Part II

Digital Business 2020: Getting there from here!

Talent Augmentation

Through Intelligent Process Automation, Smart Robots Extend the Capabilities and Creativity of Smart Humans
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Process automation is moving from the factory floor to the world of knowledge work, but ‘robots’ can’t do it alone – they need smart people to ask good questions, solve problems creatively, connect to people and manage data. Companies that calibrate smart hands with smart machines are already achieving higher productivity and superior business results.

In reality, there are strong arguments for both sides. In a 2014 Pew Research Center study, technology experts were evenly divided as to whether robotic devices and a less tangible form of robots – networked and automated artificial intelligence (AI) applications – will displace more jobs than they create by 2025.1

The truth, as usual, is in the middle. We now see a new and important type of robotics emerging that we call intelligent process automation (IPA). With IPA, smart machines augment and extend people’s uniquely human capabilities – empathy, creativity, problem-solving and drive – to deliver superior business results built on AI and machine learning.

Of course, the most common robots are the ones that make cars, unload ships, assemble products or vacuum floors. But we are now entering a new era of human-machine interface for repetitive and rote processes. Increasingly astute software tools have emerged as “the robots” for knowledge work. Humans are now working smarter with sophisticated software to automate business tasks. More importantly, these process systems are generating rich data that drives meaningful insights, value and business outcomes. And according to our recent research, IPA is contributing at least 10% to the revenue growth of early adopters.2
Going Beyond ‘Swivel Chair’ Workarounds

While virtually every existing business process uses technology, there’s still a lot of repetitive, manual data entry, searching and collating that happens to get things done. Many process steps haven’t been automated by core systems, while others rely on workarounds that require workers to toggle between multiple systems and screens to achieve last-mile integration of data. The value of this type of “swivel-chair” work can be pretty limited; if these tasks were automated, costs would decline, while speed and accuracy would rise. It would also mean that the people essential to the process could do more in less time.

In addition to collectively adding costs, sometimes these unautomated tasks can inject risk. For example, in insurance, the cost of miscoding on claims adds up to millions per year, not to mention the decline in client satisfaction resulting from multiple claims. It doesn’t have to be that difficult; with automation applied, insurers can achieve 80% first-pass accuracy through auto-adjudication, and adding the technologies of IPA can raise that to as high as 99% in our estimation.

These outcomes are welcome. But the true “intelligence” value of digitization through IPA lies in the rich data and metadata that accumulates around process value chains. When real-time insights are gleaned from that data and fed back into the process – through analytics, artificial intelligence and machine learning – real transformation can begin as smart people can explore data, discover patterns and recommend appropriate actions. Take the insurer that automates its claims management process and then uses the data from its daily audit logs to detect hidden fraud patterns that could never be discovered manually.

When it comes to knowledge work, robots won’t dominate humans but, rather, will work in tandem to make smart humans smarter and businesses more agile.

Process Automation Pays Dividends

To get a deeper understanding of “how far, how fast” IPA developments will play out, we recently surveyed 537 organizations in North America and Europe. Our study reveals that process automation is fast becoming a force-multiplier to knowledge workers in the banking, healthcare and insurance industries. Key findings include:

- **Process automation is saving substantial amounts of money, today.** Automation is currently empowering businesses to work smarter, and reduce the number of people involved with the process; nearly one-fifth of respondents achieved greater than 15% cost savings through automation in the past year (see Figure 1, next page).

  For some perspective, a decade ago the non-interest operating expense of all federally-insured banks was about $275 billion. If the findings in our survey were applied, this expense could be reduced by 15%. That’s a stunning savings of about $40 billion. Executives predict that the number of people directly tasked with performing process delivery will decrease significantly in the coming years.

- **The data generated by automation will radically improve process outcomes.** A far more profound benefit than cost efficiency lies in the process data and metadata generated by automation. Roughly 50% of respondents see automation (and 44% see analytics) as significantly improving processes over the next three to five years.

- **Digital value chains can reform data-rich processes.** One-third of respondents cite the direct improvement of data quality, consistency and “believability” of data to perform better analytics as an outcome of their digital initiatives. In other words, you have to “digitize to analyze.” That’s where merely “adding a robot” or automating an existing process falls short. Prompted by innovative competitors, a full digital re-think may be crucial to transform core processes in the future of work. By using next-generation technologies based on social, mobile, analytics and the cloud (the
SMAC Stack), companies are completely re-imagining customer, supplier and partner interactions. And by igniting the digital information surrounding these entities – or Code Halo™ – organizations can realize business process insights in far greater fidelity than has ever been possible before.\(^5\)

Clearly, many companies are already moving in this direction, but much more can be done. Getting there will require business leaders and decision-makers to quickly seize IPA’s vast potential. For example, while respondents report that a large percentage of their processes are currently automated (25% to 40%, in most cases), the expected increase in process automation over the next five years seems low (10% to 20%). It could be that what a lot of leaders currently regard as “automation” is driven by core IT investments (i.e., ERP, CRM, BPM and other enterprise applications). While all of these can foster automation, they will not help organizations reach the level that IPA can.

Data Generated from Automation Will Substantially Improve Process Outcomes

Interestingly, most respondents remain focused on how IPA can streamline and optimize processes rather than rethinking process work (see Figure 2, next page). However, the data generated by the increasingly astute technologies of process automation and digitization is the real prize, for businesses and workers alike. Solely applying robotic automation to an “as-is” process can fall short of the true competitive differentiation many organizations could achieve through process digitization.

That’s why when it comes to IPA, organizations need to cast a wider net. The reason: Automation opportunities are emerging at warp speed as the physical and digital worlds

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### Figure 1

<table>
<thead>
<tr>
<th>Process Category</th>
<th>PC&amp;L Insurers</th>
<th>Banks</th>
<th>Healthcare Payers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment &amp; billing services</td>
<td>50(^5)</td>
<td>40(^5)</td>
<td>55(^5)</td>
</tr>
<tr>
<td>Claims coding &amp; processing</td>
<td>36(^5)</td>
<td>39(^5)</td>
<td>39(^5)</td>
</tr>
<tr>
<td>Overpayment recovery services</td>
<td>34(^5)</td>
<td>35(^5)</td>
<td>37(^5)</td>
</tr>
<tr>
<td>Fraud &amp; abuse services</td>
<td>39(^5)</td>
<td>39(^5)</td>
<td>39(^5)</td>
</tr>
<tr>
<td>Medical management</td>
<td>40(^5)</td>
<td>40(^5)</td>
<td>41(^5)</td>
</tr>
<tr>
<td>Member/provider customer support</td>
<td>47(^5)</td>
<td>47(^5)</td>
<td>47(^5)</td>
</tr>
<tr>
<td>New business, underwriting &amp; customer service</td>
<td>39(^5)</td>
<td>40(^5)</td>
<td>41(^5)</td>
</tr>
<tr>
<td>Policy service and contract administration</td>
<td>46(^5)</td>
<td>43(^5)</td>
<td>45(^5)</td>
</tr>
<tr>
<td>Claims administration</td>
<td>53(^5)</td>
<td>43(^5)</td>
<td>45(^5)</td>
</tr>
<tr>
<td>Risk, fraud &amp; compliance</td>
<td>49(^5)</td>
<td>42(^5)</td>
<td>45(^5)</td>
</tr>
<tr>
<td>Front-office or customer-facing functions</td>
<td>55(^5)</td>
<td>43(^5)</td>
<td>45(^5)</td>
</tr>
<tr>
<td>Middle-office or operational functions</td>
<td>40(^5)</td>
<td>43(^5)</td>
<td>45(^5)</td>
</tr>
<tr>
<td>Back-office or support functions</td>
<td>43(^5)</td>
<td>43(^5)</td>
<td>45(^5)</td>
</tr>
</tbody>
</table>

Source: Cognizant Center for the Future of Work
Response base: Healthcare payers: 102; PC&L Insurers: 115; Banks: 153
blend as one. It seems as though nearly every physical process is instrumented with sensors, telematics and “things” that drive ever-growing feedback loops of data. With advances in machine learning, artificial intelligence and big data, companies enhance their ability to predict rather than react to rapidly changing demands and expectations. Examples include real-time dynamic fleet optimization for destination and delivery capacity for logistics; analysis of driving behavior for dynamic auto insurance policy pricing; and collation of huge volumes of clinical data to optimize pharmaceutical trials.

Businesses that are already embracing these new technologies are capturing more data, improving processes and generally empowering workers to be more effective at their jobs. In the words of Aaron Levie, the co-founder and CEO of Box: “Adding software to a broken process doesn’t make you digital. The biggest challenge is reimagining the process, not writing the software.”

Respondents who are applying analytics to processes in the customer-facing and front-office realms are realizing at least 10% revenue growth from doing so (see Figure 3, next page). Additionally, one-third (32%) of respondents were well aware of the analytics value of digitized processes, citing improved quality, consistency and believability of the data they’re getting from digital process initiatives; nearly a third (28%) said process digitization led to easier data integration across processes.

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**Process Analytics: Show Me the Meaning (Making)**

Percent of decision-makers citing the current use of analytics for the following outcomes

- Reducing costs: 28%
- Understanding customer requirements: 55%
- Better process throughput & quality: 47%
- Optimizing product portfolio: 23%
- Enhancing process accuracy: 43%
- Better market penetration & segmentation: 37%
- Prioritizing business needs: 36%
- Creating new products/services: 42%

*Source: Cognizant Center for the Future of Work*  
*Response base: 537*  
*Figure 2*
Getting Started with IPA

Organizations must act swiftly to close the gap between where they are now with automation and where they hope to be over the coming years. Here are a few pointers to get started:

- **Perform an automation readiness assessment.** Make a detailed map of your existing processes (new product/service development, sales and customer relationship management, operations, etc.). Scan the market for minimally invasive automation technologies that would produce efficiency gains, while remaining receptive to new differentiating transformation. Some simple questions to ask prior to a process readiness assessment include: “How do I get rid of paper-based process inputs, such as invoices or claims, and get my process truly digital from the outset?” “Do the people delivering my processes today add value or inject risk?” “What are we learning about our business or industry value chain as data is analyzed, and does it help smart people to make better decisions?”

- **Help humans evolve toward the work of tomorrow.** Give employees access to digital processes and machines that help them do their jobs better, smarter and with more meaningful business impact. Build your processes for humans, and use IPA to catalyze productivity, not as a wholesale worker replacement. After all, in business, it’s not about the number of people tied to “doing the process;” it’s about outcomes and helping your smart people work even smarter.

- **Assign “tiger/SWAT teams,” including a mini-CIO.** There are likely many extremely valuable (and digitally-savvy) resources that would jump at the chance to become automation experts or join an IPA tiger team. We’re also starting to see more references to “chief automation officers.” Rather than ask “what can be automated,” forward-thinking practitioners will instead ask “what needs to stay human,” taking the starting point that everything, theoretically, can be automated. Physically co-locate these IPA change agents in the operational delivery arms of your business units. Keep them...

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**Ramping up Analytics ... to Ramp up Revenue**

Percent of respondents realizing/anticipating at least 10% of revenue growth achieved as a result of data analytics within the following selected industry-specific processes.

**Source:** Cognizant Center for the Future of Work

Response base: Healthcare payers: 102; PC&L Insurers: 115; Banks: 153

Figure 3
thinking not just about IPA, but also about the new process anatomy, data and the “art of the possible,” including participatory design/research principles.

- **Execute specific process projects — to learn fast, or “fail fast.”** Be specific — don’t place resources and “hope for the best.” IT resources landing in a business unit without work assignments are often quickly marginalized and abandoned. Identify, develop and implement solutions for process automation or digital business transformation — fast — to successfully outrun the competition.

IPA is here today — it’s quickly accelerating and disrupting the status quo. It sets the scene for smart automation, built and operated by smart people freed from the humdrum who can focus on creating greater business value.

Understanding the symbiotic relationship between humans and robots is crucial to understanding what the future holds. After all, the human spark is, and will remain, essential to how knowledge work is orchestrated and managed. What’s different is that technologies can now create more effective knowledge workers while simultaneously generating and capturing data that can improve and even transform processes, along with eliminating wasteful steps.

Despite a flood of hysteria about cyborg terminators, organizations shouldn’t be worried. Rather, they should embrace IPA’s immense savings and revenue growth opportunities — because like the latest sci-fi movie, it’s coming soon to a process near you.

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**Survey Methodology**

Online panel-based research was conducted with decision-makers from banking and financial services, insurance and healthcare companies across North America and Europe. The sample also included companies from the pharmaceuticals, retail, hospitality and technology industries. The research was gathered from 537 respondents, representing companies with $500 million to $3 billion in revenue. The research instrument was fielded by an independent research agency (E2E Research) on behalf of Cognizant.


Note: Code Halo™ is a trademark of Cognizant Technology Solutions.
In the Pew Research survey, 48% of respondents said robots and digital agents would displace significant numbers of both blue- and white-collar workers by 2025, with many expressing concern about the resulting income inequality, mass unemployability, and breakdowns in the social order. Meanwhile, 52% said that while many jobs currently performed by humans will be substantially taken over by robots or digital agents by 2025, they have faith that human ingenuity will create new jobs and industries, just as it has done since the dawn of the Industrial Revolution. For more on the study, see “AI, Robotics and the Future of Jobs,” Pew Research Center, Aug. 6, 2014, http://www.pewinternet.org/2014/08/06/future-of-jobs/.


Ibid.


https://twitter.com/levie/status/599045909825982464.

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