Overall process-cost savings reported from this RPA use case are 20% of baseline cost. The example underscores that RPA automation usually operates at the level of activities or tasks, as opposed to at the process level. It also shows a significant amount of repetitive manual tasks being directly replaced with RPA. Moreover, the supervisor role is effectively eliminated. Further opportunities exist to add automated activities and tasks to this subprocess, the most obvious being OCR technology at the beginning of the process. Modern OCR technology is itself evolving and acquiring self-learning capabilities, and could be a truly cognitive application (a.k.a., a "smartbot") deployed in this subprocess.

As business processes are digitized, paper-based AP invoice processing like the one shown above will become increasingly anachronistic and, as processes become natively digital, eventually disappear due to obsolescence. In other words, the process shown in Fig. 3 is a "legacy," i.e., non-natively digital process. Deploying RPA may dramatically lower cost of execution of the legacy process, and as a result change the cost/benefit equation of process reengineering to modernize AP processing technology. So, while RPA digitizes process flows, it may paradoxically retard digital transformation by extending the lifecycle of legacy processes and technology platforms.

This should not stop companies from pursuing high-ROI opportunities. Even if in some cases RPA may extend the lifecycle of legacy processes and technology, the extension may make perfect economic sense. Moreover, deploying RPA can dramatically reduce the technology risk associated with migrating to new platforms prematurely. However, the issue should be recognized and RPA should be planned in the context of a mid-to-long-term roadmap for digital transformation strategy and technology. (We elaborate on this issue in Part 3 of this series.)

## Strategic Implications

RPA offers a compelling set of value drivers, mostly related to its facilitation of low-cost, high-speed solution development and its independence from IT resources. However, companies must understand the limitations of the technology, select use cases carefully, and most important, plan for the RPA lifecycle. Most important, organizations need to plan for RPA as an inextricable component of the roadmap for the business processes and enabling applications that are integrated or automated using RPA technology, since they are inherently linked.

## Related Hackett Research

"Understanding Robotic Process Automation, Part 1: Maturity, Adoption and Future," July 2016
"Understanding Robotic Process Automation, Part 3: Developing Business Cases and Getting Started," July 2016

## About the Advisors

### Erik Dorr
*Vice President, Strategic Research, and Lead Author*

Mr. Dorr has over 20 years of experience in consulting, research and advisory roles in information technology strategy, enterprise application suites and business process reengineering. Before being named to his current position, he was Senior Enterprise Research Director. Prior to joining The Hackett Group, he held a number of senior management positions, including Vice President of IT at a global manufacturing company, where he was also a member of the executive leadership team.

### Martijn Geerling
*Practice Leader, Global Business Services Advisory Program*

Mr. Geerling has over 15 years of consulting experience in strategy development, business process redesign and implementing sourcing strategy, both shared services and outsourcing. During this time he has worked with business services organizations of leading global companies across various industries. Prior to joining The Hackett Group, he worked at KPMG Consulting assisting clients in Europe and Asia with finance-function transformation, business process redesign, and risk and compliance management.

### Jim O'Connor
*Global Practice Leader, Global Business Services and Finance Advisory Programs*

Mr. O'Connor has over 20 years of both industry and consulting experience focusing on finance transformation. He has particular expertise in strategy and organization design, business process design, strategic cost reduction, reporting, planning and performance management, BI and financial systems, shared services and outsourcing. In these roles, he has advised client executives in a wide range of industries including consumer products, financial services, higher education, manufacturing, retail, and utilities. Previously, he led the CFO Services practice at North Highland, a global consulting firm, and before that, focused on finance transformation and strategy at Archstone Consulting, now a part of The Hackett Group.

The Hackett Group (NASDAQ: HCKT) is an intellectual property-based strategic consultancy and leading enterprise benchmarking and best practices implementation firm to global companies. Services include business transformation, enterprise performance management, working capital management, and global business services. The Hackett Group also provides dedicated expertise in business strategy, operations, finance, human capital management, strategic sourcing, procurement and information technology, including its award-winning Oracle EPM and SAP practices.

The Hackett Group has completed more than 11,000 benchmarking studies with major corporations and government agencies, including 93% of the Dow Jones Industrials, 86% of the Fortune 100, 87% of the DAX 30 and 52% of the FTSE 100. These studies drive its Best Practice Intelligence Center™, which includes the firm's benchmarking metrics, best practices repository, and best practice configuration guides and process flows. It is this intellectual capital that enables The Hackett Group's clients and partners to achieve world-class performance.

## The Hackett Group
### World Class Defined and Enabled

Email: info@thehackettgroup.com
www.thehackettgroup.com

Atlanta +1 770 225 3600
London +44 20 7398 9100
Sydney +61 2 9299 8830

Atlanta, Chicago, Frankfurt, Hyderabad, London, Miami, Montevideo, New York, Paris, Philadelphia, San Francisco, Sydney, Vancouver

Please visit **www.thehackettgroup.com** to learn more about The Hackett Group and how we can help your company sharply reduce costs while improving business effectiveness. Or contact us at **1 866 614 6901 (U.S.)** or **+44 20 7398 9100 (U.K.).**