Top Strategic Technology Trends for 2021: Hyperautomation

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Initiatives: IT Services and Solutions; Artificial Intelligence

> The pandemic accelerated a default-is-digital requirement demanding digitized business and IT processes. IT leaders must recognize that hyperautomation is pervasive and a mandate for achieving business outcomes.

Additional Perspectives

- Summary Translation + Localization: Top Strategic Technology Trends for 2021: Hyperautomation
  (06 May 2021)

Overview

Opportunities

- Hyperautomation principles are the foundation for the “future of work” as it has rapidly shifted from an option to a condition of survival. Robotic process automation (RPA), low-code, artificial intelligence (AI) and many other hyperautomaton technologies have proved to be must-have ingredients for architecting and addressing critical business demands.
- Cost, complexity or lack of speed are no longer just about technical debt. There are many types of debt that plague business and IT leaders, namely process, data, architecture, security, talent and societal debt. Organizations’ desires have created a relentless pent-up demand to automate or augment as many processes as possible for resiliency, efficiency, agility and productivity (REAP).
- Hyperautomation initiatives have grown and investment continues unabated. There was a demand prior to the pandemic and the crisis has served to accelerate the growth. The pandemic has also broken down business barriers to some of the employee resistance to automation.

Recommendations

IT leaders responsible for IT services and solutions should:

- Utilize hyperautomation initiatives as the catalyst for changing their operational excellence for both speed and quality. These initiatives are foundational for the future of work and enabling fusion teams. The goal is to drive the organization toward a shared ethos (with a common currency) to recalibrate and rethink outdated and fossilized business and IT processes.
- Develop a business-led focus toward automation adoption by focusing on measurable improvements in business outcomes, rather than a tech-focused approach for process, architecture and technical debt reduction.
- Reduce risk in hyperautomation initiatives by leveraging Gartner's frameworks to manage multiple concurrent hyperautomation initiatives throughout the enterprise in an iterative model. Gartner's frameworks will help you map, prioritize, govern, adjust, iterate and shapeshift your concurrent hyperautomation initiatives to deliver business value.

Strategic Planning Assumption

By 2024, organizations will lower operational costs by 30% by combining hyperautomation technologies with redesigned operational processes.

Analysis

What You Need to Know

This research is part of Gartner's Top Strategic Technology Trends for 2021. It is also a companion document to Predicts 2021: Accelerate Results Beyond RPA to Hyperautomation, as well as to the webinar Gartner Predictions for RPA and Hyperautomation.

Executive Guide to Hyperautomation

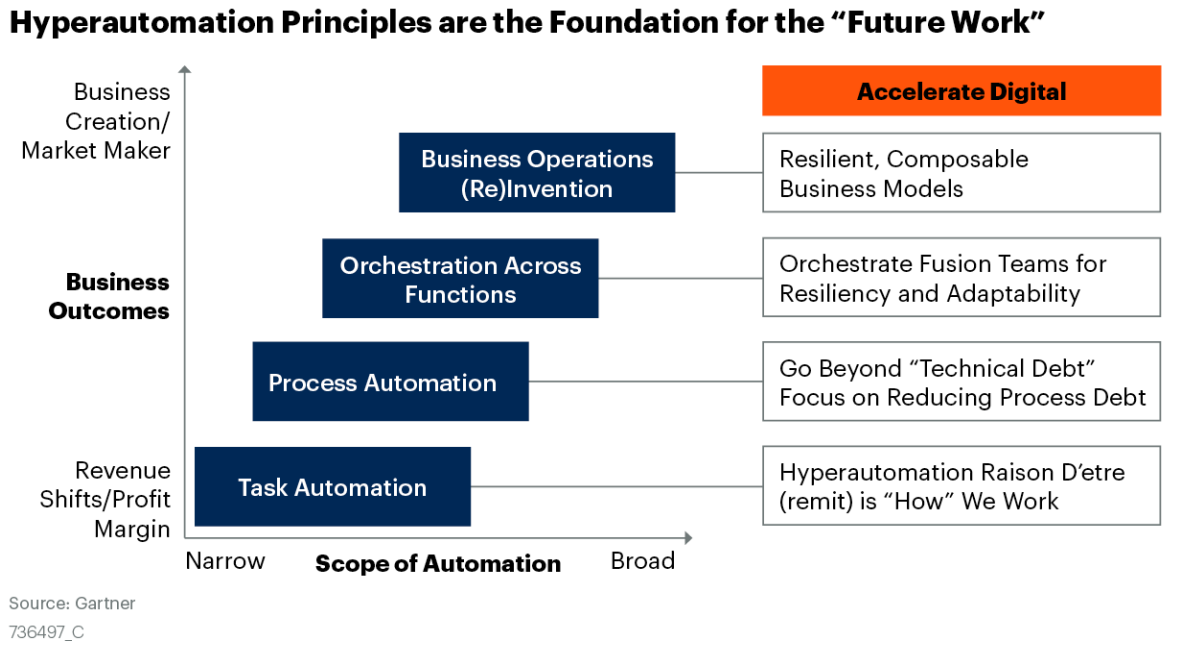
Hyperautomation principles are the foundation for the future of work as it has rapidly shifted from an option to a condition of survival. Everything that can be automated will be automated. Furthermore, the pandemic has broken down business barriers to some of the employee resistance to automation. Competitive pressures for efficiency, efficacy and business agility are forcing organizations to address back-, middle- and front-office operations. Organizations that resist the pressures will struggle to remain competitive or differentiate.

In November of 2020, as part of Gartner webinar Gartner Predictions for RPA and Hyperautomation, we polled business and IT stakeholders that showed investment in hyperautomation continued unabated or increased despite the crisis. More specifically, 85% of participants indicated that they would either increase or sustain their organization's hyperatuomation investments over the next 12 months. In addition, over 56% indicated that they already have four or more concurrent hyperautomation initiatives. [1]

In September 2020, we also delivered an AI-specific webinar Driving Strategic Mandates for AI in the Enterprise and the polling results were highly aligned. Approximately 75% of respondents said they would continue or start new AI investments in the next six to nine months, and 66% said they would increase or not change AI investment strategies in place at the start of the crisis. [2]

All of these data points, coupled with the thousands of client inquiries fielded by Gartner analysts, showcase that hyperautomation is inevitable and irreversible for a large majority of enterprises (both large and small). The hyperautomation journey is captured in Figure 1, which depicts the range of business outcomes from revenue shifts/profit margin up to business creation/market maker, and scope of automation from narrow to broad.

Figure 1. Hyperautomation Principles Are the Foundation for the Future of Work



Description

Business-driven hyperautomation is a disciplined approach that organizations use to rapidly identify, vet and automate as many business and IT processes as possible. Hyperautomation involves the orchestrated use of multiple technologies, tools or platforms. Examples of these include AI, machine learning, event-driven software architecture, RPA, intelligent BPM suites (iBPMSs), integration platform as a service (iPaaS), low-code tools, and other types of decision, process and task automation tools.

Why Trending

Hyperautomation has been trending at an unrelenting pace over the past few years, mainly because of the pent-up demand for operationally resilient business processes. Organizations have a tremendous amount of "collective" debt (technical, process, data, architecture, talent and social) that significantly affects their value proposition and brand (see Note 1 for our definition of collective organizational debt). The cause is an extensive and expensive set of business processes underpinned by a patchwork of technologies that are often not optimized, lean, connected, consistent or explicit.

Business executives are demanding a path to digital operational excellence. This is creating huge unmet demand for speed, efficacy and democratization of process automation and data integration. This has triggered an enormous backlog of requests from business stakeholders for automation using one or more technologies.

In 2019, CEOs were demanding a path to digital operational excellence — they ranked outdated work processes as their top challenge. [3] In 2020, the pandemic accelerated a "default is digital" requirement, with many employees needing to work from home and digital customer service becoming a necessity. COVID-19 demands resilience, efficiency, agility and productivity. To enable this, organizations had to digitize their documents/artifacts and ensure that their business and IT process workflows were digital. This created great demand to automate as many processes as possible for speed, efficacy and minimal-level processing. The trend is moving toward operational resiliency.

Implications

The collective impact of these business and IT realities is the launch of many initiatives (often disparate and siloed) aimed at applying automation across knowledge work for either efficiency, efficacy or business agility. Gartner estimates that more than 70% of large commercial organizations have dozens of hyperautomation initiatives underway.

The organizational zeal for using hyperautomation has led to many new offerings, vendors and commercial models across an extensive number of technology markets. Gartner is tracking well over 200 different hyperautomation offerings, many of which are targeted or from pure-play providers. Beyond that, digital giants such as Microsoft, SAP and IBM have entered seemingly targeted software categories such as RPA.

Another indicator of demand is the equity investment in some hyperautomation technologies. For example, the total funds that AI startups have raised over time reached $61.6 billion in 2Q20. [4] If we add investment in other high-growth technology areas such as RPA, chatbots and conversational platforms, the impact is clear — the levels are unprecedented.

The unabated growth of many hyperautomation initiatives — many of which are funded by business unit leaders (or the C-suite) — are driven by these non-IT employees in the form of fusion teams. This does not imply that IT and security teams are not involved. It does, however, imply a level of autonomy in design, direction and approach. Additionally, many of these initiatives were not done sequentially across the organization, but rather concurrently in many different functional groups.

In the past, these non-IT employees may have been referred to as “shadow IT.” This term had a negative connotation and was considered clandestine. Gartner research teams have done extensive work focused on these non-IT personnel with a more optimistic view in the form of fusion teams. Hyperautomation is the underlying enabler of fusion teams, which is the “next normal.” Fusion teams are multidisciplinary teams that blend technology and other types of domain expertise, and are often designed to deliver digital products rather than projects. They are outside of IT reporting structure and funding (see Note 2 for definitions). We describe it as the next normal, as Gartner research indicates that 43% of the technology producers report to someone outside of IT to be closer to the point of value delivery (42% in midsize enterprises). [5] Quite often, this value delivery is inextricably linked to functional, process or industry-specific knowledge.

Technology producers are full-time equivalents (FTEs) that spend a portion of their primary job activity modifying or building data or technology solutions. Gartner refers to these personnel as “business technologists.” Over half or more of business technologists report that their personal performance objectives explicitly mention modifying or building data or tech solutions.

Our data shows that at least 84% of companies and 59% of government entities have set up fusion teams — multidisciplinary teams that blend technology and other types of domain expertise, and are often designed to deliver products rather than projects. [6] These teams herald a new form of organization and value delivery. Instead of organizing work by functions or responsibilities, fusion teams are typically organized by the cross-cutting business capabilities, business outcomes or customer outcomes that they support.

Actions

- Plan for a mandate that everything that can be automated will be automated.
- Use automation to optimize and accelerate experimentation of new value streams.
- Demand holistic mapping of collective initiatives, rather than islands of task automation.
- Prioritize IT investments based on an iterative multiyear journey involving many business-driven hyperautomation initiatives.
- Architect and plan for multiple concurrent initiatives to drive operational resiliency, efficiency, agility and productivity, while optimizing ongoing management, governance and debt.
- Use fusion teams throughout the iterative process of designing, building, scaling and governing your hyperautomation roadmap.

> **Example: Low-Code/No-Code Technologies**
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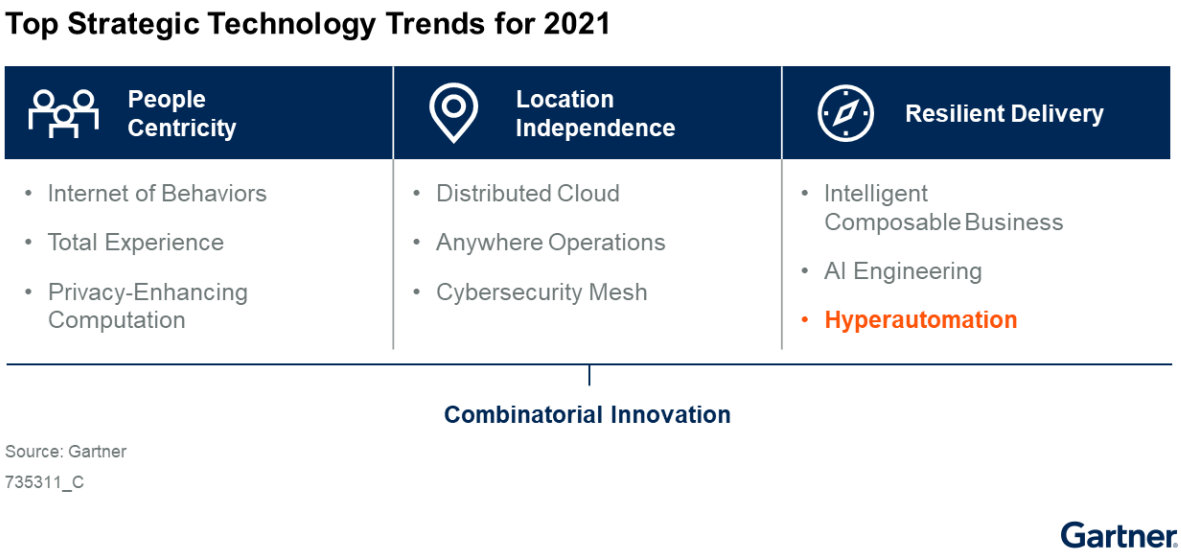
> One example of a fast-growth hyperautomation technology category is low-code or no-code technologies. Gartner's application leader team has published a prediction: By 2025, 70% of new custom applications written by enterprises will use low-code or no-code technologies. [7] These tools are the result of the increasing abstraction of application development. The implication of close to three-quarters of all new custom applications initiatives acting as enablers for the digital future of work by a constituency of business technologists (i.e., employees that do not report to corporate IT) is a profound shift. Application development will shift to application assembly and integration, and applications will be assembled and composed by the teams that use them. These low-code and no-code technologies are under the umbrella of hyperautomation.

About Gartner's Top Strategic Technology Trends for 2021

This trend is one of our Top Strategic Technology Trends for 2021. The trends and technologies don't exist in isolation; they reinforce one another to enable people centricity, location independence and resilient delivery (see Figure 2). You should explore each of these trends for their applicability to your organization.

Figure 2. Top Strategic Technology Trends for 2021: Hyperautomation



Evidence

[1] On 30 November 2020, Gartner conducted a poll of attendees of our webinar, Gartner Predictions for RPA and Hyperautomation. A range of 184 to 399 business and IT professionals responded to our polling questions.

[2] On 24 September 2020, Gartner conducted a poll of attendees of our webinar, Drive Strategic Mandates for AI in the Enterprise. Approximately 200 business and IT professionals responded to our polling questions.

[3] Respondents to Gartner's Second Annual Tech CEO Survey 2020 ranked the following as their top five challenges:

1. Outdated work processes
2. Outdated organizational structures
3. Misaligned talent management processes
4. Misaligned leadership styles
5. Ineffective coordination across the executive team

Gartner conducted the survey online between December 2019 and February 2020. The 285 respondents were in North America (the U.S.), Western Europe (Italy, France, Germany, Spain and the U.K.) and the Asia/Pacific region (Australia, India, New Zealand and Singapore). Respondents were CEOs/managing directors, owners or COOs/C-level executives of operations or equivalent. Their organizations operated in the high-tech industry.

[4] Artificial Intelligence Startups Raised $61.6bn in Total Funding, a 35% Jump in a Year, insideBIGDATA.

[5] Fusion Teams by the Numbers: An Empirical Analysis of Digital Business Teams

[6] Fusion Teams: A New Model for Digital Delivery

[7] By 2025, 70% of new custom applications written by enterprises will use low-code or no-code technologies. This Strategic Planning Assumption is part of Gartner's future of cloud research (see The Future of Cloud in 2025: From Technology to Innovation).

Note 1: Definition of Collective Organizational Debt

Collective organizational debt is made up of many elements that are often hard to quantify. Debt categories include technical debt, process debt, data debt, architecture debt, talent debt, security debt and social debt. The value of discussing debt isn't in trying to precisely quantify it. Rather, the value is in helping raise awareness of important concepts among stakeholders.

Technical debt is the most well-known form of debt. It enables IT leaders to express a combination of factors. IT leaders use it as a proxy to articulate and discuss limitations that prevent IT teams from saying "yes" to the business because of complexity, increased cost/investment and speed. Technical debt is rarely expressed as a quantitative number. It's expressed as the main reason why IT teams struggle to implement quickly.

As business executives continue to strive for digital operational excellence and the demand for speed and efficacy continues, it is necessary to look beyond IT. It is important to look at the collective debt from not only technology, but also process, data, architecture, talent, security and social/community demands. We summarize these terms as follows:

- **Process debt** — Suboptimal activity or process that might have some benefits, but generates a sustained negative impact on cycle time, error rates, quality, consistency, complexity or customer experience.

- **Data debt** — Lack of or suboptimal access to current or accurate data within the demand latency period.
- **Architecture debt** — Suboptimal solutions from an optimized architectural construct. This may lead to security issues, latency and redundancy (in applications, infrastructure, instances, APIs, licensing or subscription costs).
- **Talent debt** — Lack of talent (human workers, augmented humans or virtual workers) in either the quantity, quality, or ability to scale to fuel optimization or growth.
- **Security debt** — Inability to proactively or reactively address a broad set of security risks or breaches. Security debt ranges over a broad spectrum from physical security to cybersecurity, and many areas in between.
- **Social debt** — Suboptimal activity or a sustained negative impact on the organization's ability to address social, societal and community issues. For example, if an organization wants to address climate change issues, but lacks the agility because of its culture, diversity, talent or other factors, then it has high social debt.

Note 2: Gartner's Overview of Fusion Teams

Fusion teams are cross-functional teams that use data and technology to achieve business outcomes (see Fusion Teams: A New Model for Digital Delivery). The primary difference between multidisciplinary teams in the past was that they often came together as a team for a finite amount of time for a specific initiative or effort. Gartner has found that, in the most progressive organizations around the world, these fusion teams differ in that they are formed as a self-directed team under a more clearly delineated organizational structure reporting up to the same leader. Another common denominator is that fusion teams are often designed to deliver products rather than projects — more specifically, digital products.

A majority of leaders recognize fusion teams in their organizations, but these teams vary widely in structure and ability to deliver business outcomes. Additionally, many leaders are unsure how their teams compare with those in other companies. Gartner uses a detailed quantitative analysis of almost 1,000 fusion team leaders globally to examine the practices that make some teams more successful than others, and to identify what CIOs can do to support them in delivering business value (see Fusion Teams by the Numbers: An Empirical Analysis of Digital Business Teams).

Some examples of the data include:

- Approximately 84% of companies and 59% of government entities have set up fusion teams — multidisciplinary teams that blend technology and other types of domain expertise that are often designed to deliver products rather than projects.
- Forty-four percent of fusion team leaders report to a function outside of corporate IT.
- Fusion teams benefit from having members with diverse personal and professional backgrounds; such teams deliver business outcomes 20% faster than their peers.
- Seventy percent of fusion teams regularly select technology tools other than those recommended by IT. While these teams are faster at launching digital initiatives, they also face additional risks.
- Fusion teams in which half the members are colocated are twice as likely to achieve positive business outcomes compared to fully dispersed teams; however, colocating more than 50% of the team has no additional impact on business outcomes.
- Teams with autonomy to make their own technology and resourcing decisions are not only faster at launching and completing digital initiatives, but also more likely to consult IT about the technologies they work with. However, just 19% of all fusion teams have a high degree of autonomy.

Recommended by the Authors

Some documents may not be available as part of your current Gartner subscription.

Tool: Banking and Insurance Use Cases to Drive Hyperautomation

Predicts 2021: Accelerate Results Beyond RPA to Hyperautomation

Fusion Teams by the Numbers: An Empirical Analysis of Digital Business Teams

Fusion Teams: A New Model for Digital Delivery