

Intelligent Automation for Competitive Advantage

*A framework for innovation and
efficiency across the business value
chain*



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A New Age of Automation

Automation has been the cornerstone of the global economy going back more than two and a half centuries, when a quartet of inventions – the spinning jenny in 1764, the steam engine in 1775, the power loom in 1785 and the cotton gin in 1794 – radicalized the production and transport of goods and set the foundation for a largely uninterrupted arc of economic growth that continues through today. Every subsequent era of entrepreneurship and invention, from the communications revolutions of the mid-19th century to the automobile of the early-20th century to air travel and mass manufacturing of the mid-20th century and the emergence of computer systems in the late-20th century, has been driven by three similar concepts which define automation:

- New and/or improved devices which lead to higher speed and greater quality of production
- Sharp reduction in the cost of production based on the higher productivity of the devices compared to human labor
- The freeing up of human labor from tasks which can be performed quicker, better and cheaper by the devices

The next wave of automation, while being based on similar principles and having similar effects, goes a step further in impacting human actions, from the improvement of mere human labor to the improvement of the thoughts and judgment long considered the definition of what it is to be human. Intelligent Automation allows individuals, enterprises, governments and societies to apply the power of infinitely repeatable, high-velocity, highly reliable, machine-driven processes not only to the routine tasks which have defined automation since its inception, but also to highly-complex tasks which require real-time judgment and decision-making based on the processing of multiple, variable and conflicting inputs.

This next wave of automation not only promises a fundamental restructuring of our economic model, but also a new age of human social evolution where human effort and the actions of machines integrate into a seamless process to drive business outcomes.

Building Blocks of Intelligence

The miracle of human intelligence can still be reduced to four building blocks that are common in every strand of the human DNA. Similarly, the new age of Intelligent Automation is based on the convergence of four forces which allow for a multiplicity of devices and solutions which can increasingly replicate and replace not just human actions, but human thought and judgment.

- [Machine to Machine Integration](#) – At the heart of the new model of automation are not large enterprise systems, but highly specialized integrations between existing systems which eliminate redundancies, reduce manual effort in

managing multiple systems and improve the end-to-end transmission of information across multiple systems. Some refer to these integrations simplistically as “robots” and the impact of these integrations as “process automation”, but the underlying technologies and business impacts are more complex.

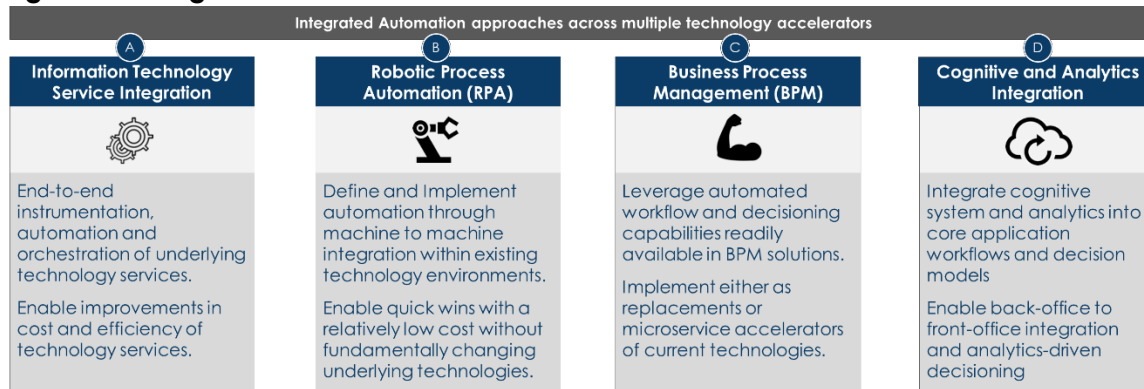
- **Microservices** – The proliferation of applications already provide a high degree of process automation, and the emergence of standard data definitions and integrations across the various systems provide for increased interoperability. A new breed of special purpose applications, focused on executing specific business use cases and integrating across multiple application platforms, can integrate disparate business services into seamless improvements in operations, which were previously not possible or which relied on large-scale, prohibitively expensive enterprise modernization projects.
- **Advanced Analytics** – New analytics models are able not only to provide high-speed processing and decision support based on defined rules, but also to provide real-time decision support based on nondeterministic decision processes which simulate human judgment and considerations of uncertainty and risk, with the potential to improve decision-making and risk assessment processes over time based on cumulative results of every previous decision.
- **Cognitive Systems** – The potential of combining natural language processing with the machine learning made possible through advanced analytics leads to a new model of automation based on systems which replicate human thought and decision processes, incorporating inputs from humans, other information systems and smart sensors, and providing real-time decision support on areas which are typically limited to the most specialized and complex of human endeavors.

These innovations are the Gattaca of Intelligent Automation, the building blocks of a new model for human interaction with means of production which can fundamentally restructure our economies and our societies.

Some consulting firms, analysts and service providers have declared “Robotic Process Automation” (RPA) as the foundation and entirety for this new age of automation, and demand a blind adherence to this concept without even the common courtesy of giving this supposed panacea a proper definition (RPA being defined most often as software “robots” ... automating... processes... a nod perhaps to the modern era of self-referential narcissism).

Intelligent Automation, however, is far broader both in terms of the range of solutions available and the impact these have on business value. Based on the four building blocks of Intelligent Automation, there are four distinct solutions currently available, with very different applications of technology to business value drivers.

Figure 1: Intelligent Automation Solutions

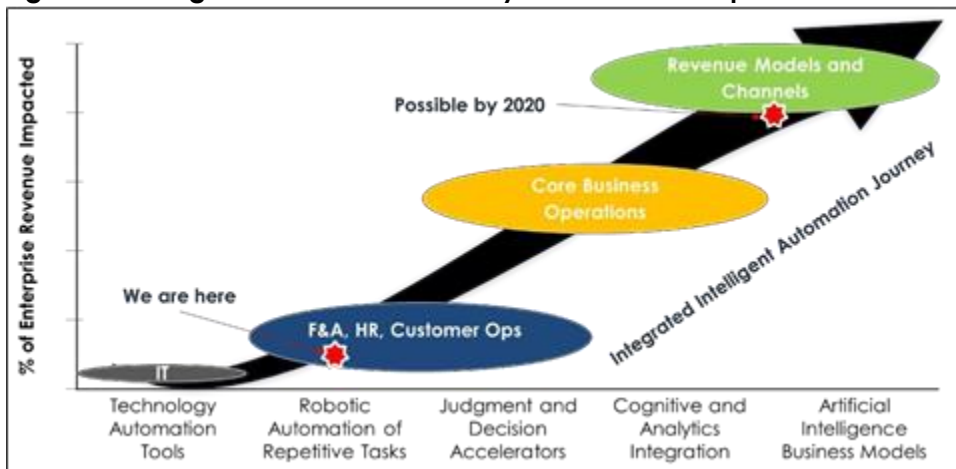


The Intelligent Automation Continuum

The earliest manifestation of automation, in the realm of Information Technology Service Integration, is already mature and deployed in the market, with clients already generating efficiency gains and cost reductions in core IT functions. The next wave, Robotic Process Automation (more properly, the machine to machine integrations for automation of routine, high volume, repeatable transactions), has started impacting back-office functions such as Finance, Human Resources and Customer Operations, but with limited impact on core business operations and limited executive-level focus.

Only by progressing to the judgment and decision accelerators made possible by BPM microservices, or following the evolution from cognitive systems to true artificial intelligence, can clients unlock the true potential of automation on business value.

Figure 2: Intelligent Automation Maturity and Business Impact



By pushing beyond the rudimentary application of simplistic automation solutions to low-value back-office processes, clients can unlock the potential of Intelligent Automation across close to 100% of their revenue model, including both cost efficiencies and revenue growth impacts.

Deus ex Machina

Despite the significant progress of automation over the last two and a half centuries in improving human effort and outcomes, the new age of Intelligent Automation promises to have, in the next generation, a greater impact on our productivity and means of production than the cumulative efforts of human civilizations which have preceded it.

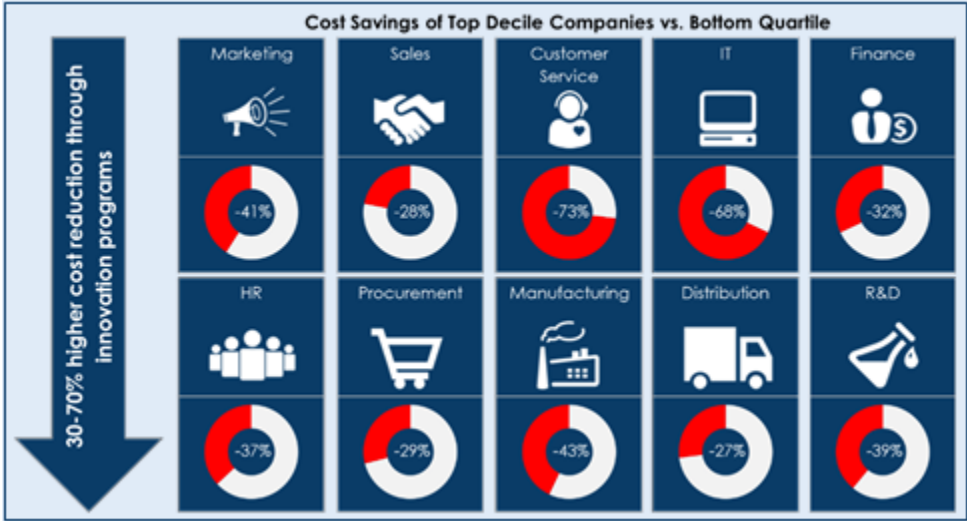
Intelligent Automation has the potential to reduce operations costs by 35-50%, replace close to two-thirds of human labor, and reduce decision-making times and errors by over 99%, leading to a future of operations that are twice as efficient, employ a third of the people and have 1% of current errors, with critical decisions being made in 1% of the time taken today.

Figure 2: Potential Impact of Intelligent Automation

<u>Process Cost Efficiency</u> 35% back office process cost efficiencies through technology accelerators in current systems
<u>Reimagined Core Operations</u> 35-50% efficiencies in core operations through accelerators, microservices and analytics
<u>Labor Disintermediation</u> Close to two-thirds of labor eliminated across both back office and core operations
<u>Process Hyperacceleration</u> 99% reduction in decision-making and processing time across the value chain
<u>Total Quality</u> Over 99% reduction in human errors across the value chain

Combining the potential adoption of Intelligent Automation with the potential impact across various enterprise value chains, enterprises can drive anywhere from 30% to 70% reduction in costs. This is based not on future projections, but on the current achievement by the top decile of companies leveraging automation vs. bottom quartile of their peer group.

Figure 4: Potential of Cost Optimization Across Business Value Chains



This disruptive impact on all aspects of the business value chain may still be the tip of the iceberg, with Intelligent Automation enabling a fundamental rethinking of business models and partnerships even beyond what is evident today.

With only 20% of current automation initiatives focused on higher-value operations or growth strategies, but with more than two-thirds of enterprise transformation programs focusing on the building blocks of microservices and advanced analytics and being led by operations executives, there is a potential for a three- to four-fold increase of the impact of automation in business value chains, which in turn would impact nine in ten current technology relationships.

Figure 5: Drivers of Future Impacts Across Sustainable Business Growth

<p><u>Room for Organic Growth</u> Only 20% of current intelligent automation efforts focus beyond back-office functions</p> <p><u>Automation for Advantage</u> Marketing analytics and customer integration are part of only 20% of current automation efforts</p> <p><u>Reinventing the Core</u> Over two-thirds of enterprise transformation efforts involve microservices and advanced analytics</p> <p><u>Automation as Core Imperative</u> Over 70% of automation initiatives are led by Operations and Business Unit leaders, not IT</p>
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Call to Action

The reductive view of automation as synonymous with repeatable low-value business functions leads to a grossly short sighted view of the potential business value. The current focus on tactical, technical solutions to low-value business functions is inadequate and leads to the squandering of over 80% of the potential business value of Intelligent Automation. Clients need to view Intelligent Automation as a structured strategic journey, not a series of technical quick wins, and ensure that the potential of Intelligent Automation is applied to the broad range of business value drivers that it can impact.

Clients should consider five rules when planning, defining and executing Intelligent Automation strategies:

- **Exit the Echo Chambers** – The drum rolls of tactical short-term solutions in the guise of “Robotic Process Automation” create a distraction from the true potential of Intelligent Automation. Clients need to focus less on the marketing concepts of vendor- and advisor-driven solutions, and more on the true business potential of the entire range of Intelligent Automation solutions.
- **Put Business Value First** – Rather than focus on developing or investing in “robots” and justifying the return on investment on what is essentially yet another obsolete-when-implemented application project, insist on identifying the potential for tangible, sustained, long-term impacts on cost efficiencies or revenue growth, driven by proven use cases of Intelligent Automation impacts on core business operations.
- **Define a Strategic Road Map** – Intelligent Automation is a journey, based on both the emerging maturity of advanced solutions and the greater acceptance of technology-driven innovation in core business operations. Develop a longer-term plan based on a road map of introducing Intelligent Automation across the value chain, starting with lower risk and more mature operations (such as finance, human resources and supply chain) and progressing to more complex operations (such as research & development, manufacturing, and sales & marketing).
- **Avoid Technology Lock In** – Insist on open standards and flexible technologies which allow for a high degree of interoperability and the possibility of rapid changes in technologies without impacting the impact on core business operations. In the absence of this strategy, Intelligent Automation (as with any technology-driven innovation) risks becoming the ERP of this generation, leading to issues with technology inflexibility and vendor dependence which impacts future evolution of the solutions to meet business needs.

- **Avoid Large and Long Investment Cycles** – Most importantly, the magnitude and complexity of Intelligent Automation solutions, especially when applied to complex business operations, can lead to a high one-time cost of implementation and take significant time to implement. Clients must insist on co-innovation and co-investment models based on little or no up-front investment through Zero Cost Transformation™ models, and with rapid and agile deployment cycles which lead to new functionality every three to six months, with business benefits being realized in no longer than twelve months.

Decisions made by business executives in the next one to three years will be critical in determining whether Intelligent Automation delivers on its promise of fundamentally restructuring our business value chains and economic models, or remains an intellectually simplistic, overly tactical, technology-obsessed, narrowly-focused conversation about robots... automating... processes... limited to the confines of the echo chambers of provider-and advisor-driven conferences, until its fifteen minutes are over.

About the Authors

Kevin S. Parikh is the Senior Partner and CEO of Avasant. Mr. Parikh is an accomplished lawyer and business leader with a long track record of leadership roles in the government sector and management consulting firms. Mr. Parikh focuses on assisting Avasant's largest and most complex clients with digital strategy development, strategic planning, technology planning, and structuring and negotiation of strategic partnerships. He has directly impacted over \$50 billion of total technology investment, with individual relationships as large as \$2.5 billion. Mr. Parikh is also the Chairman of the Avasant Foundation, which anchors Avasant's Corporate Social Responsibility efforts. Prior to joining Avasant, Mr. Parikh held leadership roles in Gartner Consulting and KPMG, in addition to being a Presidential Appointee to the One America Commission.

Edward Wilson-Smythe is a Principal in Avasant, and the global lead of Avasant Digital, a consulting practice focused on defining and executing technology-driven business strategies for major enterprises and technology companies. Mr. Wilson-Smythe has more than 20 years of consulting and management experience, with a proven track record of advising CxO-level clients and senior Government policy makers develop and execute digital business strategies that enable Digital Business and accelerate the Digital Economy. He is a pioneer in developing and applying innovative partnership and ecosystem frameworks to emerging business models driven by technology innovation. Prior to joining Avasant, Mr. Wilson-Smythe held a leadership position in Gartner Consulting, and has management consulting experience and financial advisory experience in AT Kearney, PwC and Morgan Stanley, with direct experience in supply chain operations and strategy in Procter & Gamble.

About Avasant

Avasant is a global management consulting firm that advises private and public sector organizations on translating the power of technology into realizable business strategies. Over the last decade, Avasant has become a leader in digital and IT transformation, sourcing advisory, global strategy, and governance services.

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