Magic Quadrant for Intelligent Business Process Management Suites

Summary

Intelligent business process management suites provide real-time insights to achieve better business outcomes and help business transformation leaders, business process directors and solution architects improve business outcomes through process reinvention and transformation.

Market Definition/Description

The intelligent business process management suite (iBPMS) market is the natural evolution of the earlier BPMS market, adding more capabilities for greater intelligence within business processes. Capabilities such as validation (process simulation, including "what if") and verification (logical compliance), optimization, and the ability to gain insight into process performance have been included in many BPMS offerings for several years. iBPMSs have added enhanced support for human collaboration such as integration with social media, mobile-enabled process tasks, streaming analytics and real-time decision management. For a more detailed description of business process management (BPM) platforms, see "Select the Right Type of BPM Platform to Achieve Your Application Development, Business Transformation or Digital Business Goals." For a more detailed description of technologies that help make processes more intelligent, see "Practical Ways to Make Business Operations More Intelligent."

An iBPMS orchestrates work to produce business outcomes that go far beyond typical process efficiency and performance measures. For Gartner's 2016 iBPMS Magic Quadrant, we evaluated platforms based on their ability to orchestrate increasingly complex work styles. [1] We see this ability to address a wider variety of styles as increasingly important, particularly in the context of digitalized processes (processes that coordinate the behaviors of people, processes and "things"/the Internet of Things [IoT]) — which require greater insight into context, are executed at an increasingly rapid pace, and span the virtual and physical worlds for both contextual insight and work execution. Greater contextual insight manifests itself at two levels:

At the macro level, using on-demand analytics, such as critical path and workload volume analysis, to drive improvements in the process design, which is often useful in continuous process improvement and business transformation efforts

At the micro level, using real-time analytics and decisioning (such as business rules and complex-event processing [CEP]) to drive improvements in the execution of a particular process instance, which is useful in ways that go beyond traditional business transformation to the execution of digitalized processes

Critical Capabilities of an iBPMS

In "Critical Capabilities for Intelligent Business Process Management Suites," Gartner evaluated the nine critical capabilities that differentiate products within the iBPMS market:

Interaction Management: The ability to orchestrate multiple types of activities and interactions at runtime to support the work that people, systems and "things" (as in the IoT) do to produce specific business outcomes.

High-Productivity App Authoring: Enables citizen and IT developers to quickly and easily build a process-centric application. Applications built on the platform use a metadata model to manage the complete life cycle of business processes and manipulate data related to the process.

Monitoring and Business Alignment: iBPMS platform's support of business activity monitoring (BAM) to continuously track the state of process instances, cases and other behaviors in near real time.

Rules and Decision Management: Software facilities — such as inference engines, recommendation engines and decision management capabilities — that provide guidance for making human or automated operational decisions according to business directives or policy statements.

Analytics: Applies logic and statistics to data to provide insights for making better decisions. An iBPMS may incorporate, or have connections to, predictive analytics such as scoring services or prescriptive analytics such as optimization engines.

Interoperability: Interoperation with external application services and systems that an iBPMS' adapters and adapter development tools enable. Such services and systems include custom and commercial-off-the-shelf packaged applications and cloud-based SaaS applications and their databases.

Intelligent Mobility: The ability to access applications from a variety of mobile devices, including smartphones and tablets. As well as providing access from anywhere, the platform optimizes the mobile device's native capabilities, including its camera and other sensors.

Process Discovery and Optimization: The platform's capability that shortens the time it takes to discover and optimize behaviors (such as processes, tasks and policies) needed to improve business outcomes. This may include analyzing past execution history or simulating proposed behaviors.

Context and Behavior History: iBPMS' maintenance of an archival history of events that have occurred during the interactions under its control. These events may include process events, decisions, collaboration or other activities. The iBPMS may also manage other kinds of context data — from external applications, databases or event streams — to enhance the intelligence and decisions made by the system.

To support faster time to solution and subsequent rapid changes to business processes, an iBPMS uses a metadata-based and model-driven approach. Graphical business process modeling and business rule modeling capabilities are used to describe the behavior of the solution. Some iBPMSs execute this model at runtime (they are interpretive), while others generate code that is compiled at development time (see "Systems of Differentiation and Innovation Require Different Types of Model-Driven Application Platforms" and "Critical Capabilities for Intelligent Business Process Management Suites").

iBPMS Use Cases Evaluated

We evaluated how well vendors were able to support the orchestration of work to produce business outcomes across the same six use cases we used in "Critical Capabilities for Intelligent Business Process Management Suites." These uses cases (which are not mutually exclusive) are:

Composition of intelligent process-centric apps

Continuous process improvement

Business transformation

Digitalized process

Citizen developer application composition

Case management

"Critical Capabilities for Intelligent Business Process Management Suites" provides more details as to how the capabilities of these platforms are used in support of these use cases.

COMPOSITION OF INTELLIGENT PROCESS-CENTRIC APPS

This involves using the iBPMS as a composition platform to coordinate mission-critical, industry-specific or company-specific processes more effectively.

Business managers use an iBPMS in this way when they recognize the need to coordinate a long-running process or improve business performance through broader and better coordination of processes.

Alternative solutions are often unavailable as commercial packaged applications because the area is often a differentiating or innovative process. However, because buyers have some existing software assets for the process domain, they choose to implement an end-to-end solution using the iBPMS as a composition platform, often complemented by a process template from the provider (see "Make Business Operations More Agile With Intelligent Business Processes That Reshape Themselves as They Run").

CONTINUOUS PROCESS IMPROVEMENT

This is when the business (rather than the IT organization) strives for continuous process improvement (CPI), having previously pursued process thinking.

CPI stems from well-understood process methodologies, such as Six Sigma and Lean Six Sigma, which manufacturing industries have used for years. However, in the past decade, many companies in industries such as financial services, healthcare and telecommunications have brought their BPM programs to a CPI level, often adopting Lean Six Sigma as a methodology.

BUSINESS TRANSFORMATION

This is when senior business executives want to take "game changing" action by rethinking one or more business processes to redefine their businesses for survival.

Senior business executives pursue business transformation — also known as business process re-engineering — in response to significant industry changes resulting from regulatory changes and the global economic recession.

DIGITALIZED PROCESS

Digitalized process shortens the time it takes from contextual insight to action. It speeds the delivery of a unique customer experience or response to inputs from the IoT.

This use case involves using a highly intelligent process to respond in an optimal way to the unique context presented by business moments (see "Make Business Operations More Agile With Intelligent Business Processes That Reshape Themselves as They Run" and "What Does It Mean to Digitalize Work?").

CITIZEN DEVELOPER APPLICATION COMPOSITION

This uses the process orchestration capabilities of an iBPMS with less dependence on operational intelligence and advanced analytics.

This is a new use case added to this year's evaluation. This use case focuses on the ability of the citizen developer (business users and business analysts) to build process-centric applications with minimal involvement from IT development staff.

Case Management

This is the use of iBPMSs to execute unstructured or semistructured processes. It involves using iBPMSs to handle a variety of content types, from structured to unstructured.

This is a new use case added to this years' evaluation. As end users look to address more complex work styles, case management has emerged as a way to drive better business outcomes from unstructured work — work that is more context-driven, event-driven and/or knowledge worker-driven.

The iBPMS should be able to support one or more patterns of case management, including:

Investigative

Crisis and incident management

Service delivery

Process through decision

See "Critical Capabilities for BPM-Platform-Based Case Management Frameworks" for a more detailed description of these case management patterns.

Magic Quadrant

Figure 1. Magic Quadrant for Intelligent Business Process Management Suites

Source: Gartner (August 2016)

Vendor Strengths and Cautions

AgilePoint

AgilePoint iBPMS is a Microsoft-centric platform that consists of an integrated core set of components (AppBuilder, eForms Builder, Data Sources and Reports) used to create mission-critical business applications. Together, these components provide an integrated application development platform that enables business and IT to collaborate throughout the development life cycle. The following analysis refers to AgilePoint iBPMS NX v.6, which is available on-premises as well as cloud-native bpmPaaS.

STRENGTHS

Customers view AgilePoint as a cost-effective option for organizations that want all of the essential capabilities of an iBPMS. AgilePoint NX Cloud offers an attractive starting point for applications that scale well to enterprise needs.

Although it's not limited to integration with Microsoft products, because of its strong integration with the Microsoft stack, AgilePoint iBPMS is a natural fit for organizations with a heavy investment in Microsoft technologies. In addition to providing iBPMS support for SharePoint and Office 365, AgilePoint's iBPMS adapter allows you to add robust iBPMS capabilities to the Microsoft Dynamics CRM platform and Salesforce.

AgilePoint offers a highly integrated toolset, which executes applications on a wide variety of devices using a responsive UI. The design experience in the latest version is drastically improved by the reduced dependence on external tools for process modeling.

CAUTIONS

While AgilePoint has focused on simplifying the authoring experience, customer references surveyed by Gartner indicated a lower degree of satisfaction with the ease of use of the product than a majority of the other vendors included in this research. They cited a need for greater IT developer involvement in the creation and modification of process flows and business rules. While AgilePoint has improved the amount of training and documentation, customer references, many of whom have chosen to forge ahead with little support from the vendor, have struggled to make the transition from earlier versions of the product to the latest NX version.

AgilePoint provides only basic analytics capabilities. It is not suited for implementations that require complex business rules, CEP and complicated reporting, or advanced analytics.

AgilePoint has few examples of customers composing intelligent business process and digitalized process applications.

Appian

Appian is a model-driven application development platform that enables IT and citizen developers to construct process-centric and case-centric applications, continually improve processes, support intelligent business processes and dynamically alter processes in response to digital business moments. The following analysis refers to Appian v.7.11.

STRENGTHS

Appian provides solid support for all six use cases evaluated for this Magic Quadrant. Appian's differentiation comes from its social centricity, allowing rapid innovation and discovery, as well as ad hoc and improvisational collaboration between customers, workers, partners and suppliers. Appian Records provides an intuitive ad hoc data integration capability. Records is accessible from the social interface, acting as a context broker and enabling situationally adaptive behavior.

Appian customer references indicated a higher degree of satisfaction with the Appian platform, compared with other vendors surveyed. This finding underscores Appian's reputation as a very business-user-friendly iBPMS. Further analysis of customer reference data shows that Appian projects are agile. Appian customer references reported a median-time-to-production implementation of less than three months, the lowest of any vendor surveyed.

Appian leads the BPMS and iBPMS markets in production deployments in the public cloud, and it is one of the few cloud platforms that can manage business outcomes, as well as process orchestration of hybrid processes spanning on-premises and cloud environments.

CAUTIONS

Appian uses a rule expression language that citizen developers may find challenging. Appian does offer a free, downloadable plug-in that is available to offset some of these challenges.

Compared with other leading iBPMS vendors, Appian offers fewer prebuilt adapters to IoT platforms.

Although a high-performance database provides rapid access to real-time process intelligence and facilitates active and on-demand analytics, the iBPMS does not have native CEP and analytics capabilities to drive high-volume predictive analytics where complicated pattern matching is a requirement.

AuraPortal

AuraPortal confirmed its position among the top iBPMS vendors for all major use cases in this market. Although it is still considered one of the smaller vendors, AuraPortal is expanding its market reach beyond its traditional focus on smaller, emerging and less-mature markets (mostly in Latin America, the Middle East and Europe). This analysis pertains to AuraPortal Helium.

STRENGTHS

AuraPortal has introduced advanced process management and case management capabilities. The new Universal Watcher feature (a service that subscribes to defined business events spanning running processes), combined with a simulation and scenario-testing environment designed with the business user in mind, adds to the process intelligence capabilities.

AuraPortal has a single integrated repository for processes, cases, content, web content, rules, collaboration and project management. This repository creates an environment that supports citizen developers in creating applications with little or no involvement from IT staff.

Rather than having to purchase the entire suite at one time, organizations can purchase individual modules as they mature their BPM capabilities. This practice, coupled with attractive pricing options, makes AuraPortal Helium popular with midmarket buyers.

CAUTIONS

New features with nonintuitive names (for example, Secure Rooms, distributed task control and Dynamically Activated Divisions), combined with complex use cases (for example, interactions between case management style process instances spanning multiple process-centric applications), are powerful but may be off-putting to end-user/citizen developers.

AuraPortal has an emerging presence in North America. It will face significant challenges to expand sales, marketing and alliances in this extremely competitive market.

The native IoT capabilities in the version of AuraPortal Helium that we evaluated lag behind those of other leading vendors. New partnerships with IoT vendors such as Libelium may help AuraPortal catch up in future releases.

Axon Ivy

Axon Ivy is one of the new entrants in this year's Magic Quadrant, which builds upon intelligent decision support and an easy-to-use and easy-to-adapt citizen developer-friendly environment. It has a special focus on unstructured processes and a differentiating vision on case handling. This analysis pertains to Axon Ivy 6.0.

STRENGTHS

Although Axon Ivy introduced many new capabilities only two years ago when it totally overhauled its predecessor products, the new releases already show good integration of these capabilities with the existing functionality in an easy-to-use user environment, differentiated for the business user, the city developer and the IT developer.

Axon Ivy has some roots in decision support systems (expert systems), resulting in a decision engine with self-learning skills that is used in advanced capabilities such as natural-language processing, case management and an extendable architecture.

Axon Ivy has a strong vision on case handling, allowing complex relationships for parent and child cases, and separate handling of case and process metadata. Together with its human interaction management foundation, Axon Ivy is a good platform for complex or adaptive case handling.

CAUTIONS

Many of Axon Ivy's advanced capabilities were introduced in the major overhaul of the product two years ago, and Axon Ivy needs to go beyond early proof points and build an extensive track record of proven value. Axon Ivy is best for orchestrating processes composed of human tasks, although it does offer rudimentary integration services (web services). According to customer reference feedback, the platform is more oriented toward IT developers than most vendors included in this evaluation.

Except for the most simplistic decisions, business rules are written using IvyScript and are constructed using a form-driven programming UI. More complex business rules can be modeled and executed using a native integration with Red Hat JBoss BRMS/Drools.

Based on the reference checks provided by Axon Ivy, we observed that, although Axon Ivy has some promising analytics capabilities, these capabilities are emerging and deployed inconsistently by clients. The platform is most frequently used for line-of-business applications and has not seen much adoption for enterprisewide business transformation or process improvement efforts.

Bizagi

Bizagi is one of the new entrants in this year's Magic Quadrant, positioned as the only vendor in the Challengers quadrant. Bizagi, one of the oldest BPM vendors around, can claim this position because of its global customer base, excellent execution capabilities and its disruptive business model based on "freemium" software. This analysis pertains to Bizagi Modeler 3.0 and Bizagi Studio 10.7.

STRENGTHS

Bizagi is the one of the easiest products to use in this evaluation. It offers a comprehensive range of self-service training courses to shorten the learning curve and successfully help clients manage their BPM journeys.

According to customer reference feedback, Bizagi customers expressed the highest satisfaction with the cost/value of Bizagi's iBPMS platform product compared to the other vendors in the analysis.

Bizagi deploys a disruptive business model. The company offered freemium software before the term was even coined back in 2008. Both the Bizagi Modeler, for collaborative design and documentation of process models (today more than 4 million downloads), and the Bizagi Studio, for automating an unlimited number of these process models into process applications across up to 20 nonproduction users, can be downloaded for free. When ready to develop for production, a named-user-based license is applied.

CAUTIONS

Because the platform lends itself to opportunistic application development, customers may fail to establish process governance guidelines or a strong business process competency center (BPCC). However, Bizagi customers have been able to scale operations to hundreds of processes and millions of users. Bizagi provides documentation and advisory services to help its customers create digital process competency centers to enable broader digital transformation goals.

Although Bizagi provides the ability to manage both structured and unstructured processes, it lacks some capabilities to deliver complex case control. Since this research concluded, Bizagi has released version 11 of its platform, which it states offers a new set of capabilities aimed at delivering superior case management capabilities and contextualized user experiences.

Compared to leading iBPMS vendors, Bizagi offers one of the less intelligent products in this evaluation. It supports only the minimal required dimensions of the Gartner Business Process IQ Framework.

BP Logix

BP Logix Process Director is a .NET-based iBPMS featuring workflow automation, smart forms and reusable business rules — without programming. Fully web-based, mobile-capable and browser-agnostic, Process Director's point-and-click interface enables business or IT users to easily create complex, robust processes. Electronic forms are built using Microsoft Word. The latest release of Process Director adds simple case management and data virtualization, among many other features. The following analysis refers to Process Director v.3.5.

STRENGTHS

BP Logix's Process Timeline technology identifies those pieces of work that are in danger of running late; then Process Director can take action directly, or notify the process owner to intercede manually. Further, tasks can be assigned dynamically using rules, using identifying predecessor tasks or through goal-directed behavior. Ad hoc and improvisational tasks can easily be added to a process as needed. The data virtualization capability allows the platform to interact with a wide variety of federated data sources, in combination with process instance data.

BP Logix Elastic BPM cloud is offered in single-tenant and multitenant deployments as a managed service hosted on public cloud infrastructure. The multitenant offering provides an attractive entry point for smaller applications, while the single-tenant offering supports more robust enterprise requirements.

BP Logix customer references surveyed by Gartner indicated some of the highest levels of satisfaction compared to the other vendors evaluated. References were particularly satisfied with the return on investment and ease of use of the product. References indicated that they felt the product was well-suited for the citizen developer/business analyst for executing and improving business processes. Customer references indicated that it took a median of two months (tied with four other vendors for fastest) for their teams to be effective at delivering solutions.

CAUTIONS

BP Logix has basic analytics capabilities. Advanced analytics are limited to the Process Timeline and lack the capabilities that are particularly important for the business transformation and digitalized process use cases. BP Logix has no proven examples of implementing digitalized processes on the platform. It lacks the real-time analytics necessary to derive insights from IoT data streams and, aside from using native mobile device sensors, offers no prebuilt adapters to IoT services.

BP Logix has an extremely limited partner network (AssistMicro for services in Japan and ePartner Consulting for services in the U.K.). The vast majority of implementation services are provided directly from BP Logix. However, customer references did not indicate a problem finding talent to implement the software, likely driven by the ease of use of the product, enabling customers to be effective at delivering their own solutions with minimal consulting services.

Although BP Logix has strong customer references, customer references surveyed by Gartner primarily used the platform to increase efficiency, reduce costs and address compliance needs, and were less focused on the more transformative use cases for an iBPMS.

IBM

IBM is enhancing the intelligence of its Smarter Process products through the use of complementary Watson technologies, resulting in what it calls Cognitive Business Operations. It also improved cloud-based deployments by enhancements in Blueworks Live and a licensing approach that allows customers to apply purchase credits to either on-premises or cloud versions of BPM. This review centers on IBM Business Process Manager v.8.5.6, IBM Business Process Manager on Cloud, Blueworks Live, Operational Decision Manager (ODM) Advanced v.8.7 and Business Monitor v.8.5.6. iBPMS projects also may include IBM Analytical Decision Management, IBM Bluemix, IBM Streams, IBM FileNet Content Manager, IBM Integration Bus, IBM MobileFirst Platform and other products.

STRENGTHS

IBM offers a notably broad set of product features, capable of supplying almost any function desired to address the eight dimensions of the Gartner Process IQ Framework. Its products support most relevant industry standards, so developers can readily mix and match IBM products with software from other vendors.

IBM is a leader in decision management and analytics, including rule processing in IBM BPM and ODM, BAM in IBM BPM and Business Monitor, CEP in IBM ODM Advanced and IBM Streams, and advanced analysis in Watson Analytics and Watson cognitive services.

IBM has made it easier for business people to participate in development through enhancements in Blueworks Live and a new Simple Process Accelerator process design tool. IBM Business Process Manager also helps business users execute unfamiliar or complex tasks at runtime using its familiar Process Coach UIs.

CAUTIONS

IBM BPM-based systems can be challenging to design, configure and deploy because most advanced applications require combining multiple products and setting many parameters and options. IBM products overlap each other in content management, business rule processing, BAM, CEP, portal, workflow/orchestration, alerting and other capabilities.

Customer references surveyed by Gartner provided lukewarm feedback on overall satisfaction relative to some other iBPMS vendors.

Customers report that IBM Business Process Manager requires a relatively high level of skills, an issue particularly in small projects using the on-premises IBM products. However, people with skills in the product appear to be more available than in past years.

K2

K2 offers blackpearl, an iBPMS that features easy integration with Microsoft technologies, as well as other enterprise applications. Blackpearl allows citizen developers to build and run business applications, including forms, workflow, data and reports. Out of the box, K2 integrates with SharePoint, Box, DocuSign, Exchange, Office 365, Dynamics CRM, SQL Server, Oracle, SAP, Salesforce and more. The following analysis refers to K2 blackpearl v.4.6.11.

STRENGTHS

K2's greatest differentiator is its high-productivity application authoring environment, which citizen developers and IT resources can use to create process-centric applications for process automation. This environment relies on K2's extensible SmartObject framework to produce a nearly code-free solution.

Using visual tools to build reusable data, form and workflow components that use line-of-business and web-based data, K2's SmartObject technology provides a single view of business entities both in workflows and via their model-driven user interface experience (K2 SmartForms). K2 SmartObject is easily configured to integrate with other systems within an enterprise or on the web.

K2 blackpearl is a natural choice for organizations that have a deep investment in Microsoft technologies such as Windows Server, Microsoft SQL Server, SharePoint, Office 365, Dynamics and Dynamics 365, as well as organizations that are actively using services available from Microsoft Azure.

CAUTIONS

K2 blackpearl provides business activity monitoring capabilities, but customers who are looking for more advanced analytics and operational decision management for continuous process improvement, business transformation and intelligent business processes will need to also use other third-party tools to provide those capabilities.

K2's interaction management capabilities include little in the way of event management, and although the platform can integrate with social media tools, it does not treat social or collaboration interactions as first-class elements for orchestration or for context capture. These limitations curtail K2's ability to provide dynamic advanced case management.

In July 2016 (after the cutoff date for products evaluated in this research), K2 started offering a limited preview of its bpmPaaS that supports iBPMS capabilities. Up until that date, K2 had only made blackpearl available as a managed service hosted on mainstream IaaS cloud services. It also offers K2 Appit for SharePoint, a SaaS solution, built on the K2 blackpearl platform, to enable SharePoint and Office 365 customers to easily create comprehensive workflow and forms solutions without the need for any coding.

Lexmark

In May 2015, Lexmark completed its acquisition of Kofax. The TotalAgility iBPMS was one of the products included in this acquisition. The TotalAgility iBPMS and related products are most appropriate for process-centric, model-driven application development, continuous process improvement and case management usage scenarios involving moderately unstructured processes.

This analysis pertains to TotalAgility v.7.2, Insight v.5.2, Kapow v.9.6, SignDoc v.1.1, CCM v.4.4, Perceptive Content v.7.1, Perceptive Workplace v.3.2 and Perceptive Enterprise Search v.10.3.

STRENGTHS

TotalAgility features strong integration with systems, including SharePoint 2013, Microsoft Exchange and Microsoft Dynamics, and connectors are available to a large number of well-known content management and other systems. Robotic process automation (provided by Kapow) expedites integration with legacy applications that are not accessible via published APIs.

Lexmark has a strong heritage in document image capture, BPM, case management and content management, which, when combined with its mobile platform, provides solid support for digitizing manual, paper-based processes.

Lexmark's embedded business rule capability can access external services to refresh information in real time so that business rule evaluation automatically uses the timeliest data.

CAUTIONS

Lexmark does not treat social, ad hoc interactions as first-class activities orchestrated by the execution engine, which limits its ability to handle improvisational interactions in the case management usage scenario. Similarly, Lexmark lacks IoT integration capabilities, and although it can support multichannel integration for mobility, its mobile capabilities do not yet support the following features: presence or context awareness, use of mobile processes offline, or design-once deploy-anywhere form factors. An additional license for Insight is needed for intelligent process-centric applications.

Lexmark vision and go-to-market strategy emphasize digitization of content-intensive business processes rather than the use of advanced analytics and operational decision management to drive intelligent and dynamic processes.

Two mergers and acquisitions in as many years impeded Kofax — and now Lexmark — in their ability to sustain momentum and remain competitive in the iBPMS market.

Newgen Software

Newgen Software's platform has its roots in document-centric processes, but has evolved to add iBPMS capabilities. Newgen's iBPS v.10.3 is composed of OmniFlow v.10.3, OmniDocs v.8.0 and the Newgen Enterprise Mobility Framework (NEMF) v.3.2. The following analysis refers to Newgen iBPS v.10.3.

STRENGTHS

Newgen iBPS integrates Newgen's business rule and CEP engines with its process orchestration engine to enable the execution of intelligent business processes. It also offers seamless integration with the company's own enterprise content management (ECM) and customer communication management suites. In addition, the suite provides adaptors for Microsoft SharePoint and other mainstream ECM offerings.

Newgen has industry expertise in the finance, insurance, government and healthcare verticals. Newgen provides robust internationalization and localization capabilities. Applications can be built in for the global market. It has seen strong adoption in the Middle Eastern and Asian markets.

iBPS Mobile, built over NEMF, manages mobile interactions within processes, allowing process initiation and process participation from mobile devices (native iOS and Android apps are available). The UI also is available via an HTML5-responsive web interface.

CAUTIONS

Although Newgen customers Gartner surveyed indicated an overall high level of satisfaction with the product and return on investment, compared to the other products evaluated in this research, the implementation cost of consulting services versus software licenses was more heavily tilted toward services.

Although Newgen has a strong presence in the Middle Eastern and Asian regions compared to the other vendors we evaluated, it has seen less adoption in the North American and Western European regions.

Although Newgen can use the native capabilities of mobile devices and can be integrated with biometric sensors, it does not bundle or include prebuilt adaptors for IoT (excluding mobile devices) integration and IoT analytics services (IoT event stream processing).

Oracle

Oracle BPM Suite is a platform with a single design time and unified engine for processes, cases, rules, human tasks, forms, analytics and integration. It is integrated with Oracle WebCenter Content and Oracle WebCenter Portal (which are both included as part of the Unified Business Process Management Suite package). Oracle Process Cloud Service is a bpmPaaS that is integrated with other Oracle Cloud Services. The following analysis refers to Oracle Unified Business Process Management Suite 12c, Oracle SOA Suite 12c, Oracle Process Cloud Service release 1, Oracle Documents Cloud Service, Oracle Social Network and Oracle Sites Cloud Service.

STRENGTHS

Oracle's BPM Suite features strong analytic capabilities that increase visibility into process performance and orchestrate processes more intelligently through real-time analytics (Oracle R for predictive analytics and Oracle Stream Explorer for streaming analytics) and event handling (through Oracle Event Processing). Dashboards and other on-demand operational intelligence reports are built using Oracle BAM, which can leverage data from a variety of different source systems, including both Oracle and third-party applications. Oracle Process Cloud Service features more tightly integrated BAM reports and forms design than Oracle BPM.

The Oracle BPM Suite offers prebuilt integrations to other Oracle products, including Oracle SOA Suite and Oracle's ERP products, as well as a handful of adaptors for third-party applications (such as Salesforce and SAP). Oracle Process Cloud Service makes it easier for citizen developers to build intelligent process applications that leverage a variety of Oracle and third-party services, with Oracle Integration Cloud being leveraged for more complex service integrations.

The cloud-native Oracle Process Cloud Service features high availability and scalability with less dependence on IT developers and operations and maintenance (O&M) staff. Applications built on the cloud service can be migrated to the on-premises version of the product.

CAUTIONS

Although the Oracle BPM Suite offers a rich set of capabilities, there is room for improvement around the ease of use; the product is targeted more toward IT-centric developers and data scientists. Customer references surveyed by Gartner indicated Oracle BPM Suite required much greater dependence on IT developers than other vendors evaluated in this research. Oracle Process Cloud is more targeted at non-IT application authors by reducing the complexity of the configuration and decreasing the time to implement a solution, but it does so at the sacrifice of some capabilities (such as case management, complex/heavy integrations and advanced analytics).

Customer references surveyed by Gartner indicated a lukewarm level of satisfaction with the cost/value of the platform, the performance and reliability of the platform, and the ability of the vendor to resolve issues related to the use of the platform.

Applications built on the Oracle BPM Suite are not portable to the Oracle Process Cloud Service. While Oracle Process Cloud Service can be deployed on-premises, as well as in the public cloud, Oracle BPM suite is only available on-premises.

Pegasystems

Pegasystems is the largest, best-known pure-play iBPMS vendor. Its iBPMS supports all usage scenarios analyzed in this Magic Quadrant. In the past two years, Pegasystems has ramped up its focus on digital business transformation and mobile application development. This analysis is based on Pega v.7.1.9 and Pega Express.

STRENGTHS

Pegasystems' primary strength is its unified architecture based on a powerful business rule management system (BRMS) and predictive analytics decision management engine. The platform combines process flow definitions, rule processing, data handling, cross-platform UIs, a complete mobile application development platform, BAM, content management, case management, application integration and other functions in one model-based development and runtime architecture that supports structured and unstructured process styles. Pega Express, launched in June 2015 and built upon the Pega 7 code base, provides a wizard-driven UI for citizen developers for organizations looking for a lighter-weight BPM platform.

Two recent moves demonstrate Pegasystems' commitment to moving into the midmarket. A dedicated salesforce and new solutions are aimed at the price-sensitive midmarket. This year, Pegasystems acquired OpenSpan, a desktop interaction discovery and robotic process automation tool, to provide a noninvasive, rapid time to solution for midmarket buyers. This acquisition occurred too late to be included in this product evaluation, but has favorably affected Pegasystems' completeness of vision scores.

Pega 7 includes CEP, operational decision management, predictive analytics and IoT integration. Its "data pages" capability is a highly flexible data structure that acts as a context broker to enrich process instance data with contextually relevant information from outside the iBPMS.

CAUTIONS

Although Pega Express helps minimize the learning curve for many users, organizations that want to fully use all the features of the Pega 7 platform must follow Pega's solution development methodology, which involves educating and changing the roles of business people, analysts and IT staff members. Although Pegasystems continues to add consultants, expand alliances with third-party integrators and expand the reach of Pega Academy, customer references still report difficulty finding sufficient resources with Pega 7 expertise.

Pega's Strategic Apps, Cobrowse and OpenSpan offerings appeal to midmarket customers, but Pega is not aggressively promoting Pega 7 and Pega Express as stand-alone iBPMS platforms to the midmarket.

Further, customer references surveyed by Gartner — which were larger enterprises — indicated a lackluster level of satisfaction with the cost versus value returned by the product.

PNMsoft

PNMsoft, a Microsoft .NET-based platform, has further improved its position as consistently being one of the strongest Niche Players. PNMsoft's ability to execute is driven by its HotChange capability, strong CRM integration and regional implementation partners. This analysis pertains to the PNMsoft Sequence version 7.10. As of July 2016, PNMsoft was acquired by Genpact, a global provider of business process outsourcing and digital transformation solutions.

STRENGTHS

The Sequence HotOperations portal provides runtime decision support based on real-time data for KPIs, combined with impact analysis on running operations. This allows the end user to make operational changes to the allocation and prioritization of cases, processes or resources at runtime. This feature supports the data timeliness, contextual granularity and actionability dimensions of the Gartner Process IQ Framework.

Repeatedly, PNMsoft provides an excellent alternative for starting small with less sophisticated requirements, and then growing with the BPM maturity of the organization. This is based on its entry-level pricing strategy with a wide range of pricing options and its cloud focus. This will result in a rightsized approach to leverage the more complex iBPMS capabilities without outgrowing the organization's maturity.

PNMsoft has a number of solid customer references that leverage IoT in the manufacturing and health industries.

CAUTIONS

Although all customer references surveyed by Gartner indicated they would recommend the product to other companies and PNMsoft largely met their expectations, compared to other vendors evaluated in this research, the customer references reported some lower levels of satisfaction with the performance and ease of use of the platform. Also, compared to the other vendors we evaluated, customer references surveyed by Gartner indicated a greater dependency on IT developers.

Although the Genpact acquisition promises to have positive impact on PNMsoft's ability to market, sell and implement toward a broader customer base and to better support customers' digital transformation needs, it is too early to establish the full impact of the acquisition on PNMsoft's ability to execute.

The Genpact approach to digital transformation is focused on middle- and back-office business operations, rather than outward-facing digital business and business moment scenarios.

Software AG

Software AG historically placed a strong emphasis on BPM and application integration. In 2015, it combined its high-end webMethods BPMS product with its broad and deep middleware stack and newer analytic capabilities to produce an integrated Digital Business Platform. This suite addresses a wide variety of on-premises and cloud-based intelligent process and IoT business situations. This analysis centers on Software AG Digital Business Platform BPMS v.9.9.

STRENGTHS

The strength of its webMethods BPMS and its high level of event-bus-based integration with Software AG's state-of-the-art middleware stack is well-suited for the business transformation, digitalized process and continuous process improvement use cases.

The compatibility and increasing integration of AgileApps with webMethods BPMS make it possible to expand simple, cloud-based AgileApps applications into bigger, more-sophisticated BPMS-based enterprise applications, or to add lightweight extensions quickly to larger, enterprise-scale BPMS systems.

webMethods Business Console and Mobile Business Console give business users and IT staff a simple, unified view of their current work, monitor the status of processes, manage task assignments and collaborate on managing multiple aspects of the work.

CAUTIONS

Software AG is not a strong competitor for business environments that require only lightweight, fast-time-to-solution, business-user-developed applications. It is more appropriate for highly demanding environments or environments with a mix of lightweight and demanding applications. Software AG's AgileApps product is not as feature-rich as its IT-oriented webMethods BPMS and not fully integrated into the rest of the Digital Business Platform, although it is improving.

Software AG has a reputation for higher prices than many of its competitors.

Software AG products have been evolving at a fast pace, and additional changes are expected in its process orchestration, BAM and other features. Although most of the core integration and event processing technology is proven, some of the predictive analytics and newer cloud capabilities lack much track record.

TIBCO Software

TIBCO Software made significant changes in its product strategy in the past year, including a shift toward more use of cloud platforms and combining some offerings, including ActiveMatrix (AMX), Nimbus and tibbr with other TIBCO products, to cut the number of SKUs and reduce marketing, sales and support complexity. TIBCO's organization has also been streamlined following its acquisition by private equity firm Vista Equity Partners in December 2014. This analysis centers on TIBCO ActiveMatrix (AMX) BPM 4.0, TIBCO Business Studio 4.0, TIBCO AMX BPM Spotfire 7.1, TIBCO BusinessEvents 5.2.1, TIBCO AMX BusinessWorks 6.2.2, TIBCO Nimbus 9.5.2, TIBCO JasperReports 6.1.1, TIBCO StreamBase 7.5.4 + TIBCO Live Datamart 2.0.4 and tibbr 6.0.1.

STRENGTHS

TIBCO offers first-rate real-time analytics and operational intelligence, including process intelligence BAM (in AMX BPM); business intelligence BAM, visual data discovery and predictive analytics (in Spotfire and R); business rule processing (in AMX Decisions); two stream analytics CEP platforms (BusinessEvents and StreamBase); and other capabilities. The tight integration of Spotfire with AMX BPM and BusinessEvents is a unique advantage.

TIBCO's traditional strength in application integration is based on its enterprise service bus (AMX BusinessWorks), message-oriented middleware (Enterprise Message Service and FTL), and off-the-shelf adapters into applications and other platforms, alongside its newly acquired API Management offering (from its acquisition of Mashery).

TIBCO offers improved case management support and multiple ways to implement sophisticated forms of event-driven BPM, leveraging combinations of business rules, CEP, and AMX BPM for a variety of demanding digital business and IoT applications.

CAUTIONS

TIBCO's product line is powerful but overly complicated and expensive for most small and midsize BPM projects unless they require a high level of analytics or real-time integration among multiple applications or SaaS offerings (such conditions are found, for example, especially in digital business transformation projects).

In locations outside of North America, some customers report inconsistent support.

AMX BPM is best-suited for systematic, IT-centric development projects. It is less effective for business-user-led projects because of its weak capabilities for high-productivity application authoring.

Vendors Added and Dropped

We review and adjust our inclusion criteria for Magic Quadrants as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant may change over time. A vendor's appearance in a Magic Quadrant one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. It may be a reflection of a change in the market and, therefore, changed evaluation criteria, or of a change of focus by that vendor.

Added

Axon Ivy

Bizagi

Dropped

Whitestein Technologies

DST Systems

Inclusion and Exclusion Criteria

The inclusion criteria, used to determine which vendors will be covered in this research, are:

The provider offers an intelligent business process management suite. That is, it provides the critical capabilities of an iBPMS, regularly competes against other iBPMS vendors, is used to support business operations improvement, and has a product that is marketed as software and/or bpmPaaS.

The provider has demonstrated a focus on iBPMS, and the iBPMS offering has been generally available and actively marketed to buyers for at least 12 months prior to the start of our product evaluation. The general availability (GA) date for the version being evaluated must be prior to 30 October 2015.

The provider has 20 paying customers for the specific product/offering version being evaluated. These customers must be from distinctly different companies with solutions being used in production. At least 10 customers must have demonstrated production deployments on the version being evaluated by 30 October 2015.

The provider must have revenue greater than $10 million in terms of software license, subscription and software support services revenue, related specifically to the iBPMS platform (consulting, outsourcing and managed services are not included in this figure).

The provider's product is widely deployed in at least two of the following geographic areas: (1) North America; (2) EMEA; (3) Latin America/Central America; and (4) Asia/Pacific. The provider has some customers already in each of these geographies, (although the provider's headquarters may be elsewhere).

The provider markets its products across industries, rather than focusing on being an industry specialist for just a few industries. While the platform should not be specialized, additional industry-specific or cross-industry solutions offered by the provider will be considered as part of the evaluation.

The product may be available as a subscription-based bpmPaaS and/or a cloud-enabled BPM platform. In addition, it must be available for installation on-premises.

The solution must be accessible from mobile devices — the user experience should adapt to the device form factor and provide an adaptive user experience using the native capabilities of the device.

The provider's platform has been used to implement all six usage scenarios of an iBPMS: (1) composition of intelligent process-centric applications; (2) continuous process improvement; (3) business transformation; (4) digitalized process; (5) citizen developer application composition; and (6) case management.

The following vendors are not included in this research because they do not meet one or more inclusion criteria; however, they are appropriate for certain situations and sometimes compete against the vendors covered in this Magic Quadrant:

    MatsSoft

    Red Hat

    Whitestein Technologies

    XMPro

Evaluation Criteria

Ability to Execute

Gartner analysts evaluate technology providers on the quality and efficacy of the processes, systems, methods or procedures that enable IT provider performance to be competitive, efficient and effective, and to positively impact revenue, retention and reputation. Ultimately, technology providers are judged on their ability and success in capitalizing on their vision.

Product/Service: Core functionality required to meet the needs of intelligent business operations (IBO). The product should be responsive to changing conditions, not only reacting to changes, but predictive, context-aware, automating responses and anticipating needs. This includes current product/service capabilities, quality, feature sets and skills required, whether offered natively or through OEM agreements/partnerships as defined in the market definition.

An iBPMS should be geared toward "citizen developers," allowing business users to be involved in frequent or ad hoc process change. It should enable the citizen developer to be a partner throughout the entirety of the process life cycle. It will have an emphasis on providing real-time insights supporting process improvement, not just one-time automation. The concept of a process should be a primary metadata object and unifying construct.

An iBPMS is distinguished from a BPMS by having higher intelligence capabilities in these four dimensions of the Gartner Business Process IQ Framework: data timeliness, context granularity, predictive power and actionability. Very advanced iBPMS offerings may also feature capabilities in the other four dimensions of the Gartner Business Process IQ Framework.

Overall Viability: Viability includes an assessment of the likely continuation of the product as an effective participant in the market and to support its installed base, within the context of the overall organization's financial health, the financial and practical success of the business unit and the likelihood of the individual business unit continuing to invest in the product, continuing to offer the product and advancing the state of the art within the organization's portfolio of products. It also includes the extent of partner ecosystem (solutions, cloud services or system integration).

Sales Execution/Pricing: The vendor's capabilities in all presale activities and the structure that supports them in the iBPMS market. This includes deal management, pricing and negotiation, presale support, proofs of concept and the overall effectiveness of the sales channel.

Market Responsiveness: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. We assess the vendor's track record in delivering new functions when the market needs them, and how the vendor differentiates itself from its competitors.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message in order to influence the iBPMS market, promote the brand and business, increase awareness of the product, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional, thought leadership, word-of-mouth and sales activities. We examine if the vendor targets the right buyer audience with the right messages.

Customer Experience: We review the degree to which the product enables business and IT role collaboration and delivers a consistent and unified user experience throughout the process improvement life cycle and across all of the technologies contained within the suite.

We focus particularly on the support for intelligence and innovation within business processes, not merely automation — the iBPMS must support a broad range of process/work patterns. Visibility of the impact of activities, interactions and even external changes on a business process will be vital, as is the ability to change the process rapidly.

We examine the relationships, products and services/programs that enable clients to be successful with the products evaluated, including the ways customers receive technical support, account support and process improvement support. We assess this criterion through qualitative interviews with vendor-provided reference customers, as well as feedback from Gartner clients.

Operations: The ability of the vendor to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the vendor to operate effectively and efficiently on an ongoing basis.

Table 1. Ability to Execute Evaluation Criteria

Evaluation Criteria	Weighting
Product or Service	High

Overall Viability	Medium
Sales Execution/Pricing	Medium
Market Responsiveness/Record	Medium
Marketing Execution	Medium
Customer Experience	High
Operations	Medium

Source: Gartner (August 2016)

Completeness of Vision

Gartner analysts evaluate technology providers on their ability to convincingly articulate logical statements about current and future market direction, innovation, customer needs and competitive forces, and how well they map to the Gartner position. Ultimately, technology providers are rated on their understanding of how market forces can be exploited to create opportunity for the provider.

Market Understanding: Ability of the technology provider to understand buyers' needs and translate these needs into iBPMS products and services. In particular, vendors must demonstrate an understanding of how business analysts and business users participate in IBO. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those wants with their added vision (see "Practical Ways to Make Business Operations More Intelligent" and "Select the Right Type of BPM Platform to Achieve Your Application Development, Business Transformation or Digital Business Goals").

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through all media, including the website, advertising, customer programs, positioning statements, collateral, conferences and press interviews. As a growing usage scenario, vendors must essentially evangelize IBO and explain what they do differently in IBO scenarios, as well as support mainstream business process improvement (see "Practical Ways to Make Business Operations More Intelligent").

Sales Strategy: The strategy for selling the product using the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

Product Strategy: A technology provider's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature set as they map to current and future requirements. The vendor's product strategy must include all current iBPMS capabilities and future enhancements, and the vendor's roadmap should aim to improve how business users consume the product, including process/business agility, time to insight, etc.

Business Model: The soundness and logic of a technology provider's underlying business proposition as a commercial entity. This is about providing an iBPMS product rather than delivering product capability via a professional services engagement, ensuring that the product is commercially viable. The vendor must provide an iBPMS product platform via a PaaS delivery model and may also provide it as an on-premises commercial platform product.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual vertical market segments. The vendor should be particularly focused on industries where iBPMS can deliver real value, and the vendor may be investing and building solution assets (process accelerators) in such verticals. In addition, the vendor should be growing an ecosystem of solution partners with vertical industry expertise.

Innovation: Consideration of unique approaches and innovations such as innovative marketing, partnering, licensing, pricing, product enhancements, standards development and community development.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries, as appropriate for that geography and market.

Table 2. Completeness of Vision Evaluation Criteria

Evaluation Criteria	Weighting
Market Understanding	High
Marketing Strategy	High
Sales Strategy	Medium

Offering (Product) Strategy	High
Business Model	Medium
Vertical/Industry Strategy	Low
Innovation	High
Geographic Strategy	Low

Source: Gartner (August 2016)

Quadrant Descriptions

Leaders

Leaders demonstrate strong capability concerning the use of "intelligence" in a process context, with customers that have shown innovative and successful processes with substantive business outcomes. Leaders' customers demonstrate combined usage of social, mobile, rule-based and event-based capabilities of an iBPMS. Customers' usage of cloud for production solutions is also indicative of Leaders. Leaders' offerings demonstrate features that support business professionals, allowing them to participate more fully, and to collaborate in developing differentiating processes to rapidly take advantage of information within a context that may have previously been difficult to reach. The flexible processes that have been developed allow customers to take advantage of changing business conditions and respond to threats and regulatory changes quickly. Such changes may even be made "in flight" during the running of an operating process, recognizing the occurrence of events that indicate evolving patterns that imply a change in process is needed. Leaders tend to be successful companies and may have either developed their own iBPMS offering or successfully absorbed acquisitions to focus significantly on this market. Leaders sometimes provide highly sophisticated product sets that may require specific methodologies and in-depth professional services, or they may be priced at the top end of the spectrum, making them hard to justify when the benefits of BPM are not well-understood.

Leaders also articulate a roadmap for supporting their customers' journey toward digital business, and their customers demonstrate the use of these early product features to digitalize business processes and support business moments (see "Architect Your Business to Sense, Respond and Create Business Moments" and "The Future of BPM: From Prescribed Actions to Improvisational Interactions").

Leaders have a strong partner network that not only knows how to implement the vendor's software, but also supports the customer's business transformation initiatives. They also have a well-defined marketing and sales strategy around both on-premises and cloud-based deployments.

Challengers

Vendors in the Challengers quadrant are characterized by operational excellence and good standing in the market. Compared with vendors in the Leaders and Visionaries quadrants, they either do not have long-term roadmaps or their products lack some features. Vendors in this quadrant demonstrate strong execution but only on a subset of the use cases.

Visionaries

Visionaries demonstrate innovation from a business and/or technology perspective. They tend to have strategies that focus on a particularly demanding aspect of BPM, such as responsiveness to complex events, emphasis on specific types of business process or goal orientation. Their offerings are generally less well-rounded than those of Leaders. Some Visionaries have made targeted acquisitions to bring in relevant technology, but have not yet fully integrated those capabilities to deliver a well-tuned iBPMS. Visionaries may be a good choice when you have a strong need for a particular scenario, or to cover processes that emphasize integration of devices into a business process. Vendors that rely on the heavy involvement of IT staff may be Visionary in some respects, but fall short of being Leaders because of their limited support for the direct involvement of business people. On the downside, the smaller Visionary vendors have a fairly limited installed base, or their products and services are not widely used in the more-critical business processes. Visionaries may not always excel at getting their message across in a crowded market, and small private Visionaries are sometimes acquisition targets.

Niche Players

Niche Players tend to provide perfectly good technologies, but may have not yet seen significant traction across this market, or they may focus well in one or two vertical industry or geographic segments. These vendors may be specialists in their areas, and thus they may represent the optimal choice for some projects, as the vendors often offer specialized expertise, focused support practices, flexible terms and conditions, and a greater dedication to a particular market segment and its customers. We also regard vendors as Niche Players when they find it hard to enunciate their future plans, or have a muted marketing message that might emphasize simpler process automation rather than pushing at the boundaries of intelligent business processes. Acquisitions that support intelligent business processes may be very recent and yet to deliver proven value, and vendors' advanced iBPMS capabilities may be less strong, even though technically their offerings meet our inclusion criteria.

Context

Managing business processes effectively is a difficult challenge for today's business leaders, because many of the systems that are used within processes are rigid and difficult to change rapidly. It is even more important today for systems to be flexible and responsive, allowing process participants to intelligently respond to events (even those that are happening outside the process). The ability to provide more "joined up" insight around business processes through the use of greater analytics capabilities — combined with support for the people involved in processes, allowing them to take advantage of this insight — is what differentiates today's iBPMS market from earlier BPMS technology markets. Today's business managers need to seek out new opportunities, model them ahead of time, and then quickly adapt processes in order to innovate and deliver dynamic and responsive experiences to process participants, regardless of whether those participants are inside or outside the organization.

The iBPMS market is the evolution of the BPMS market, but — as with previous evolutions — there are still many other kinds of BPM products that address less comprehensive market needs. When an organization faces relatively slow rates of change, has very low BPM maturity or is focusing mostly on document-centric process automation, an iBPMS product may be overly complex for the task.

An iBPMS supports business responsiveness — often at the "moment of truth" in a customer interaction. The need to change which task is performed can happen at the individual work-item level, at the aggregate level of groups of work items and also at the global process design level. Parameterized models can enable dynamic adjustment to the process itself, so that any new work items go through a new execution path due to that parameter change. For example, there might be a threshold that determines if a secondary approval for a work item is needed. Such changes may be predetermined at design time, as a choice of runtime options that permit dynamic execution of alternatives depending on the parameter setting. However, ad hoc changes to processes may need to occur when the runtime behavior (often of a person) has not been planned at design time, and the most intelligent processes can also support this ad hoc dynamism. Analytics can help guide the process toward desired outcomes.

Gartner recommends that clients looking for an iBPMS consider their requirements carefully, and establish how intelligent their desired solution needs to be. Review "Select the Right Type of BPM Platform to Achieve Your Application Development, Business Transformation or Digital Business Goals" to understand some of the leading capabilities, and use those in conjunction with this document to work out the detailed requirements for your project. Use the Gartner Process IQ Framework to understand which areas to focus on (see "Eight Dimensions of Process IQ Determine How Smart Your Process Needs to Be").

Market Overview

Vendors in the iBPMS market have originated from several different sources, with "infrastructure stack" vendors adding relevant BPM functionality (often by acquisition), document- and content-centric vendors moving into the market by extending content workflows to include system integration and human workflows into processes, and newer innovators focusing more on developing solutions from business-oriented modeling techniques.

Similar to last year's evaluation, we continue to see growing interest in the more transformative uses of an iBPMS. Faced with both externally and internally driven change, organizations have a bigger need to reinvent themselves while also driving improvements in efficiency. Additionally, through the integration of various systems, including IoT technology (sensors, smart machines, robots and so on) combined with advanced analytics (CEP, streaming analytics, pattern recognition and predictive analytics), companies are using an iBPMS to power their digitalized processes — embodying the characteristics of Gartner's digital humanism manifesto (see "Digital Humanism Makes People Better, Not Technology Better").

Examples of "things" in the IoT may include household and business premises lights, smart electric meters, smoke alarms, security cameras, mobile devices, tools, toys, remote patient monitoring nodes, vending machines, parking meters and hotel door locks (see "Internet of Things Primer for 2016"). In a digitalized process, IoT "things" are integrated in the business process in order to ensure that the process can adjust to changing conditions as necessary. Process innovation can happen more easily when such devices are orchestrated together with all other process participants.

There are a couple of significant changes in the 2016 Magic Quadrant compared to the previous Magic Quadrant published in 2015. First, there is an increasing focus on using an iBPMS to address more complex work styles that may be less structured or unstructured and require interaction with a wide variety of structured and unstructured contents types. iBPMSs have evolved a varying degree of case management capabilities — enabling organizations to improve outcomes from a wider variety of process styles. Second, in order to adapt to changing business needs more quickly, there is an even greater focus on making the technologies easier to use so that the citizen developer (business users and business analysts) can author solutions with minimal involvement from IT.

While iBPMSs can coordinate short-lived, transactional system-oriented processes, they are best used to manage long-lived business processes that span both people and systems, as well as functional boundaries. While some vendors use similar process execution engines, pure service-oriented architecture (SOA) orchestration is not a focus of an iBPMS.

Further, the mobile, social, cloud and analytics features in iBPMSs are more capable and better integrated than they were in 2015. Those solutions that balance ease of use and time to solution alongside greater intelligence capabilities are seeing the most success. Also essential are strong partner networks for business transformation capabilities, in addition to traditional implementation services.

Evidence

[1] To create this Magic Quadrant update, we carried out a variety of activities. A key element was the use of online surveys of customers of the included vendors. In August 2014, we surveyed almost 100 discrete companies in this research. In addition, we made use of Gartner research to understand market revenue and growth. We also analyzed Gartner client call data, and utilized information from a variety of social media sites to understand effectiveness of execution.

Evaluation Criteria Definitions

Ability to Execute

Product/Service: Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability: Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

Market Responsiveness/Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.
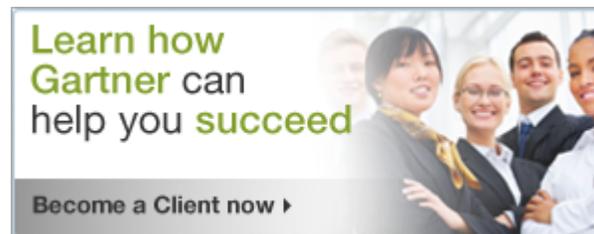
Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

Business Model: The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.

(http://gtnr.it/1KsfgQX)

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