Gartner

Hype Cycle for Business Process Services, 2021

Published 26 July 2021 - ID G00747494 - 110 min read

By Analyst(s): Jaideep Thyagarajan, Alan Stanley

Initiatives: IT Services and Solutions; Shared Services; Supply Chain Technology Strategy and Selection

The push for process reinvention and intelligent workflow facilitation is driving technology investment. Sourcing, procurement and vendor management leaders must track the evolution of emerging offerings to make informed investment decisions for an optimal service sourcing strategy.

Analysis

What You Need to Know

Organizations seeking business process services (BPS) are showing interest in solutions that can help them accelerate efficiency realization. More specifically, they are seeking services that can help them to manage the rising complexity of their business and operational needs. These organizations want to build and use products and platforms alongside business process expertise to develop ready-to-deploy solutions. There is a focus on identifying opportunities to improve business process resilience through standardization, optimization and automation. Organizations are therefore outsourcing business process services not just to contain costs, but also to enable efficiency and productivity gains through improved customer experience (CX) and operational optimization.

Organizations, particularly the ones seeking to accelerate speed to market and achieve operational excellence, are investing in automated and intelligent services to support and enhance responsiveness to changes in market needs.

This Hype Cycle describes the pace and maturity at which BPS offerings are becoming available to help set roadmaps for introducing more innovative and cost-effective business process services into the organization.

The Hype Cycle

Gartner estimates that the overall business process services market grew to $167 billion, up 1.2% in 2020. It is also estimated that the digital business process services market alone will grow to over $106 billion by 2024, at a 10.8% compound annual growth rate (CAGR). These services require investment in technology assets and intellectual property delivered alongside business process domain and/or industry expertise and enhanced by a robust ecosystem. Following the pandemic, client organizations are urgently pursuing automated, ubiquitous and intelligent services to enable business functions and industry processes. The goal is to alleviate pressures from their biggest challenges: customer behavior; corporate changes; business strategy; technology advancement; macromarket conditions; and political, legal and regulatory changes postpandemic.

During the pandemic, we saw specific industries like healthcare, insurance and government organizations digitally bolster some of their critical business processes to urgently achieve productivity improvements to cope with the burden imposed on the system. Consequently, we saw a spike in demand for some specific services such as electronic health record (EHR) data extraction and emergency/mass notification services, among others, that are being called out in this year's Hype Cycle. The fast evolution of automation technologies and lack of digital talent in the market will continue to drive enterprises to seek business process services delivered via digital, automated business processes, powered by product-based solutions, and enabled by emerging digital technologies to support business models and market changes. In addition, the full-fledged acceptance of remote working, coupled with digital interactions, has led to a broad adoption of associated technologies, as evidenced in movement of some profiles along the Hype Cycle curve.

In 2021, Gartner is increasingly seeing client organizations demand offerings with predictive and prescriptive capabilities, fed by data and enhanced by insights that drive best-in-class industry and functional processes. Consequently, we see services such as customer journey analytics, customer analytics BPO, text analytics, and legal and compliance analytics, among other business process analytics offerings mentioned in this year's Hype Cycle, being adopted and consumed at a faster pace. Similarly, business process service providers that employ hyperautomation and go to market with an as-a-service delivery model based on client transactions and/or business outcomes experienced significant market growth throughout 2020, and this trend is expected to continue through 2025. Services such as supply chain as a service, business process as a service, robotic process automation (RPA) for sales and chatbots, among others, offer transformational benefits to clients who have the readiness to adopt them.

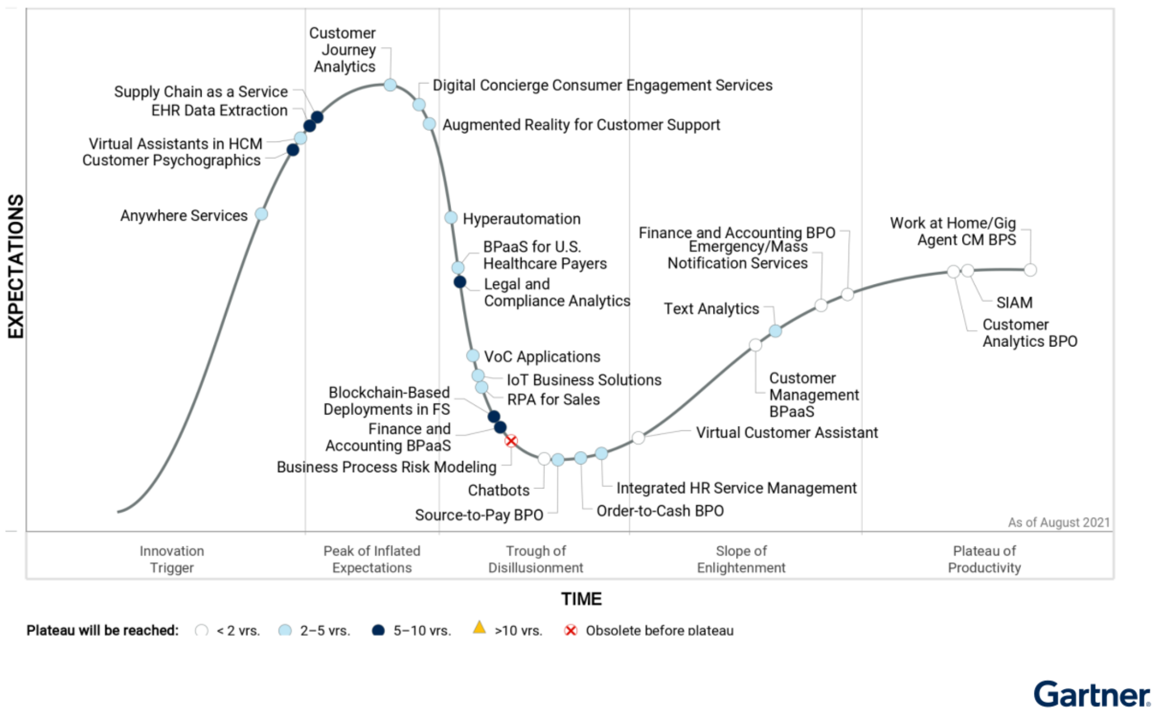
The following profiles have been added to the Hype Cycle this year mainly in order to align this year's innovation profiles to some of the processes that are important and fundamental to client organizations:

- RPA for Sales
- Integrated HR Service Management
- Digital Concierge Consumer Engagement Services
- Business Process Risk Modeling
- BPaaS for U.S. Healthcare Payers
- EHR Data Extraction
- Emergency/Mass Notification Services
- Text Analytics
- Legal and Compliance Analytics

The following profiles has been renamed to align with its application and description:

- Blockchain-Based Deployments in FS

Figure 1: Hype Cycle for Business Process Services, 2021



Source: Gartner (July 2021)

Downloadable Graphic: Hype Cycle for Business Process Services, 2021

The Priority Matrix

The Priority Matrix is a useful shortcut for visualizing risk and reward in different innovation profiles on the Hype Cycle. The 2021 profiles showing the most significant benefits (high or transformational) are typically in the earliest stages of maturity, but have relatively fast adoption rates or are passing through the Peak of Inflated Expectations. A good number now are delivering high benefits with less than two years to maturity, a fair amount in the two to five years range; and the largest number in the five to 10 years range.

The business process services Hype Cycle contains a large variety of innovations, most of which can have a large impact on the particular service area chosen, but the impact on the business process depends on the transformational nature of that service. For example, those of moderate benefit — such as text analytics and business process risk modeling — help identify behaviors, inefficiencies, controls and dependencies that help organizations tremendously, but don't necessarily transform them. Then, there are innovations like hyperautomation solutions that draw on the orchestration of interrelated automation technologies and processes to streamline their environments and achieve greater outcomes. However, this is still emerging.

RPA for sales, chatbots, customer management BPaaS, and finance and accounting BPO, among others, do have a high impact on the organization in the very near term. These innovations inject a great deal of efficiency into the processes they support, generate greater clarity about the associated business processes through data-related insight generation, and help accomplish the outcomes that client organizations are seeking. Sourcing, procurement and vendor management (SPVM) leaders should make sure they are progressing those innovations now.

Table 1: Priority Matrix for Business Process Services, 2021

(Enlarged table in Appendix)

Benefit	*Years to Mainstream Adoption*			
↓	*Less Than 2 Years* ↓	*2 - 5 Years* ↓	*5 - 10 Years* ↓	*More Than 10 Years* ↓
Transformational		IoT Business Solutions	Blockchain-Based Deployments in FS	
High	Chatbots Customer Analytics BPO Customer Management BPaaS Emergency/Mass Notification Services Finance and Accounting BPO Virtual Customer Assistant Work at Home/Gig Agent CM BPS	Augmented Reality for Customer Support Customer Journey Analytics Digital Concierge Consumer Engagement Services Hyperautomation Integrated HR Service Management Order-to-Cash BPO RPA for Sales Source-to-Pay BPO VoC Applications	Finance and Accounting BPaaS Legal and Compliance Analytics Supply Chain as a Service	
Moderate	SIAM	Anywhere Services BPaaS for U.S. Healthcare Payers Text Analytics Virtual Assistants in HCM	Customer Psychographics EHR Data Extraction	
Low				

Source: Gartner (July 2021)

On the Rise

Anywhere Services

Analysis By: Alan Stanley

Benefit Rating: Moderate

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

The pandemic in 2020 pushed service providers to extreme levels of remote delivery and with that came the realization that optimal location and use of on-site resources needs to be reevaluated. The concept of Anywhere Services moves away from the “shore” concept to one where services can be delivered remotely and anywhere.

Why This Is Important

The concept of Anywhere Services is not a new technology or a massive capability shift, but a new way of thinking about IT services delivery. With the rise of agile methodologies and advances in technologies, the most suitable locations for IT services delivery have been evolving. But the sudden and immediate move to remote delivery has made all organizations to at least reevaluate their sourcing strategies. At Gartner, we call this concept Anywhere Services.

Business Impact

With the rapid move to 100% remote delivery, it is now clearer that much of the historic interaction was more about lack of trust rather than purely more effective delivery. The need now is to look very carefully at what are the optimal features that are needed for delivery of services. Now it is a combination of cost, availability, time zone overlap, security, and cultural affinity that define the resource required. It is not offshore or onshore but anywhere that meets the requirements.

Drivers

- Traditionally, colocation and social interaction were hallmarks of a successful agile team. Through new practices, such as remote collaboration techniques and maintaining personal connections, agile teams managed the move to distributed agile with little to zero reported delivery disruption.

- During the COVID-19 pandemic, application development and maintenance projects continued, and a high degree of remote delivery was achieved.
- During the pandemic recovery process, organizations are asking the following questions: If off-site is an option, can it be to a low-cost location? Is this a desirable and sustainable model? Do I still need internal staff, providing this work?

Obstacles

- Anywhere Services is a concept and not related to a particular technology (although collaborative tools and connectivity have of course contributed immensely). It will very quickly become mainstream for IT services sourcing.
- Organizations with strict requirements associated with security and sovereignty of data may need to balance these requirements against the upside of Anywhere Services.
- Progressive organizations will accelerate delivery and reduce costs by leveraging this option and holding service providers more accountable for outcomes as they separate themselves from the "where" on the IT services delivery.

User Recommendations

IT leaders looking at their IT services sourcing strategy should:

- **Forget "shore" and think "time."** IT leaders must move their analysis of resource requirements criteria to real-time, near-time, off-time and, if fully automated, no-time.
- **Establish revised security policies.** The "shore" is still significant where security and privacy is concerned, but work from home (WFH) imposes additional factors. Assess the combination of country and delivery location and update/create controls accordingly.
- **Contract for consultative resources and not for dedicated teams when appropriate.** As all implementation and consulting work will be primarily remote, contracts should use service provider staff on an as-needed basis, with a reduction in overall billable time.
- **Reevaluate what roles are required in-house versus outsourced.** The opportunity exists to source any activity much more widely and at cost-effective locations. Reevaluate the reasons you are using for internal staff.

Gartner Recommended Reading

Setting Up Remote Agile in a Hurry?

Market Trends: Post-COVID-19 Planning Assumptions for Consulting and Outsourcing Firms

Forecast Analysis: Remote Workers Forecast, Worldwide

How Agile, Digital and Automation Drive the Increase in Nearshore IT and Business Services and What to Do About It

Security Best Practices for Work-From-Home Scenarios

Customer Psychographics

Analysis By: David Pidsley

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Adolescent

Definition:

Customer psychographics is the study and classification of users according to their attitudes, communication style or decision-making style, rather than their specific actions, requirements, profitability or satisfaction. Users are matched to predefined styles, or personality preferences, based on directly captured data (e.g., social media, user-generated images and video, audio calls) or on data derived from analysis of behaviors (e.g., purchasing products with a consistent set of attributes).

Why This Is Important

Differentiated user experiences rely on segmentation, including demographics, which explain *who* the buyer is, and psychographics, which explain *why* they buy. Automatic psychological profiling has only recently become feasible. Machine learning and behavioral sciences have increased its consistency and accuracy, which can outperform demographic or transactional segmentation. For example, Stanford's algorithms judge traits more accurately than colleagues using just 10 social media "likes."

Business Impact

Functions:

- Customer analytics: CRM strategy and customer experience design and execution
- Customer service: Support center quality assurance and employee performance
- Sales: Demand generation, acquisition, retention, enablement and execution
- Marketing: Market insight, content, messaging, go-to-market strategy
- Product: Planning, development, self-service automation and analytics
- HR management
- Audit: HR, cybersecurity risk

Industries:

- Media and advertising
- Retail
- Banking and insurance
- Healthcare
- Government

Drivers

- Whereas the Myers-Briggs Type Indicator personality profiling dates to Jung's research of the 1920s and has been criticized for poor validity, automated industry solutions have since adopted psychographic models with wider academic endorsement, such as the Big Five personality traits.
- Natural language processing-enabled emerging technologies, which are based on combinations of innovations such as computer vision, machine learning and deep neural networks, are enabling marketing organizations to hyper-personalize their target marketing audiences and messaging.
- Superhuman capacities in voice-to-text transcription and natural language understanding have enabled service centers using this technique to reduce handling time — whether that be average handle time or average talk time. They also use it to increase first-contact resolution rates by routing the customer to a support agent with the best suited personality.
- Sales environments are using employee psychographics to align salespeople with customers or prospects, resulting in increased sales conversion rates.
- Human resources management teams are applying psychographics to recruiting, marketing for talent, conducting gender bias analysis and supporting culture change in digital transformation communications.

Obstacles

- Privacy and ethics challenges persist after the psychographic profiling controversy during the 2016 U.S. presidential election. Subjects of psychological profiling (even from public information) consider it intrusive, creepy or improper, especially as applied to recruitment and targeted advertisements to audiences or individuals with protected characteristics, such as minors.
- High-profile examples of bias and inaccuracy risk undermining confidence in the robustness of solutions or techniques, constrained by unrepresentative data sources.
- Customer psychographics' applicability to B2B relationships is less established, in that personality traits of individuals may not represent enterprise buying preferences.
- The business value of personalization is still debated, particularly in marketing, regarding how effective it is to vary the brand's voice for individuals, rather than for larger cohorts.
- Use cases and domains are diversifying. Diverging technologies and methodologies are creating disparate quality solutions.

User Recommendations

- Use psychographics to gain insight and empathy as to what motivates customer behavior in ways that allow organizations to build trust and loyalty, which is vital to relationships and better engagement.
- Apply psychographic segmentation when (1) a customer's product or service requirements are not clear, but there is an opportunity to build trust through emotional engagement.
- Apply psychographic segmentation when (2) the reason *why* someone acts is more relevant to the nature of the relationship than *what* that person actually does. For example: Does the person buy an expensive watch as a social signal or because they view it as a prudent investment?
- Define your approach to customer psychographics based on context. Approaches will differ significantly depending on context; for example, communication style analysis may be helpful in a call center, while insight into attitudes to risk or convenience are relevant to product recommendations.

Sample Vendors

CaliberMind; Crystal; Dynamic Yield; HireVue; IBM; MATTR; Neosperience; NICE; Receptiviti; Textio

Gartner Recommended Reading

Use Emerging Customer Analytics Tools to Identify CX Opportunities

Buyers Don't Want Sympathy — Use the Science of Empathy to Increase Buyer Confidence, Sales and Profit

Reduce Sales Cycles and Improve Customer Engagement Using AI as a Tech CEO

How to Use Behavioral Economics to Drive Adoption and Save Money in Your Organization

Emerging Technologies: Tech Innovators in Conversational AI and Virtual Assistants

Emerging Technologies and Trends Impact Radar: Customer Analytics for Customer Experience

Infographic: Customer Experience Management Framework

Grab the Opportunity Now to Improve Your CX. The Board and CEO Are Expecting It

Use Privacy to Build Trust and Personalize Customer Experiences

How to Harness Voice of the Employee Insights for Continuous Employee Experience Improvement

Virtual Assistants in HCM

Analysis By: Ranadip Chandra, Helen Poitevin

Benefit Rating: Moderate

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Virtual assistants in human capital management are software applications integrated with other HCM applications and increasingly provided as native solutions that work at human voice (or text) commands to assist employees in completing HCM-related tasks or requests. They also automate communication via a smartphone, tablet, computer or specific device.

Why This Is Important

Employees want more personalized interactions that resemble popular consumer technology — such as Google Home or Amazon Alexa — even from their business application counterparts. Virtual assistants are a preferred channel for employees (especially the young generation) who are looking to complete a transaction or obtain some HR information without going through the cumbersome process of logging in and locating the correct navigation.

Business Impact

Virtual assistants (VAs) are becoming an important layer, if not the primary interface, in many HCM functions — particularly gaining maturity in recruiting, HR service management, enrolment for benefits process, onboarding and HR functional insights (e.g., flight risk analysis).

Drivers

- VAs are among the fastest-growing emerging technologies, not just in HCM but across all business applications. All cloud HCM suite and extended ecosystem vendors are committed toward investing further in this capability.
- During the COVID-19 pandemic and the subsequent rapid shift to remote work, VAs were leveraged extensively for answering queries related to HR policies, health and safety, extended leaves and corporate announcements.
- Tasks related to reporting and data analytics require employees to follow complex, step-by-step technical processes. VAs can reduce these processes to one single step. For example, an employee asking a VA: “How is our recruiting pipeline performing?” and receiving an immediate answer, rather than painstakingly analyzing multiple reports and coming to a conclusion.
- As VA maturity grows with the use of NLP and NLG, VAs will act and take decisions on behalf of employees in certain repetitive situations. This will open up avenues to combine event-driven programming with VAs and transform many HCM processes from user-initiated actions to user-response actions.
- VAs enable ease of interaction and help in greater adoption of HCM processes. This will especially be the case for those employees who do not interact through the regular UI (e.g., sales and entry-level employees).
- For non-English speakers, having a VA support native language could dramatically improve the adoption of the HCM suite. In a lot of geographies, VAs may need to be proactive in initiating conversations.
- A growing number of VAs leverage RPA, no-code or low-code integrations to enable full processing of workflows through the VA interface. This provides more value than a more simple FAQ-focused chatbot.

Obstacles

- Support for languages other than English varies widely and will have an impact on the adoption of VAs within various geographies.
- Often, vendors overstate the capabilities of their VA, leaving users frustrated if the VA cannot understand the real intent behind the interaction and only delivers a list of predetermined options. Exception handling and creating “human in the loop” points to use skilled workers to train the VA will be crucial for adoption.
- Successful deployment of VAs needs equal maturity in two parts — natural language query and business intelligence (BI) to join the command together. Many solutions only have the first part and miss out augmented analytics elements.
- Some vendors have prioritized HR functional use cases ahead of employee-facing ones to influence the decision maker. But employee centricity should be at the forefront in this application.
- Not all providers have robust integration capabilities or prebuilt integrations with major HR and payroll platforms.

User Recommendations

- Determine the use cases (e.g., upcoming shift reminder, learning content suggestion and goals submission) for VAs that are best applicable to your organization and will result in maximum benefit to employees.
- Assess the solutions on their ability to self-train based on the historical records of employee transactions. Additionally, any solution’s ability to resolve a query based on variations of phrases and keywords of the same question should be a “litmus test” for its effectiveness.
- Address the skills gap arising due to the adoption of emerging technologies. Associates with skills in NLP and RPA can lead integration projects that empower VAs to interpret data from sources other than HCM and write back, applying natural language generation (NLG).
- Address data privacy concerns arising from VAs that access the location and private data of employees. Gauge the comfort level of your employees before exploring any scenarios and include employees in the project scope.

Sample Vendors

Acuvate; Amelia; Espressive; Leena AI; Ramco Systems; Socrates.ai; The Bot Platform

Gartner Recommended Reading

Infographic: Artificial Intelligence Use-Case Prism for HCM Technology

Market Guide for Integrated HR Service Management Solutions

Making Sense of the Chatbot and Conversational AI Platform Market

At the Peak

EHR Data Extraction

Analysis By: Rajesh Narayan, Mike Jones, Richard Natale

Benefit Rating: Moderate

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Electronic health records (EHRs) are the digital collection of an individual's medical records. Extraction of EHR datasets offers life insurers access to health data that would otherwise be provided in paper form. EHR data provides life insurers with opportunities to improve underwriting and pricing decisions with seamless access to de-identified data.

Why This Is Important

EHRs contain a patient's medical history, medications, treatment plans, radiology images, lab results and other personal medical data. Subsets of EHR data provide life insurers with opportunities to improve underwriting and pricing decisions with seamless access to accurate data. But EHR's can contain tens of thousands of pages of medical history. Extraction of relevant and codified health data from an EHR is the critical ingredient to success.

Business Impact

- Improved predictability of life expectancy, through the aggregation and analysis of individual-level data
- Digital access to data will speed up underwriting processes, reduce error rate from manual rekeying and potentially automate decisions based on personalized medical data.
- The ability to tailor products toward people's lifestyles and health conditions.
- Pension/annuity providers will be able to offer enhanced products based on greater certainty of life expectancy.

Drivers

- Insurance companies increased adoption of accelerated underwriting for term life products due to the COVID-19 pandemic.
- Leading U.S. insurers are extracting data from EHRs to expedite the underwriting process by linking into individuals' EHRs, rather than by requesting attending physician statements or unnecessary medical exams.
- Some insurance software vendors are building intelligent EHR extraction solutions to automate the selection of relevant data in EHRs for use in risk rating and underwriting.
- NLP to read text can help automate and augment decisions in more complex underwriting tasks, once patterns are well-established. This leads to faster, simpler and streamlined decision making.
- EHRs in the U.S. now also come with tethered personal health record (PHR) portals, which could make access to data easier than directly integrating with EHR back-end systems themselves.
- Insurer use of holistic, de-identified data for analysis and projections of insurance portfolio risks, particularly life expectancy and critical illness.
- Pattern identification could enable insurance companies to construct tailored products and services targeted at certain risk groups.

Obstacles

- Individuals may have multiple EHRs, across healthcare providers, making one EHR the single source of health data more aspirational than reality.
- EHR standards for coding diagnoses, procedures and resource utilization are not always applied in vendor software or by clinicians when capturing data in the record, thus making it difficult to assign semantic meaning to some aspects of the record.
- Underwriting algorithms require a fraction of the type of data stored in EHR records, making intelligent record extraction, selection, and sorting essential.
- Data security and privacy legislation, such as the General Data Protection Regulation (GDPR) in Europe, may inhibit insurers in many geographic locations, and customers may be unwilling to share their data.

- The plateau is unlikely to be reached for five to 10 years in regions with widely shared electronic health systems, and further out in regions with limited EHRs, or stricter privacy laws.

User Recommendations

- Evaluate the response of consumers and regulators to early insurance adopters of data extraction from EHRs.
- Establish/join a consortium of key players to influence the collection of digital health records and set standards for markets lacking EHR. This will offer such insurers a first mover advantage.
- Obtain granular consent for access to the health records from insured parties, and ensure consent approvals to healthcare providers when requesting access to records, to reduce delay and mitigate against information blocking practices.
- Explore options for EHR aggregation/API platform providers to determine the best fit for cost, depth of integration and availability/performance.
- Map the customer process journey to incorporate consent touchpoints for EHR record access,in line with local regulations.
- Initiate partnership discussions with health providers by assessing their willingness and legal compliance concerns to share de-identified health records for the identification of trends and patterns.

Sample Vendors

athenahealth; Cerner; Epic; EXL Xtrakto.AI; Human API; InterSystems; MEDITECH; MIB; Verisk

Gartner Recommended Reading

Market Guide for Enterprise Electronic Health Record Solutions

Supply Chain as a Service

Analysis By: Michael Dominy

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Supply chain as a service (SCaaS) is an externally focused revenue-generating digitally enabled service that delivers ongoing management of one or more supply chain functions to other enterprises. These services tap into business process expertise or operational capabilities of an enterprise or service provider to deliver revenue.

Why This Is Important

SCaaS is an opportunity to optimize costs and grow revenue by using existing or new capabilities to deliver one or more of the three types of SCaaS business models. First is operations as a service, which involves contracting out physical operations. Second is business process as a service, in which the provider or enterprise performs business process activities for others. Third is new or improved supply chain capabilities required to enable product-as-a-service offerings.

Business Impact

- Increased revenue for manufacturers, retailers, distributors or healthcare providers with factories, private fleets, warehouses or stores with operational capacity or business process capabilities to deliver physical or digital SCaaS to organizations
- Brand owners with as-a-service business models, particularly in high tech and industrial manufacturing industries
- Distributors, third-party logistics, consulting, IT, BPO and manufacturing providers targeting higher margin digital business services

Drivers

- **Digital business models.** Subscription- or usage-based as-a-service business models force a blurring or blending of what was historically the forward or delivery supply chain with the service and support supply chain. The supply chain organization must monitor the location, performance and needs of the product or asset after it has been delivered or installed. Service must be orchestrated from a physical supply perspective for items such as parts, but also from a digital perspective for needs like software patches and upgrades.

- **Pandemic.** The global pandemic upended established supply chains. Some industries such as retail experienced significant capacity issues, struggling to support the dramatic shift from store to e-commerce sales. Food and beverage manufacturers faced surging demand in the consumer channel and a big drop in food service volumes that previously went to restaurants and businesses.

- **Cloud platforms and applications.** Cost-effective availability of cloud computing infrastructure services, multitenant SaaS applications, open-source software and analytics tools have enabled service providers and some enterprises to create, launch and sustain supply chain business process services.

- **Connected and intelligent things.** Lower technology costs and increased connectivity with products changes what the supply chain function must do. In the past, the supply chain managed products. Today, intelligent connected things are starting to manage the supply chain essentially turning the supply chain organization as a service provider for the physical object. For example, a piece of equipment or appliance that is tracking inventory or activity on its own can order replacement inventory or create a service order.

Obstacles

- **Identifying and selling physical operational SCaaS.** Most buyer and provider match-making in physical operations has been between companies and providers versus company to company.
- **Onboarding SCaaS customers from a digital and process perspective.** Whether it is physical operations-as-a-service or business process services, integrating systems and defining roles, responsibilities and required activities is complex and time-consuming.
- **Differing commercial arrangements.** Instead of an order to cash process, with invoicing and collections triggered by a shipment, a contract with service agreements governs payments.
- **Transforming talent**. SCaaS requires new ways of working. Supply chain professionals must switch from an internal orientation to an external client mindset. Not all individuals are comfortable and skilled to do so. Because all SCaaS involve digital skills, individuals in the supply chain organization will need to develop or expand digital competencies.

User Recommendations

Enterprises such as retailers or manufacturers contemplating offering SCaaS:

- Determine physical asset SCaaS opportunities by analyzing capex and capacity forecasts.
- Evaluate which processes can technically support multitenancy and scalability requirements by reviewing your IT architecture.
- Assess your competitiveness by benchmarking your against existing providers including 3PLs, contract manufacturers and BPO providers.
- Create customer journey maps by documenting physical and digital flows from customers back through your supply chain.

Enterprises considering contracting for SCaaS:

- Target lower-performing supply chain activities by using maturity assessment and benchmarking.

- Audit and monitor areas of higher risk such as global trade management by asking how systems such as denied-party lists are updated.
- Assess SCaaS for specialized purposes such as network design or inventory optimization by assessing skills of those in the supply chain organization.

Sample Vendors

Arrow Electronics; Celestica; DHL; Entercoms; Genpact; Jabil; KPMG; Mayo Clinic; TCS; UPS Supply Chain Solutions

Gartner Recommended Reading

Supply Chain as a Service Converges Physical and Digital Supply Chain to Deliver Revenue

Take Four Steps to Develop Your Supply-Chain-as-a-Service Strategy

Market Guide for Supply Chain Strategy and Operations Consulting

Forecast Analysis: Digital Business Process Services, Worldwide

Magic Quadrant for Third-Party Logistics, Worldwide

Metrics for the Circular Economy: If You Can’t Measure It, You Can’t Manage It

Customer Journey Analytics

Analysis By: Matthew Wakeman

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Customer journey analytics (CJA) is the process of tracking and analyzing customers and prospects that interact with an organization via multiple channels. It covers all channels the customer has used, including those with human interaction (such as a call center) and that are fully automated (a website), provide assisted help to the customer (live chat and co-browsing), operate in physical locations (a retail store) and have a limited two-way interaction (advertising).

Why This Is Important

Consumers expect personalized engagement and marketers need to deliver it — challenging marketing strategies that take an inside-out approach to the customer experience. Moreover, customers often hop between channels, so continued investment in understanding customer behavior within a single channel will fail to deliver more valuable insights than understanding the combination of channels they use.

Business Impact

CJA is a strategic priority for a variety of internal roles in several different industries, as marketing leaders strive to gain a better understanding of the customer journey across all phases — acquisition, retention, satisfaction, advocacy and loyalty. CJA can also optimize and deliver these experiences in real-time and at scale. In some cases marketers will be able to leverage CJA features in their existing martech stack rather than add a stand-alone vendor.

Drivers

- CJA is a strategic priority for a variety of internal roles in several different industries, as marketing leaders strive to gain a better understanding of customer acquisition, retention, satisfaction, advocacy and loyalty.

- Complex challenges of delivering personalized experiences (in real-time and at scale) require marketers to measure each phase of a journey to optimize the journey based on the customer (or customer segment) context and intent.

- CJA is accelerating in adoption as more applications begin to add elements of journey analysis into existing tools, such as customer data platforms, personalization engines, customer analytics applications and multichannel marketing hubs.

Obstacles

- Marketers are challenged by being able to access, analyze and activate all the customer data of their companies — from website activity to call-center engagement. Gartner surveys conducted in late 2020 show leveraging integrated customer data for insight and generation and enabling personalized customer data are among top challenges.

- Privacy regulations, consumer concerns about the privacy and security of their personal information require marketers to be transparent about customer data collection — a requirement that will impinge on their ability to power their CJA toolsets.

- Without developing a clear strategy for capturing and linking the right data in each channel, organizations will lack a true understanding of the customer journey beyond interactions where customers are forced to reveal their identity.

User Recommendations

- Acknowledge that valuable insights come from understanding the combination of channels used by customers, not by understanding customer behavior within a single (KPI) channel.

- Avoid key performance indicators (KPIs) that fail to consider the implications of customer activities in other channels, such as single-channel conversion rates or ROAS.

- Start with customer identification and journey mapping across only two to three channels, where the journey benefits the customer and organization (high impact) and the data are both available and valuable (high feasibility).

- Evaluate your existing technology stack to see if you're already paying for an application with journey analysis capabilities because journey analysis functionality is often embedded into other systems now.

Sample Vendors

Adobe; Cerebri AI; Splunk; Teradata

Gartner Recommended Reading

Market Guide for Customer Journey Analytics

The Gartner Marketing Technology Vendor Guide

Digital Concierge Consumer Engagement Services

Analysis By: Mandi Bishop, Kate McCarthy

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Digital concierge consumer engagement services (DCCES) integrate and orchestrate data and workflows across disparate functions, such as health and wellness programs, medical shopping, digital condition management, and virtual care, to deliver high-value member interactions. This profile tracks the technologies that support a concierge model, as well as the extent to which payers are deploying this capability to their membership.

Why This Is Important

In contrast to traditional human resource-intensive service models, DCCES technologies help scale these offerings and increase the value delivered to purchasers from their healthcare insurance spending. DCCES solutions orchestrate member experience across the ecosystem, addressing administrative tasks as well as health needs. This is a level of service and convenience that purchasers — employers, individuals and government agencies alike — increasingly expect.

Business Impact

- Lower claims expense: Independent studies from organizations like Aon as well as vendor case studies report significant savings in annual cost per member.
- Higher Net Promoter Score (NPS): Most DCCES vendors tout an NPS 40 points or more above the health insurance industry average.
- Higher account retention and better competitive position: DCCES offerings are becoming the norm, rather than the exception.

Drivers

- The COVID-19 crisis put a spotlight on the value of these digital capabilities, with payers launching online symptom checkers and triage tools to facilitate next best actions, such as scheduling a provider virtual visit or contacting public health agencies. Vendors such as Accolade and Collective Health introduced COVID-19 capabilities to assist employers and employees with decision-making and health policy management, as well as integrating COVID-19-related tools with existing engagement solutions.

- Purchasers increasingly expect more from all their business interactions — and eventually, “concierge service” will become synonymous with “service.” DCCES will become a natural extension of the clinical and administrative processes that payers manage today.

- Higher purchaser expectations for service, as well as the unique market conditions in 2020, fueled rapid growth for the healthcare engagement services industry. In addition to vended solutions, payers and payer-owned vendors, such as Companion Data Services, Journi and NASCO, are introducing and enhancing their own DCCES offerings. Payers are in a prime position to deliver these solutions, given their proximity to members and grasp of provider and plan data — and there are myriad partnership opportunities available to fill functional gaps (such as digital chronic condition management).

- The integration opportunities to enrich the value of these services continue to multiply, along with the complexity of the services offered, and the line continues to blur between engagement, administration and care management.

- Given the investment activity and revenue growth of independent solutions, the rapid deployment of DCCES capabilities in response to COVID-19, and payers’ interest in commercializing DCCES themselves, we are advancing this profile beyond the Peak of Inflated Expectations. We believe these solutions will achieve mainstream adoption in two to five years.

Obstacles

- Payers lag in digital platform adoption, inhibiting their ability to source capabilities from niche partners across the ecosystem and compose an optimal member experience.
- Most organizations still have information and process silos that limit real-time orchestration across their internal, let alone external, domains that interoperability regulation will not solve.
- Payers face fierce competition from nimbler companies and startups built on a culture of customer-centricity that doesn't carry a heavy burden of legacy business models and technical debt.

User Recommendations

- Persuade your executive peers that a piecemeal approach is cumbersome and costly and that your organization needs to implement a unified DCCES strategy.
- Determine whether your organization's ambition is to develop its own internally managed DCCES offering or to establish strategic partnerships with vendors to streamline account onboarding and improve service. Assess your readiness to deliver concierge services spanning administrative and clinical functions. Identify gaps that strategic partners could fill, temporarily or otherwise.
- Identify and evaluate DCCES solutions that your employer accounts currently use as examples to emulate or cultivate as partners. Look for functional and technical capabilities that align to your organization's DCCES strategy. Develop a best-of-breed approach to deliver a cohesive, fully integrated offering.
- Look beyond employer group arrangements and brainstorm DCCES deployment plans for each line of business, including Medicare Advantage and managed Medicaid.

Sample Vendors

Accolade; Alight; b.well; Castlight; Collective Health; Companion Data Services; HealthJoy; Journi; NASCO; Zest Health

Gartner Recommended Reading

Healthcare Payers Must Provide Concierge Consumer Engagement Services to Win Back Member Relationships

Healthcare and Life Science Top Actions for 2021: Consumer Engagement

Innovation Insight for Consumer Experiences in Healthcare and Life Sciences

Augmented Reality for Customer Support

Analysis By: Jim Robinson

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Adolescent

Definition:

Augmented reality for customer support lays a combination of 3D graphics, video feeds, annotations and sound over the user's direct or indirect view of the physical world. It projects these onto an optically transparent surface — such as a windshield, glasses or other head-mounted display — or it superimposes them onto the feed from a tablet, phone or other camera. Customers and technicians can receive visual information or assistance without glancing away from the physical environment.

Why This Is Important

Customer service and field service organizations face pressure to improve average call completion times and first visit fix rates in order to keep pace with competitors. Workforces are increasingly composed of work at home agents, less experienced technicians and subcontractors that need visual guidance — even when remote. Also, customers are more sophisticated and want to extend previous investments in devices and communications to achieve faster results through efficient collaborations.

Business Impact

Augmented reality used in customer support use cases will:

- Optimize agents' diagnostic efforts during interactions with customers that are unable to articulate events and conditions due to barriers like language and expertise.
- Provide field technicians with "self-serve" guidance that reduces "glance away" by overlaying the work target with animated instructions.

- Reduce cost-to-serve by reducing on-site visits and using locally manufactured parts.
- Enable training that rivals a side-by-side mentor.

Drivers

Factors increasing the adoption of augmented reality for customer support include that:

- Increased safety awareness has driven an increase in the priority of nontouch collaboration.
- Organizations that use AR to annotate customers' field of view with circles, icons, arrows and gestures see increases in interaction efficiency that we estimate to be above 15% on average.
- Remote employees and customers are more likely to have a mobile digital presence now due to investments from around work at home, mobile field service management apps and customer demands.
- More complex and disparate equipment in both B2C and B2B use cases is difficult to provide guidance for over-the-phone, even with video — which increases the benefits to be derived from the ability to annotate customers' field of view.
- With equipment increasingly connected to the internet, remote operators can more confidently issue commands and perform manipulations of components because AR enables near instant, in-context feedback in the form of digital twin visualizations and 3D views of hidden components.
- Tight labor markets, margin pressure and senior staff retirements are forcing organizations to replace expert employees with subcontractors and more junior staff that are more tech savvy, but require more assistance while learning "on the job" in remote locations.
- Technical limitations — such as lack of support for multiple phone operating systems, unreliable cellular coverage and battery life — are diminishing.
- AR enables organizations to simulate equipment when training on dangerous tasks.

- Customers can self-serve instructions or understand how to use a device or machine by manipulating it virtually, while receiving instructions via text, video and voice. They are also aided by the support person annotating a remote person's field of view by drawing arrows, circles and text boxes that dock to components of a live or still image. This can lower support costs while raising client satisfaction.

- Reduced travel costs.

Obstacles

As organizations were forced to adopt digital solutions like AR in customer support to minimize physical contact for safety reasons, several key obstacles have persisted, such as:

- Developing reusable AR-enabled content has traditionally been difficult and/or expensive to produce, but tools have been democratized to some degree in midsize organizations of late.
- Head-mounted display's (HMD) battery life, capacity, internet coverage/access, lack of durability for field work, safety uncertainty (such as impact on field of view and eye strain), software cost and a lack of integration.
- Many early adopters have used phones or tablets instead of HMDs to display the combination of digital assets and the real world because of better durability, battery life, portability and connectivity. However, use cases that require hands-free operation will require better HMDs.
- IT departments find current applications somewhat difficult to extend, modify and integrate.

User Recommendations

We recommend:

- Examine AR software and associated hardware for customer support — in particular if you sell, install or maintain capital equipment or support customers that do so.
- Develop a proof of concept for a use case that requires hands-free interaction, such as in-task training or diagnosis that requires collaboration between an on-site resource and a remote expert.

- Review each vendor's AI-driven capabilities, such as natural language processing and computer vision, and use their impact on user experience as evaluation criteria. Also, compare their level of integration with other apps that your target users already use, and the potential to evolve toward a UX that has the feel of a single app.
- Determine which vendor(s) will be needed to source, curate and produce content, such as recorded video, animated overlays, etc. Consider where the repository for AR-enhanced video content will be (in the AR tool, in a knowledge management system, in other cloud infrastructure, etc.).

Sample Vendors

Deepomatic; Fieldbit; Help Lightning; Microsoft; Oracle; OverIT; PTC; Scope AR; SightCall; TechSee; TeamViewer

Gartner Recommended Reading

Emerging Technologies: Top Use Cases for Enterprise Augmented Reality Computer Vision Will Evolve the Customer Service and Support Experience and Accelerate Self-Service

Competitive Landscape: Head-Mounted Displays for Augmented Reality and Virtual Reality

Top 10 Strategic Technology Trends for 2020: Multiexperience

Critical Capabilities for Field Service Management

Sliding into the Trough

Hyperautomation

Analysis By: Stephanie Stoudt-Hansen, Frances Karamouzis, David Groombridge

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Emerging

Definition:

Hyperautomation involves the orchestrated use of multiple technologies, tools or platforms (inclusive of, but not limited to, AI, machine learning, event-driven software architecture, RPA, iPaaS, packaged software and other types of decisions, and process and/or task automation tools). Business-driven hyperautomation is a disciplined approach that organizations use to rapidly identify, vet and automate as many business and IT processes as possible.

Why This Is Important

Leveraging multiple best-of-breed tools and processes allows providers to deliver more rapid, complex and successful automation, and allows clients to deliver orchestrated automation outcomes that distinguish them from competitors. Hyperautomation not only is about automation technologies products or services, but also is the approach of combining business process design, IT architecture deployment, governance and greater business agility to drive high competitive advantage.

Business Impact

As organizations demand greater efficiencies and outcomes from service providers, providers are leveraging hyperautomation for greater outcomes and to distinguish themselves.

- The level of efficiency that providers have achieved through automation in areas such as service desk management, hybrid infrastructures and reduction of incidents ranges from 40% to 80%.
- Gartner estimates that by 2024, organizations will lower IT and business operational costs by 30% through hyperautomation solutions.

Drivers

- Hyperautomation initiatives have grown and investment continues to increase. There was a demand prior to the pandemic and the crisis has served to accelerate the growth, as organizations seek to automate for future resilience.
- The pandemic has broken down business barriers to some employees' resistance to automation, based on the abundance of legacy, disconnected systems and suboptimal processes, creating an urgency to digitalize.
- Organizations trying to automate using a single solution, such as RPA, were failing because RPA alone can only automate tasks, not processes. They need the full suite of hyperautomation tools to achieve process automation and functional orchestration.
- Organizations are looking up to service providers for hyperautomation solutions, which draw on the orchestration of interrelated automation technologies and processes to streamline their environments and achieve greater outcomes.
- The hyperautomation approach integrates and orchestrates automation using AI, machine learning, event-driven software architecture, RPA, iPaaS, packaged software and other automation tools.
- Leveraging multiple best-of-breed tools and processes allows providers to deliver more rapid, complex and successful automation, and allows clients to deliver outcomes that distinguish them from competitors.

Obstacles

- Gartner estimates over 85% of enterprises have dozens of automation initiatives underway. These have varying degrees of success, as organizations' traditional build-up of technical debt and a patchwork of technologies have made the move to automated and hybrid environments challenging.
- Hyperautomation tools are currently immature with vendors who started from different baseline solutions (RPA, BPM and low code/no code), all descending on the same destination with a hotchpotch of tools with differing levels of maturity and integration.
- Many of the solutions are horizontal in nature being sold to a wide variety of industries, and lack the process knowledge and rules requiring investment in configuring and training the tools.

- RPA, AI and iBPMS vendors often lack the combination of technology solutions to create the best process to meet customer requirements. As a result, buyers struggle to integrate disparate complex technologies to achieve their automation goals.

User Recommendations

- Establish a mixologist approach to automation tools to avoid being overly obsessed with one technology. Avoid incorrect use by identifying vendor solutions for RPA, BPM, chatbots and optical character recognition (OCR) that can be combined to achieve the desired business outcome.
- Determine a litmus test on what needs to be automated and work with your providers to determine where you will gain your greatest ROI. Also, discuss the value of their proprietary offerings versus being vendor agnostic to avoid lock-in.
- Collaborate with your provider to create a blueprint, and continuously work to update your environments based on the hyperautomation technologies and processes that will create the greatest leverage.
- Develop automation disciplines, governance and structure within your organization by starting small with simpler automation tools such as RPA or BPM to build the foundations for wider automation.

Sample Vendors

Accenture; HCL Technologies; Hexaware; IBM; T-Systems; Wipro

Gartner Recommended Reading

Competitive Landscape: Hyperautomation Service Providers

Predicts 2021: Accelerate Results Beyond RPA to Hyperautomation

Emerging Technologies and Trends Impact Radar: Hyperautomation

Tech CEOs Must Use Hyperautomation to Enhance Offerings

Communicate the Value of Hyperautomation Using ROI

BPaaS for U.S. Healthcare Payers

Analysis By: Mandi Bishop

Benefit Rating: Moderate

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

Business process as a service (BPaaS) is the delivery of business process outsourcing (BPO) services via internet-based technologies. BPaaS services are typically multitenant and automated, often with no dedicated labor pool per client. BPaaS is being adopted across knowledge-intensive activities (e.g., utilization management, analytics and risk adjustment optimization) as well as transaction-intensive ones (e.g., claims processing).

Why This Is Important

The value proposition for outsourcing is changing. Payers traditionally outsourced to lower transaction costs for tasks such as claims data entry, document imaging, mailroom services and billing. Today, BPaaS lowers transaction costs while enabling higher-value functions, such as care management, by addressing process harmonization, simplified workflow, automation and integrated functional modules.

Business Impact

- Address longstanding inefficiencies by combining two discrete approaches to reduce IT spending: outsourcing and modernization.
- Reduce transaction costs and time to expansion into new product lines like Medicare Advantage plans.
- Outsource higher-value functions requiring domain expertise such as care management.
- More predictable consumption- or subscription-based pricing than traditional BPO, enabling more accurate financial forecasting and expansion into lower-risk product lines or joint ventures.

Drivers

- According to the Gartner 2020 Innovation in Crisis Survey, payers today are prioritizing efficiency and cost optimization as highly as they do business growth. The BPaaS model focuses on reducing total labor hours as well as reducing the unit cost of labor, promising progress toward both goals.
- As BPaaS enables payers to overcome a lack of experience with new products and service offerings, adoption is accelerating commensurate with the continuing surge in new entrants to markets such as Medicare Advantage and managed Medicaid.
- Payers shifting toward composable business principles are reevaluating strategic versus commodity capabilities and exploring BPaaS partner sourcing options for orchestration opportunities.
- Competitive pressures and continued uncertainty make the BPaaS model's agility for sourcing capabilities attractive.
- With this renewed emphasis on efficiency and recognition that external sourcing options enable leapfrogging current organizational capabilities, Gartner is accelerating this innovation's Hype Cycle advancement to midway between the Peak of Inflated Expectations and the Trough of Disillusionment. We believe it will achieve mainstream adoption within the next two to five years.

Obstacles

- Reputational and operational risk resulting from a BPaaS vendor disruption or subpar service as well as concern for vendor dependency and lock-in.
- Lack of negotiation expertise or procurement appetite to venture away from traditional labor-based to outcomes-based contracts.
- Inexperience governing BPaaS engagements and insufficient oversight competencies.
- Unrealistic or misaligned value-realization expectations. Transactional or single-service solutions deliver a different value proposition than end-to-end strategic BPaaS options. Aggregated tactical solutions deliver cost savings but not necessarily equal value across all payer business processes. Single-service solutions may offer richer capabilities, but with a high cost to integrate those services. Strategic BPaaS can give payers access to high-value skills and a wider pool of in-demand resources, allowing payers to expand in knowledge-intensive activities without adding significant internal staffing.

User Recommendations

- Evaluate opportunities to achieve cost containment goals by increasing BPaaS labor and technology outsourcing arrangements over time.
- Assess BPaaS options when formulating a modernization or transformation strategy, and incorporate innovation (such as intelligent automation) into vendor evaluation criteria.
- Establish KPIs for business outcomes in vendor contract arrangements, such as reducing the unit cost of claims processing by 20%. BPaaS must be used for the outsourcing of responsibilities, as measured by results, rather than simple tasks. Include traditional SLAs (covering both transactions and access) as well as operational and technology monitoring in contract terms.
- Routinize oversight functions to ensure consistent, high-quality vendor performance.
- Include risk-sharing and innovation terms in any contracts in order to increase accountability.
- Prepare detailed risk management plans, including immediate, short-term and long-term mitigation elements.

Sample Vendors

Advalent; Cedar Gate; Cognizant; Evolent Health; EXL; Infosys; NTT DATA Services; Optum; UST; Wipro

Gartner Recommended Reading

Outsourcing Best Practices and Innovation Incentives for Healthcare Payer CIOs

3 Questions to Ask When Considering Medicare Advantage Outsourced Administration OptionsServices Contracting Index

Beyond Labor Arbitrage: An Overview of Managed Services and BPaaS

Legal and Compliance Analytics

Analysis By: Zack Hutto

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Legal and compliance analytics apply descriptive, prescriptive and predictive analytics in legal and compliance workflows to yield insight for managing risk, optimizing cost and/or improving productivity. Common areas of use include legal spend, litigation risk, contract risk, third-party risk and internal workload/resource analysis.

Why This Is Important

Growing volumes of data, as well as the increasing availability and ease of use of tools for advanced data analysis (e.g., NLP, ML-driven algorithms), allow business leaders to gain unprecedented insight for their operations. Data and analytics offer unique promise to improve decisions that previously have often relied on intuition and personal judgment or rote, volumetric, low-value information to guide their functions.

Business Impact

Legal and compliance analytics can deliver value across a number of dimensions and target areas, such as:

- Reducing costs (outside counsel spend, internal workload and resource allocation)
- Reducing risk (litigation management, third-party due diligence and risk management, compliance investigations and misconduct)
- Increasing speed and effectiveness (legal matter management, workload/resource allocation, commercial contract management)

Drivers

- Rising Analytics Success and Sophistication Across the C-Suite: Many business leaders have shown the promise of analytics within their functions, from finance departments and sales organizations to operations teams. Legal and compliance leaders have historically lagged their corporate counterparts; as others continue to show the benefits of analytics across a wide range of disciplines, they set increasing expectations for their use across legal and compliance teams as well.

- Growing Demands on Corporate Legal and Compliance Leaders: Workloads continue to rise for corporate legal and compliance teams, driven by expanding mandates, a volatile business environment and increasing regulatory and stakeholder scrutiny. These growing pressures coincide with greater budget scrutiny, precluding significant additional resource investments. Analytics promise to address such concerns by more intelligently guiding resource investment, increasing efficiency, and providing earlier visibility into risk and/or enabling preventative measures.

- Active Promotion by Vendors in Dynamic Technology Markets: Legal and compliance tech vendors have featured analytics heavily in their product roadmaps and new offerings, including AI-based use cases, capturing the attention of end users. Volatility in the legal and compliance tech market due to acquisitions and new entrants further fuels end-user interest and enthusiasm in these opportunities.

- Hope for a Historically Data-Deprived Function: Legal and compliance functions have long relied more heavily upon experience and judgment over data and analysis. Traditional legal education rarely covers methods for statistical analysis, and the prevalence of variable, unstructured, narrative data in corporate legal practice further complicates matters. However, natural language processing and other big data techniques promise to unlock the potential of analytics for this long-neglected group.

Obstacles

- Poor Digital Dexterity Among Corporate Legal and Compliance Leaders: Analytics training and experience typically fall outside the traditional background of legal and compliance leaders, often leading to either an excessively optimistic view toward analytics (typically by falling victim to hype in the market) or an overly pessimistic view for their potential. Rising workloads and largely reactive postures, as well as a tendency for delegating to outside experts (e.g., law firms), hampers teams' ability to invest in digital skills and vet opportunities. Lack of strategic clarity among many teams further hampers methodical evaluation of potential investments.
- Highly Variable Data, Applications and Use Cases Across Teams: Variability among organizations — even close industry peers — hinder the development of more standardized, commercial-off-the-shelf offerings in many areas, reducing the possibility of turnkey analytics initiatives.

User Recommendations

- Evaluate opportunities with discipline. Leaders should focus their pursuits on the business outcomes and related decisions that would benefit most from analytics. Then, weigh those wants against potentially available, relevant data, while avoiding an overeager investment posture or an overzealous data dragnet.
- Harness existing or underused data sources. Many legal and compliance teams allow vast amounts of potentially valuable information to go uncaptured, rendering it unusable due to poor data management. Identify opportunities to change how teams capture, curate and safeguard data in the course of their work to increase the volume and value of data to analyze.
- Build support and comfort for using analytics among the team. Overcome hesitancy toward analytics by engaging individuals within the function and encouraging them to take part in identifying potential opportunities and using insights produced by existing initiatives.

Sample Vendors

Brightflag; doeLEGAL; LawGeex; LexisNexis (Lex Machina); RSA Archer GRC; SAI Global; Thomson Reuters; Wolters Kluwer

Gartner Recommended Reading

Driving Legal's Adoption and Use of Analytics

VoC Applications

Analysis By: Jim Davies

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Voice-of-the-customer (VoC) applications combine multiple, traditionally siloed technologies associated with the capture and analysis of direct, indirect and inferred customer feedback. Technologies such as surveying, social media monitoring, speech analytics and customer journey analytics are integrated to provide a holistic view of the customer "voice." The resultant customer insights are either acted on automatically or disseminated to relevant employees and managed as part of inner and outer loop interventions.

Why This Is Important

Most organizations have multiple siloed customer feedback mechanisms at a departmental level, usually based on surveying complemented by other domain-specific information sources. Few organizations have aligned these various sources to create an integrated VoC solution and, as such, are failing to fully realize the potential positive impact that feedback can have on improving the customer experience.

Business Impact

A centralized VoC solution will:

- Instill more confidence in actions taken at both individual customer level (such as a retention call) and at overarching strategic level (such as a process or product change).
- Ensure that the right insight and action gets assigned to the right employee across the enterprise at the right time, regardless of where the feedback originated from.
- Help manage brand perceptions, understand and improve the customer experience and develop future customer engagement strategies.

Drivers

Several factors are accelerating the adoption and maturity of VoC, including the following:

- The emergence of large, big name VoC vendors with revenues approaching $1 billion causing increased visibility and awareness of VoC applications.
- Adoption by B2B and B2B2C enterprises, not just B2C.
- Entrance into the market by mainstream CRM vendors such as Salesforce and Microsoft.
- Elevated commitment to the customer experience as the primary means of market differentiation by corporate executives.
- Uncertainty caused by changes to business models as a result of COVID-19, fueling the need for better customer understanding.
- Alignment with complementary employee experience initiatives currently fashionable with HCM leaders.
- Elevated focus on value measurement of VoC.
- Better alignment of VoC with research (user and product).
- Advancements in both prescriptive (i.e., a recommended list of prioritized actions per employee) and automated (i.e., resolving the action from within the VoC solution and associated operational integrations without human intervention) actions.
- Customer wants/needs, which are changing much faster (due to several factors) than in the past. Organizations need to be more responsive to these changing needs, and require a robust VoC application.

Obstacles

VoC is far from mainstream. Organizational maturity is low and the vendor landscape is still emerging, resulting in various obstacles:

- There are over 30 vendors that have expertise spanning the diversity of feedback techniques that a holistic VoC solution encompasses. New CRM vendor entrants with currently immature but potentially long-term viable offerings further complete procurement.

- Organizations will likely continue to collect feedback through multiple applications for many more years because individual departments will be reluctant to relinquish their tools and standardize on one central application. At best, an integrated multivendor ecosystem will be achieved.
- As the number of data sources ingested continues to expand, how VoC aligns with existing single-view-of-the-customer initiatives (for example, a customer data platform/lake) is an increasingly contentious discussion topic. The upside of time to value proposed to business by VoC vendors is countered by the cost, complexity and inherent duplication perceived by IT.

User Recommendations

Ideally, VoC should fall under the remit of a central customer experience function, but if not, then a cross-department VoC committee. Once set up, do the following:

- Conduct an internal audit to assess current customer feedback capabilities and reduce duplicate technologies.
- Prioritize future initiatives that collect VoC data by balancing quality (insightfulness) with the quantity of feedback available. Strive to obtain a single, holistic view of the VoC.
- Determine the most appropriate data architecture and analytical models/techniques to extract key customer insights at both individual respondents and aggregated across the customer base levels.
- Distribute relevant insights/actions across the organization (front line and management) in a timely manner using workflow and operational integration.
- Leverage VoC in core business processes, ideally in real time — for example, using a low survey score to open a customer service case within the customer service and support application.

Sample Vendors

Confirmit; InMoment; Medallia; Qualtrics

Gartner Recommended Reading

Magic Quadrant for Voice of the Customer

Three Key Decisions to Prevent Your Voice of the Customer Strategy From Falling Into Disarray

How to Operationalize Your Voice-of-the-Customer Program

IoT Business Solutions

Analysis By: DD Mishra

Benefit Rating: Transformational

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

IoT business solutions are often implemented by integrating IoT devices, IoT data, IoT platforms and IoT applications — combined with IT assets (business applications, legacy data, mobile, and SaaS) — to work together toward desired business outcomes.

Why This Is Important

IoT adoption is rapidly increasing; the enterprise IoT platform market will grow to $7.6 billion in 2024 with a 31% CAGR. Companies are investing in a wide range of diverse IoT technologies and integrating them into different applications in order to drive different business outcomes. To succeed in IoT implementations, application leaders must thoroughly examine and understand the full scope of end-to-end IoT business solutions and the functional role of IoT platforms within them.

Business Impact

IoT Business solutions are widely used in different verticals such as Pharmaceuticals, Healthcare, Energy, Transportation among others, with use cases ranging from plant and process automations, smart contract solutions, asset tracking, inventory management, resource utilization and energy conservation.

Drivers

- The potential benefits and drivers vary from organization to organization, but we see the demand for asset tracking, predictive maintenance, productivity and process, and power optimization as the key driver for growth and adoption of IoT.

Obstacles

- IoT Implementations often encounter bottlenecks and hurdles across businesses. The inhibitors of growth include technical complexity, security and privacy challenges, integration challenges and skill gaps.

User Recommendations

- Analyze your desired business outcomes. While limited IoT point solutions themselves can deliver some business value, more complete IoT business solutions can achieve expanded outcomes via automated business responses.

- Plan what your end-to-end IoT business solution should look like, clearly identifying and prioritizing which IoT-enabled business outcomes you desire and create a roadmap.

- Commission an IoT center of excellence (COE) to explore the potential business value of IoT solutions and their potential impact on existing business units, IT infrastructure and your business processes and applications.

Gartner Recommended Reading

Predicts 2020: As IoT Use Proliferates, So Do Signs of Its Increasing Maturity and Growing Pains

Use the IoT Platform Solution Reference Model to Help Design Your End-to-End IoT Business Solutions

RPA for Sales

Analysis By: Melissa Hilbert

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Mature mainstream

Definition:

Robotic process automation for sales is the use of a licensed software tool for building scripts to integrate any application via the user interface and a control dashboard/orchestrator. This automates routine, repetitive, rule-based, predictable tasks for sales using structured digital data.

Why This Is Important

Sellers find increasing burden in daily administrative tasks, like data input and copy/paste, resulting in poor compliance and data quality. Robotic process automation (RPA) is of great value in the automation of data entry, and is important in the completion of more extensive processes where the data can be structured and needs to be consistent. Use of RPA to automate the mundane tasks will increase seller compliance and the accuracy of data in systems like sales force automation (SFA), configure, price and quote (CPQ), lead management, customer service and digital commerce.

Business Impact

Use of RPA can provide automation and optimization for digital operations including:

- Any manually intensive task or process that requires human actions, where movements of the task can be studied via the UI
- New contact information from third-party software or emails
- Data entry
- Updating of activities based on transcribed call notes from voice systems
- Linking call notes to a support issue, logging a support ticket
- Completion of CPQ options based on previous data selections
- Quote approval processes

Drivers

- Sellers need to be relieved of administrative tasks that don't help to drive revenue.
- Sales tools are complex and only increasing in complexity. The data we ask sales to enter can be overwhelming and repetitive.
- The number of sales tools sellers need to use keeps increasing. Sellers use at minimum between 5-7 tools and on average well over 15 which increases the complexity factor for both sellers and IT to maintain.
- With more sellers working remotely and not traveling, the amount of activity has both increased and changed, which results in an increased amount of manual data entry.
- RPA technology can provide the automation of many tasks that involve manual data entry, either fully automating a task or a significant portion of it to help the seller complete the task more quickly.

Obstacles

- The technology is not embedded in every sales tool, but will likely require integration and development work.
- While the technology is maturing, the use cases are not well-defined for sales applications.
- The market is evolving and immature at this time, with point solutions providing options.

User Recommendations

Organizations seeking to incorporate RPA will need to:

- Define use cases based on common tasks, application by application. Use cases can include simple to complex and exception-heavy processes.
- Ensure that the data entry is completely programmable based on business rules and reliable structured data, to avoid missteps that could have impacts beyond the application into other operational areas or functional areas.
- Prioritize high impact tasks where data entry is heavy but perceived value is low from a seller perspective.

- Focus on vendors that can integrate with multiple sales applications to avoid having to invest in multiple RPA offerings.

Sample Vendors

Blue Prism; NICE; Pegasystems; SAP; UiPath

Gartner Recommended Reading

Tech Providers 2025: Future Scenarios for RPA in the New World of Hyperautomation

Emerging Technologies: RPA Software Advancements

Blockchain-Based Deployments in FS

Analysis By: Alexandra Chavez, David Groombridge

Benefit Rating: Transformational

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Blockchain-based deployments in financial services (FS) refer to a diverse portfolio of financial services that will be transformed by blockchain technologies. Blockchain-inspired solutions in FS are built on an expanding list of cryptographically signed records shared in a peer-to-peer network. The application of blockchain-inspired solutions in FS drives value through digital optimization, and by facilitating the connection of new intermediaries with multiple players for a given use case.

Why This Is Important

Blockchain-based deployments offer both risk and opportunity in FS. Enabling peer-to-peer payment, asset tokenization, secure registries and decentralized financial models offers the opportunity for FS businesses to create ecosystems that represent unique digital assets. This ultimately facilitates business model transformation. However, these capabilities have also exposed traditional FS institutions to the risk of having their core operations reinvented by more agile fintech firms.

Business Impact

Blockchain can deliver business value in areas including:

- Blockchain-enabled electronic money transfers
- Fraud protection
- Fundraising
- Digital currency
- Smart assets for notarization services.

However, many offerings currently lack enterprise-class maturity and interoperability with both traditional and digital assets. Though deployments have the potential to evolve banking operations and their ecosystem, leaders should be pragmatic about use-case selection.

Drivers

- The banking and investment service industries continue to experience significant levels of interest from innovators seeking to improve decades old operations and processes. This industry leads all others in terms of proof-of-concept (POC) interest and investment to date, largely due to the perception that blockchain-based offerings will disrupt current services. As a result, technology leaders, including CIOs, are exploring asset tracking and identity management/KYC use cases for their relevance and effectiveness in supporting key organizational initiatives.

- In the longer term, Gartner expects continued developments in the creation and acceptance of digital (including crypto) currencies from a consumer payment, investment and central bank perspective.

- There are also opportunities to use blockchain across all lines of business for document/information management and transactions, which play a pivotal role in such business processes, such as mortgage contracts, swaps, custody and collateral management, policies, financial planning — subject to forthcoming legal and accounting frameworks. Blockchain could also accelerate the use of peer-to-peer lending and other business models trailblazed by fintechs business models, including capital raising.

Obstacles

- Challenges remain in moving POC development into mainstream production environments, and there is still an underlying question from industry participants about whether blockchain is a game changer. Regulation, security and the inner workings of the industry are frictional drags on appetite for investment. Although tokens are starting to be discussed more pragmatically, and both institutional and retail interest exists, mainstream adoption is a long way from reality. Hence, this profile will likely remain in the disillusionment stage for the foreseeable future.

- Considerable work needs to be completed in non-technology-related activities in order for blockchain capabilities to reach the Plateau of Productivity. FS lack agreement on governance frameworks, and while there are signs of collaboration via different consortia, many efforts are competing, and regulatory initiatives are not yet fully cohesive.

User Recommendations

- Enable crypto custody services and liquidity, asset tokenization along with public blockchains as an alternative to private-permissioned blockchains.
- Respond to blockchain-based changes by using consultancy services to explore the potential of blockchain use cases in your industry. Treat engagements as a learning exercise while remaining open to limited-scale production where you can prove the business case.
- Create a strategic evaluation framework that includes assessments of technology platforms, information and wallet security, regulatory criteria, use-case applicability/value, interoperability and startup provider viability.
- Brief stakeholders on the business outcomes and risks of blockchain capabilities, set appropriate expectations and identify future opportunities.
- Develop and participate in banking and investment services ecosystems, and peer organizations developing blockchain use cases in FS.
- Test common industry-specific blockchain use cases, such as KYC, trade finance, cross-border payments and settlement processing to validate the business through POCs, hackathons or accelerators.

Sample Vendors

Accenture; Axoni; Clearmatics; ConsenSys; Deloitte; EY; Infosys; NTT DATA; R3; Ripple

Gartner Recommended Reading

Blockchain Trials Show Business Executives Drive Focused Solutions to Production

Financial Services Industry Disruptors in Digital Business: What the Board Needs to Know

4 Key Impediments to Blockchain-Based Deployments in Financial Services Companies

Finance and Accounting BPaaS

Analysis By: Sanjay Champaneri

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Adolescent

Definition:

Finance and accounting (F&A) business process as a service (BPaaS) is a delivery model for finance operations sourced from the cloud and constructed for multitenancy. It is for automated and standardized end-to-end finance processes and services that are commercially priced on consumption- or subscription-based terms. As a cloud service, the BPaaS model is accessed via internet-based technologies.

Why This Is Important

Unlike traditional, labor-based BPO, BPaaS offerings are automated; where human processors are required, there is no overtly dedicated labor pool per client. The BPaaS provider either runs the application on its infrastructure or uses a third-party hosting service via the cloud. BPaaS is a fast way to assemble “run the business” capabilities out of the box for all major finance and accounting needs, making it particularly useful for newly setup businesses or subsidiaries.

Business Impact

Consider using F&A BPaaS because:

- It offers an alternative to traditional BPO. BPaaS increases process and workflow automation, removes staffing levels required to deliver processes, lowers total cost of ownership and introduces new capabilities, such as advanced analytics for the finance function.

- The services are globally delivered, as a cloud-based offering and finance domain expertise are available for all major vertical industries.

Drivers

- Greater control over costs due to a pay-per-use model, while contracts feature per-transaction fees with monthly minimums and no fees are paid for a stand-alone software license.
- Highly automated and documented workflow, offering better transparency of services usage and performance data.
- Providers hyperautomation capabilities that allow finance organizations to transfer complex, dynamic and judgment-based processes that are orchestrated using intelligent workflows.
- Real-time reporting with visibility into process performance and customizable dashboards, usually with remote access and user controls for quick snapshots and analysis of process performance.
- Competitive market offerings as more technology firms, not just traditional BPO service providers, enter the BPaaS market.
- Whole ERP or end-to-end BPaaS suite adoption remains low in the market for large enterprises. Instead, buyers are using BPaaS mostly for accounts payable and accounts receivable.
- Buyers require detailed data points within proposal documentation as they carry out the cost analysis when considering the adoption of a BPaaS suite for finance operations.
- Perpetually changing conditions impacting finances ability to consistently meet business needs allow BPaaS to offer distinct benefits to leaders rethinking their outsourcing strategy.
- BPaaS provides an alternative to siloed, in-house finance initiatives that result in an extensive and expensive set of processes, underpinned by a patchwork of technologies that are disconnected, operate inconsistently and are not optimized.

Obstacles

- Finance organizations yet to depreciate existing ERP investments or show readiness to operate business-critical ERP applications from service providers in this manner.
- Limited adoption to ERP or end-to-end BPaaS suite, particularly in large enterprises, is cause for a lack of client success stories and case studies or prospects.
- F&A operations that transition to a BPaaS model must accept highly standardized offerings with limited scope for customizations.
- Higher switching costs, especially if the organization has already made significant investments in on-premises systems.
- Buyers of F&A BPaaS that involve the use of partnered technology solutions may show uncertainty over licensing rights due to internal cultural/stakeholder pressures to retain control and ownership of applications.

User Recommendations

- Analyze F&A BPaaS offerings to discern whether they are customizable to your particular business requirements. Often, these offerings are appropriate only for environments where a standard solution will suffice. This solution can offer all the latest updates centrally and quickly without incurring internal IT application support costs.
- Calculate total cost of ownership to establish if F&A BPaaS will be a better-priced choice than running your ERP systems as SaaS or on-premises in the long term.
- Evaluate the organization's needs to fully understand how F&A BPaaS differentiates from a software-as-a-service offering. In BPaaS, the client receives the completed business process, not simply access to software.
- Plan the transition, address internal provider management competencies and establish effective demand management and governance mechanisms to realize the benefits of an eventual shift to BPaaS.

Sample Vendors

Accenture; IBM; Genpact; Infosys; TCS; WNS

Gartner Recommended Reading

Market Share Analysis: Business Process Outsourcing, Worldwide

Market Guide for Finance and Accounting Business Process Outsourcing

Getting the Most Out of Business Process Outsourcing

Business Process Risk Modeling

Analysis By: Claude Mandy, David Gregory

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Adolescent

Definition:

Business process risk modeling is the activities and tools used to represent the processes of an organization to provide a foundation for assessing risk by analyzing value chains, bottlenecks, controls, dependencies, critical paths and inefficiencies. Models combine process/workflow, functional, organizational and data/resource views with underlying metrics such as costs, cycle times and responsibilities to provide business context to the risk assessment.

Why This Is Important

Business process risk modeling has been used in risk analysis for over a decade, mostly within the financial services industry or in the context of IT resilience. It allows security and risk management leaders to assess and ensure resolution of risk by visualizing the logic of critical business process steps and their linkage to IT system dependencies.

Business Impact

The visualization of process flow and linkages between critical business processes and IT system dependencies can significantly increase understanding of business logic and the subsequent design and effectiveness of controls and can enable resolution of control gaps and weaknesses. Controls that can be significantly enhanced through understanding of business processes include logging and monitoring, segregation of duties and IT resilience.

Drivers

- Adoption of business process risk modeling remains limited with less than 5% of the target market.
- Due to the cost and current approaches, business process risk will fade into obsolescence as existing business processes are digitized into codified business logic.
- A smaller subset of modeling focused on identifying IT service dependencies will continue to gain adoption with the target audience between 5% and 20% already using it extensively within business continuity management and IT resilience.

Obstacles

Business process risk modeling has not been widely adopted by security and risk management (SRM) leaders, as it:

- Requires broad involvement of subject matter experts who understand the business and technical details required for a meaningful analysis.
- Can be negatively impacted due to human interpretation of process, lack of business knowledge and lack of objective validation techniques.
- Can be costly and time-consuming as it often requires input from both technical and business stakeholders across multiple functional areas and systems.
- Requires ongoing effort to maintain accurate business process models. Without process mining capabilities to keep all discovered and modeled processes up to date, organizations will need to update models manually for every change or refresh models regularly to keep business process models up to date and consistent.
- Can be unsatisfactory when compared to the input and investment required.

User Recommendations

SRM leaders considering use of business process risk modelling should:

- Focus on modelling business processes where detailed understanding can increase the effectiveness of controls, such as improving logging and monitoring, enforcing segregation of duties and improving IT resilience.
- Assess and leverage business process modeling capabilities or integrations in existing risk management tools.

- Leverage existing business process models or data in IT service management processes, data discovery, configuration management databases (CMDB) or IT service dependency mapping (SDM) tools.
- Focus on understanding the business logic behind the process flow rather than describing observed process flow.
- Invest in process mining capabilities that are designed to discover, monitor and improve actual processes (that is, not assumed processes) by extracting knowledge from event logs readily available in today's systems.

Gartner Recommended Reading

Internal Control Process Maps

Case Study: Illustrative Process Mapping (ReadyMint Bank*)

Business Case for Implementing Process Mining

How Process Mining Can Support Operational Resilience in Times of a Crisis

Chatbots

Analysis By: Magnus Revang

Benefit Rating: High

Market Penetration: More than 50% of target audience

Maturity: Early mainstream

Definition:

Chatbots are domain-specific or task-specific conversational interfaces that use an app, messaging platform, social network or chat solution for conversations. Chatbots range in use-case sophistication from simple, decision-tree-based, to implementations built on feature-rich platforms. They are always narrow in scope. A chatbot can be text-based or voice-based, or a combination of both.

Why This Is Important

Chatbots represent the No. 1 use of artificial intelligence (AI) in enterprises. Primary use cases are in customer service, human resources, IT help desk, self-service, scheduling, enterprise software front ends, employee productivity and advisory. Offerings in the market include developer self-service platforms, managed products, middleware offerings, integrated offerings and best-of-breed approaches.

Business Impact

Chatbots are the face of AI and will impact all areas with communication between machines and humans. Customer service is an area where chatbots are already very influential and will have a great impact on the number of service agents employed by an enterprise and how customer service is conducted. The change from “the user learns the interface” to “the chatbot learns what the user wants” has implications for onboarding, training, productivity and efficiency inside the workplace.

Drivers

- Chatbots in social media, service desk, HR or commerce, as enterprise software front ends and for self-service, are all growing rapidly.

- For enterprises, the main challenge with chatbots has been scaling and operationalizing them out of the proof-of-concept phase. As COVID-19 has accelerated adoption of chatbots, vendors seem to have “cracked the code” on operationalization. Vendors are now able to deliver multiple bots for multiple use cases, with no-code environments allowing multiple roles to participate in operationalization. This is creating a market for enterprise conversational AI platforms fueling the next generation of chatbots.

Obstacles

- Scaling and operationalizing still remain a challenge in some cases, due to lack of dedicated internal teams to work on continuous improvements.
- Figuring out the composition of teams, and the methodologies to iterate effectively, are still emerging practices with strong vendor dependency.
- Technology is improving at an astounding pace, but best practices on adoption and use of these technological advancements are still trailing, resulting in a lot of trial and error for enterprises.
- Selected vendors are sometimes unable to keep pace with the technology and the market dynamics.
- The vendor landscape comprises over 2,000 vendors, despite some consolidation during 2020. However, this is composed of many subcategories, majority of which are tactical. With this many vendors, the majority of chatbots will have to switch their underlying technology in the near to midterm future. Still a category of enterprise-grade platforms has emerged, with an estimated 120 vendors. These enterprise-grade platforms are becoming suitable as a more tactical choice.

User Recommendations

- Select an enterprise-grade platform to develop multiple use cases with orchestration of the assets needed.
- Focus on operationalization of chatbots as a product, with the necessary organization and roles in place, to evolve and maintain chatbots over time.

Sample Vendors

Amazon; Amelia; Cognigy; Google; IBM; Kore.ai; Microsoft; Pypestream; ServisBOT; Uniphore

Gartner Recommended Reading

The 3 Decisions You Must Make Before You Begin a Chatbot Project

Consolidate Your Chatbot Initiatives Into a Single Enterprise Strategy

When Should I Use Embedded Conversational Assistants?

Source-to-Pay BPO

Analysis By: Sanjay Champaneri

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

Source-to-pay (S2P) business process services, also known as business process outsourcing (BPO), are the provision of the full, end-to-end process from the sourcing of direct or indirect goods to the administration of purchasing services, culminating in accounts payable services. The subprocesses in the sourcing function includes spend analytics, RFP administration, supplier selection, and contract negotiation and administration.

Why This Is Important

S2P BPO providers are evolving offerings to include hyperautomation capabilities, such as AI, ML and data and analytics. S2P BPO offers organizations insights into procurement and financial processes by integrating processes into an intelligent platform. Organizations that capitalize on the benefits of having a single, end-to-end S2P process under a global process owner and service supplier benefit from process compliance and spending control that can be better managed strategically.

Business Impact

Consider using S2P BPO because:

- Procurement and finance can use providers to manage end-to-end S2P processes including RFP administration, purchase order processing, product catalog management, contract administration, compliance reporting and invoice management.
- Providers with hyperautomation capabilities allow for processes to be competitively priced by transactional-volume-based pricing and allow for internal resources to be used on higher value organizational needs.

Drivers

- S2P BPO proprietary or partnered software solutions offer capabilities to consolidate sourcing and purchasing and accounts payable processes to improve insight into spend analysis and remove process workflow inefficiencies.
- Automation of vendor master data, contract compliance and procurement administration are increasingly common via document ingestion tools.
- S2P BPO providers can orchestrate the end-to-end S2P processes across a mix of suite and specialty solutions on behalf of the buyer.
- Provider offerings to transform the S2P process will involve use of intelligent automation tools, and the pricing of services are evolving into volume-based pricing mechanisms and also allow for outcome-based pricing options.
- Artificial intelligence and machine learning capabilities offered by many S2P BPO providers allow for a better user experience, including purchasing assistance and self-service functionality for timely resolution to inquiries and escalations.
- Using a BPO provider for the S2P process strengthens contract and regulatory compliance, frees up procurement budgets and repurposes internal resources to developing sourcing strategies, managing critical supplier performance and mitigating supply risk.

Obstacles

- Organizational silos for sourcing and procurement process ownership will cause difficulties handing off entire end-to-end processes to an S2P BPO.
- Outsourcing parts of the S2P process, such as master data maintenance, spend analytics and AP automation, in a piecemeal approach rather than the end to end S2P process, results in disconnected and unoptimized operations that have a higher total cost per transaction.
- Buyers of S2P BPO that involve the use of partnered technology solutions may show uncertainty over licensing rights due to internal cultural/stakeholder pressures to retain control and ownership of applications.
- A single S2P BPO provider could lack the ability to support complex and varied legal requirements resulting from a large geographic footprint and industry-specific or business-specific requirements.

User Recommendations

- Buyers must evaluate S2P BPO providers on their delivery of technology services for productivity and analytic capabilities by engaging in proof of concept activities.
- Evaluate the BPO models available (from "people only" to models that include people, process and technology), spend category coverage and industry knowledge and the provider's ability to expand beyond the S2P process.
- Plan the transition, address internal provider management competencies and establish effective demand management and governance mechanisms to realize the benefits of using a BPO for S2P.

Sample Vendors

Accenture; Capgemini; Genpact; Infosys; TCS; WNS

Gartner Recommended Reading

Market Share Analysis: Business Process Outsourcing, Worldwide

Market Guide for Finance and Accounting Business Process Outsourcing

Getting the Most Out of Business Process Outsourcing

Order-to-Cash BPO

Analysis By: Sanjay Champaneri

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

Order-to-cash (O2C) business process outsourcing (BPO) is the outsourcing of end-to-end services for entering orders, supporting the provisioning for goods or services, as well as managing accounts receivables, related collection services and intelligent cash-flow reporting. Offerings have shifted from departmental boundaries to end-to-end processes with increased use of hyperautomation technologies.

Why This Is Important

Organizations that use O2C BPO solutions that include hyperautomation capabilities such as AI, ML and data and analytics can capitalize on the benefits of having an automated, intelligent end-to-end O2C process under a global process owner and service supplier. O2C BPO can improve visibility for organisations with insights into process drivers that affect working capital and process inefficiencies that impact liquidity.

Business Impact

Consider using O2C BPO because:

- Providers can manage end-to-end O2C processes, including accounts receivable, order capture and entry, and order management and fulfillment management, with a single O2C BPO provider.
- O2C BPO providers offer hyperautomation capabilities, allowing for processes to be competitively priced by transactional-volume-based pricing and for internal cross-functional silos to be removed with the use of intelligent automated workflows.

Drivers

- Businesses have prioritized improvements and transformation efforts to the O2C process after heightened focus on liquidity resulting from the pandemic.
- O2C BPO providers have invested in technology capabilities to orchestrate complex, judgment-based tasks that intersect with several business functions to provide a leaner, connected and optimized process flow.
- Increased urgency to improve the days sales outstanding metric and to improve customer satisfaction through timely fulfillment of orders and service experience.
- BPO provider solutions to transform the O2C process involve the use of intelligent automation tools, and the pricing of services are evolving to volume-based pricing mechanisms with the option of outcome based metrics.
- Artificial intelligence and machine learning capabilities offered by O2C BPO providers allow for better focus on improving cash-flow forecasts, management of cash flow and insight into key performance indicators, such as cash conversion.

Obstacles

- Organizational silos between customer services, supply chain and finance process ownership will cause difficulties handing off entire end-to-end processes to an O2C BPO.
- Outsourcing parts of the O2C process, such as customer invoicing, cash allocation and collection management in a piecemeal approach rather than the end-to-end O2C process, results in disconnected and unoptimized operations that have a higher total cost per transaction.
- Buyers of O2C BPO that involve the use of partnered technology solutions may show uncertainty over licensing rights due to internal cultural/stakeholder pressures to retain control and ownership of applications.

User Recommendations

- The O2C process is dramatically different by industry sector; therefore, Gartner recommends finding suppliers that have end-to-end process experience in O2C for your specific industry.
- O2C BPO is still relatively immature, which means buyers must seek demonstrations on automation capabilities across order taking, order fulfillment, logistics management, warehousing management, delivery services, accounts receivable and collections.
- Benchmark providers' current capabilities against your expectations before entering any outsourcing arrangement. The services of a BPO provider will also differ drastically by geographic region, size of business and vertical industry sector.
- Prioritize vendors that offer hyperautomation for the purpose of digitizing O2C operations by evaluating proposals on the merits of implementation methodologies and transformation expertise.

Sample Vendors

Accenture; Capgemini; Genpact; Infosys; TCS; WNS

Gartner Recommended Reading

Market Share Analysis: Business Process Outsourcing, Worldwide

Getting the Most Out of Business Process Outsourcing

Market Guide for Finance and Accounting Business Process Outsourcing

Integrated HR Service Management

Analysis By: Ranadip Chandra

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

HR service management tools provide a holistic platform for organizations to manage HR shared services operations and transactional activity. Core functionality includes HR case management (ticketing/routing), knowledge base, content delivery via channels such as portal and mobile, SLA monitoring and single sign-on into transactional applications. Additional functionality may include digital document management, business process management tools, virtual agent, and transition management.

Why This Is Important

Many HR organizations move through physical, virtual or distributed shared services models, especially if they have more than 2,500 employees in multiple locations or geographies. Integrated HR service management (IHRSM) tools give robust control and standardization to the processes required to provide and manage HR services. Increasingly robust reporting and metrics can give HR shared services centers sophistication on par with some IT service management (ITSM) or CRM service centers.

Business Impact

Building a stable foundation for improved HR administration can significantly cut HR costs, and improve overall perception of HR. The effective deployment of integrated HR service delivery tools will help reduce HR administrative costs by up to 30%.

Deployments of IHRSM significantly increased in 2020 and early 2021. In the pandemic phase, the IHRSM tools were leveraged extensively for retrieving extended leave policies, health and safety rules.

Drivers

Demand for IHRSM tools is driven by a desire to streamline HR administration, and has accelerated in recent years due to a desire to improve employee service experience. Additional factors are:

- Assisting life cycle events such as onboarding, return to work and role change, and managing the required workflows and task management.
- Automating the resolution of repetitive employee queries around common policies and company updates. Resolving the employee questions before they are logged in as tickets helps in reducing manual workload of the HR shared services resources.
- Managing sensitivities relating to HR issues and data, which requires specialized functionality above that of IT or CRM service management applications.
- Increasingly, delivering consumer-grade experience, but with process, workflows and security that are designed specifically for HR requirements. For example, specialized complexity and legislative requirements for union-governed cases, health and safety cases, long-term disability cases, or GDPR compliance are often too complex for incumbent IT ticketing systems.
- Extending ITSM or CRM solution platforms to include HR service management components and cross-selling when responding to an RFP for IT, procurement, finance and customer service projects.
- Building an employee experience stack and HR service management and HR help desk in the majority of global HCM suites.

Obstacles

- Solutions in the market vary in robustness of case management capabilities as well as in depth of HR domain expertise.
- Many IHRSM solutions need an additional layer of support for the cases that are related to employee relations, disciplinary actions in forms of survey questionnaires, form templates and so on.
- HR service management components of global HCM suites need maturity and experience to perform on par with stand-alone IHRSM solutions. The anonymized databases need a critical mass of inquiries before the self-training algorithms can correctly identify resolutions, which is possible only with years of use.

User Recommendations

- Evaluate IHRSM solutions based on their ability to support different functional components covered under HR service management. Generally, the providers tend to be stronger in the functional module of their origin (case management or document management) and weaker in other extended use cases.

- Assess the level of complexity in configuring the IHRSM solution with the HR core. It is preferable to pick a solution that offers out-of-the-box integration with the present HCM suite. If any additional tool, such as a virtual assistant (e.g., Espressive or Leena.ai), is needed for handling employee queries on top of the IHRSM solution, then assess the integration readiness between the two.

- Evaluate the level of domain expertise, templates or case investigation questionnaires needed to support the requirements. The solutions vary in their ability to provide subject matter expertise in employee relationship support.

Sample Vendors

BMC; Dovetail; Ivanti (Cherwell); Leena AI; Neocase; Pega; ServiceNow; UKG (PeopleDoc); Zendesk

Gartner Recommended Reading

Market Guide for Integrated HR Service Management Solutions

How to Improve HR Workload Distribution Using Shared Services Centers

Accelerate HR Shared Services Performance Using Robotics

Climbing the Slope

Virtual Customer Assistant

Analysis By: Annette Jump, Danielle Casey

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Early mainstream

Definition:

A virtual customer assistant (VCA) is an application that engages, delivers information and/or acts on behalf of an organization's customer. It consists of five elements: a conversational customer-facing user interface that receives and delivers inputs and outputs, a natural language processing engine, a dialogue manager, a search engine that traverses data repositories through enterprise integrations, and a machine learning capability.

Why This Is Important

VCAs are the most prevalent use case of VAs and are being adopted by many organizations to support customer-facing interactions. The COVID-19 pandemic has accelerated this adoption, pushing some use cases into the mainstream adoption phase, but new use cases in healthcare or brand marketing are also emerging. Many of them are advanced VAs targeting specific domains, like sales or recruitment, with enhanced conversational capabilities and improved ability to understand user context.

Business Impact

VCA is a special-purpose VA for customer service, digital commerce, sales or marketing. The top business value benefits that organizations are getting with VCA are improving operational efficiency, reducing costs and enabling 24/7 support while improving customer experience. This is enabled by moving engagements to self-support channels with faster time to resolution. VCAs can also be used for proactive advice and engagement to build loyalty and customer satisfaction.

Drivers

VCA is now the first contact point to support multiple customer interactions via digital engagement channels or within call centers. It can be a moderator of a social community, a guide on your mobile device to purchase new fitness equipment or a chat agent to help you open a bank account. The business and technology factors that are driving adoption are the following:

Business drivers:

- The need to adapt to new remote working and remote customer engagement requirements due to the COVID-19 pandemic is moving basic VCA technology further into early majority adoption.
- The requirement to support business continuity and reduce operational costs in the last 12 months is driving adoption.
- High-profile successes of VCA adoption in finance and telecommunications have extended to new verticals, such as retail, government, transportation and healthcare.

Technology drivers:

- Advancements in NLT enable enhanced conversational capabilities and improved ability to understand user context and support multimodal capabilities.
- Prebuilt connections with enterprise applications support easier integration and deployment.
- Demand for more natural interactions with customers is driving the use of voice in VCA.

VCA will have a bigger impact on the automation of customer interactions in the next two to three years.

Obstacles

There are still multiple challenges in adopting and deriving business value from VCA:

- A lack of domain-specific knowledge or lack of integration with required internal enterprise applications and knowledge databases hinders time to value for organizations.

- The current generation of VCA deployments are often not developed optimally. Many won't reach the required customer satisfaction and engagement levels without domain-specific content and training models.
- Obstacles around organizational acceptance stems from unrealistic business expectations about VAs, unsuccessful previous VA deployments or low customer awareness about technology.
- Delivering quantifiable results around value and experience is a challenge. Many low-end VCAs deliver a poor user experience, create friction and do not deliver business benefits.

User Recommendations

- Design a proactive customer service strategy by understanding and focusing on the customers' needs, with a clear valuable reason for the contact.
- Design for proactive continuous customer journeys that are responsive to continuous change.
- Find the greatest-frequency, simple conversations that constitute a complete call and that can be easily automated with a low risk of customer dissatisfaction.
- Accelerate your solution's time to market by leveraging partner capabilities (such as domain expertise or language skills) that can add value to your chosen platform to avoid building everything from the ground up.
- Build the business case to move VCA and customer service from a cost center to a profit center.

Sample Vendors

[24]7.ai; Amelia; Artificial Solutions; Boost.ai; Haptik; IBM Watson Assistant; Kore.ai; OneReach.ai; Oracle Digital Assistant; Soul Machines; Yellow.ai

Gartner Recommended Reading

Emerging Technologies: Top Customer-Facing Use Cases for Advanced Virtual Assistants

Emerging Technologies: Top Use Cases for Advanced Virtual Assistants in Enterprise Operations

Emerging Technologies: Top Business Value Patterns in Advanced Virtual Assistant Adoption

Emerging Technologies: Conversational AI Is Most Integrated for Product Solutions but Challenges Remain

Emerging Technologies: Research Roundup for NLP and Conversational UI

Customer Management BPaaS

Analysis By: Jaideep Thyagarajan

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Adolescent

Definition:

Customer management business process as a service (CM BPaaS) is a cloud-delivered sales, marketing and customer care service. It is a highly automated, standardized and configurable service that is delivered by a vendor and constructed for multitenancy. It leverages technology platforms — either custom-made interfaces via middleware overlays to standard CRM solutions or direct to CRM databases. The service may use single or multiple nonvoice channels, such as customer self-service or social CRM.

Why This Is Important

CM BPaaS is rapidly shifting to mainstream adoption due to high adoption rate and a steep maturity curve. The ability to deliver highly personalized, consistent services with a high degree of automation and self-service increases adoption among buyers — especially when customer movements are limited by COVID-19. Post-pandemic, new business and engagement models will become the new normal, driving up use and adoption in both mature and emerging markets.

Business Impact

CM BPaaS differs from other cloud services due to the focus on business outcomes, in contrast to cloud services like SaaS models — which outline the providers' responsibility to deliver application functionality, but not business outcomes. Services available on CM BPaaS platforms focus on mobile apps, customer self-service and social CRM. A key element here is the role of the provider in assuming certain risks and full responsibility for business processes and the associated business outcomes.

Drivers

- CM BPaaS allows organizations to start from scratch quickly — time to market is fast, especially if it is a new organization or a carve-out of a larger company that needs these processes up and running quickly.
- This can be enabled to deliver highly personalized services with consistent service quality and customer experience across the different nonvoice channels. This also opens new opportunities to engage in analytics or knowledge-process-outsourcing-based services and improvements in cost per transition. CSAT and improvements in quality of service.
- Higher levels of self-service with limited to no human interactions are delivered through process automation, high levels of scalability and cost reduction.
- "Lower points of entry" for buyers looking to engage in limited scope and capacity are allowed by CM BPaaS, hence catering to the needs of both large enterprises and SMBs. This will help create new opportunities for buyers and vendors to leverage each other's capabilities to meet business needs: For buyers, this includes the opportunity to develop new services and/or new channels; for vendors, the opportunity to exploit and develop the SMB market.
- CM BPaaS also makes it potentially easier for buyers to add services or technology assets, such as chatbots and intelligent assistants, on demand, and this will help buyers scale their processes with automation additions.
- Small or midsize businesses (SMBs) that desire enterprise-level business process services, but at a fraction of the price, will be benefited by CM BPaaS.

Obstacles

- Buyers must pay attention to pricing — typically based on an initial setup cost, followed by a recurring annuity cost for the service provided, in addition to any upgrade costs. The service shifts capital expense to operational expense, which allows for greater financial flexibility, but not necessarily less cost.

- Data security and privacy issues for key enterprise and customer data will also require attention and additional investment. Buyers must evaluate why CM BPaaS will be a better option in the longer term, rather than continuing to manage the process themselves internally. They should consider the total cost of the process and service, which includes the full system, facility and staffing costs.

- There are a plethora of CM BPaaS solutions available with varying features and benefits. In the absence of a structured evaluation criteria, organizations may end up selecting the wrong solutions, which leads to eventual dissatisfaction.

User Recommendations

- Evaluate service providers for industry-specific expertise to accomplish the right outcomes. Not all providers are the same. This is especially salient with those with offerings for industry-specific processes, such as self-service for loyalty programs in airlines or customer policy management in insurance, telecommunications, utilities, media or healthcare.

- Define the right business outcomes that you want to accomplish and correspondingly, define the right service levels and metrics. Remember, you are not contracting for features or functionalities, but for outcomes.

- Look for solutions that can enable a dynamic scalable model to manage end-to-end customer services, without a linear increase in operational costs, while delivering increase in service revenue and providing a seamless customer experience across all channels.

Sample Vendors

Infosys BPM; Hexaware; Concentrix; Sitel Group; STARTEK; Sutherland; Tech Mahindra Business Services; Tetherfi; TTEC

Gartner Recommended Reading

Market Trends: Digital, AI, Cloud, Automation and Work-at-Home Services Adoption Reshapes CM BPO

Emerging Technology Horizon for IT Services

Competitive Landscape: Customer Management BPO

Text Analytics

Analysis By: Shubhangi Vashisth, Stephen Emmott

Benefit Rating: Moderate

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

Text analytics is the process of deriving business insight or automation from structured and unstructured text. This process can include determining and classifying the subjects of texts, summarizing texts, extracting key entities from texts, and identifying the tone or sentiment of texts.

Why This Is Important

Text analytics addresses a diverse range of uses, from general capabilities to extracting data from textual content, to industry-specific and line of business (LOB) use cases. Vendors in this market provide products that extract meaning and context from textual content. This can then be used to derive insights and action, either within the context of the product or by other products to which the data is made available.

Business Impact

Text analytics, when combined with various other analytics capabilities, can benefit the organization in the following areas:

- Preprocessing unstructured data for analysis.
- Automated document matching and classification (analyzing documents and matching metadata to them from a controlled vocabulary).

- Discovery and insight (indexing reports in preparation for natural language Q&A).
- Sentiment (analyzing notes, social media or transcripts to identify the author's attitude about a subject).

Drivers

Key drivers include:

- A surge in the volume of textual data, especially from sources other than traditional "documents" (such as instant messages, email and automatically extracted metadata), has fueled the evolution of text analytics.
- The desire to complement insights gleaned from analysis of structured numerical data with text-based facts for more robust predictive modelling.
- Advancements in nonsymbolic techniques.

Text analytics uses different combinations of technologies for different business use cases:

- Healthcare — medical records analysis by mapping key medical terms into a graph for analysis
- Insurance — identifying fraudulent claims by analyzing the narratives and identifying common individuals across claims
- Finance — gain insights on investments by monitoring public information sources and social media
- Legal — supporting contract review by extracting key terms and obligations from complex contracts
- Retail — monitoring product pricing across markets
- Marketing — monitoring brand loyalty and sentiment by analyzing social media feeds and customer feedback
- Law enforcement — forensic analysis of a body of documents by identifying key subjects and dates, and developing a chain of events
- Digital publishing — identifying related articles and developing a summary relevant to an article in progress

Obstacles

Several factors hinder the emergence of more pervasive, easy-to-use business solutions for text analytics:

- The technology is still maturing, and differentiation between the many overlapping vendors is too nuanced for those organizations without in-house expertise.
- Although easier to use, it is still challenging to incorporate solutions into an organization's wider digital platform, given the diversity of use cases and specialist skills needed to utilize and gain benefit.
- Most organizations lack a strategy to deal with semistructured and/or unstructured data. The approach to select tools for point solutions adds to the problem of tool sprawl.
- Training the solutions for specialized use cases is also a barrier in adoption.

User Recommendations

- Position text analytics as an NLT in the context of internal discussions so its role in augmentation and automation can be correctly framed.
- Identify and prioritize use cases that text analytics can address, and create an enterprise text analytics strategy.
- Review the text analytics market to acquaint yourself with its vendors, products and capabilities.
- Start with prepackaged products designed for business users to administer for well-established use cases, such as the voice of the customer (VoC). Cloud-based text analytics packages also offer a good way to experiment and enable easy adoption of the technology.
- Select products based on how well they suit specific business scenarios and their ability to integrate with other applications that work with unstructured data, such as conversational agents.
- Allow a realistic lead time to recruit text analytics talent. Consider working with a third-party analytics service provider for text analytics initiatives.

Sample Vendors

Amazon Web Services; Amenity Analytics; Bitext; Clarabridge; Google; IBM; Lexalytics; Megaputer; Microsoft; Proxem; SavantX

Gartner Recommended Reading

Artificial Intelligence Primer for 2021

Market Guide for Text Analytics

Toolkit: Supporting Data for the Selection of Text Analytics Vendors

Understanding Your Customers by Using Text Analytics and Natural Language Processing

Emergency/Mass Notification Services

Analysis By: Roberta Witty, David Gregory

Benefit Rating: High

Market Penetration: More than 50% of target audience

Maturity: Mature mainstream

Definition:

Emergency or mass notification services (EMNS) automate the distribution and management of messages to relevant stakeholders for local and regional events and catastrophic disasters across multiple channels. Use cases include organizational crises, business-critical operations, IT outages, travel risk, and public and personal safety. EMNS is used when normal communications are not available or suitable for use, when the need to communicate is in minutes and for off-hours communications.

Why This Is Important

COVID-19 has increased EMNS adoption because organizations needed to reach all of their workforce in every location. End-user awareness and maturity have increased, with more customers testing the full functionality of EMNS.Its use cases are building access management integration, IT network location, personal safety, active intruder/shooter, personnel safety, travel risk management, workforce scheduling, pandemic management, critical IT change/outage notification and industrial accident.

Business Impact

Crisis communications' best practice is to notify people in as many ways and in as short time frame as possible. This ensures that life/safety is preserved, response and recovery teams are quickly assembled, transparency of the event is known to all stakeholders, secure communications is established, and the organization's reputation and brand can be preserved.

Drivers

- Key personnel (e.g., crisis management team members, IT personnel, physical security, and other life safety and security personnel) and large numbers of affected personnel, visitors or the public can receive critical information about the event on multiple channels in minutes. This speed allows them to rapidly respond after an event to ensure the health, wellness, life, and safety of people, and that organizational RTOs are met.
- Personnel can be tracked for life, safety and security purposes.
- Management can focus on critical decision making and exception handling.
- Human error, misinformation, rumors, emotions and distractions can be managed and corrected.
- Messages can be tailored to different audiences and languages, so that the right information is targeted and not broadcast to those who need to know.
- A notification activity dashboard and associated reporting can be used for event management: a documented notification audit log for real-time and postevent management; preevent activities — for example, notices to not come into the office due to the likelihood of a storm affecting the area within the next two days; real-time event activities — for example, initial messages and timely updates to events as they occur and unfold, tracking of contacts in dangerous areas, workforce mustering and scheduling; postevent management — for example, improving crisis management procedures, life/safety follow-ups to personnel, audits or legal investigations.
- During a cyberattack, you don't want the attackers to know you are aware of their presence, so communicating via offline channels is an important crisis management tactic.
- Some EMNS vendors are expanding into more general employee communication scenarios which can broaden use cases and better rationalize investments and broader use.

Obstacles

- Not keeping contact information up to date — A regular process is required to maintain current workforce contact information synched to typical systems of record for contact information such as HR or the enterprise directory.
- Not every worker may be in a system of record — for example, part-time workers, consultants, and contractors. Having every worker in the EMNS is critical for providing duty of care support.
- With EMNS use cases expanding beyond traditional emergencies, customers are using more EMNS functionality complicating integration with more applications.
- COVID-19 has shown that organizations want a single solution for all employee communications — crisis and operational. This can lead to message fragmentation and less effective crisis communications.

User Recommendations

- Strengthen crisis communication procedures before implementing EMNS — bad processes are only exaggerated by automation.
- Document all messaging use cases by location, department,business service, channels, contact groups, role types, languages, systems of record, application integration points and privacy requirements, before selecting the EMNS solution.
- Survey the workforce's level of comfort in using a corporate-issued mobile app on their personal mobile device. You may not realize the benefit of mobile app-only functionality.
- Select an EMNS vendor that has messaging data centers locations to ensure compliance with your privacy requirements, and that the same crisis doesn't impact you and the vendor.
- Work with HR, corporate communications and IT departments to create notification groups.
- Create templates for each event type your organization may experience, as well as templates to cover the full crisis life cycle.
- Conduct quarterly tests to improve contact currentness and response rate.

Sample Vendors

AlertMedia; AlertSense; Aurea; BlackBerry; Everbridge; Kinetic Global; OnSolve; Rave Mobile Safety; Singlewire Software; xMatters

Gartner Recommended Reading

Market Guide for Emergency/Mass Notification Services SolutionsMarket Guide for Crisis/Emergency Management Solutions and COVID-19 Safe Return to WorkMarket Guide for Employee Communications Applications

Finance and Accounting BPO

Analysis By: Sanjay Champaneri

Benefit Rating: High

Market Penetration: More than 50% of target audience

Maturity: Early mainstream

Definition:

Finance and accounting (F&A) business process outsourcing (BPO) is a service delivery model for multiple business processes in the F&A domain. F&A BPO providers offer finance process services across source-to-pay, order-to-cash, record-to-report, statutory financial reporting, financial planning and analysis, payroll, treasury and cash management.

Why This Is Important

F&A BPO providers are evolving to help organizations mature their finance operations, through the use of hyperautomation, beyond cost arbitrage opportunities. F&A BPO capabilities can address finance's urgency to improve standardization of processes and digitize operations. F&A BPO enables intelligent, automated workflows and touchless transaction processing, allowing partnership with clients to focus on generating business intelligence with data and analytics solutions.

Business Impact

Consider using F&A BPO because:

- It supports sourcing objectives for finance process expertise to fix process inefficiencies and offer services to accelerate the digitalization of finance operations.
- Both transactional and nontransactional processes can be outsourced, allowing finance to concentrate retained resources on strategic priorities.
- The services are global, and delivery center locations and finance domain expertise are available for all vertical industries.

Drivers

- The primary sourcing objective, i.e., contracting for process improvement expertise, standardization methods and finance operations automation.
- Increase in buyer adoption levels for automation across new and refreshed outsourcing contracts, such as robotic process automation (RPA), optical character recognition (OCR), artificial intelligence (AI) and machine learning (ML).
- Failed promise of ROI from adopting RPA in-house. Organizations are looking toward using F&A BPO services to access providers' scale of applications and talent on process automation.
- Buyers' singular focus, which has moved from access to labor arbitrage and low-cost delivery locations for quick, cost-saving gains, to improving finance service experience and addressing process inefficiencies.
- Providers' intelligent workflow automation solutions, powered by AI, motivating buyers to outsource end-to-end finance processes. These solutions help access data insights to improve financial indicators such as days sales outstanding, days inventory outstanding and days payable outstanding.
- Hyperautomation in F&A BPO offerings, transforming operations into highly automated and touchless environments.
- Providers' ability (based on previous automation efforts) to provide stability to finance in terms of process cycle times and productivity metrics during the global pandemic.

Obstacles

- Buyers of F&A BPO services that involve the use of partnered technology solutions may show uncertainty over software licensing rights due to internal cultural/stakeholder pressures to retain control and ownership of applications.
- A lack of adoption of providers' proprietary and partnered technology solutions results in limited scope of improvements that can be made to processes, risking higher cost per transaction.
- Pricing models that lack outcome-based payment mechanisms result in difficulties calculating the value of the partnership and lead to nonrenewal of contract.
- Buyers' adoption of automation technologies such as RPA and OCR is restricted to automation of simple, repeatable tasks. Hyperautomation offerings that orchestrate and optimize complex, dynamic processes requiring human judgment are not leveraged as often.

User Recommendations

- Maximize efforts evaluating vendors on process improvement capabilities by concentrating discussion on how improvement opportunities are spotted using technologies, such as process discovery and mining.
- Prioritize vendors that offer hyperautomation for the purpose of digitizing finance operations by evaluating proposals on the merits of implementation methodologies and transformation expertise.
- Shortlist vendors who offer a combination of pricing models and progress only with those that propose a transition from FTE-based pricing to a model that involves transaction- and outcome-based pricing in line with the maturity of the process.

Sample Vendors

Accenture; Capgemini; Genpact; Infosys; TCS; WNS

Gartner Recommended Reading

Market Share Analysis: Business Process Outsourcing, Worldwide

Forecast Analysis: Business Process Outsourcing, Worldwide

Getting the Most Out of Business Process Outsourcing

Common BPO Pricing Models

A CFO’s Guide to Building an AI-Driven Finance Organization

Entering the Plateau

Customer Analytics BPO

Analysis By: Jaideep Thyagarajan

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Mature mainstream

Definition:

Customer analytics BPO is a type of knowledge process outsourcing. Customer data is analyzed, either with technology only or coupled with human analysis, to offer more insight to buyers about their customers. When outsourcing analytics services, buyers have the opportunity to consume an integrated stack of services or select the layers of the solution that best complement their needs.

Why This Is Important

Postpandemic and recovery, the use of customer analytics BPO services will continue to increase, especially in the areas of diagnostic analysis and predictive and prescriptive models. Increasing digital touch brought about by social distancing will see continued reliance on customer analytics as clients look to further differentiate themselves to meet changing buying behaviors and create better upsell and cross-sell opportunities through targeted products and marketing campaigns.

Business Impact

Engaging a third party to support your customer analytics can return sharper, faster and more accurate insight into your data and highlight the nonobvious tendencies of your customer interactions. It will also provide the fundamental facility for designing, asking and enhancing the right questions to fuel your analytics processes, which will become a self-improving, iterative exercise that is integral to growth, profitability and customer experience.

Drivers

- As customer analytics moves to early mainstream maturity, customer analytics BPO services offer enterprises the ability to consume specific customer analytical services to augment or replace their internal analytical efforts. During the pandemic, most internal analytics programs either maintained or decreased their analytics capabilities and prowess due to limited investments and access to new tools and techniques in managing analytics programs.
- There is a likelihood of increased adoption of third-party customer analytics services. This is due to the need for more robust analysis to serve granular process and industry requirements, and the need for skills that are hard to find, too expensive to hire or unavailable in the market. This service is delivered by BPO providers that can assemble deep expertise in targeted customer analytics and provide that service at affordable rates over a period of time.
- The use of various technologies to prepare and analyze the data is significant for a scalable, repeatable and cost-effective service or solution. The use of the latest technology to analyze data and taking an impartial nonpartisan approach to the data collection and analysis allow for an unbiased approach to analytics. Consuming this capability as an outsourced service frees up assets and infrastructure to attack other projects or enterprise investments.
- A culture of data-driven decision making will further fuel the demand for customer analytics. A lot of organizations have gotten commitment from senior leadership to foster an environment where decisions are anchored in data. They are doing everything in their capacity to facilitate customer analytics consumption. This includes fixing data access issues, making proof of concepts simpler and using specialized tools for training, among others.

Obstacles

- The service provider market is fragmented. It is important to target industry or functional expertise to add depth to the analysis efforts. Understanding the gaps, such as data analysis and modelling skills, will prove critical to selecting the right firm to help clients extract insight from data.
- Data principally resides in silos, often collected in separate ERP, MRP, CRM, marketing automation, web analytics, call center platforms and other systems that rarely talk to each other. Accessing all of this data is a daunting task requiring such a wide range of skills that it is rare to find in a single service provider.

- There are often a number of manual actions that ought to be done as refinement to make the outcome of analytics suitable for consumption. These include data integration, cleansing and quality assurance, among others. Automation may not always be the answer for many organizations, but some of the rote procedures could be error-prone, time-consuming and tedious.

User Recommendations

- Compare the investment needed to engage a service provider with the opportunity cost of not doing it. Many providers claim to offer "analytics services," but buyers must confirm what level of depth — functional and technical — the provider can deliver. Develop an understanding of what to ask for and how to ask for it by working with a specialist consultancy or an analytics BPO provider.
- Use customer analytics not just to identify your loyal customer base, but also to identify your least loyal customers. Use the analytics outcomes to tailor your communications as per customer preferences and promote retention or raise awareness accordingly.
- Resolve data ownership, privacy and security issues upfront, especially when customer analytics combines third-party data and internal proprietary data. Avoid creating new silos that increase the risk of redundant and inconsistent data.

Sample Vendors

EXL; Genpact; HCL Technologies; Hexaware; Infosys BPM; Sutherland; Tech Mahindra Business Services; Teleperformance; Wipro; WNS

Gartner Recommended Reading

Market Trends: Digital, AI, Cloud, Automation and Work-at-Home Services Adoption Reshapes CM BPO

Emerging Technology Horizon for IT Services

Competitive Landscape: Customer Management BPO

SIAM

Analysis By: Jim Longwood, Pablo Arriandiaga, DD Mishra, Andrew Miljanovski

Benefit Rating: Moderate

Market Penetration: 20% to 50% of target audience

Maturity: Mature mainstream

Definition:

Service integration and management (SIAM) is a role that coordinates and integrates service delivery of multiple internal and external IT and business process service providers. It can be undertaken by the client or by a third-party service provider. The SIAM role is different from a prime contractor role. If outsourced, the client organization has a direct contract with not only the SIAM provider, but also each of the service providers managed by the SIAM provider on the client's behalf.

Why This Is Important

As clients moved to a multisourced environment, typically with three to seven traditional and cloud service providers, the interdependencies and hand-off points between providers became increasingly complex to manage. Blame games between providers became more common, service quality dropped and the cost benefits of using best-of-breed providers shrank. The SIAM role evolved to address these problems, by improving collaboration between providers to deliver end-to-end service outcomes to business users.

Business Impact

Well-executed, the role uses OLAs and KPIs to break down intra/interprovider service silos to deliver a seamless and integrated customer/end-user service experience. This also helps SPVM leaders reduce complexities of managing multiple service providers to deliver a more efficient, cost-effective and better quality of service. It enables both IT and business units to focus on improving their day-to-day business operations and adopt the latest industry best practice technology and services.

Drivers

- SPVM managers are under ongoing pressure to improve end-to-end service quality and optimize the cost benefits of using multiple best-of-breed services providers as well as allowing business units to focus on optimizing business operations.
- The complexity of managing a multisourced environment of traditional and cloud providers has driven the ongoing adoption of the SIAM role for traditional and cloud services — sometimes referred to as SIAM V1.
- Common problems that the role addresses are the need to reduce interprovider incidents and problem and change management issues, streamlines process handoffs, and foster interprovider collaboration.
- SIAM addresses the need to improve service delivery excellence via standardization, optimized operating costs and business agility, and improves operational efficiency and business effectiveness over time.
- The growing adoption of digital, agile, DevOps and IoT services, involving many more smaller service offerings, is driving the adoption of "Eco-SIAM," the successor to the traditional SIAM role and positioned on the "Innovation Trigger" segment of the Hype Cycle.

Obstacles

- Before starting this journey, ensure that internal and external service providers are ready for the SIAM role and that individual providers are well-managed.
- Deciding whether to insource or outsource the SIAM role often involves a lot of internal politics between a range of internal IT functions, resulting in use of hybrid internal/external delivery models.
- If taking a DIY approach, obstacles include lack of budget to buy and integrate the required ITSM toolsets and dashboards, so consider the "build operate transfer" model in this scenario.
- Building and justifying the business case for adopting the SIAM role can be daunting — ensure you include resourcing, tooling and/or external vendor costs along with key benefits to the organization.
- As adoption of disruptive digital services increases, the traditional SIAM role is not adequately equipped to cover the many more providers involved and ecosystem capabilities needed — thus the need to migrate to the Eco-SIAM role.

User Recommendations

To optimize the benefits of using the SIAM role:

- Prepare an extensive business case ensuring allocation of a suitable budget for building and undertaking the role.
- Treat adoption of the SIAM role as a staged journey incrementally building up your SIAM capabilities.
- Foster a collaborative working environment built on trust among all parties.
- Ensure that you have senior staff delivering and managing the SIAM role and that service providers are involved and understand the SIAM role.
- Ensure that operational-level agreements (OLAs), KPIs and service provider interfaces are set up between all parties.
- Evaluate use of emerging offerings (e.g., for SLA/OLA auditing and solution brokering) and SIAM-focused toolsets.
- Evaluate use of best-of-breed SIAM providers for bundled communication services.
- Examine use of the evolving "Eco-SIAM" role as digital, DevOps, agile and product-centric services become more pervasive in your services ecosystem.

Sample Vendors

Atos; Capgemini; CGI; DXC Technology; Fujitsu; HCL Technologies; Kinetic IT; Leidos; Orange Business Services; Wipro

Gartner Recommended Reading

The SIAM Role Is Critical in Managing Multiple Outsourced Service Providers

Build on Your Vendor Management Capabilities When Insourcing the MSI-SIAM Role

Drive Managed Service Delivery Success by Effectively Contracting Your SIAM Requirements

Optimize Multisourcing Service Integration Using the Right Toolsets to Drive Delivery Excellence

Market Trends: MSI-SIAM Buyer Behavior in Managed Communications Services

Work at Home/Gig Agent CM BPS

Analysis By: Jaideep Thyagarajan

Benefit Rating: High

Market Penetration: More than 50% of target audience

Maturity: Mature mainstream

Definition:

Work at home (WAH), also known as telework, remote worker or “gig agents,” is a talent-sourcing model used to deliver customer management (CM) services remotely, and is associated with contact centers. Agents equipped with a desktop computer, laptop or tablet and a network connection, enabled by business process management tools and a virtual automatic call distributor, work from their homes or secure hot-desk facilities, rather than from purpose-built call centers.

Why This Is Important

WAH/gig agents can be leveraged by any organization running a contact center or by specialist WAH/gig agent outsourcers. Many CM BPO providers and captive shared services centers (SSCs) continue to mobilize their onshore and offshore workforce, especially the WAH/gig agents, due to the COVID-19 pandemic. With high unemployment levels across the world, WAH/gig agent base services are set to boom as they deliver cost savings of up to 15% to 35% compared to the brick-and-mortar or center-based agents.

Business Impact

- WAH/gig agent model is a natural business continuity planning tool, especially with the COVID-19 pandemic, as we saw most offshore, nearshore and onshore locations go into lockdown.
- This model achieves capacity gains while alleviating language, time-zone and compatibility issues often associated with global service delivery.
- It also leads to improved cost and margin realization by improving both top-line (through deeper access to specialist talent) and bottom-line results (through cost optimization).

Drivers

- Advancements in cloud-based payment services and the lower cost of remote management technology, coupled with higher levels of unemployment in North America and Europe, make the WAH/gig agent model a more viable option, including for security and privacy. Results for early adopters are above their expectations of similar costs and benefits to the traditional model. However, these adopters gain the added advantage of better resource use and lower infrastructure requirements.

- Most specialist WAH/gig agent outsourcers can rival larger traditional providers in the level of complexity of the work they support. Processes, staff control and management for this model are different from those of traditional contact centers. The WAH/gig agent principle uses “virtual” models, from recruiting and training to deploying and monitoring, and agents may never meet face to face with their supervisors for weeks or even months. Likewise, the technology, tools and processes rely on specialized mechanisms to ensure that call center agents’ delivery is integrated and consistent. Hence, WAH/gig agents are currently viable (at scale) across all mature markets and in emerging markets where there is access to technology and good infrastructure, responsible labor practices and conducive legal structure.

- With the COVID-19 pandemic, most end users have moved past initial concerns that WAH/gig agents are different from traditional contact center agents, including the quality of agents, their qualifications and commitment to client needs. Instead, end users are now focused on the delivery of required service levels, much like the early days of offshore outsourcing.

Obstacles

- When considering WAH/gig agent deployments, buyers (particularly in regulated industries) should carefully evaluate security, compliance and privacy risks, along with managing and monitoring issues. Compare these risks with more traditional outsourced environments, as well as in captive environments. Workforce optimization software allows for remote monitoring, which, together with management best practices, should eliminate potential people management issues found with some WAH/gig agent providers.
- Buyers also need to work with their providers to make sure that the right agents with the right skills are committed to individual assessments. Although the availability of gig agents is high, the quality of the agents and their ability to deliver to the metrics can sometimes be challenging. Buyers should also ensure that appropriate screening procedures are followed by the providers to avoid security clearance issues and conflicts of interest.

User Recommendations

- Benchmark competitive rates and examine flexibility that WAH/gig agent outsourcing offers to assess the net benefit of leveraging the WAH/gig agent model.
- Ensure WAH/gig agents have got access to all the tools necessary to carry out their work. Consider cloud-based applications instead of premise-based alternatives for seamless access.
- Ensure that a collaboration tool is in place and that it is integrated with your contact center solution. Establish policies and procedures to ensure careful and judicious use of the platform.
- Contract for ease of staffing up when cyclical business patterns force peaks in demand that are hard to meet with employees.
- Establish a monitoring mechanism (e.g., dashboards) to track the progress and productivity of WAH/gig agents. Basic metrics like schedule adherence, productivity and quality offer the right foundation for monitoring.
- Consult with your information security executives to set and communicate clear security guidelines.

Sample Vendors

Alorica; Arise; Concentrix; Liveops; Sitel Group; SYKES; Teleperformance; TTEC; Working Solutions; Limitless

Gartner Recommended Reading

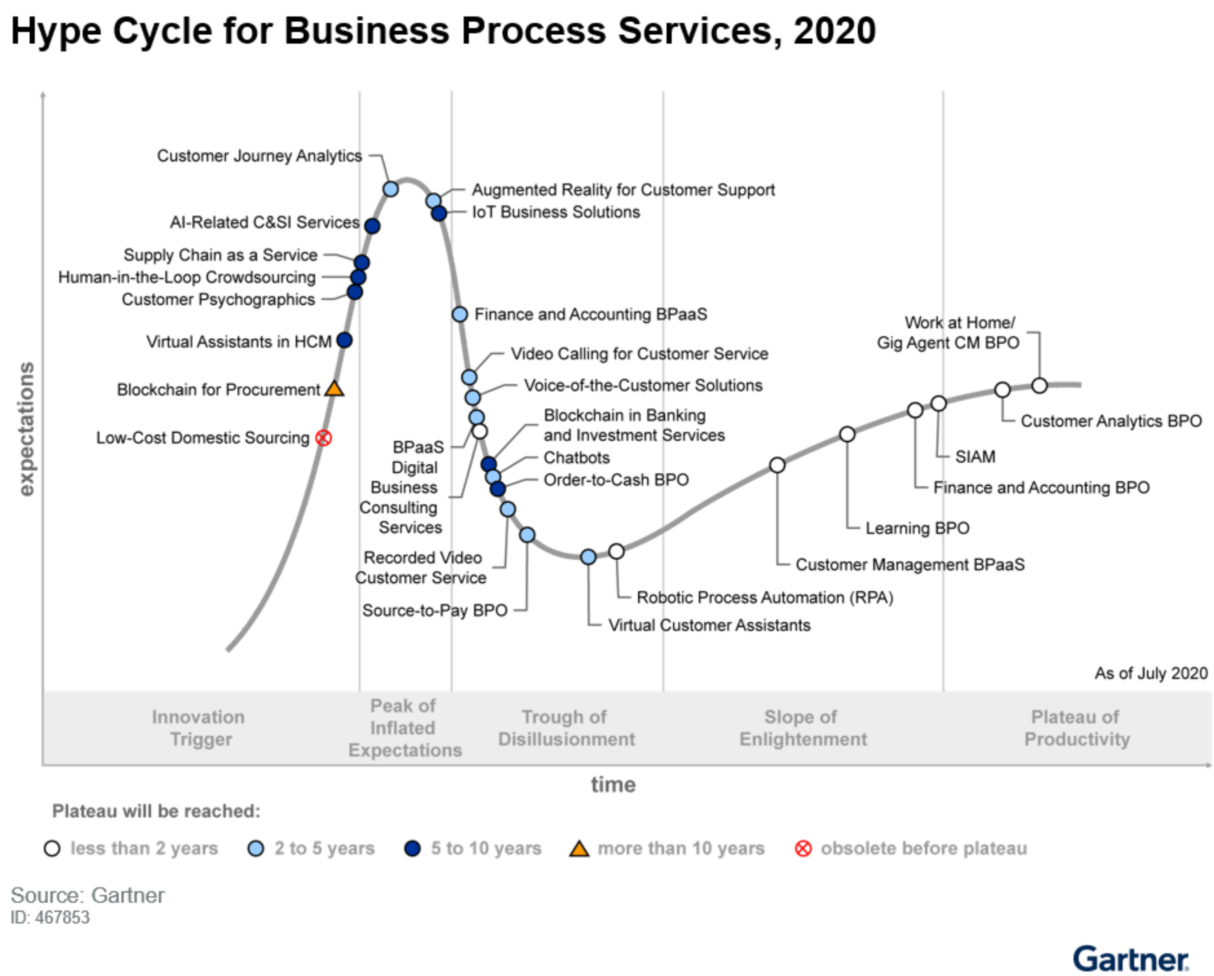
Market Trends: Digital, AI, Cloud, Automation and Work-at-Home Services Adoption Reshapes CM BPO

Emerging Technology Horizon for IT Services

Competitive Landscape: Customer Management BPO

Appendixes

Figure 2: Hype Cycle for Business Process Services, 2020



Source: Gartner (July 2020)

Hype Cycle Phases, Benefit Ratings and Maturity Levels

Table 2: Hype Cycle Phases

(Enlarged table in Appendix)

Phase ↓	*Definition* ↓
Innovation Trigger	A breakthrough, public demonstration, product launch or other event generates significant media and industry interest.
Peak of Inflated Expectations	During this phase of overenthusiasm and unrealistic projections, a flurry of well-publicized activity by technology leaders results in some successes, but more failures, as the innovation is pushed to its limits. The only enterprises making money are conference organizers and content publishers.
Trough of Disillusionment	Because the innovation does not live up to its overinflated expectations, it rapidly becomes unfashionable. Media interest wanes, except for a few cautionary tales.
Slope of Enlightenment	Focused experimentation and solid hard work by an increasingly diverse range of organizations lead to a true understanding of the innovation's applicability, risks and benefits. Commercial off-the-shelf methodologies and tools ease the development process.
Plateau of Productivity	The real-world benefits of the innovation are demonstrated and accepted. Tools and methodologies are increasingly stable as they enter their second and third generations. Growing numbers of organizations feel comfortable with the reduced level of risk; the rapid growth phase of adoption begins. Approximately 20% of the technology's target audience has adopted or is adopting the technology as it enters this phase.
Years to Mainstream Adoption	The time required for the innovation to reach the Plateau of Productivity.

Source: Gartner (July 2021)

Table 3: Benefit Ratings

Benefit Rating ↓	*Definition* ↓
Transformational	Enables new ways of doing business across industries that will result in major shifts in industry dynamics
High	Enables new ways of performing horizontal or vertical processes that will result in significantly increased revenue or cost savings for an enterprise
Moderate	Provides incremental improvements to established processes that will result in increased revenue or cost savings for an enterprise
Low	Slightly improves processes (for example, improved user experience) that will be difficult to translate into increased revenue or cost savings

Source: Gartner (July 2021)

Table 4: Maturity Levels

(Enlarged table in Appendix)

Maturity Levels ↓	Status ↓	Products/Vendors ↓
Embryonic	In labs	None
Emerging	Commercialization by vendors Pilots and deployments by industry leaders	First generation High price Much customization
Adolescent	Maturing technology capabilities and process understanding Uptake beyond early adopters	Second generation Less customization
Early mainstream	Proven technology Vendors, technology and adoption rapidly evolving	Third generation More out-of-box methodologies
Mature mainstream	Robust technology Not much evolution in vendors or technology	Several dominant vendors
Legacy	Not appropriate for new developments Cost of migration constrains replacement	Maintenance revenue focus
Obsolete	Rarely used	Used/resale market only

Source: Gartner (July 2021)

Document Revision History

Hype Cycle for Business Process Services, 2020 - 20 July 2020

Hype Cycle for Business Process Services, 2019 - 11 July 2019

Hype Cycle for Business Process Services, 2018 - 27 July 2018

Hype Cycle for Business Process Services and Outsourcing, 2017 - 10 August 2017

Hype Cycle for Business Process Services and Outsourcing, 2016 - 3 August 2016

Recommended by the Authors

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

Understanding Gartner's Hype Cycles

Forecast Analysis: Digital Business Process Services, Worldwide

Create Your Own Hype Cycle With Gartner's Hype Cycle Builder

Leadership Vision for 2021: Sourcing, Procurement and Vendor Management

Table 1: Priority Matrix for Business Process Services, 2021

Benefit	*Years to Mainstream Adoption*			
↓	***Less Than 2 Years*** ↓	***2 - 5 Years*** ↓	***5 - 10 Years*** ↓	***More Than 10 Years*** ↓
Transformational		IoT Business Solutions	Blockchain-Based Deployments in FS	
High	Chatbots Customer Analytics BPO Customer Management BPaaS Emergency/Mass Notification Services Finance and Accounting BPO Virtual Customer Assistant Work at Home/Gig Agent CM BPS	Augmented Reality for Customer Support Customer Journey Analytics Digital Concierge Consumer Engagement Services Hyperautomation Integrated HR Service Management Order-to-Cash BPO RPA for Sales Source-to-Pay BPO VoC Applications	Finance and Accounting BPaaS Legal and Compliance Analytics Supply Chain as a Service	
Moderate	SIAM	Anywhere Services BPaaS for U.S. Healthcare Payers Text Analytics Virtual Assistants in HCM	Customer Psychographics EHR Data Extraction	

Benefit	*Years to Mainstream Adoption*			
↓	***Less Than 2 Years*** ↓	***2 - 5 Years*** ↓	***5 - 10 Years*** ↓	***More Than 10 Years*** ↓
Low				

Source: Gartner (July 2021)

Table 2: Hype Cycle Phases

Phase	*Definition*
Innovation Trigger	A breakthrough, public demonstration, product launch or other event generates significant media and industry interest.
Peak of Inflated Expectations	During this phase of overenthusiasm and unrealistic projections, a flurry of well-publicized activity by technology leaders results in some successes, but more failures, as the innovation is pushed to its limits. The only enterprises making money are conference organizers and content publishers.
Trough of Disillusionment	Because the innovation does not live up to its overinflated expectations, it rapidly becomes unfashionable. Media interest wanes, except for a few cautionary tales.
Slope of Enlightenment	Focused experimentation and solid hard work by an increasingly diverse range of organizations lead to a true understanding of the innovation's applicability, risks and benefits. Commercial off-the-shelf methodologies and tools ease the development process.
Plateau of Productivity	The real-world benefits of the innovation are demonstrated and accepted. Tools and methodologies are increasingly stable as they enter their second and third generations. Growing numbers of organizations feel comfortable with the reduced level of risk; the rapid growth phase of adoption begins. Approximately 20% of the technology's target audience has adopted or is adopting the technology as it enters this phase.
Years to Mainstream Adoption	The time required for the innovation to reach the Plateau of Productivity.

Phase	Definition

Source: Gartner (July 2021)

Table 3: Benefit Ratings

Benefit Rating	Definition
Transformational	Enables new ways of doing business across industries that will result in major shifts in industry dynamics
High	Enables new ways of performing horizontal or vertical processes that will result in significantly increased revenue or cost savings for an enterprise
Moderate	Provides incremental improvements to established processes that will result in increased revenue or cost savings for an enterprise
Low	Slightly improves processes (for example, improved user experience) that will be difficult to translate into increased revenue or cost savings

Source: Gartner (July 2021)

Table 4: Maturity Levels

Maturity Levels	*Status*	*Products/Vendors*
Embryonic	In labs	None
Emerging	Commercialization by vendors Pilots and deployments by industry leaders	First generation High price Much customization
Adolescent	Maturing technology capabilities and process understanding Uptake beyond early adopters	Second generation Less customization
Early mainstream	Proven technology Vendors, technology and adoption rapidly evolving	Third generation More out-of-box methodologies
Mature mainstream	Robust technology Not much evolution in vendors or technology	Several dominant vendors
Legacy	Not appropriate for new developments Cost of migration constrains replacement	Maintenance revenue focus
Obsolete	Rarely used	Used/resale market only

Source: Gartner (July 2021)