Seize the Moment to Compose a Resilient Future: Key Insights From the 2020 Gartner IT Symposium/Xpo Keynote

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Initiatives: CIO Leadership of Innovation, Disruptive Trends and Emerging Practices

CIOs worldwide are embracing the concepts of composability in the next stage of their digital business. Gartner’s 2020 Symposium Keynote addresses how composable business enables you to thrive in an accelerated digital future while dealing with uncertainty.

Overview

Key Findings

- Volatility is pervasive throughout most industries and regions, with on-premises IT spending down, infrastructure and cloud spending on the rise, and the majority of boards wanting to accelerate digital initiatives.

- Composable business has allowed both public and private organizations to rapidly pursue new outcomes in the face of unprecedented disruption in an accelerated digital era.

- The principles of composable business — modularity, orchestration, autonomy and discovery — allow for extended capabilities and continuous adaptability.

- As turmoil persists, scenario planning can help leaders anticipate disruption in all possible contexts to prepare organizations for likely shifts in consumer trends and operations.

- Leaders must consider societal impacts when making decisions, as the public's values are more influential than ever and collectively expressed through the “voice of society.”

- Composable thinking is part of the culture of highly resilient organizations, shaping the leadership decisions at all levels of the organization.

Recommendations

CIOs responsible for innovation, disruptive trends and emerging practices should:
Practice composable thinking by building practices and behaviors in a culture of preparedness that assembles and reassembles components into solutions.

Arrange composable business architecture to sense the market, engage with customers, allow employees to adapt and work with ecosystems to generate value.

Leverage composable technologies, including data, analytics and applications assets designed for diverse use and reuse, in order to deliver against changing business outcomes.

Apply the principles of modularity, autonomy, orchestration and discovery to guide operations and pursue revenue goals.

Use the composable business index to lead conversations with teams and executive peers on how to increase the organization’s degree of composability.

Strategic Planning Assumptions

Through 2022, the rapid innovation forced by the COVID-19 outbreak will accelerate the transition of 60% of organizations toward composable business and the collaborative business-IT continuum.

By 2022, social media consensus majorities will emerge around key issues such as climate change, healthcare policies and social justice that transcend political boundaries and compel organizations to take more activist stands.

By 2022, 50% of organizations will have business-IT collaboration teams, or fusion teams, driving technology-based business innovation.

By 2023, organizations that have adopted a composable approach will outpace competition by 80% in the speed of new feature implementation.

By 2024, 30% of digital commerce organizations will use packaged business capabilities (PBCs) to construct their application experiences.

By 2024, 25% of traditional large enterprise CIOs will be held accountable for digital business operational results, effectively becoming “COO by proxy.”

Analysis

Introduction

2020 shows that in disruption lies opportunity, even if it also proves how painful turmoil can be. The COVID-19 pandemic has led to wide-ranging health and economic impacts around the globe. Social unrest related to racial equity simmers, and concerns about the environment are growing more urgent. Leaders have no choice but to respond and guide their teams and organizations
through this uncertainty. Many organizations have been exploring a more resilient, adaptable form of business for truly bold outcomes in both calm times and turmoil: composable business.

In composable business, leaders leverage digital investments and accelerate digital strategies in an organization that is architected for real-time adaptability and resilience in the face of uncertainty.

The CIO can inspire the right kind of change in an uncertain future.

CIOs are ideally positioned to inspire citizens, customers, employees and fellow executives. Despite immense pressure, technology leaders have used composable business to pivot their organizations toward new ways of working and new revenue streams.

In some cases, the pivot was immediate; in others, the potential for the shift was first developed years ago. For example, more than 1 billion people worked from home at some point in 2020. Technology leaders worldwide laid the groundwork for that shift with robust infrastructure, videoconferencing and collaboration tools.

Logistics firms moved vital supplies faster. Retailers became social media influencers. Government agencies were swift in serving the newly unemployed. All of this happened in the midst of global volatility that Gartner expects to continue well into 2021. While technology spending related to on-premises services is down over 20%, infrastructure as a service, cloud unified communications and robotic process automation are all up over 20%.

However, most CIOs have fewer budget dollars to answer customer and societal needs in increasingly complex settings. In a recent Gartner poll, 63% of respondents said they expected an ongoing period of disruption. How can we stay safe and resilient through such a period? Will our future — whatever it looks like — be sustainable?

In fact, the moment is forming for more digital initiatives. Gartner data shows that 69% of boards of directors want to accelerate digital business initiatives to deal with disruption. For some organizations, their digital strategies will become real for the first time; and for others, their digital investments must scale rapidly.

Even in such demanding conditions, leaders can do more than just survive. Their organizations can move quickly and have positive impacts on the issues that society cares about. As this research will explore, composable business is effective in many contexts, from local government to medium enterprises to multinational corporations. We will see how businesses like FedEx, Ocado and Haier,
and government agencies like the city of Turku, Finland, use composable business to build resilience amid disruption (see Figure 1).

Figure 1. Composable Business

Composable Business for Adaptability, Resilience and Societal Impact

Most technology leaders are familiar with composability mechanisms like APIs and containers. But along with a technology context, the deliberate use of composability can also occur in a business context.

The pervasiveness of digital in all aspects of business allows for many elements of a business to become composable rapidly and inexpensively.

Because changes in this digital era are so profound and unpredictable, scenario planning becomes critical for adaptability. Scenario planning starts with uncertainty. In the context of the pandemic, potential futures are shaped by the duration of the disruption, and the extent to which resulting behavior changes are significant. For example, COVID-19 swept away long-standing barriers to
digital adoption. People began to purchase food, cars and homes, and access medical care through digital channels only. Remote work and the tools to support it have been adopted more than ever before. The question remains how much these behavior changes will persist. (For more on scenario planning, see Toolkit: Gartner Global Scenarios 2020: How to Accelerate Business Success in a Time of Worldwide Disruption.)

Whatever the future will look like, people will continue to be passionate in their opinions on things like public health and climate change. The public’s stance on issues is now clearly stated; the voice of the customer has been joined by the voice of society throughout the world. In Gartner research from 2010 through 2019, the No. 1 value held by U.S. consumers was loyalty. In 2020, the No. 1 value is now equality, the belief that all people should have equal opportunity and equal access in all areas of life.

As Gartner predicts, by 2024, 30% of major organizations will use a new voice-of-society metric to act on societal issues and assess the impacts to their business performance. Sentiment analysis, pulse surveys, social media listening and massive AI-facilitated online conversations help enterprises know how beliefs are changing in near real time.

CIOs should urge executive teams to orient decision making around:

- The strategies that scenario planning exercises generate
- The voice of society collected through various means
- The building blocks and principles of composable business

Building Blocks and Principles

Composable business doesn't replace digital business. Rather, it is an accelerator of digital business transformation. It is designed so organizations are ready to respond in the moment of need.

These moments of need are moments of composability: for instance, when an existing business model is demolished overnight because of new geopolitical realities, or when the voice of society becomes too loud to ignore.

The moment of composability is an instant of time that requires the organization to dynamically adapt and respond to create value.

Several building blocks make up composable business:
Composable thinking comes from a belief that anything is composable. It leads to a culture that emphasizes the assembly and reassembly of components as the fastest, most flexible path to outcomes.

Composable business architecture is a framework to maximize the ability to build, assemble and reassemble different business elements for the digital era. Business elements that can be composed include products, services, responses, experiences and organizations. The scope of the framework spans customer engagement, ecosystem partnerships and all operations.

Composable technologies are digital assets packaged as discrete components that each deliver independent, clear and complete business value, and are designed as building blocks for assembly and reassembly of business processes and application experiences. Examples of such composable business capabilities include business object management (e.g., product), analytics (e.g., credit approval) or data reference (e.g., weather forecast look-up).

Along with the elements of composable business, leaders should also prioritize modularity, autonomy, orchestration and discovery.

This means making things modular — that is, mixing and matching business functions to orchestrate the proper outcomes.

Composable approaches support a business that senses when change needs to happen. This is discovery.

Composable business uses independent business units to creatively respond. This is autonomy.

In composable thinking, modularity, orchestration, autonomy and discovery are design principles that guide the organization’s approach toward what to compose and when.

In composable business architecture, the principles are structural capabilities to use when leaders architect the business.

With composable technologies, they are product design goals.

The combination of the three building blocks (composable thinking, composable business architecture and composable technologies) and the four principles (modularity, autonomy, orchestration and discovery) make up the “composable business index.” To get started with this index, please refer to Toolkit: Composable Business Index from the 2020 Gartner IT Symposium Xpo Keynote.

Several organizations have demonstrated these principles, the building blocks and the strong composable business results that follow. CIOs everywhere can use these principles repeatedly. Repetition brings consistency, and consistency brings speed. In these tumultuous times, speed allows the organization to thrive.
Case Examples

Haier Group

A global appliance manufacturer based in China, Haier anticipated in 2005 how customer demand would grow increasingly fragmented. The company reorganized its structure, breaking legacy functions into 4,000 autonomous teams called microenterprises (MEs) to meet specific customer needs. Haier's leaders describe this reorganization with an analogy: an egg broken from the outside is food; an egg broken from within represents life.

In the ME structure, small teams have full autonomy and profit and loss (P&L) to make rapid decisions with a priority on customer needs. The company has a nickname for these teams: jellyfish. A jellyfish has neurons but no central nerves, so when a tentacle spots a target, it will send signals to others to work together. To sense targets — in other words, customer needs — and perform mass customizations, the teams interact in an ecosystem microcommunity using COSMOPlat, a cross-industry, multidomain industrial Internet of Things (IoT) platform. This operating model has delivered many notable results; for example, Haier has shortened the product design-to-deliver time by 35% in some new product lines. It demonstrates the power of combining modularity and autonomy with the microenterprises, and discovery and orchestration through the COSMOPlat platform.

At the beginning of the COVID-19 pandemic in January 2020, a Haier employee noticed a growing shortage of medical supplies. When he dropped a message in the COSMOPlat group chat, colleagues from different MEs all over China decided to address the problem. Technical MEs in three cities built a supply-and-demand platform to address customer needs for the supplies. Demonstrating discovery, the platform quickly aggregated the information from enterprises, hospitals and local governments.

Departments like procurement, logistics, finance and regional MEs then collaborated to make medical supplies available in China and, later, throughout the world.

FedEx

FedEx is a global logistics company, serving more than 220 countries around the world. With nearly 700 planes and more than 180,000 motorized vehicles in its fleet, the company has developed a substantial technology footprint throughout its nearly 50 years of operation. FedEx develops new products and services by using architectures that tap into modular software and everything as a service. One example is an address-as-a-service resource that FedEx Express and FedEx Ground assets use to orchestrate last-mile package delivery capabilities. This shows modularity and orchestration.

The value of composability extends across ecosystems, like when FedEx partnered with retail companies to expand physical interaction points for customers. To speed deployment, FedEx recomposed APIs and microservices from iOS to the retail partner's installed Android handheld in-store devices, enabling rapid rollout to roughly 8,500 Walgreens stores. The solution was
recomposed again for Dollar General, resulting in 65,000 customer shipment points, illustrating the power of both modularity and orchestration.

FedEx CIO Rob Carter said: “It was so gratifying to see this architecture that we had built, decomposing our business into services and microservices in a way that can reorder them … it can repoint them to new consumer solutions.” This demonstrates composable thinking.

The company believes that a people-first culture is key to adapting during disruption. It has focused on reskilling, including creating a Cloud Dojo. Named after a place of immersive training in martial arts, employees learn new technologies from their peers, as well as expert trainers. The dojo is not a classroom, but a lab to address real-world problems; and the dojo masters accompany and support participants through sprints to learn how to apply new sets of skills. It is learning by doing.

Most recently, COVID-19 strained the global supply chain, with the commercial freight shipped in passenger planes abruptly stalled. In operating the world’s largest all-cargo airline, FedEx Express was able to leverage the tablets, data collection and analytics in its orchestration to manage crews, maintenance and flights in modular, discovery-driven ways and to respond quickly to meet the surge in demand. Additionally, the company’s SenseAware technology allowed FedEx to track shipments of pharmaceuticals, medical supplies and critical testing materials to labs involved in the study of the coronavirus. This combines autonomy, orchestration, modularity and discovery.

**Ocado Group**

Founded in 2000, Ocado is an online grocer based in the United Kingdom. For the past several years, leaders have pushed beyond the company’s primary space as an online grocer, to a technology provider, to a platform business and finally creating an innovation factory.

The Office of the CTO (OCTO) is managed separately from the online grocery side of the business, and is looking to apply what it knows about groceries to areas such as vertical farming, parcel sortation, baggage and freight handling for airports, automated car parks, container ports, and rail freight.

A simple concept illustrates OCTO’s approach to products and services: goods are “atoms”; if the company is good at moving food atoms (i.e., groceries), then it can move other atoms as well. This represents the notion of modularity.

As Paul Clarke, CTO, put it: “The tagline for Ocado is changing the way the world shops, but the tagline for OCTO is changing the way the world stores, sorts, assembles, moves and sells atoms.”

Staff at OCTO act like special forces, with multidisciplinary competencies and different rules of engagement. They are sent out to scout and build defensive bunkers by filing patents and other ways of securing IP. With an interesting take on modularity, Ocado uses assets — which they call Lego bricks — as irregular pieces; people and their unique competencies form the strongest, most advantageous bonds when they come together like irregular rocks in a stone wall.
In the technology context, leaders need to manage the degree of diversity, where too much can be unhealthy. More variety is needed, but not too much. This demonstrates the need to seek a balance of modularity, autonomy, discovery and orchestration.

Examples From the Public Sector

When COVID-19 became a global concern, the city of Turku, Finland, was already exploring innovative and composable ways to use data and artificial intelligence (AI) techniques to solve real-world problems. It decided to launch new services to specifically address needs of cohorts of residents who shared characteristics, like low income, old age or preexisting health conditions.

By leveraging and combining already-existing AI capabilities, city leaders could work efficiently with the private sector to address citizens’ needs in an agile manner. For example, the city organization could effectively coordinate new delivery services that were ramped up within days and that reduced need for unnecessary social contacts — limiting the exposure of vulnerable citizens and isolating the virus.

Services Australia, the country’s health and social support agency, was faced with mounting welfare applications as the government announced extended support for job seekers impacted by COVID-19 shutdowns. The volume was so great that the federal myGov website was under a significant and sudden load that had never been seen before.

In an example of composable business architecture redesign, Services Australia moved roughly 12,000 staff to frontline public support duties, stabilized and scaled up myGov to support 300,000 concurrent users, and delivered a 100% digital pathway for out-of-work Australians — no paperwork or phone call required.

Like Turku and Services Australia, government agencies around the world have pivoted quickly to the challenges raised by the pandemic. Whether they were focusing on supporting medical research or providing social services, many had to face a surge in demand. They needed to scale quickly. Many such agencies:

- Sent thousands of workers to work from home for the first time
- Expanded chatbots, digital assistants and citizen touchpoints
- Deployed more staff into public support roles
- Expanded site capacity to serve more volume
- Implemented hyperautomation technologies in order to automate processing operations
- Leveraged ecosystem partnerships to deliver services

Summary
Moments of composability are happening every day, and teams have to be ready to capitalize on them. The future will be defined by how organizations compose their responses to these moments — both in the business context and in terms of societal impact as well.

With composability, organizations can achieve digital acceleration, greater resiliency and the ability to innovate through disruption.

As a CIO, start by shifting how the organization is set up to sense and deliver on the needs of customers, employees, shareholders and society. Use composable thinking so the whole enterprise will see that anything is composable. Lead a composable business architecture to unleash innovation at scale. Engage composable technologies to bring the power of modularity, discovery, autonomy and orchestration to life — no matter what the future looks like.

Evidence

1. Forecast Analysis: Remote Workers Forecast, Worldwide
3. Use Gartner Reset Scenarios to Move From Survival to Renewal
4. Survey Analysis: Board Directors Say Pandemic Drives Increased Investments in IT

Recommended by the Authors

Composable Analytics Shapes the Future of Analytics Applications
Innovation Insight for Packaged Business Capabilities and Their Role in the Future Composable Enterprise
Future of Applications: Delivering the Composable Enterprise
Composable Commerce Must Be Adopted for the Future of Applications
Digital Business Acceleration: Where to Focus Now?
Case Study: Microenterprises (Haier COSMOPlat)
Design Thinking Improves Customer-Facing Projects (FedEx)
Autonomous Things Ecosystems Open Opportunities for IT Services Providers in Retail
Case Study: Data and Analytics Monetization With Knowledge Graphs and AI (Turku City Data)
Use Gartner’s Reference Model to Deliver Intelligent Composable Business Applications

Recommended For You

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