



EXECUTIVE INSIGHTS

A New Age in Document Creation

Disrupt or be disrupted as the industry shakes up

In the era of mass computing, the document industry has been dominated by a few big tech players. But the nature of documents is going through a transformational change because of accelerated digitalization and new ways of working. The market has seen the rapid growth of startups carving new niches and challenging the status quo.

It is unclear how the industry will look 10 years from now, but there will be disrupters (and the disrupted) and consolidation. Market participants — whether major incumbents, high-growth players a few years old or new entrants — and investors should conduct in-depth market analysis in order to inform their strategic moves to take a winning position as the shape of the new environment unfolds.

In this *Executive Insights*, L.E.K. Consulting analyzes these dynamics, providing key considerations for companies and investors as they review their strategies.

An industry in transformation

For many years, there has been little innovation in workplace documents. For the most part, they have been static pages produced on computers, filed in a digital folder and often printed out. But the industry has been undergoing a slow transition into a dynamic,

multifaceted, digitally driven paradigm shaped by fresh forms of information and presentation. Unpacking these developments highlights many exciting new trends and opportunities that enable organizations to work smarter.

High-growth areas include interactive content, such as charts, images and videos, and open text to hold that information. Added to that is the ability to integrate these documents with external content using live feeds and more robust levels of security. Content management tools, text generation, electronic signatures, document understanding and enterprise search have also seen innovation and increasing use.

Digging deeper into content management, enterprise systems have evolved into content service providers, as information assets can now be delivered as "services" by third-party software for use within organizations, such as process and case management workflows to regulatory and compliance departments.

Participants in adjacent tool segments like collaboration, task management and data visualization are exploring embedding elements of documents into their offerings or establishing partnerships. Tools like Slack and ClickUp, which allow users to share documents with their chat and scheduling interfaces, have started incorporating document collaboration, and task management solution Jira now offers document creation and collaboration through its Confluence platform, provided by parent company Atlassian. Document workflow solutions are also starting to incorporate these new functionalities.

Vendors are introducing document features, while document players such as Notion and Monday are introducing collaboration. Further new technologies, including artificial intelligence (AI) and machine learning, blockchain, robotic process automation (RPA), and cloud storage, have become catalysts of structural change in the way documents are created and managed, enabling an expanded scope of workflow automation.

AI and machine learning technology, especially natural language processing (NLP), are changing how documents are made. Type-ahead suggestions and translation capabilities are now commonplace, and as sentiment analysis and AI text-generation capabilities continue to improve, more documents will be generated with AI having a significant role.

Blockchain is being increasingly used to identify and authenticate documents and preserve context across distributed networks. A key benefit of the technology is its ability to validate digital documents for use cases like securing contracts and credentialing.

RPA allows users to automatically extract data from documents and is becoming regularly used for rote activities like invoice processing and account configuration. Documents will need to be created in structured formats that allow for this automation.

The proliferation of cloud storage and its document management capabilities has led to documents being more readily available within an organization, wherever its people are located, and easily distributed outside it. This has resulted in greater collaboration across companies, both offline and in real time. As a result, document creation tools have been forced to adapt to provide solutions for easily shared and editable documents.

Many other factors, including data security, personal data privacy regulations like the General Data Protection Regulation in Europe, industry-specific regulations and hybrid working, will reshape the future of documents by increasing the need for more secure data exchange processes, industry protocols and frameworks, as well as better privacy controls.

New segments are experiencing rapid growth

Traditionally, the digital document market was dominated by a few players, especially Microsoft with Word and Adobe with PDF. However, there has been a growing range of challengers. Google Docs, released in 2006, was the first major new entrant, and it took some years before people and businesses saw the benefits of its real-time collaborative document offering. Google Suite now has a nearly 60% share of the major office software market in the U.S., putting Office 365 into second position.

In the past few years, startups have leveraged businesses' use of social media to create new document models. Canva is a good example of an innovative challenger offering document creation and collaboration tools built for social media, as well as other marketing applications — its offering even ranges to custom-made T-shirts. Founded in 2013, Canva has enjoyed rapid success and expects to report \$1 billion in revenue in 2021. Firms in adjacent segments, like ClickUp in workspace collaboration and Atlassian in task management, are also incorporating document creation in their solutions, allowing them to offer a broader suite of capabilities.

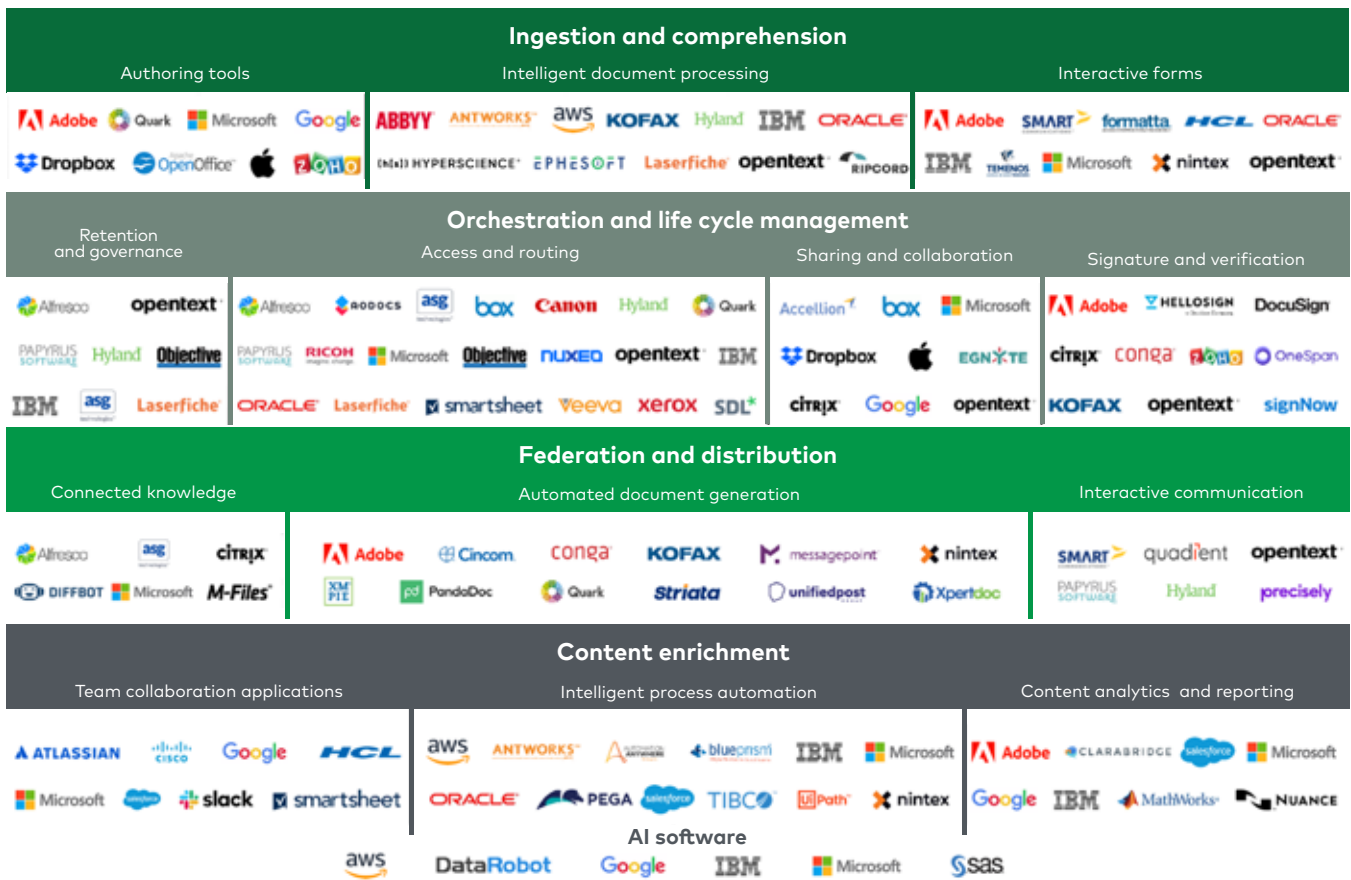
Many of these newer segments of the evolving document paradigm are experiencing very high levels of growth. E-discovery software for rapid review of electronic documents for litigation purposes, as well as archiving software that enables secure file storage in a virtual archive, are both enjoying a combined annual growth rate (CAGR) of 22.2%. Capture applications, which convert unstructured data into structured information that

can be passed to another enterprise application and/or consumed by a downstream task or process, are seeing an 8.6% CAGR, as are content sharing and collaboration applications.

The future will be much more complex

Multiple forces are playing out at varying speeds by industry, application, use case, technology maturity and regulatory landscape, and the future of documents will be built on a more complex value chain, consisting of a much broader range of tools than most people and organizations use today. Orchestration, life cycle management, federation (e.g., connected knowledge, automated document generation) and content enrichment will be woven into this more complex fabric (see Figure 1).

Figure 1
Market map of document creation vendors



Source: IDC Market Analysis Perspective Worldwide Enterprise Content Strategies, 2020 - 2020 September; AI=artificial intelligence

With such a shift in the industry, the future roadmap is uncertain. But our analysis shows that six emerging end-state scenarios could coexist with varying levels of prevalence from the short to long term. We believe that in the medium to long term, the future of documents will be fundamentally different from today, with a likelihood of disruptive events/market-structure evolution, including use, tech and regulations (see Figure 2).

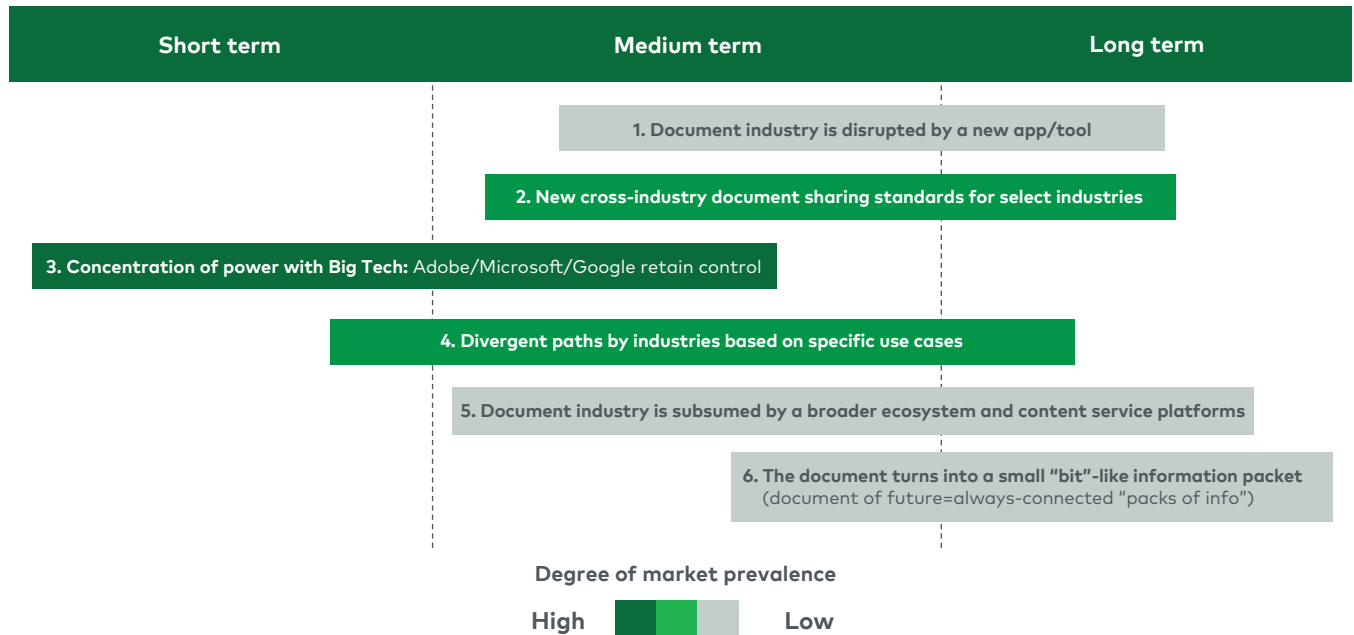
These end-state scenarios, listed below in more detail, could have varying levels of prevalence:

- Document creation/handling is disrupted by a new tool, app, or solution type to increase document utility and work efficiency
- New cross-industry document sharing standards emerge out of the need for structured data exchange
- Big Tech (Adobe, Google and Microsoft) concentrates its dominance with scaled cloud and workplace solutions
- Documents are subsumed by a broader ecosystem and content service platforms based on easy-to-use single solutions that include all documents and workflow steps
- Documents become small "bit"-like information packets, driven by massive decentralization and seamless data exchange via blockchain and application programming interfaces (APIs)
- Adoption varies by industry based on sector-specific dynamics, regulations, standards and use cases

While it is impossible to predict with certainty the document's future industry by industry, it is likely that the public sector and the healthcare, legal and accounting industries will be earlier adopters of blockchain technology. The technology will be critical for surety of document ownership and data anonymization and for meeting regulatory compliance. In addition, multiple business types and a range of corporate functions can be expected to make widespread use of AI and NLP for text understanding, text generation and multiformat structured data exchange, for instance.

It is clear, though, that as the new document environment evolves, different generations will gravitate to using their preferred tools and solutions. Generation Z and younger cohorts will be more amenable to change, having known only an internet-based world. Some will probably never use paper at all. But well-entrenched document habits will remain for the foreseeable future. In spite of the rapid innovation in the document industry, many millennials are very attached to Word and PDF, and older generations still make considerable use of printed documents.

Figure 2
Likelihood of disruptive events and market-structure evolution over time



Source: L.E.K. research and analysis

What to do

The days of paper are far from over, but in the medium to long term there is no doubt that the nature of documents and the shape of the industry will be fundamentally different from today. Many companies that are in high-growth startup mode now could become household names in the new industry order. The document creation segment has already seen considerable consolidation by large corporations and financial investors in the past few years. For example, private equity players have bundled assets to create new platforms. This is set to continue.

To win in the new era of documents, companies and investors need to undertake deep analysis of the likely scenarios ahead and develop agile strategies that can be rapidly adapted as the market develops. For some companies, this may entail engaging in acquisitions. Firms that fail to conduct a robust strategic review are likely to find themselves disrupted by more forward-thinking competitors.

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