Deep Analysis

# IBM

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**Founded 1911 | HQ Armonk, NY | >350,000 employees | $79.6B revenue (2018)**

*IBM is a formidable competitor in the digital process automation market and the information management space. It has years of experience fusing process automation with enterprise content management, content capture, business rules, decision support, and now also RPA and AI/ML for process automation that transforms back-office and customer-facing processes.*

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## The Company

IBM has a long and distinguished track record in both work automation (including workflow, BPM, and digital process automation) and enterprise information management, reaching back to the early 1990s.[1] The firm is a technology heavyweight, with total revenues reaching $79.6 billion in 2018 (most importantly, reversing the annual trend of declining revenues since 2011).[2] Although IBM does not disclose its numbers for individual business units, the process and content markets are strategic to IBM's overall corporate direction and the company has always commanded significant market share in the process automation/content space.

IBM's go-to-market strategy combines the Digital Business Automation software and professional services through a unified strategy and branding under IBM Automation. Although managed by separate executives, IBM operates and goes to market as a single/combined software/services business unit. IBM believes it is the only business automation vendor with combined services/software, and that this gives clients opportunities to work with a single vendor and gain the cross-pollination of experience from the professional services group. The company cites time-to-value and speed of delivery using in-house collaboration that also allows it to bring industry and process experience across the team.

IBM has added functionality and richness to its process product lines over the past three decades through extensive organic development and multiple acquisitions.[3] This roadmap has resulted in a broad footprint in today's digital process automation market and the interrelated content management space. IBM's digital business automation offerings span support for structured process automation, straight-through processing, dynamic case management, decision management, enterprise content management, and intelligent content capture.

Historically, IBM has focused its sales and marketing efforts on the CIO and the information technology group. However, IBM more recently expanded its focus to specifically address the chief operating officer (COO) in addition to the CIO and line-of-business executives. Targeting the COO has better positioned IBM for digital transformation projects and mission-critical processes. IBM's process automation business spans most industries, but is particularly strong in banking, insurance, financial services, healthcare, and government. Examples of flagship process automation customers include AT&T, Barclays, Bank of America, HSBC, Lloyds, and Nike.

# Market and Technology Positioning

*In January 2018, IBM made a strategically important business and technology decision to combine its two major process automation platforms into a single unified platform.*[4] This was an important decision because consolidating sales & marketing and research & development into a single organization helped to clarify IBM's direction, roadmap, and priorities for customers, and better aligned the division with shifts in the external digital process automation marketplace.

IBM's consolidated Digital Business Automation platform was unified at the U/I level and includes a low-code application designer for building user interfaces, and a single interface for business analysts to access the platform as microservices. Underneath the U/I layer, application developers can access and work across the different platform components. Not all layers of the process automation software are integrated; however, the platform provides for common administration, unified content services, and common content capture capabilities.

The IBM Digital Business Automation platform now provides:

→ collaborative, model-driven workflow design for businesspeople

→ low-code application designer for business analysts and developers

→ business rules

→ operational dashboards

→ process automation for structured business processes

→ straight-through processing

→ dynamic case management

→ operational decision support

→ embedded AI for pattern analysis and natural language processing

→ enterprise content management

→ content capture

→ support for storing automation data in a data lake

→ integration with Automation Anywhere, BluePrism and UI Path for robotic process automation

IBM plans to continue advancing its platform strategy by focusing more R&D efforts on customer experience capabilities, administration, containerization (via Red Hat), microservices, usability, and AI/ML.

Figure 1 provides a high-level overview of IBM's strategic positioning. (Note: this radar graphic is not a product analysis or product rating; rather, it represents vendor positioning within the digital process automation market.)

A deeper analysis of the categories on the graph shows:

→ **IBM's no-code collaboration for analysts and businesspeople that starts before process design and modeling is a unique and expansive view on business involvement in process improvement.** Specifically, IBM Blueworks Live provides a SaaS-based collaboration environment for business subject-matter experts to capture and document their process knowledge. It's commonplace for hundreds or even thousands of business teams in large organizations to use Blueworks to crowdsource innovation and process improvement ideas from colleagues and other business units, documenting their process insights and then passing this information to developers. Sometimes teams expand the effort to gather Voice of the Customer (VoC) inputs from stakeholders and customers about costs, time to resolution, problems, and issues.

The use of Blueworks Live precedes the process design and modeling stage, and not all ideas captured by businesspeople are incorporated into the process design. Once the effort moves to process design, modeling, and automation, the platform provides low-code forms, documentation, prompts, checklists, etc. for business analysts and developers to design the process.

Figure 1
## IBM's Positioning
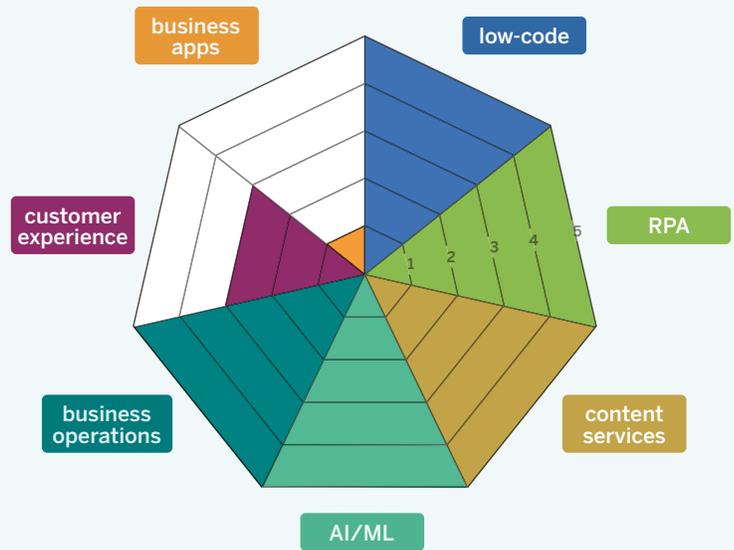


### Legend

**low-code**
0 – no emphasis on low code
1 – business developer focus
3 – extensive low-code tooling
5 – general purpose low-code market

**RPA**
0 – no RPA offering
1 – custom integration
3 – 1+ partners/OOB connectors
5 – deep partnership/native RPA

**content services**
0 – no content support
1 – native content support
3 – partnership with 1+ content providers
5 – native content services/ management

**AI/ML**
0 – no focus on AI/ML
1 – initial insights/ experimentation
3 – multiple AI/ML deployments (e.g., capture, next best action, NLP)
5 – native AI/ML in DPA product

**business operations**
0 – focus on CX only
1 – targeting the back office
3 – pre-built use cases for back office
5 – strategic focus on complex business operations

**customer experience**
0 – focus on biz ops only
1 – focus on CX for biz ops
3 – targeting sales and marketing
5 – strategic focus on end-to-end CX-centric processes

**business apps**
0 – no focus on business apps
1 – pre-built templates/forms for specific processes
3 – 1+ pre-built apps >50% packaged
5 – fully packaged apps

→ **IBM has a strategic RPA partnership with Automation Anywhere and is also integrated with UI Path and Blue Prism.** IBM resells Automation Anywhere, which is integrated with the Digital Business Automation platform. RPA is integrated with IBM's workflow, capture, and decision capabilities. While IBM recognizes the importance of RPA for task-automation, the company's strategic focus is on RPA's larger value attained by the full integration of task automation into orchestrated workflows, digitized operations, and streamlined processes running on a business automation platform.

In late 2019, IBM also introduced the IBM Automation digital worker to more holistically create and apply digital skills into end-to-end job roles. RPA tasks are an essential component of digital worker. A "digital worker" is a software program (or bot) that mimics a human's interaction with computers when completing repetitious, information-based work. Digital workers co-exist alongside humans, freeing people from non-value-added activities – such as cutting and pasting an e-mail into a software application. By assigning digital workers to complete manual tasks, human workers can be more productive, better focused on core job responsibilities, and more highly motivated, having been liberated from performing routine, repetitive tasks throughout the day.

→ **Content has always been an essential component of IBM's digital process automation strategy, fueling case management in particular.** The content services in the Digital Business Automation platform come from the FileNet platform's DNA and include document management, document imaging, records management, digital asset management such as video, and a new set of AI-infused document capture, intelligent extraction, classification capabilities. (Note: FileNet's older case management software is now in legacy support, having been superseded by IBM Business Automation Workflow.) IBM is strategically committed to the FileNet brand/product portfolio and just updated the content services software in late 2019.[5] IBM is focusing on five key themes for its product roadmap: 1) introducing new content features, 2) infusing AI into content services (e.g., automate classification with Content Analyzer), 3) developing content-centric applications, 4) supporting the modern cloud architecture, and 5) providing intelligent automation. Many of IBM's largest customers use document capture, content services, and document imaging to process millions and even hundreds of millions of transactions per year (e.g., the U.S. Social Security Administration).

→ **Watson AI/ML is strategic to IBM overall, and to the Digital Business Automation platform.** IBM has launched a strong push to infuse intelligence into process automation that will assist workers with knowledge-driven decisions as well as automating mundane and repetitive work.

Some customers use AI/ML with chatbots to discover and respond to customer issues. Other organizations use AI/ML for pattern identification and recommendations for process improvements. Overall, IBM sees AI/ML as the next big chapter for digital process automation but cautions that many organizations are not yet ready and should instead marshal their resources. IBM sees three key stages on the path to AI/ML for process automation: Step 1, digitize operations in order to collect all the executing and emitting data; Step 2, do cognitive work to figure out patterns; Step 3, apply learning from the operational data (e.g., an internal recommendation engine). In anticipation of an AI/ML future, IBM has added capabilities for storing automation data in a data lake to help customers bridge the gap from today's process automation to an intelligent business future.

→ **Business operations has always been a strategic market for IBM's digital process automation (and its content management platform).** IBM cut its teeth on high throughput, transaction-intensive process automation requirements more than two decades ago, and this has continued to be a core focus. IBM's later forays into dynamic case management were also largely focused on back-office operations for managing requests, incidents, and investigations. IBM's Digital Business Automation platform automates some of the world's largest digital process automation and document management systems within back-office operations.

→ **Customer experience is a newer focus for IBM.** Although the company targets customer experience deployments, this is not IBM's core market for process automation. Customers have sometimes taken matters into their own hands, such as one bank that integrated IBM process modeling with customer journey mapping tools. As IBM adds AI/ML to the process automation platform and integrates with chatbots, supports NLP, and works with omnichannel deployments, the demand for process automation from customer experience stakeholders is likely to increase.

→ **Out-of-the-box business apps are not IBM's focus for process automation.** Instead, IBM provides a comprehensive platform for digitizing and automating the full spectrum of business processes and creating applications to further assist client employees in their day-to-day operations. Customers often develop bespoke solutions in-house for their digital process automation deployments or turn to large-scale systems integrators (including IBM Global Business Services).

## Our Opinion

***IBM is a formidable competitor in the digital process automation market and the information management space.*** *It has years of experience fusing process automation with enterprise content management, content capture, business rules, decision support, and now also RPA and AI/ML for process automation that transforms back-office and customer-facing processes. IBM has a clear view of how AI/ML will transform the nature of work and new process automation efforts. IBM's vision for the future includes expanding its focus beyond process automation to an intelligent business platform that incorporates process automation, task automation, business insight and decisioning, data lakes, and AI/ML within both the digital process automation engine and the newly automated business processes. IBM is already well down this path with its Intelligent Business Automation platform.*

*IBM is still a significant force to be reckoned with in content management, having continued to invest in the flagship FileNet software acquired in 2006, and having continued to grow the FileNet customer base. Notable improvements to the content platform include adding AI/ML to extract intelligence and metadata from business content (including the receipt of video and rich media transcoding and distribution) and re-architecting the content platform into a cloud native architecture (by leveraging docker and Kubernetes). In addition to the FileNet content platform, IBM has worked very closely with Box over the past few years.*

## Advice to Buyers

Short-list IBM if your enterprise is beyond 5,000 employees and your focus is on automating mission-critical processes and/or business operations. In particular, consider IBM if your organization seeks an integrated content/process automation platform and/or is focused on case management, structured processes, or straight-through processing. Pay close attention to IBM's roadmap for continuing to integrate its process automation platform, incorporating AI/ML into process automation and enhancing its content offerings.

### Endnotes

1   IBM can legitimately claim to be the first vendor to develop workflow software, with its pioneering efforts at USAA to create a document imaging system that flowed work from individual to individual.

2   https://newsroom.ibm.com/2019-01-22-IBM-Reports-2018-Fourth-Quarter-and-Full-Year-Results

3   For example, over the years IBM acquired a content/process platform (FileNet), plus business rules (iLog), low-code process modeling and automation (Lombardi), and business process modeling (Holosofx) software, to name a few key products. Just recently, IBM acquired Red Hat to bring IBM's software portfolio to Red Hat's Kubernetes-based container platform for private and public clouds.

4   IBM combined the WebSphere and FileNet product lines and business units into a single platform and organization.

5   The most recent release (Dec. 2019) to the FileNet content services product includes:
   • self-registration for external users when viewing and updating shared content
   • consistent UIs for View and Navigator across Cloud Pak and Studio
   • content incorporated into low-code apps in Studio App Designer
   • new APIs for rapid app development, including webhooks
   • ability for users working in Salesforce to store in FileNet
   • storing videos with high-volume streaming and viewing
   • deployment of FileNet on AWS and running within 3 hours
   • support for Google Cloud storage for documents, and AWS object locking for WORM
   • support for cloud-based GA GraphQL API, Content Analyzer Integration, and IER auto-declare

# SOAR Analysis

## Strengths

→ Highly scalable process and content solution

→ Spans all types of processes (case, structured, and straight-through)

→ Large installed base and deep experience implementing digital process automation

→ High-end capture with intelligence

→ Large-scale consulting and systems integration services with deep experience in IBM Digital Business Automation platform

## Aspirations

→ Continue to differentiate by infusing Watson research into process automation opportunities

→ Dominate the process/content automation market

→ Enable more intelligent and scalable robotics with new digital worker capabilities

→ Deepen focus and penetration in customer experience implementations

## Opportunities

→ Leverage Watson and AI/ML expertise within the process engine and within targeted business processes (e.g., next best action)

→ Leverage IBM's professional services

## Results

→ Visionary perspective on moving beyond digital process automation to intelligent business process platform

→ Successfully consolidated two separate business units and product portfolios

## Research Series: Digital Process Automation State of the Market

This report is part of Deep Analysis's Digital Process Automation State of the Market research series, which includes these reports:

→ State of the Digital Process Automation Market: Current Assessment 2019

→ State of the Digital Process Automation Market: Trends 2020-2025

→ Vendor Vignettes for Digital Process Automation Vendors

# About Deep Analysis

**Deep Analysis** is an advisory firm that helps organizations understand and address the challenges of innovative and disruptive technologies in the enterprise software marketplace.

Its work is built on decades of experience in advising and consulting to global technology firms large and small, from IBM, Oracle, and HP to countless start-ups.

Led by Alan Pelz-Sharpe, the firm focuses on Information Management and the business application of Cloud, Artificial Intelligence, and Blockchain. Deep Analysis recently published the book "Practical Artificial Intelligence: An Enterprise Playbook," co-authored by Alan and Kashyap Kompella, outlining strategies for organizations to avoid pitfalls and successfully deploy AI.

Deep Analysis works with technology vendors to improve their understanding and provide actionable guidance on current and future market opportunities.

Yet, unlike traditional analyst firms, Deep Analysis takes a buyer-centric approach to its research and understands real-world buyer and market needs versus the "echo chamber" of the technology industry.

## About the Author

Connie Moore is Vice President and Principal Analyst at Deep Analysis. She joined the firm after four years as Senior Vice President, Research, at Digital Clarity Group, and more than twenty years as Research Director and Vice President at Forrester Research. Connie is a widely acclaimed speaker, advisor, consultant, and expert in digital process automation, customer experience management, digital experience platforms, and content services. In 2014 Connie received the Workflow Management Coalition's globally recognized Marvin Manheim Award for influence, contribution, and distinction based on standout contributions to the field of workflow and business process management.

## Contact us:

info@deep-analysis.net

+1 978 877 7915