



encanvas®

Unleash Your Digital Transformation with Digital Documents

What they are, what they do,
and why you need them

“The greatest danger in times of turbulence is not the turbulence; it is to act with yesterday’s logic.”

— *Peter Drucker*

PREFACE

Demands for business agility

The COVID-19 pandemic has become somewhat of a watershed for the old ways of operating a business. Attitudes of ‘if it’s not bust don’t fix it’ don’t cut with a digital age. Firms that resist embracing change as a constant—and as an opportunity for repeated rebirth—fail. Rapidly changing markets are causing organizations to push harder for flexibility in the way they work, and enterprise IT is not exempt from these pressures.

Rise of the citizen developer

With the growing popularity of low-code, no-code and fully codeless software tools, it was thought not so long ago that citizen development and no-code software applications development tools would service the demand for distributed custom information processing and collaboration solutions in the enterprise.

That, however, has proven to be increasingly unrealistic and unviable owing to the need of IT professionals to stay in firm control of enterprise data and the data processing environment they are responsible for.

Pressure is on IT to govern data and information services

It’s not easy for IT leadership teams to achieve the right balance between the pace of enterprise information systems development and information systems oversight.

Digital transformation demands have outstripped supply. There is a worldwide shortage of coding and analytical skills. In the meantime, every digital business sees technology as a fundamental component of its customer value, so demand for solutions development is high.

Enterprise IT these days is not just about serving up automation of business processes. Neither is it solely about serving the needs of digital workers. It’s also about serving customers and other stakeholders.

Compliance pressures

Underpinning all strategic IT decisions is another important balancing act; that between business opportunity and risk. With more compliance and regulation demands—such as cybersecurity, the General Data Protection Regulation (GDPR), consumer credit regulations, banking regulations, etc.—IT leaders can’t encourage a free-for-all of digital solutions.

THE NEW DEAL

Businesses want more solutions, delivered faster, to serve digital transformation

The watchword for most businesses post the 2020 pandemic is adaptability.

Businesses know they need to be able to see market changes as an opportunity, not a threat. That means installing more fluidity into supply chains, resourcing approaches, business processes and, most importantly, how IT is served up to digital workers. We're hearing new terminology from industry watchers like Gartner—like '[composability]'—arguing the case for more adaptive and flexible ways to produce information solutions.

IT leaders are faced with a difficult choice.

They know they can't possibly produce all the digital solutions the enterprise needs, but they also know they are unable to allow a free-for-all of information solutions engineering.

The solution, then, is to offer digital workers fit-for-purpose tooling to serve-themselves with the information analytics, collaboration and data processing tooling they need under the strict governance of IT. And this is where modern intelligent digital documents are bringing value.

"There has to be a NEW DEAL between digital workers and IT, one that brings digital workers the freedom to do their jobs in the digital age, and gives IT the governance they need over systems, data, security and strategic IT initiatives"—
Andrew Lawrie, CTO



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SECTION 1

The March of Digital

Doing business in 2022

The world today is digital. IT seems the entire global population is always online. No surprise that eCommerce is growing.

According to Shopify, the global eCommerce market is expected to total \$5.55 trillion in 2022. Small wonder that all enterprises want to trade online and move forward with a digital transformation.

At one time, businesses could operate the same business model for a decade or more. Nowadays, digital technologies are reshaping markets and redefining competition. It means no organization can afford to stand still, or ignore trends.

This calls for a different organizational design. Check out the book 'AGILIZATION' by Ian Tomlin to discover this new kind of *always changeable* organization.

Characteristics of a digital business:

- Always on
- Data driven
- Delivering personalized experiences
- Leveraging digital tech as part of their customer value (apps / platforms)
- Transforming business models
- Operating at a faster tempo

KEY PRIORITIES

The Economist Intelligence Unit conducted a global survey and a series of in-depth interviews with IT and business decision-makers at major corporations. The **top 3** areas for improvement priorities exposed were to:

72% Support remote workers

69% Integrate information and workflows across the organization

69% Change systems and processes quickly

Business transformation—still a credible strategy

A DIGITAL TRANSFORMATION (DX) is what happens when businesses realize the potential of digital technology to bring value to their customers.

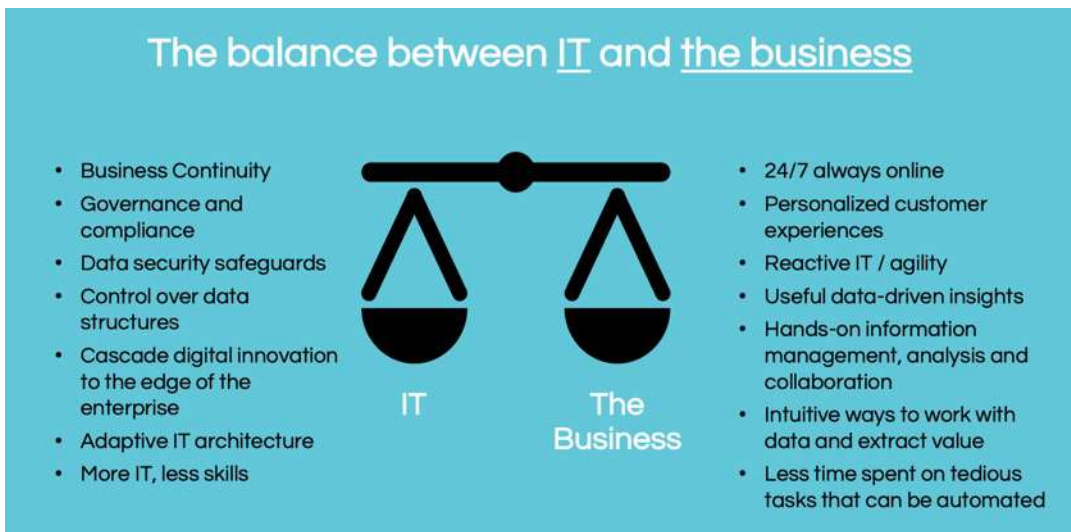
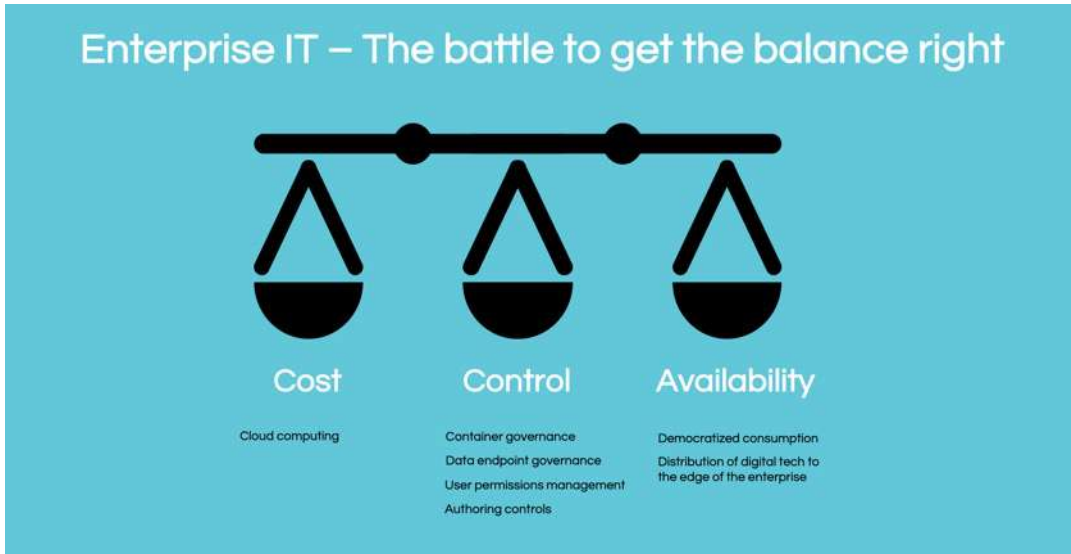
The outcome of a digital transformation is a step change in operational effectiveness and growth. Recent research conducted by Harvard Business School suggests that companies that are digital laggards don't perform as well as those that embrace digital transformation.

They write, **"Organizations that scored in the top quartile of our digital transformation index obtained much better gross margins, earnings, and net income than organizations in the bottom digital quartile. Other financial and operating indicators showed similar disparities."**

Resetting the balances

Demand for greater business adaptability ...has increased pressures on IT to find a better balance between:

- The business and IT function
- Centralized and distributed data processing service
- Information solution demand and supply
- Autonomy and control



Architecture—The 3-Layer Model

Market analyst firm Gartner suggests that businesses need to rethink their approach to technology in order to maximize digital opportunities. They describe the step-change needed as the Composable Business Model.

“Composable thinking, composable business architecture and composable technology are the three pillars of composable digital business. The leaders in the industries where change is most urgent, like commerce, manufacturing and healthcare, are practicing it today”—Gartner, 2022.

// According to the Gartner report “Adopt a Composable DXP Strategy to Future-Proof Your Tech Stack,” 60% of mainstream organizations will use the composable business model as a strategic objective by 2023.

THE DIGITAL DOCUMENT ARCHITECTURE

1 Digital Documents

Digital documents are **composable applications** built from business-centric modular components. They make it easier to use and reuse data and code, accelerating the time to market for new information solutions.

- **Easy for workers to use**—democratize IT
- **Easy for IT to control**—operate within a secure cloud space with permissions controlled by IT
- **Lower Information Management cost and risk**

‘60% of mainstream organizations will use the composable business model as a strategic objective by 2023’—[Gartner](#).

2 Digital Data Fabric

A digital fabric that spans the enterprise to make data consumable—connected, organized, etc. (HyperDrive multipurpose plug-in optional)

- **Makes data consumable**—Prepares data linkages, pipelines and integrity
- **Governed by IT**, accessed by digital workers
- **Employs AI and software bots** (HyperDrive multi-purpose plug-in optional)

‘Data fabric reduces time for integration design by 30%, deployment by 30% and maintenance by 70% through the ability to use/reuse and combine different data integration styles’—[Gartner](#).

3 Digital Cloud Spaces

A Digital Cloud Spaces layer—a cloud-native secure private cloud cluster container architecture that brings more control and cybersecurity tooling to IT, with version rollback technology.

- **Brings a new standard of control, security, scalability and governance** to IT
- **Spaces and Clustering**—Simple administration of distributed bots and digital documents
- **Security**—Endpoint control, PassPort, Temp pages, etc. make it the safest place for data!

“There is no business strategy without a cloud strategy,” Milind Govekar, distinguished vice president at Gartner

Familiarity breeds innovation

Concepts and paradigms are difficult for humans to grasp. It allows people to understand the jump-off point to something new—hence why Alexander Graham Bell designed the first electric light to behave in a similar way to a gaslight.

Businesspeople understand documents. They know what their role is, and for this reason, they are a critical instrument in digital innovation.

Five things that make digital documents useful:

#1 Autonomy of use—Empowering for digital workers

#2 Support rich media and interactive features—Great for online presentation and courseware

#3 Monitor user behaviors—Useful to learn about your audience, the value of content, learner progress, etc.

#4 Mobile and desktop friendly—Support a range of presentation/output formats

#5 Analytics and apps—Can be extended with plug-ins to do more



Watch this video to learn about digital documents and how they compare

DIGITIZED Portable Document Format (PDF)

- Digitized rich media document file
- Contains data, design meta-data
- Does not include if/then logic rules
- Does not track user behaviors
- Supports use on smartphones
- Semi-autonomous—Requires PDF Adobe Acrobat installed to access full features of the file format, and PDF Reader app to read and use
- Great for digital signatures and archival
- Auto page numbering
- Offers full screen presentation and basic features to turn PowerPoint presentations interactive

DIGITAL Canvas Document Format (CDF)

- Smart digital rich media document file
- Contains data, design meta-data and if/then logic rules
- Supports use on smartphones
- Tracks user behaviors
- Semi-autonomous—Requires data fabric and presents as standard (Secured or unsecured) HTML web page deployed to a dedicated a URL or micro site
- Auto page numbering (optional)
- Supports rich media and can be fully interactive; great for eBook and distance learning course development, and for capturing, processing, automating, analyzing and sharing digital data and applications



Digital documents increase data literacy and shift the conversation away from tools and technology and toward decision making as a business competency.

Digital documents combine composable data with software bots, edge data processing analytics and graph technology to create personalized content and data experiences to generate business value in new ways.



SECTION 2 Digital Documents

About documents

Documents are uniquely useful as a hybrid information management format. They:

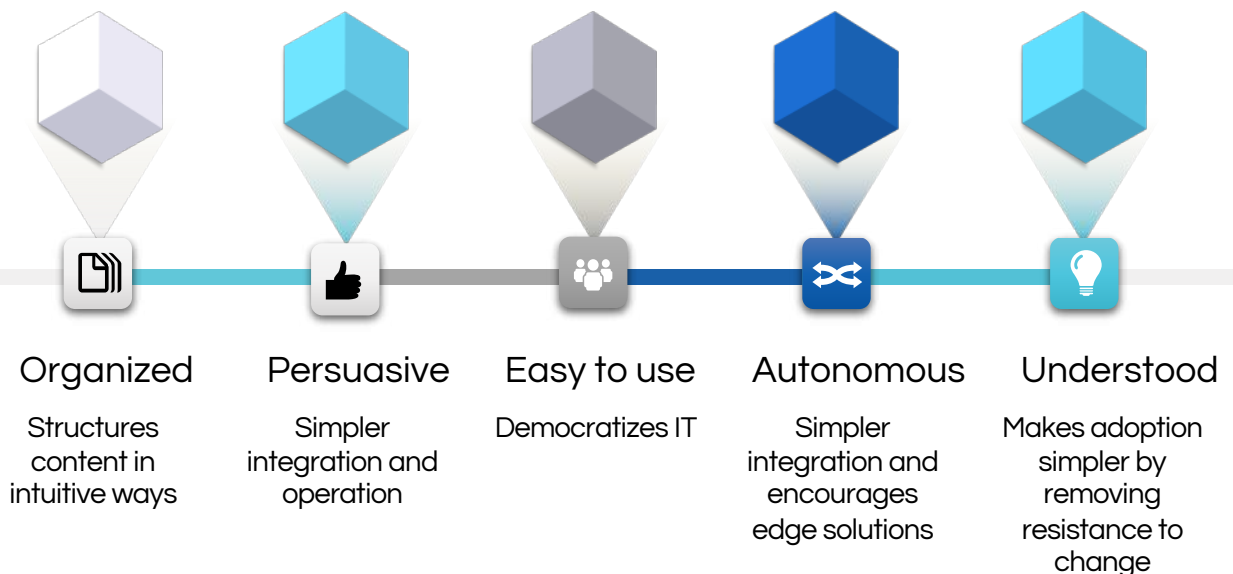
- Communicate
- Collaborate
- Bridge between companies
- Link processes
- Report
- Store

Evolution of documents

Chart the evolution of any language and you realize that none stays the same for ever. Words get inherited, the meanings of words change, and the structure of sentences evolve. Document formats are like that. They change according to the era.

The new digital mandate

In the digital age, documents have a new job to do; to equip digital workers to maximize the value of data and communicate using digital means. To serve these requirements, requires a new KIND of document file construct.



Digital documents versus apps

What intelligent digital documents have brought to the digital enterprise is a new level of information working autonomy

New digital document formats—like Encanvas' Digital Document Canvas file format (CDF) are in essence a composite file that contains data, design and logic rules in a single, coherent digital file.

Intelligent digital documents perform the characteristic autonomous roles of a document in the enterprise—i.e., to share data, capture it, process it, reporting on it, structure it, present it, to bridge process workflows between systems and organizations etc. However, in contrast to their structured document predecessors (such as PDF) new intelligent alternatives offer a new digital construct for a digital age.

Given that digital document solutions are built on codeless technology, digital workers can design and publish them to discharge their information management tasks without calling in IT. Nevertheless, what makes digital document architecture ever more powerful are the IT owned layers of the architectures they rest on.

What makes digital documents different to apps is the level of autonomy they provide for digital workers to use data, formulate micro processes, and use them relatively untethered to IT platforms and resources.

That should not infer that digital documents suffer the same regulatory challenges as citizen app development tools. Vendors work hard to ensure that governance over information architectures for IT leaders is a red-line priority. What's more, IT teams are often surprised just how comprehensive their governance tools are.

The reason digital document adoption is rapidly growing comes down to the ability of digital documents to satisfy the digital holy trinity of the business, the IT function, and the digital workers that use them.



Advantages of digital documents over apps



Faster Deployment

Deploy within a day, very low entry point for skills thanks to intuitive design



More Versatile

From eBooks to data processing systems (stand-alone/composite)



Greater Empowerment

Less IT, more business and IT control



Get Further to the Edge

Autonomous and codeless. Embed digital tech to the edges—faster



Game-Changing Economics

Lower costs, fewer skills, more solutions, less SaaS, no upgrade costs!

Digital document benefits

Demand for digital document solutions for the enterprise come from demands to serve up better ways of delivering personalised customer experiences, automate back-office processes, and to equip digital workers with the data insights they

need to make informed decisions. Indeed, with so many demands placed on IT for applications, digital documents equip organizations with the means the push information solutions to the edge of the enterprise.

1

Like a document

- A concept people understand
- Makes adoption simpler

2

No-code point-and-click composition and publishing

- Democratizes information working
- Removes demand for applications
- Sets a new balance in the relationship between the business and IT

3

Rich and interactive

- Support rich media
- Include video, hot links, maps, interactive graphs, etc.

4

Composable data

- Interoperate with existing data sources and applications
- Data fabric prepares data
- Access through point-and-click tools

5

User behavioral tracking

- Rich behavioural tracking (document / section)
- Learn about your audience and what interests them

6

Powered by AI and bots

- Cascade digital to the edge of the enterprise
- Include features to embed plug-ins, data, graphs, maps, bots, and artificial intelligence

7

Platform version control

- Digital documents carry a version identifier
- Upgrades to happen as and when new platform features are added
- No software upgrade costs
- Document owners decide if/when to upgrade

8

Safe for data and regulated by IT

- Added cybersecurity safeguards over and above the industry standard controls incorporated into hosting environments like Microsoft Azure, Amazon EC2, etc.

9

Mobile-ready

- Documents can be published in various formats.
- Templates used to select the deployment treatment
- One option is a stylesheet for mobile-first sites

10

Cloud-native

- Everything happens on a digital cloud.
- Use digital documents to enrich customer portals, websites, eCommerce platforms, SaaS apps etc.



SECTION 3

Transformations

Introduction

Demands for digital transformation come in various forms. Objectivity behind DX initiatives began with a clear focus on customer value and experience. But digital tech has been around for over a decade, and programs are now extending more into the back-office, focusing on front-to-back automations and cutting the human-out-of-the-loop where machines are better served to discharge tasks.

In this final section, we examine how digital documents are impacting on the core areas of digital innovation across the enterprise, namely:

1. The digital customer value premium
2. Becoming the data driven business
3. Achieving Hyper Automation with Artificial Intelligence (AI) and software bots
4. Empowering the modern worker
5. Agile business

1 The digital customer value premium

Businesses are using digital documents to personalize their customer value

Customers today want what they want when they want it. And they want it personalized to their tastes.

Digital technology has a major role to play in providing the optimal customer engagement platform, driven by rich insights to understand behaviors and buying preferences.

Businesses are calling for ever smarter ways to make sense of customer data, harvest data; and build applications designed to perfectly fit customer experience needs. Cloud native technologies allow Digital leaders to innovate faster and show meaningful returns for digital projects.

Supporting customer experience initiatives with a coherent data management strategy, Enterprise Data Fabrics are cloud native platforms used to create a unifying digital canvas across your enterprise to interplay between internal systems and the bigger digital world.

These 'as a service' cloud platforms leverage data from across and beyond the enterprise and bring together data management, applications design and operational governance into a single technology toolkit.



Watch this video to learn how businesses are using digital documents to understand their customers, and personalize their customer value



2 Becoming the data driven business

A culture of curiosity

Organizations want to maximize the value of their data by using it to make business decisions. When organizations shape their management approach to use data every day to make decisions, they are often described as operating a data driven culture. Data has moved to the heart of boardroom discussions around competitive advantage.

The latest research from Gartner suggests that, by 2023, data literacy will become an explicit and necessary driver of business value, demonstrated by its formal inclusion in over 80% of data and analytics strategies and change management programs.

Benefits

Creating a data driven culture will help your business to understand customer behavior, react to market changes faster than your rivals and eliminate the unknowns. What organization would not want these abilities?

New leadership

Armed with a new set of ambitions, organizations are establishing leadership roles to drive the transition to data centricity. The **Chief Data Officer (CDO)** role is growing in popularity as a standard bearer, taking on duties to define strategy, manage implementation, overcome barriers to adoption, and to maximize the value of data to the organization.



Watch this video to learn how Overall Eesti has applied digital document technologies to become data driven

How digital document architectures overcome adoption challenges

Digital document solutions—underpinned by data fabric data organization platforms—address the most often reported barriers to a data driven culture adoption, namely:

1. Data literacy—The composability and autonomy offered by digital documents de-skills analysis
2. Suboptimal tooling—Shortcomings in data analytics tools across the business can be self served by digital workers without putting data at risk, and without creating a longtail of applications development demands.
3. Data quality and accessibility—The data fabric creates a robust and coherent approach to serving up data to consumers overcoming ownership and silo issues.
4. Challenges with data integration - Even with 'lots of data' stored in their back-office systems. These accessibility issues are largely addressed by implementing a Data Fabric.

3 Achieving Hyper Automation with Artificial Intelligence (AI) and software bots



Watch this video to learn about how digital documents are being used a glueware to bind web and eCommerce sites to back-office processes

Process automation on an unprecedented scale

Even in 2020, most organizations continue to process data by depending on regular human manual interventions and the use of documents as a transport between dysfunctional process steps and as a human-data interface.

[HYPER AUTOMATION describes a step change in productivity and output achieved by applying modern digital technologies to supercharge business processes. Read this Guide to Hyper Automation to get up to speed on this game changing change agenda.](#)

Digital Documents, Codeless Data Fabrics, Software bots and AI have changed everything

The digital transformation technologies now accessible to firms present IT teams with a new set of possibilities. They can fine-tune processes that have previously demanded tedious human data processing, key-fill, swivel-chair apps, spreadsheet applications, and a document wallet brimming with SaaS product subscriptions.

Before now, the cost of developing useful automations was out of reach. The cost of the tools, the overheads of so many IT experts, the time taken to bring solutions to market, the complexity of data integrations—all the pointers were heading in the wrong direction.

That doesn't make change trivial. Often, overcoming IT technical challenges is the beginning, not the end of the hyper automation journey.

Hyper Automation outcomes

Hyper Automation projects remove humans from tasks that machines do best. They glue front of house web and eCommerce sites to automated back-office workflows. They serve humans to be more productive at the activities they ARE good at by discharging roles as digital assistants.

Perhaps though, the most profound impact of hyper automation comes from its ability to harness the power of AI powered software bots to monitor transactions and events. Apply a layer of graph technology to this data and suddenly you have a business that can analyze its every life moment in real time.

Digital documents are fundamental in the roll-out of hyper automation. They give IT professionals the tool they need to cascade digital technologies to the edge of the enterprise while still retaining—if not growing—control, data management, cybersecurity, and governance.

Empowering the modern worker

Two thirds of employees say they do not have access to the information they need to do their jobs, a survey of 8,300 workers has found

[\(Read more\)](#)



Watch this video to learn how businesses are using digital documents to equip modern digital workers

Managers under pressure

It's never easy to lead an operational department within a business. The expectation of the business is that you will deliver outcomes and represent the company's interests. You're having to make judgements in the absence of the insights you need. Meanwhile, your team is offering up reasonable IT issues and describing suboptimal areas of operation you know it makes sense to fix. You've approached IT but they are maxed out.

Sound familiar? From the top to the bottom of the enterprise, digital workers struggle to access the data they need. They are required to default to using desktop applications, like spreadsheets, to manually crunch data, interpret data-sets, capture, process and publish data. This was a problem in 1980, 1990, 2000—and it remains a problem in 2022.

Digital document empowerment

The autonomous nature of digital documents means that, for the first time, offices can move to digital at scale. Digital workers can access enterprise grade technology, managed by IT but operated by the workers themselves. The versatility of digital documents means that an digital worker can be publishing an eBook one minute and automating a business workflow with software bots the next.

The power of data relationships

For anyone who's tried to analyze a thousand rows of data on a spreadsheet knows how unfit they are to make sense of large data-sets.

Relational databases allow digital workers to painlessly slice and dice through organized data to understand its context and implications.

Data relationships make data come to life.

Personalized insights

While business intelligence has been around for decades, it's been a largely centralized capability served up by IT. Recent developments by companies like Microsoft have helped to democratize data reporting and BI, but often at the cost of committing many workers to hours of time spent reporting.

Digital documents democratize access to analytical and reporting tools, powered by relational databases, to equip workers with the tools they need to get digital work done.

Digital assistants

Software bots integrated into digital documents can perform the tedious data crunching and data key-fill jobs that humans don't want to do.

Agile business

Back in an era that preceded digital, James McNerney, the then farsighted Chairman of Boeing said, "Institutionally, the ability to be agile enough is the gut issue in leading an organization today."

He wasn't wrong. Agility has always been the game changing characteristic that sets leaders and survivors apart from laggards that die. When the average life of a business is sub ten years, you'd think business leaders would care more. But then, most CEOs are only in the game for the short-term, so why should they care?

In the digital age, agility isn't a buzz-word or catchy idea, it's a survival instinct. Fail to adapt to market changes, emerging customer wants, or new business models—brought about by an IoT, or VR, drone, or blockchain—and suddenly, your cool tech startup, quirky biotech or happening cosmetic chain is up against it.

Agilization

Everything about the design of a digital business needs to be formed around a capability to support constant change. If there were a process for it, and there probably should be, you might call it 'agilization.'

The frictional cost of change, the time cost of adapting inflexible technology, cardboard commercial contracts and a large full-time workforce expecting a lifetime of work with the same employer, all these things are not the magnanimous gestures of a generous employer, are a recipe for chapter 11.



Watch this video to learn how businesses are transforming their IT adaptability with digital documents

The qualities of agilization

An agile business has eight significant qualities. These are:

1. **Leadership**—Having someone to set out why the organization exists and what it's trying to do.
2. **Alignment**—The means to efficiently focus effort and energy on the most important things.
3. **Culture and behavior**—An operating approach that gets people energized.
4. **Streamlined processes**—Efficient ways to turn customer value into cash.
5. **Knowledge**—Customer and market understanding; and a horizon scanning solution that provides an early warning system of change.
6. **Curiosity**—An attitude and system for constantly questioning the now, and working out how to do better things, not just things better.
7. **Flexible Workforce**—An on-demand workforce that can be procured as needed with the right skills, in the right place, at the right time, and at the right price.
8. **Technology**—An ability to build as many ways to manage and communication information as the business needs, to then be able to change them as often as you like, without frictional costs.

Digital documents are key to most of these agile business qualities. They help leaders translate strategy into action. They allow people to be more productive and achieve more. They power knowledge creation and horizon scanning, And, of course, they create agile IT.

Final thoughts

Technology was never the barrier, but it was the biggest excuse

Much of this document is about technology; and plays very much around a theme of how hard and challenging it is for businesses to turn digital tools to their advantage.

And yet, almost without exception, it's never technology that causes projects to fail. Even armed with the worst technology, the best teams can achieve remarkable things. It's almost always people, their poor communications; their reluctance to work together, to change; their inability to comprehend paradigms; their selfish agendas to gain promotion, or get one over the other guy, etc.—these are the major obstacles to business performance and success.

That said, without question, technology will always be the first reason given why a project can't get delivered.

You've got digital documents, the rest is up to you

Now digital documents exist to give knowledge workers tools to serve themselves with information management and publishing applications, there really isn't any reason (technology reason at least) why their personal performance goals can't be achieved provided they have the ideas, ambition and energy to get the job done.

The platform of platforms

Digital document platforms represent the *platform of platforms* for the enterprise.

These **intelligent documents**—born of and for the digital age—are easy to learn, use and deploy. They're used to publish an eBook one minute, and to build an information management system to run cityscapes or traffic systems the next.

Their **data fabrics** span the enterprise, bringing access to all accessible data, and present it in a composable form, so it can be used again, and again. The data management tooling data fabrics supply, bring more control, efficiency and re-use to data, making it more valuable.

The cloud native **digital cloud spaces**—that pull the levers and whose software bots watch over and regulate the data pipelines and dashboards—used to govern this complex, expansive, adaptive architecture, well, they make the balance between business and IT work for the IT department, the business, and the people within it.



About Encanvas

Encanvas is a leader in composable digital documents and cloud native computing. We are the creators of the intelligent Digital Document Canvas file format (CDF). The company has offices and business partners around the world.

The first version of Encanvas was launched in 2004 and immediately started winning awards. Since then, the company has successfully deployed a series of large-scale projects in Europe, the United States and Africa. Now on version 4, Encanvas remains an innovation leader in codeless information management and publishing solutions.



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