The Continuum of Intelligent Automation
How RPA, Autonomics and Cognitive are Coming of Age

London, December 8th, 2015
Overview

- Tom Reuner is Managing Director for IT Outsourcing Research at HfS. Tom is responsible for driving the HfS research agenda for the “As-a-Service Economy” across SaaS applications, cloud eco-systems and IT. Together with his HfS colleagues Tom continues to develop ground breaking research around process automation and cognitive computing in both IT and business processes. A central theme for all of his research is the increasing linkages between technological evolution and evolution in the delivery of business processes.

Previous Experience

- Tom’s deep understanding of the dynamics of this market comes from having held senior positions with Gartner, Ovum and KPMG Consulting in the UK and with IDC in Germany where his responsibilities ranged from research and consulting to business development. He has always been involved in advising clients on the formulation of strategies, guiding them through methodologies and analytical data and working with clients to develop impactful and actionable insights. Tom is frequently quoted in the leading business and national press, appeared on TV and is a regular presenter at conferences.

Education

- Tom has a PhD in History from the University of Göttingen in Germany.
HfS Research Has Been Writing About Intelligent Automation for 3+ Years
We Are Moving Toward An As-a-Service Economy

- Intelligent Automation is *one* building block, but not the panacea
- Change Management, in particular new organizational models are critical
## While It Is Tempting To Look At Automation Only For Cost

How critical are the following C-Suite priorities/directives, in terms of shifting from a Cost Focus to a Value Focus with your operating model?

<table>
<thead>
<tr>
<th>Priority</th>
<th>Mission Critical</th>
<th>Increasingly Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive down operating costs</td>
<td>62%</td>
<td>33%</td>
</tr>
<tr>
<td>Cost effective, flexible services</td>
<td>49%</td>
<td>45%</td>
</tr>
<tr>
<td>Better address risk and regulation</td>
<td>29%</td>
<td>40%</td>
</tr>
<tr>
<td>Accelerate speed to market with new products/services</td>
<td>29%</td>
<td>31%</td>
</tr>
<tr>
<td>End-to-end process optimization</td>
<td>26%</td>
<td>48%</td>
</tr>
<tr>
<td>Real-time data-driven insights</td>
<td>24%</td>
<td>43%</td>
</tr>
<tr>
<td>Improve the quality of operations talent</td>
<td>18%</td>
<td>30%</td>
</tr>
<tr>
<td>Restrict the recruitment of labor where possible</td>
<td>13%</td>
<td>23%</td>
</tr>
<tr>
<td>Invest in process automation and robotics to reduce reliance on labor</td>
<td>11%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Source: HfS Research and KPMG LLP, 2015
Sample: 168 Enterprise Buyer Executives from “Achieving Value Beyond Cost” Study, November-December 2014
We Need To Focus On Intelligent Automation Also Being About Quality, Predictability and Speed

What do you believe to be the most important components of the value proposition for Robotic Process Automation? *(Choose Top 3)*

- Driving more predictability and higher quality in the processes: 65%
- Speeding up the time to complete the processes: 50%
- Freeing up staff to move to different projects: 38%
- Reducing costs on a continual basis, beyond the scope of the contract: 35%
- Creating more reliable data sets for analytics: 32%
- Increasing the standardization of processes: 29%
- Enabling us to move to business-outcomes vs. FTE pricing: 24%
- Eliminating staff positions: 21%
- Increasing control/visibility of end-to-end processes: 18%
- Gaining a competitive advantage in my industry: 3%

Source: "Ideals of As-a-Services" Study, HfS Research 2015
Sample: Total = 716; Enterprise Buyers = 178; Advisors/Consultants = 176; Service Providers = 372
This Conflict May Be Because Many Enterprises Don’t Really Understand Intelligent Automation Today

Do you fully understand the value propositions for the following enabling technologies for your enterprise?

- **Software as a Service applications**: 83% Yes, 17% No
- **Cloud infrastructure**: 82% Yes, 18% No
- **Analytics engines**: 77% Yes, 23% No
- **Mobile Apps**: 76% Yes, 24% No
- **Social Media platforms**: 64% Yes, 36% No
- **Robotic Process Automation tools**: 50% Yes, 50% No
- **Cognitive Computing platforms**: 33% Yes, 67% No

Source: "Ideals of As-a-Services" Study, HfS Research 2015
Sample: Enterprise Service Buyers = 178
HfS Sees Intelligent Automation As A Continuum Today

Characteristic of process

- trigger based
- rules based
- rules based

Data Center Automation:

- Business process automation
- Workflow
- RPA
- Autonomic Platforms
- Cognitive Computing
- True Artificial Intelligence

Characteristic of data/information

- Structured
- Unstructured patterned
- Unstructured without patterns
With An Ever Increasing Variety Of Solutions

Characteristic of process

- trigger based
- rules based standardized language
- rules based dynamic language

Data Center Automation:
- Runbook Scripting
- Scheduling
- Job control
- Workload automation
- Process orchestration

BPM
- Business process automation
- Workflow

RPA
- Autonomic Platforms
- Cognitive Computing
- True Artificial Intelligence

SOA
- Virtualization
- Cloud services

Characteristic of data/information

- Structured
- Unstructured patterned
- Unstructured without patterns

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Many See Intelligent Automation As A Technology For The Future

What are the most significant enabling technologies TODAY in your move to the “As-a-Service Economy” and which do you think will be the most significant in 2018?

<table>
<thead>
<tr>
<th>Technology</th>
<th>Today</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud infrastructure</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>Software as a Service</td>
<td>68%</td>
<td></td>
</tr>
<tr>
<td>applications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Apps</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td>Analytics engines</td>
<td>49%</td>
<td></td>
</tr>
<tr>
<td>Social Media platforms</td>
<td>35%</td>
<td>23%</td>
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<td>Robotic Process Automation</td>
<td>22%</td>
<td>40%</td>
</tr>
<tr>
<td>tools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive Computing platforms</td>
<td>17%</td>
<td>56%</td>
</tr>
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<td></td>
<td></td>
<td></td>
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Source: “Ideals of As-a-Services” Study, HfS Research 2015
Sample: Total = 716; Enterprise Buyers = 178; Advisors/Consultants = 176; Service Providers = 372
### And It Is A Nascent Market But There Are Broad Lessons Already

<table>
<thead>
<tr>
<th><strong>This is a nascent market, service providers are not (yet) educating the stakeholders while software vendors are trying</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amongst service providers there is a lack of understanding of impact on revenue models as well as fear of transparency</strong></td>
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<tr>
<td><strong>Perception is dominated by RPA – Autonemics or broader impact of Cognitive Computing largely not discussed</strong></td>
</tr>
<tr>
<td><strong>But the narrative is shifting from a narrow cost, FTE replacement focus toward transformation and business agility – akin cloud discussion</strong></td>
</tr>
<tr>
<td><strong>Most implementations are very client specific and often on sub-process level</strong></td>
</tr>
<tr>
<td><strong>Solutions are beginning to address unstructured data, less well defined processes and broad notions of Cognitive Computing and AI</strong></td>
</tr>
</tbody>
</table>
There Are Also Specific Lessons From The Trenches of F&A BPO Deployments Of Intelligent Automation

- It's easy to create a software “bot”. It's hard to industrialize them to deliver significant benefits
- RPA in particular can be confused as process transformation, many times it is being deployed as a more efficient way of running a bad process
- Position Intelligent Automation within your IT roadmap - is it a short-term fix while major technology refreshes come on stream or more
- A lack of process standardization continues to be an automation bottleneck (e.g., requests received by email with subjective instructions)
- Accessing applications through the UI, especially via Citrix can be challenging and fragile
- Use an agile implementation approach but do not take on too many parallel projects. Start small and simple and build momentum
Buyers Want To Roll Out Intelligent Automation With Their Service Providers As A Leading Way To Improve The Quality of Relationships

- Letting go and giving up more higher-value work to our service provider(s) | 28%
- Threatening to entertain competitive bid(s) to force your current provider(s) to up their game | 13%
- Bring back more work in-house and improve it ourselves | 9%
- Roll out an automation strategy in tandem with our provider | 45%
- Bring in a specialist advisor to recalibrate our relationship(s) and get us on the right course for As-a-Service | 4%
- Not a lot – we paid for “cheap and cheerful” and that’s what we’re stuck with | 2%

Source: The HfS Working Summit for Service Buyers, December 2015, n=60
Mind The Gap: These Topics Have To Be On The (Automation) Center Stage
There Will Be Fallout from Intelligent Automation: The Three Rs

Redundancy

Re-skilling

Re-badging
So We Need To Transform What Knowledge Work Means

New Jobs
Data Insight Manager
Augmentation Integrator
Visualization Interpretation
"Bot" Employee Oversight
Automation Overlord

Endangered Jobs
Data Entry
Abstracting & Indexing
Data Reconciliation
L1 Customer Support
Master Data Management
Which Will Be Felt From Across The Continuum

Data Center Automation:
- Runbook
- Scripting
- Scheduling
- Job control
- Workload automation
- Process orchestration

Characteristics of process:
- Trigger based
- Rules based: Standardized language
- Rules based: Dynamic language

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RPA

Autonomic Platforms

Cognitive Computing

True Artificial Intelligence

SOA
- Virtualization
- Cloud services

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To Measure This Impact HfS Is Using Autonomics As A Broader Way Of Looking At Service Provider Progress In Intelligent Automation

The full Autonomics Premier League is available:

Horsesforsources.com in blog format

and in detail for premium members on hfsresearch.com
### The 2016 Autonomics Premier League (1st-12th)

<table>
<thead>
<tr>
<th>2016</th>
<th>Service Provider</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IBM</td>
<td>Pervasiveness of Watson, acceleration of Dynamic Automation program, scaling out of IPsoft’s IPcenter</td>
</tr>
<tr>
<td>2</td>
<td>NTT Communications</td>
<td>Pioneer of IPcenter deployments, largest scale to date, adopting Amelia in mainstream scenarios</td>
</tr>
<tr>
<td>3</td>
<td>Accenture</td>
<td>Strong vision, building out artificial intelligence engine and Artificial Intelligence Lab</td>
</tr>
<tr>
<td>4</td>
<td>Cognizant</td>
<td>Strong thought-leadership, proprietary HPA tool as differentiator</td>
</tr>
<tr>
<td>5</td>
<td>Capgemini</td>
<td>Strong vision of BPO unit, scaling out Autonomics PaaS platform</td>
</tr>
<tr>
<td>6</td>
<td>TCS</td>
<td>Strong focus on proprietary capabilities, ignio platform starting to get traction</td>
</tr>
<tr>
<td>7</td>
<td>Syntel</td>
<td>Holistic strategy with SyntBots platform</td>
</tr>
<tr>
<td>8</td>
<td>Wipro</td>
<td>Building out Holmes platform with broad capabilities that need to mature</td>
</tr>
<tr>
<td>9</td>
<td>Infosys</td>
<td>After pioneering IPsoft partnership, refocusing on proprietary platforms</td>
</tr>
<tr>
<td>10</td>
<td>Dell</td>
<td>Sound vision, pervasive build out across IT Ops and provisioning/release automation</td>
</tr>
<tr>
<td>11</td>
<td>HP</td>
<td>BPO has solid strategy, while Infra is lagging in buildout</td>
</tr>
<tr>
<td>12</td>
<td>Xerox</td>
<td>Mature approach around its Automated Intelligence platform within the Automation Suite</td>
</tr>
</tbody>
</table>

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About HfS Research

HfS Research is the leading analyst authority and global network for IT and business services, with a specific focus on global business services, digital transformation, and outsourcing. HfS serves the research, governance, and services strategy needs of business operations and IT leaders across finance, supply chain, human resources, marketing, and core industry functions. The firm provides insightful and meaningful analyst coverage of best business practices and innovations that impact successful business outcomes, such as the digital transformation of operations, cloud-based business platforms, services talent development strategies, process automation and outsourcing, mobility, analytics, and social collaboration. HfS applies its acclaimed Blueprint Methodology to evaluate the performance of service and technology in terms of innovating and executing against those business outcomes.

HfS educates and facilitates discussions among the world’s largest knowledge community of enterprise services professionals, currently comprising 150,000 subscribers and members. HfS Research facilitates the HfS Sourcing Executive Council, the acclaimed elite group of sourcing practitioners from leading organizations that meets bi-annually to share the future direction of the global services industry and to discuss the future enterprise operations framework. HfS provides sourcing executive council members with the HfS Governance Academy and Certification Program to help its clients improve the governance of their global business services and vendor relationships.

In 2010 and 2011, HfS Research’s Founder and CEO, Phil Fersht, was named “Analyst of the Year” by the International Institute of Analyst Relations (IIAR), the premier body of analyst-facing professionals, and achieved the distinctive award of being voted the research analyst industry's Most Innovative Analyst Firm in 2012.

In 2013, HfS was named first in rising influence among leading analyst firms, according to the 2013 Analyst Value Survey, and second out of the 44 leading industry analyst firms in the 2013 Analyst Value Index.

Now in its seventh year of publication, HfS Research’s acclaimed blog “Horses for Sources” is widely recognized as the most widely read and revered destination for unfettered collective insight, research, and open debate about sourcing industry issues and developments. Horses for Sources today receives over a million web visits a year.

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