Capgemini

Innovation Nation

Helping to optimize your business operations

Special Edition on the Frictionless Enterprise

The Frictionless Enterprise

Breaking barriers, building bridges

Anis Chenchah
CEO, Business Services

It is no understatement to say that COVID-19 has challenged the world in ways it has never witnessed before. From its impact on global economies and business, to the response mechanisms implemented by governments to limit the disruption, the ongoing implications of the pandemic are huge.

But what have we learned from the past few months?

We know that digital-ready organizations are able to engage and serve their customers through more innovative and flexible ways, which has led to increased customer experience and brand loyalty. In contrast to digital laggards, this is the fruit of years of deep enterprise-wide transformation, evolution of business and delivery models, and committed investment in people and IT infrastructure.

Our eyes have been well and truly opened up to how the employees of tomorrow want to engage with their employers in a customer like way through new, digital working models and contracts, and how a digitally augmented workforce – the combination of people and technology – can deliver enhanced levels of process intelligence and hyper productivity.

We also know there will be economic pressures that follow COVID-19. This will result in more emphasis being put on cost-cutting measures and cash, as well as ways to make the organization leaner, fitter, and more agile. In short, service providers will be asked to create new ways of detecting, preventing, and overcoming frictions in their clients' business operations.

These challenges have not necessarily occurred as a result of COVID-19. The pandemic has simply acted as a catalyst in requiring businesses to rethink issues that were perhaps always present but hadn't been given enough attention.

To this end, our special edition of Innovation Nation focuses on how we are implementing ways to detect, prevent, and overcome frictions in our clients' business operations, delivering enhanced business outcomes in a value-focused way. This enables our clients to move towards realizing – what we call – "The Frictionless Enterprise."

Through the articles in this special edition, the Business Services leadership explains the concept of the Frictionless Enterprise and how we are leveraging our latest thinking, organizational design, and intelligent solutions to achieve our goal of delivering effortless, touchless, and "frictionless" operations for our clients.

We also hear from our practices on how automated, best-in-class finance and accounting, supply chain, and human resources processes can deliver specific business outcomes and a more resilient, frictionless future in a value-focused way.

The COVID-19 crisis has validated and accelerated our move towards the Frictionless Enterprise. While we don't know exactly what the post-pandemic world will be, we do know that to thrive in the emerging "next normal," there will be even greater need for agile and seamless connections with our customers, partners, and employees, underpinned by deeper digital transformation and state-of-the-art technology.

As always, I hope you find the articles and interviews in this edition engaging and thought-provoking. I welcome you to share your opinions and views online and through our social media channels.

The invisible hand of AI – collective intelligence underlying the Frictionless Enterprise

Taoufik Amri

Chief Data Scientist, Capgemini's Business Services

AI leverages insights from data to reduce frictions impacting the effectiveness of an enterprise's business processes. It does this by orchestrating tasks between machines and humans. In turn, this deploys a collective intelligence at scale, delivering enhanced operational excellence for business operations.

Every phenomenon in the physical world is accompanied by friction. Indeed, perpetual motion is unattainable due to the dissipation of energy induced by friction.

Machines and what they were able to perform, led to the First Industrial Revolution. But with the advent of thermodynamics, physics was able to explain the limits of mechanical performance. These limits did not depend on the technical components of the machines in question, but on the transformations of energy allowed – or not – by physics.

Gaining order always costs energy, and nature constantly tends to dissipate order. Disorder cannot be ordered spontaneously without an investment of energy.

Business processes and the frictions within

The First Industrial Revolution gave birth to the concept of operational processes – orderly tasks that mark out a chain of production and value. The discipline of business process management appeared, which aimed at streamlining and optimizing these processes within enterprises to avoid inefficiency.

However, over time, inefficiency and friction creep into processes, just as they do in nature. In the digital age, emerging technologies can extract and process massive data sets via digital, cloud-based platforms. This data can be collected and leveraged with a premeditated use to deliver frictionless customer service,

for example. Traditional organizations whose data legacy has not been collected or planned with intentional objectives in mind often find this a challenge.

When we apply analytics to data generated by the information systems of these traditional organizations through what we call "process mining," we discover processes that are very different in reality from originally-defined operational processes. Bottlenecks appear that affect the efficiency of the process. This is an example of friction and the movement to disorder that inevitably takes place – and it tends to have a human origin.

In traditional businesses, humans use and supervise machines as tools rather than operators in processes. The machines do not supervise operations and do not make decisions. When technologies and tools evolve or humans change, processes change in order to circumvent the problems that are created by these changes. And this is an inevitable decline to disorder in operational processes.

However, in a frictionless business, humans and machines work in symbiosis through new and emerging technologies that have enabled the emergence of the platform economy. As we shall see, artificial intelligence (AI) plays a central role by augmenting, not just by replacing, humans with machines.

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AI at the heart of frictionless processes

Before a task can be automated, the process it is part of needs to be completely redesigned. This is the first form of order that must be put into place, so when exceptions occur, they can be managed by humans without friction.

AI can orchestrate machines and humans by predicting operations upstream from a particular process that creates exceptions. These are then assigned to a human operator who handles them correctly. In this way, AI becomes part of the actual architecture that keeps the "human in the loop" to perfect the process managed by machines. In essence, processes are managed by machines and augmented by humans.

This intelligent architecture is another form of order established in the process. AI acts as an invisible hand governing operations between humans and machines to improve the overall efficiency of the process.

There are other ways for AI to intervene in the architecture of a process in order to limit friction. One of them is to embed analytics across a process. By leveraging the data manipulated and generated by machines and humans at each node of a process, each operator can access essential insights into operations executed by other operators, regardless of whether they are machines or humans.

A level of coherence then emerges between the operations executed within the same process.

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Collective intelligence and the Frictionless Enterprise

In nature, coherence is one of the main features of effective and frictionless collective decision-making processes. This is used, for instance, by living beings to avoid certain threats. This collective intelligence provides the capacity for adaptation and resilience to change.

As an example, look at the spectacular way in which a flock of birds travels and behaves collectively in a seemingly well-choreographed ballet (see Figure 1).
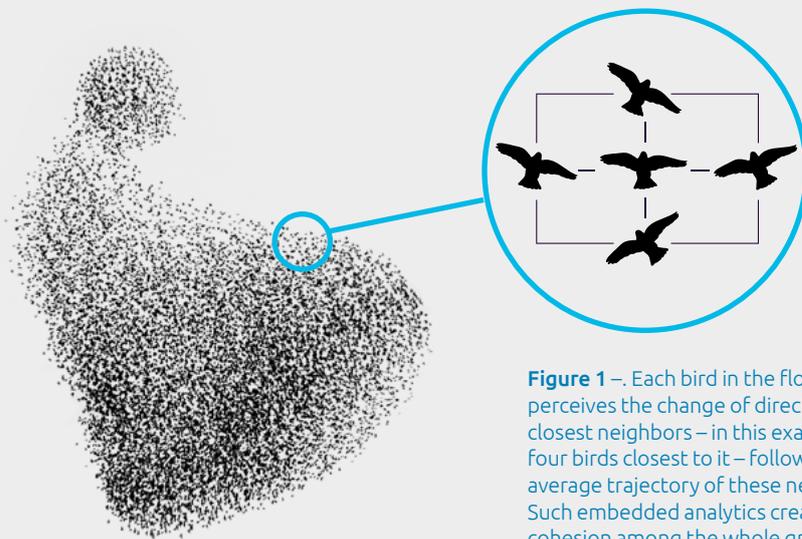
Figure 1 —. Each bird in the flock perceives the change of direction of its closest neighbors – in this example, the four birds closest to it – following the average trajectory of these neighbors. Such embedded analytics creates cohesion among the whole group.

When a bird first sees a threat, it changes its direction of flight, and this information spreads across the flock. As a result, all of the other birds change their direction of flight accordingly. For the flock to move coherently in this way, each bird gathers insights from its nearest neighbors and follows their average direction.

Step by step, all of the birds follow a coherent trajectory. This is an example of analytics inherently embedded in each bird's brain that enables the flock to be resilient to external threat and change.

In business, an enterprise is composed of processes, each of which is made up of a combination of humans and machines. To make a process more resilient to change and limit the evolution towards disorder, each operator must be fed with insights from the data generated and processed by all operators in the process.

In our example, each bird is analogous to an operator working in a given node of the process. AI creates coherence between all the nodes of a process. This notion of collective intelligence is fundamental for understanding the concept of the Frictionless Enterprise.

AI as the guardian of order

To build a frictionless business, having access to data and digital is not enough. Neither is replacing humans with machines through leveraging AI. The processes that organize an enterprise must be completely reimagined to be able to implement intelligent automation and create a digitally augmented workforce at scale.

AI is no longer only involved in the execution of tasks, but also in the orchestration of operations between machines and humans. By acting like an invisible hand, processes become smarter and operators more coherently.

In short, AI acts as the guardian of order at different levels of the process – providing resilience to change that are the sources of frictions impacting the effectiveness of the process.

Taoufik Amri *is a former quantum physicist. He graduated from the Ecole Normale Supérieure in France with a Ph.D. in quantum and statistical physics. As the principal data scientist for Capgemini's Business Services, Taoufik advises Capgemini's clients on implementing ready-to-use deep tech and intelligent automation solutions to dramatically accelerate the optimization of our clients' business operations. Taoufik also identifies tasks that can be performed better and/or faster with AI, measures the value added by AI with advanced quantitative business process models, and designs human-in-the-loop solutions.*

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Taoufik Amri
Chief Data Scientist

The Frictionless Enterprise – eliminating frictions in business operations

Manuel Sevilla

Chief Digital Officer, Capgemini's Business Services

Innovation Nation talks to Manuel Sevilla – Chief Digital Officer at Business Services – about how removing bottlenecks and frictions in your business operations not only helps your organization run more efficiently to create a Frictionless Enterprise, but how it also creates better relationships with your business ecosystem.

Hello, Manuel. Thanks for joining us. Could you start by introducing the Frictionless Enterprise?

Thank you for having me. The Frictionless Enterprise is a conceptual approach to enable the seamless and effortless flow of information and collaboration between employees, the departments they work with, and their relationship with suppliers, partners, and obviously customers.

An organization that aims to be a frictionless enterprise works to eliminate frictions in its business operations by adapting and augmenting its technology and processes, as well as changing the culture and mindset of the organization to reduce these inefficiencies to a minimum.

The Frictionless Enterprise is therefore best expressed as an attitude on how organizations can create best-in-class processes and services that deliver increased efficiency, faster time to market, and an enhanced user experience.

Why do organizations have frictions in their business operations, and how can our Frictionless Enterprise approach help?

Organizations need to look at the root cause issues of why frictions exist in their business operations. This is usually down to the way organizations have been structured, the way processes have been developed, and the way data is stored.

Most organizations contain certain elements of fragmentation, such as silos between departments that have adopted and developed different strategies in running processes and owning data.

Depending on how close the team is from the customer and the competition, the time to market pressure is so different it generates a multi-speed organization, which creates various levels of appetite for change, as well as communication and alignment concerns. All of this contributes towards driving inefficiencies in the way the organization operates.

Over time, a whole series of workarounds have been built up to address these issues, which only serve to push them further apart. They don't address the root cause directly and are therefore not able to eliminate the source of friction.

Our Frictionless Enterprise approach is based on five fundamentals that help identify and solve existing frictions while avoiding new frictions. These fundamentals are "Hyperscale automation" to focus on efficiency, time to market, and quality; "Cloud agility" to ensure the enterprise is prepared and equipped for change; "Data fluidity" to address future frictions; "Sustainable planet" to ensure frictions are solved taking into account the global context; and "Secure business" to avoid any unexpected consequences. You can learn more about these five fundamentals in the article entitled **"The five fundamentals of the Frictionless Enterprise."**

How can the collaborative process between Capgemini and its clients help change the organizational mindset with respect to the Frictionless Enterprise?

If you're not looking for ways to transform how things work, you can't address all the issues or frictions. We're not just talking about small improvements and small changes. We are also looking at creating significant transformations within organizations. This is why collaboration between Capgemini and its clients is mandatory in order to change how to design and approach these new processes.

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Manuel Sevilla
Chief Digital Officer

To do this, companies need to be as agile as possible. Every time you address frictions, especially large-scale frictions, you generate new smaller frictions that need to be solved, covered, or reduced quickly – or perhaps even justified, because not all frictions have a negative impact. This sort of agility only happens when we collaborate closely with our clients as partners instead of the classic customer-supplier relationship, which is often the first silo that needs to be broken.

What are some of the frictions Capgemini has experienced recently?

One example is the COVID-19 crisis and how Capgemini transitioned employees to work from home. This transition needed to be done in a very agile way and within a short amount of time. It wasn't just about making sure everyone had the right hardware to work from home.

We also needed to look at the risk and compliance side, as some contracts did not enable people to work from home. We had to obtain temporary agreements or even rework some of our contracts to ensure we could continue delivering services for our clients, seamlessly, without disruption, and taking their requirements into consideration.

Another common challenge we experienced recently is when one of our customers went through a cybersecurity incident. We were able to demonstrate in just a few hours and with complete transparency that this incident didn't affect us, which helped our customer reduce its scope of investigation.

Solving these frictions has demonstrated our reactivity, our sense of service, our transparency, and ultimately our collaborative behavior. It has enhanced the trust and confidence we continue to build with our customers, and has led to longer and stronger partnerships.

Finally, how does the concept of the Frictionless Enterprise help organizations support insight-driven decision-making?

The Frictionless Enterprise helps drive a much more proactive approach to operational management and insight generation to support decision-making than it has been able to do in the past. This enables organizations to become better equipped at making rapid decisions because they have the information needed to respond as effectively as possible.

Having access to this kind of insight and preventive procedures helps organizations interact holistically with their business ecosystem of employees, customers, partners, and suppliers in their supply chains, enabling them to control and prevent disruptions to their business operations in a meaningful and beneficial way.

Manuel Sevilla *advises customers on moving to a new world with radically faster time-to-market, new business models, new ecosystems, and new customer expectations, through adopt domains such as cloud, cloud-native, AI, blockchain, and DevOps.*

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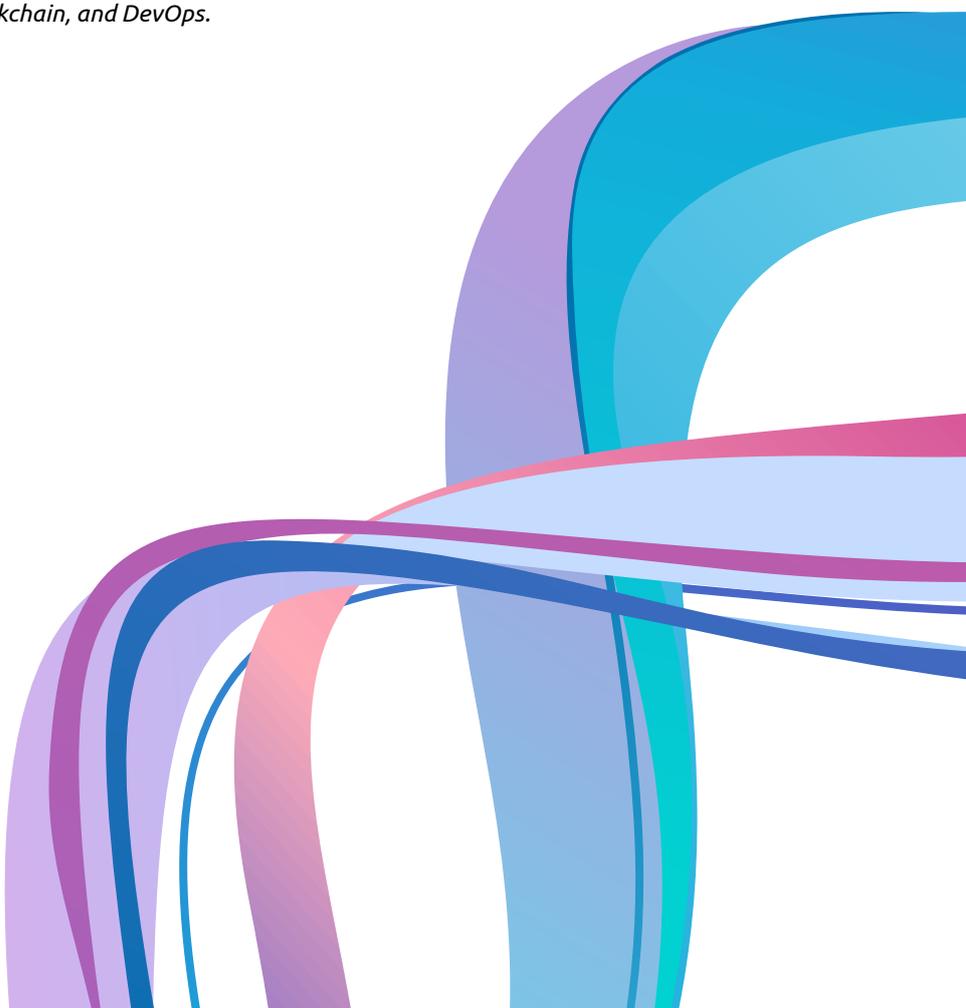
The five fundamentals of the Frictionless Enterprise

There are five fundamentals prerequisite to establishing solid foundations for an organization in which information flows seamlessly between people and processes, intelligently, and as and when it is needed. Achieving it doesn't mean the arbitrary application of technology, rules, or processes. It entails whole new, digital ways of thinking and working, combined with the capacity to constantly adapt itself to new contexts

At Capgemini, we use the Digital Global Enterprise Model (D-GEM) – our proprietary business transformation platform – to help our clients remain competitive in a rapidly changing, business context. This, in turn, enables the Frictionless Enterprise.

Hyperscale automation

A company that wants to be more efficient and adapt to new market conditions needs to onboard its employees in this massive transformation. One immediate step is to prepare employees by giving them the solutions they need to speed up productivity and focus on more valuable tasks. This creates an **augmented workforce.**

The need for hyperscale and increasing competition have radically transformed the speed of many processes. For instance, subscribing to Netflix gives immediate access to its entire catalog of entertainment. Not only do consumers love Netflix's speed and simplicity, but having human interaction or controls in the process would represent a non-necessary friction that would slow down adoption. Processes need to be designed or redesigned to be fully automated. This delivers **touchless processes.**

Delivering touchless processes requires an architecture designed for it, with the key technologies being **microservices and application program interfaces (API).** Each process must be designed in a way that it is automated end to end and split into small and autonomous sub-processes, each of them built as a microservice. Microservices can deliver complex business rules, are designed to scale up or down on demand, support sudden activity (such as Black Friday), while consuming nothing during periods of low activity (for example, at four o'clock in the morning). These microservices speak to each other with APIs and can run in the cloud, as an autonomous service.

Creating a touchless solution is even more complex when external partners need to be involved. The overall design has to be worked out collaboratively, and a way to **secure and automate communication** has to be applied. APIs and blockchain can deliver a high level of efficiency and trust by bringing a certified proof of work on both sides.

However, delivering a touchless process is not as easy as simply automating an existing one. The whole process needs to be redesigned as an autonomous operation – using Capgemini's D-GEM platform – and optimized to run on top of microservices.

Cloud agility

A frictionless enterprise can become dynamic, potent, and flexible — adapting automatically to the individual circumstances and needs of an organization, powering the organization and its changing process requirements to deliver innovation. Becoming a truly agile enterprise includes organizational aspects (setting up a transformation and innovation office, design office, and ways to develop entrepreneurship) but also **digital readiness** by using cloud native solutions to facilitate internal and external collaboration, support growth, and hyperscale up or down.

The arrival of cloud services has changed IT agility forever and has deeply changed the level of agility an entire business can reach. However, to benefit from cloud agility so that the entire enterprise can improve, the move to cloud needs to be a transformation to become **cloud native** with the ability to **combine multiple clouds.**

Becoming cloud native requires an enterprise to leverage **cloud native architecture** designed for agility. This means implementing an enterprise secured communication layer that links to an as-a-service platform to deliver customized microservices and applications (Salesforce, Workday, SAP S/4HANA) when needed. Becoming cloud native enables an enterprise to be innovative by implementing new services that can be scaled or downscaled rapidly as needed. It also enables an enterprise to **align IT with revenue streams**, while radically reducing the risks implied by new business.

Another key word for agility in digital technology is **DevOps.** This set of techniques simplifies the evolution process of a digital solution. In the past, applying a change to an application would take weeks or months due to multiple human tasks that included unitary testing, integration testing, deployment in multiple environments, versus continuous delivery in production, where stability can be guaranteed despite multiple deployments a day.

Of course, being **agile and innovative** is not only a question of mindset, organization, and process. Capgemini provides a number of assets (such as our *Applied Innovation Exchange* network) to help organizations change and adapt holistically. We have seen too many enterprises trying to change without addressing IT rigidity; or even worse, creating the illusion they have addressed it by building a private cloud, which is nothing more than hardware modernization.

Once ready to apply innovation, the world of cloud and communication will expand drastically. **The Internet of Things** (IoT) is underused and it is unclear just how many enterprises will exploit 5G as a growth opportunity. Combined with the arrival of **edge computing** as cloud 2.0, a revolution in usage of data, **artificial intelligence (AI)**, and automation will impact current processes and will be leveraged to generate a new source of revenue.

Data fluidity

We all know that data is the new oil, but which organization has really extracted it, refined it, fueled an engine with it, and leveraged it to reach a new level of operational excellence?

The implementation of a frictionless process doesn't end when it has been augmented or fully automated. Organizations need the ability to control, understand, and analyze the execution of each process in real time in order to conduct an ongoing program of continuous improvement. To do this, data must be collected and analyzed to detect malfunctions, inefficiencies, errors, improvements, unplanned ways of consuming the process, and fraud, or to link process execution to business and financial data. This is simply about applying **continuous improvement.**

Leveraging AI is essential to detecting a problem as soon as it arises, especially to avoid multiplying the errors and their consequences when using microservices on a huge scale. Analyzing data requires smart analytics to correlate and identify the hot spots that need to be corrected, stopped, improved, redesigned, or raised to the management for a strategic decision.

Of course, access to data has to be easy, efficient, and well documented, especially in terms of data quality aspects. The ability to effectively **exploit data lakes** and data warehouses is as important as the quality of the employees that analyze the data. And the use of touchless processes, microservices, and robots doesn't prevent feeding these data sources with fresh and quality data.

To deliver an optimal **user experience,** organizations need to consider the psychology of interaction and monitor digital activity using data and analytics to detect gaps in the solution. Let's not forget that the user experience is no longer limited to windows and a mouse – touch screens, haptics, and conversational interfaces provide distinct means of interaction that must be designed to optimally support the user. Another complementary approach to detecting non-optimal interactions is leveraging digital surveys and interviews with users to provide rich insights that can be correlated with generated data, monitored KPIs, and business activity in order to identify improvements.

Ultimately, enterprises should not only look at data knowing from the beginning what they're looking for. The huge increase in data vendors (both AI, data providers, vertical solutions) creates new opportunities. Why not ask data scientists to look at data for what it is, to cross it with external sources, leverage algorithms and AI to find what couldn't be found by starting from the conclusion? Data should enable organizations to find an exit to the maze that was not supposed to be there, and that could really deliver the change they need.

Sustainable planet

It's difficult for an organization to consider its evolution without factoring in its **responsibilities to the environment and society**. Targets such as increased business insight, greater efficiency, more seamless processes, and better user experience ought to be joined by a commitment to become carbon neutral as well as to corporate responsibility and sustainability (CR&S) and digital inclusiveness topics. Sustainability and efficiency are linked – the more efficient we are, the less resources or energy we spend. And the positive impact of truly sustainable engagements on employees and customers is the cherry on the cake.

Giving CR&S a **technology focus** should be as natural as the attention it gets in the organization and business strategy. But technology is often neglected in this area, and it must be addressed. It starts at the level of the enterprise architecture. For instance, the _Capgemini Integrated Architecture Framework 6_ includes a sustainability perspective designed to provide sustainability KPIs methods, such as planned CO2 consumption correlated to hardware consumption (how much CO2 is consumed per microservice call).

At the **application level**, leveraging solutions that can scale up or down depending on usage is an efficient way not to waste resources, bring down CO2 consumption, and reduce cloud costs. Of course, auto-scaling solutions exist and include cloud native microservices, serverless solutions, and as-a-service and pay-as-you-use services.

At the **data level**, storing data multiple times in silos is an awful waste of energy and resources that can be avoided. But once simplified with a main data lake and the furniture of AI services on top, usage and data access will be easier, faster, with better freshness closer to the source, and provide enhanced insights that can lead to increased business benefits.

At the **infrastructure level**, moving from on-premise data centers to cloud providers can have a massive impact, as the latter increases the usage of renewable energy while constantly striving to improve energy efficiency. Out of cloud, the expansion of the Internet of Things (IoT) is bringing up several sustainability questions, and once again, partner technology will have a huge impact on energy usage.

Combining these elements will enable a far simplified mechanism for **measuring and monitoring the carbon footprint** of all business operations. This will require of course a dedicated application service, and soon compliance will come on top of it for regulation or tax purposes.

Last but not least, **digital inclusion** is about enabling society to access and benefit from the internet and digital services that it hosts. Reducing digital exclusion should be about rethinking access and simplifying existing services, by designing and selecting the right application frameworks that give access to everybody from day one. E-learning and knowledge management solutions are becoming more and more important in guiding employees to operate in this digital world. The use of smart search engines and digital teaching tools can reduce transition times and learning costs.

Secure business

Business cannot be done alone. Every enterprise needs suppliers to work with and customers to sell to. Solving internal frictions without addressing external frictions will have, by definition, a very limited impact. This requires **trust** to be built across an organization's ecosystem of customers, suppliers, and partners, and an established set of solid rules to be implemented by the lead enterprise.

Cybersecurity is a set of rules and solutions that are designed jointly but enforced by an independent team. It must be applied at each level of the architecture, starting at the enterprise level with unified rules up to the infrastructure layer, without forgetting the application and data layers. The weakest part of any cybersecurity strategy defines the level of protection. Shadow IT represents the most serious risk – applying an intuitive user experience is fundamental to avoiding shadow IT and strengthening an organization's overall cybersecurity.

The move to cloud and especially cloud native is a perfect opportunity to address security at the heart of any solution. Let's take the example of testing. Very often, performance and cybersecurity are tested only once before the first deployment, and then never again. Leveraging **DevOps** effectively involves testing tasks just once, and then automating any future testing and deployment. This has become so efficient that even broad and complex tasks such as cybersecurity or performance testing can now be automated and systematically executed. This deployment and testing strategy will be crucial for the partners as they will do business on top of APIs that they will have to rely and trust on.

Compliance is another set of rules to be applied, with technology mainly used to guarantee a process has respected a particular business rule and executed it as planned. The use of distributed ledger technology (blockchain) provides the ability to generate an immutable and trustworthy data source, a proof of work, a proof of data, certified timestamp, and the ability to use electronic signature at the heart of the process. As your partners will have to rely on your APIs, building trust becomes a direct business enabler.

Privacy is obviously an absolute prerequisite for communication (which is then under cybersecurity), but it is mainly requested as an element of data governance and compliance. Avoiding data silos, simplifying data, and applying rules on data usage is essential to be able to govern data. Leveraging an enterprise data discovery and search tool can identify all potentially sensitive data, and a tamper-proof audit trail can enable traceability. Privacy in business is the first element to start with.

As **transparency** becomes the norm, building trust with customers and partners is becoming more and more important.

Laying the groundwork for The Frictionless Enterprise

Lee Beardmore

Vice President and Chief Innovation Officer, Capgemini's Business Services

Knowing where and how to begin the frictionless process can be a bit daunting. Here are some ideas of where and how to progress your organization's frictionless journey.

In this series of articles, we have been developing the concept of the frictionless enterprise, in which processes and people are seamlessly and intelligently connected, as and when needed.

In this article we consider typical instances of friction in an organization, and looks at ways in which they can be smoothed away in preparation for a new, seamless, digital business environment.

Friction – examples

Where can sources of friction typically be found in an enterprise? Here are some examples:

- **Fragmentation** – this is where something that started as one major function has divided into a series of related activities, not all of which are harmonized
- **Poor data quality** – in a world in which we're moving towards the Frictionless Enterprise, the integrity of the data on which the enterprise is built is even more crucial. If it's not robust, everything falls apart
- **Silos** – this is fragmentation, but on a macro scale. Major functions build walls around themselves and become citadels within an organization. Entire organizations within a global enterprise might do this, too
- **Broken processes** – this is also fragmentation, but on a micro scale. Individual routines simply don't work as they should. They're not fit for purpose
- **Shadow IT** – where parts of the organization have broken away and done their own thing. Perhaps they grew tired of waiting for sign-off on a new system, not realizing the delay was because central IT was planning something enterprise-wide – and now this has created a mismatch
- **Technical debt** – this is the consequence of choosing a quick fix

over something that would be better in the long term. Let's say a workaround is already in place, but it's slow – so you streamline it by introducing an extra tool. The immediate problem is solved, the original patched-up workaround is still in place – and now it has layers

- **Onion effect** – layers again. In fact, layers upon layers, often blurring any clarity the system core may once have had
- **Inertia** – the continuation or repetition of an approach that is inadequate, purely because it's the norm – "we've always done it this way"
- **Inconsistency** – both between processes, and within them. There is no unified logic, no single source of truth.

Willpower, vision – and a plan

That's quite a list, you'll agree. Addressing it requires a fair degree of honesty. Before anything can happen, organizations need to acknowledge the presence of problems such as these, and that isn't always easy – which is why many of these cans have been kicked down the road for so many years.

Maybe the COVID-19 pandemic will finally give us the impetus we need to bend down and pick up these cans. The health crisis has shown us that we can undertake massive change, putting all our doubts to one side and acting quickly and effectively. Tackling these sources of friction demands a similar mindset, a similar can-do attitude. Yes, it will be difficult, and sure, it will cost, but the benefits will be massively significant. In some senses, it is the only way to become a true digital business.

It's not just about willpower, though. What's also needed is a vision and a plan. The vision is of the new digital core of the enterprise, in which main functions are defined, and safeguarded, and developed using a comprehensive, and consistent,

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> Vice President and
> Chief Innovation Officer

and flexible digital architecture. As organizations launch themselves into this major refresh, it's easy to be sidetracked by the issues that arise. It's the vision that keeps things on track.

That's the vision. The plan that accompanies it needs to be systematic and structured. Capgemini's platform to deliver on the frictionless vision is the Digital Global Enterprise Model (D-GEM), which encompasses the tools and techniques for reshaping and streamlining processes. The enterprise clients with whom we work have found considerable success with it.

When organizations are assessing the many sources of friction I outlined above, they will be looking at many ways in which they can be addressed. The boldest course of action is likely to be to remove that sticking point altogether – to eliminate it. It's a move that takes real bravery, because it's disrupting the norm. It's a trade-off: on the upside, it's forcing you to innovate; but on the downside, it may go irrevocably wrong.

The digital twin

Fortunately, as Bing Crosby's old song says, there's a way to accentuate the positive and, well, eliminate the negative – and that's to make use of a digital twin. As my colleague Marek Sowa explains in **another article in this series**, a digital twin is a comprehensive model of operations that can be explored offline. It's a great way to find all those sources of friction, and to develop a strategy that simultaneously removes them, while building a new and consistent digital core (read my paper **"Digital twins for business operations"** for an in-depth look at the digital twin).

So, what if eliminating a problem causes another, greater one, elsewhere in the system? It doesn't matter: you didn't break anything in the real world. Instead, you learned something – and you can put that newfound knowledge to good use.

What will emerge from all the vision building, troubleshooting, and scenario-testing is a working, virtual model of the new, digital organization – a model that can be rolled out into the real world with a good degree of confidence.

Achieving outcomes

Armed with the virtual models of a frictionless business, the changes can be made with the application of our D-GEM platform. Of course, we do not underestimate the delivery challenge, but when executed well, with the following characteristics, the outcomes are significant:

- **Intelligence** – real-time operational and predictive insights to speed decision-making
- **Workforce** – traditional operating models built on people that drive processes are morphing into an AI-augmented workforce, where AI drives the process and harmonizes with employees
- **Proximity** – breaking down barriers to enable digital integration of customers into a business ecosystem that makes it as simple as possible to transact
- **Controls** – as cyber security technology evolves; traditional controls are built into and monitored by core processes and infrastructure. This is resulting in enterprises focusing on protecting the most important element of their business – proprietary data. This means they will have greater control over the financial rigor of results, and in particular over sales, working capital, governance, and business continuity
- **Technology** – the Frictionless Enterprise needs the right technology foundation. It is the enabler that is both a robust foundation but also the means by which continuous innovation is introduced. The technology ecosystem is key to breaking down barriers, streamlining processing, harnessing data, and eliminating exceptions.

Bringing it all together

Today, all established organizations suffer from many of the example frictions. In the other articles in this series, my colleagues explain how we apply frictionless approaches to finance, supply chain, and the digital employee experience. And while each of these functions is unique the ambitions are common.

One thing is clear. If we break down the barriers and create an environment where employees only focus on the tasks that play to their creativity and problem-solving skills, augmenting their ability to process and make decisions, we are creating a workforce with the key skills needed to succeed in business today and tomorrow.

> ❝ *When organizations are assessing the many sources of friction, they'll be looking at many ways in which they can be addressed – but the boldest course of action is likely to be to remove that sticking-point altogether."*
>
> **Lee Beardmore**
> Vice President and
> Chief Innovation Officer

Lee Beardmore has spent over two decades advising clients on the best strategies for technology adoption. More recently, he has been leading the push in AI and intelligent automation for Capgemini's Business Services. Lee is a computer scientist by education, a technologist at heart, and has a wealth of cross-industry experience.

The Frictionless Enterprise powered by Capgemini's D-GEM platform

Shaping the future of:

Intelligence
- Real time
- Predictive
- Environmental, social, and governance default

Workforce
- Augmented AI
- Gig economy
- Virtual/Hub

Controls
- Dynamic governance, risk, and controls
- In-built AI
- Cybersecurity

Proximity
- Customer focus
- Edgeless operation model
- Scaled automation

Technology
- Cloud/Platform-based
- Low code
- Digital twin simulation

A frictionless future for finance

Brijesh Patel

*Head of FPIA Product Development,
Capgemini's Business Services*

The finance function is moving from being a clean up act of frictions within the enterprise to a catalyst of business model disruption; thus, connecting capabilities underpinned by an AI augmented workforce to generate more significant and meaningful business outcomes. This is enabling enterprises to move beyond the digital shift, ushering in a new era of the frictionless norm.

In this article, I look at the concept of the Frictionless Enterprise and what it means for an organization's finance function.

Frictionless finance

Many organizations today operate in functional siloes that impact their ability to serve customers. Frontline functions such as sales, customer services, and marketing are wholly focused on the end customer, while enabling functions such as finance are accused of being too internally focused. Internal debates and process disconnects come at the price of customer experience, foresight, and competitive advantage. This is simply a byproduct of enterprise age and growth, while startups and platforms are often already established on a frictionless basis.

To compete, a frictionless enterprise must remove internal barriers and focus on market agility through redefined orchestration of processes from the front to back office. Our experiences show these frictionless enterprises enabled by well-integrated finance models deliver 30% improvement in time to market, 25% improvement in forecast accuracy, 25% sales growth in digital revenue streams, and 50% improvement in days sales outstanding.

As my colleague **Lee Beardmore described in his article**, a shift in the operating model that underpins the new Frictionless Enterprise is critical, and the finance function as a key protagonist of change given the frictions that exist today:

Addressing the friction in finance

Friction point 1 – it takes Finance 5–10 days of the next period and up to 90% of the effort to produce figures. This gives no time for the leadership to make fast decisions based on fact at moments that really matter.

> **Intelligence –** *is not a monthly ritual. The continuous close is a basis for equipping performance owners with fast, forward-looking, and freely available insight to execute the decisions that matter. These decisions affect how an enterprise captures customer, social, and environmental value, improves market competitiveness and resilience, while optimizing human and capital investment made in promotions and the supply chain.*

Friction point 2 – qualified professionals are unable to do the job they were employed to do as they continue to swim in exceptions and poor experiences, impairing the customer experience to trade across billing, payment, fraud, and credit control.

> **Workforce** – *needs to be AI augmented with combination technologies that string together proprietary machine learning (ML) code, micro-apps, cloud ERP, and robotic process automation (RPA) to deliver more impactful outcomes than any finance employee could deliver alone.*

To compete, a frictionless enterprise must remove internal barriers and focus on market agility through redefined orchestration of processes from the front to back office."

Brijesh Patel
Head of FPIA Product Development

Our Intelligent Orchestrator AI worker provides a frictionless experience in accounts receivable dispute handling with 10% human intervention. During the COVID lockdown, one of our clients was unable to staff their call center, which meant that their customers had no outlet to solve payment issues. We rapidly deployed a portal on the client website to flow queries directly to our AI worker, which then applied ML logic that enabled the appropriate next best action bot to respond 24/7. This created a frictionless experience at a time when cash was of the most concern to our client, improving customer retention and sales. Ultimately, the AI Orchestrator augmented the work delivered by a hundred humans.

Friction point 3 – over time, operating models have developed internal functional perimeters that help separate ownership, control, empires, ego, and sadly blame. This ultimately leads to energy being too internally oriented and not focused on the customer.

__Proximity to customers__ – re-orchestrating processes, data, and experiences by removing the internal operating model silos between finance and supply chain functions. In turn these functions face off to commercial and local customer acquisition functions, ultimately bringing enterprises closer to their customers. In a world where customer demand has never been so dynamic, speed to market is a survival instinct enabled by the Frictionless Enterprise.

Friction point 4 – regulatory and financial controls cannot keep pace with the agility of shifting business models and dynamism in the market. For example, the trend of B2B enterprises launching B2C propositions overnight, leaves a swathe of controls needing to catch up. Internal audit teams often have no prior experience or sufficient time to embed the right controls given new risks in local tax and banking jurisdictions, data privacy, and or payment processing regulations. As humans cannot control every risk, they must accept risk and prioritize based on history, judgment, materiality, and the available resources.

__Controls__ – even the most established control frameworks are still let down by the friction of human interpretation on historic data. Embedding core SOX and regulatory controls into day-to-day processes eliminates the risk at source. Introducing the AI worker in the controls space brings the dynamism of machine learning and statistical techniques to determine the optimum threshold for automation-based intervention of vast data sets and reduce the risk corridor to negligible values. One example is in the materiality thresholds applied to foreign currency transaction posting and translation. We have identified cases where P&L exposure below stated materiality is significant month on month (millions of pounds), which an AI worker would refuse to accept.

Friction point 5 – technology in Finance continues to be process-oriented and internal, with limited uptake of exchanging data or permissions in an open source format with other enterprises. EDI and network platforms are still largely unsaturated due to cost of adoption, compatibility or security. For a simple B2B sale to be made internationally, we have seen over 20 pairs of hands touching a transaction across the lifecycle before cash settlement and anywhere between 50–100 key data fields being transmitted. The magnitude of a single human keystroke error will snowball friction in both organizations.

__Technology__ – needs to be ecosystem-led to connect innovation and platforms more seamlessly in order to remove the friction and parallel pain caused across respective order-to-cash (O2C) or purchase-to-pay (P2P) processes. Relevant platforms and technologies such as cloud native, SAP S/4HANA, API services, blockchain, the Internet of Things (IoT), advanced analytics, process integration, AI, and automation can create a foundation for the Frictionless Enterprise.

> *We rapidly deployed a portal on the client website to flow queries directly to our AI worker... This created a frictionless experience at a time when cash was of the most concern to our client, improving customer retention and sales. Ultimately, he AI Orchestrator augmented the work delivered by a hundred humans.*

Brijesh Patel
Head of FPIA Product Development

Investing in the future

Developing this frictionless finance environment needs a blueprint and framework built on experience. Our **Finance Powered by Intelligent Automation (FPIA)** team leverage Capgemini's Digital Global Enterprise Model (D-GEM) platform to deliver frictionless outcomes to our clients. D-GEM provides a complete overview of an organization's people, processes, technology, and governance with control points, accelerating the transition to transformed, future-proof processes. For finance, it includes next-generation AI-enabled O2C, P2P, record-to-act (R2A), and analytics.

Creating a frictionless digital ecosystem means continually seeking out new technology interventions and partnerships to increase business outcomes available from automation, embedded AI, and analytics.

The future is frictionless

Together with our clients, we are pushing the boundaries of frictionless and investing in our D-GEM platform to re-orchestrate the enterprise business processes, talent profile, and augmentation of AI with humans, driving outcomes that reach the customer's customer. By making it simple for our clients to trade and function, we build momentum of frictionless that becomes the norm.

That's certainly the direction of travel here at Capgemini – and it's shaping up to be an exciting and rewarding journey.

Brijesh Patel helps organizations reduce friction across the enterprise – having worked in digital, customer experience, supply chain, and finance – to introduce more agile operating models augmented with AI to drive sizable business outcomes from transformation.

> *Together with our clients, we are pushing the boundaries of frictionless and investing in our D-GEM platform to re-orchestrate the enterprise business processes, talent profile, and augmentation of AI with humans, driving outcomes that reach the customer's customer."*

Brijesh Patel
Head of FPIA Product Development

A frictionless digital operating model for finance that maximizes efficiency and outcomes

Finance platform foundation

Optimized end-to-end data

AI-augmented teams

Augmented self-service and interactions

AI and analytics-driven strategy

AI controls

Creating a frictionless employee experience

Anjali Pendlebury-Green

Global Head of the Digital Employee Operations Practice, Capgemini's Business Services

> A truly frictionless enterprise can only start with the view of the customer. When an enterprise achieves this, the experience of interacting with the enterprise is enhanced and brings delight

In this article, I would like to consider the concept of the Frictionless Enterprise from a human resources (HR) operations viewpoint.

True design thinking can only start with the customer lens. Customers, in this case, are the employees. As employees interact across various functions of the enterprise, the silos of departments need to adapt to deliver a seamless experience.

Beyond HR

Consider the concept of frictionless from the position of employees, and it's an entirely different proposition from that of HR. Different – and broader. The HR department develops and sustains processes that help people with their lifecycle needs, pay, their benefits, their learning and career development, and their holiday entitlement.

But for any one of us, a working day can encompass so many more things than these. If your expenses claim is late in being paid, you need to speak to the accounts team, not to HR. If you're expecting a parcel, you probably call the front desk. If you need a new laptop, that's a procurement issue, so you speak to finance, and probably to the internal supply chain people too. If your password stops working, and you can't figure out why, you contact the IT helpdesk.

And then there are the things that really are matters for HR, but for which there may not be established processes, or recent experience. At an enterprise level, the obvious instance is the recent lockdown following the recent pandemic, and its many knock-on effects.

In short, when you put yourself in the position of employees, you're looking not just at standard HR processes, but at pretty much the whole organization – finance, IT, the supply chain, and beyond

– as well as at non-standard processes. In this context, therefore, the concept of the frictionless enterprise is all-embracing.

The importance of flow

Everything with which employees come into contact needs to flow. Services need to be accessible from a single place, available, and accurate. They need to be capable of being tailored to individual needs. And yes, they need to be frictionless, too – which means departmental barriers need to be smoother.

The lockdown example is a case in point. When people are working from home, they will have new kinds of IT issues, new categories of expenses claims, and new logistical problems with training and development, and with parcel deliveries. People on the payroll are likely to have more issues than usual with childcare arrangements, and sick leave. Recent joiners will have had their onboarding disrupted. All of these issues make demands of different digital platforms within the organization – platforms between which there is typically no cohesion because they are owned by different functions.

In many cases, in many businesses, these different functions have become embedded in their individual areas of process expertise. They are each focused on what they put out there, and not on how it is received.

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Global Head of the Digital Employee Operations Practice

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Anjali Pendlebury-Green
Global Head of the Digital Employee Operations Practice

This is why enterprise functions need to develop a broader sense of themselves. And, in turn, this is the reason why we start with the employee experience to help CHROs deliver their agenda. This gives HR and others a different perspective to their transformation agenda – reshaping and streamlining processes can be a good place from which to start building a frictionless enterprise.

Capgemini's Digital Global Enterprise Model (D-GEM) platform comprises the tools and techniques for reimagining and streamlining processes. When everything flows, customers are happier – and the customers here include the business's employees.

Spreading contentment

What's more, when everything flows, morphing into a single, consistent environment, things become simpler, and the cost of ownership comes down. It's often the case that it's only when things reach this positive stage that organizations can look back and see how complicated things had once been, and how compartmentalized they once were in their thinking.

When an enterprise becomes truly frictionless, life is made easier and better externally for customers and supply chain partners, and internally for employees.

What's more, the happiness of those employees is infectious: a contented workforce does a better job, bringing even greater benefits to all those customers and partners with whom it comes into contact.

Anjali Pendlebury-Green _is an expert in the field of HR outsourcing and transformation, specializing in delivering HR solutions that leverage global outsourcing platforms, leading edge technology, stack offers, and process standardization. Anjali has led award-winning HRO teams for large multinational companies with a special focus on the manufacturing sector._

Transforming employee interactions to create a frictionless end-user experience

EMPOWER USERS
IN A WAY THAT
EMPOWERS
THE BUSINESS

Users are decision makers, not consumers

Users require access to services via preferred channels and devices

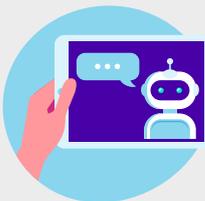Caters to Gen X, Gen Y, and Gen Z

MOBILE APPS/ INTERACTION

NEXT-GENERATION VIRTUAL AGENT

PASSWORD RESET

LIVE WEB CHAT

SERVICE REQUEST MANAGEMENT

ACTION BOTS

KNOWLEDGE MANAGEMENT

MULTICHANNEL

The role of the supply chain in creating frictionless operations

Jörg Junghanns

Vice President Europe – Digital Supply Chain, Capgemini's Business Services

Implicit in the concept of frictionless operations is the need for integration within the supply chain. When the flow of information between people and processes is seamless and intelligent, the likelihood of interruption to that flow will be minimized.

In this article, I'm addressing the concept of the Frictionless Enterprise from a supply chain perspective.

Let's start with first principles. What does it mean to be frictionless? The straightforward answer is that the user experience should be as smooth and intuitive as possible. The ramifications of this can be considerable. In supply chain terms, a great deal of energy and effort will be needed in the background in order to make it happen, because the user experience relates not just to external audiences such as the ecosystem of customers, partners, and suppliers, but to internal stakeholders, including other parts of the organization, such as finance and sales.

Implicit in the concept of frictionless operations is, of course, the need for integration: when everything is joined seamlessly, the likelihood of interruption to the flow will be minimized.

Integration – horizontal

Integration needs to be addressed at several levels. First of all, and within the domain of the supply chain, individual disciplines need to come together. For instance, demand planning may still be operating independently from other planning processes, in its own silo. The same may be true of individual fulfillment functions, and also of discrete logistics functions.

Secondly, these separate functional areas – planning, fulfilment, logistics, and further disciplines – need to be integrated so as to create a single, intertwined supply chain.

Thirdly, the supply chain itself needs to become a seamless part of end-to-end operations, in an enterprise-wide process that also includes analysis and decision-making, sales, planning, procurement, manufacturing, and fulfillment, all the way through to finance.

Integration – vertical

Everything we've addressed here thus far entails the removal of what we might term horizontal frictions. But for a supply chain to be truly smooth and seamless, it needs to address vertical integration challenges, too.

By this, I mean integrating not just functions, but the data that pertains to them.

Let's take a procurement operation, for example. If a requisition operation has access to a consistent, clean, data set, and if it can also make use of robotic process automation (RPA) tools and intelligent automation routines, then the entire transaction can be pushed through the system without anything to interrupt its flow.

In a further example – this time, of fulfilment – a similarly dependable data set will enable a sales order to flow smoothly through stock inventory to check availability, before automatically triggering fulfilment and again, perhaps using intelligence to determine the most appropriate logistics response on a case-by-case basis.

Exception handling will only be necessary when there are gaps, errors, or inconsistencies in the data. The more robust the data set, the fewer such setbacks there will be, and the better the entire supply chain will function.

> *What does it mean to be frictionless? The straightforward answer is that the user experience should be as smooth and intuitive as possible."*
>
> **Jörg Junghanns**
> Vice President Europe – Digital Supply Chain

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>
> **Jörg Junghanns**
> Vice President Europe – Digital Supply Chain

What's more, that same robust data needs to be available to other, related processes beyond end-to-end supply chain operations, and with the same levels of transparency and immediacy. It is the bedrock on which the entire digital enterprise is built.

Integration – three-dimensional

Enterprise-wide, for frictionless operations to be achieved in the supply chain, another major and obvious consideration needs to be factored in – and that's geographical integration. In most organizations, supply chains are global. Elements of them operate at this trans-continental level; other elements may work within a continent or land mass; others again may be across a region (such as Europe or Latin America); and others again might be just within a country, or only with that country's immediate neighbors.

What's needed here is consistency and a clear plan. Does the enterprise centralize the orchestration of its supply chain ecosystem? Or does it integrate within continents, or within regions, recognizing the need for differences, and then unite those in some way? It's rather like a Rubik's cube, in which the horizontal and vertical factors we considered above all come together with this third dimension, that of geography – and, as with the Rubik's cube, a plan is needed in order to navigate permutations and achieve alignment. This can be achieved by implementing a control tower to provide visibility across your supply chain.

One approach to this geographical challenge, and indeed, to the entire proposition of the frictionless supply chain is to take advantage of Capgemini's market-leading business transformation platform – the Digital Global Enterprise Model (D-GEM).

It brings order to things. It achieves measurable results. As I mentioned at the beginning of this piece, it makes the user experience as smooth and intuitive as possible, whether those users are customers, partners, or members of the workforce, and no matter what role they play in the supply chain ecosystem.

Jörg Junghanns leverages innovation and a strategic and service mindset to help clients transform their supply chain operations into a growth enabler.

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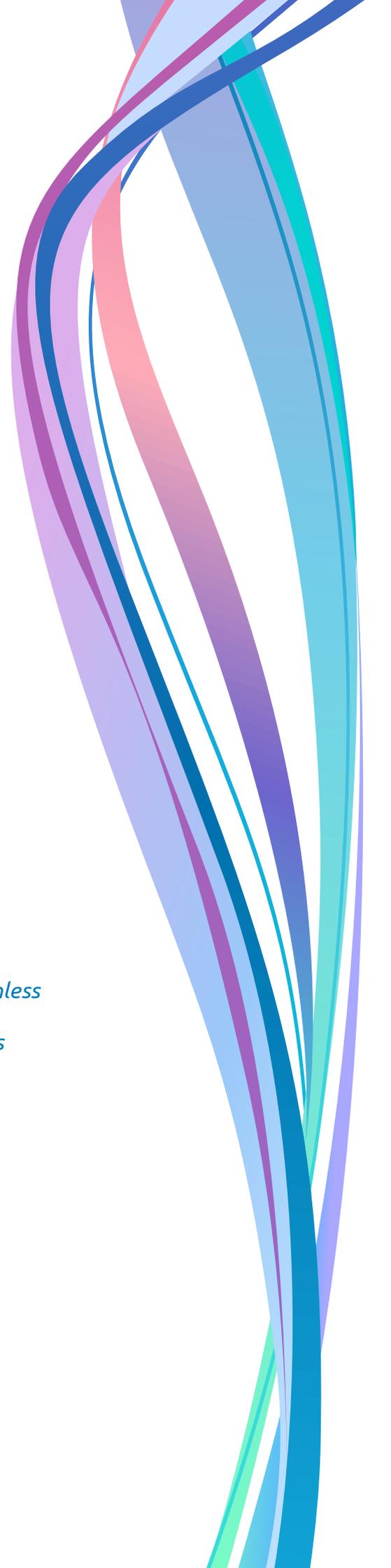
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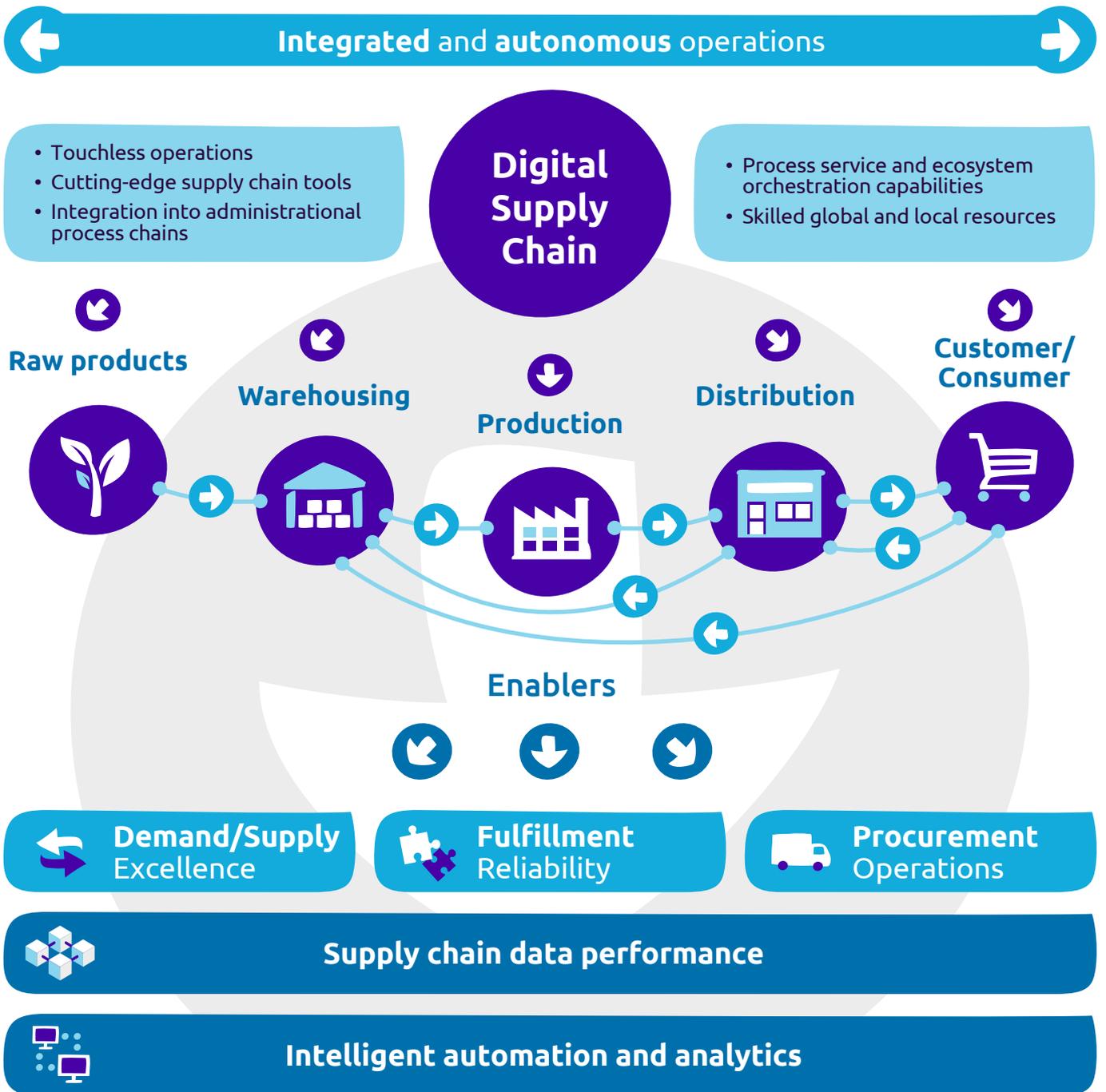
Jörg Junghanns

Vice President Europe – Digital Supply Chain

An integrated and autonomous digital supply chain delivers frictionless operations

End-to-end supply chain vision

Integrated and **autonomous** operations

Digital Supply Chain

- Touchless operations
- Cutting-edge supply chain tools
- Integration into administrational process chains

- Process service and ecosystem orchestration capabilities
- Skilled global and local resources

Raw products

Warehousing

Production

Distribution

Customer/ Consumer

Enablers

Demand/Supply Excellence

Fulfillment Reliability

Procurement Operations

Supply chain data performance

Intelligent automation and analytics

Intelligent automation and the Frictionless Enterprise

Marek Sowa

*Head of Intelligent Automation Offering,
Capgemini's Business Services*

Intelligent automation can help eliminate frictions impacting your people, processes, and technology, enabling you to implement a data-driven augmented workforce that leads to a more frictionless enterprise.

In this article, I want to discuss the role that intelligent automation can play in creating the Frictionless Enterprise. By intelligent automation I mean enhancing business operations with automated, end-to-end processes and a digitally augmented workforce at scale, underpinned and infused with RPA, AI, and smart process analytics.

Let's examine this from three perspectives – people, processes, and technology.

People

Mention the word "automation" to a workforce, and many of them will immediately worry about their job prospects. In fact, intelligent automation is far more likely to help people do more things, better. Years ago, when offices were ruled by fax machines, sending and receiving business documents meant re-sending the same paper over and over again – each time lowering the quality and spending more time for manual processing. Who misses having to do all that now? How much time would that waste if it were still with us? It's a minor but clear example of unnecessary friction.

What business needs is people who are equipped to do their best work, and who are motivated to do it. What people need is a job that gives them both an income and a sense of self-worth. Intelligent automation can meet these twin needs, by removing unnecessary distractions, and by improving both the tools and the information available to get things done.

This is why organizations need to start training the workforce of the future now for the roles they are likely to be filling in two- or three-years' time. If you'd asked people using typewriters to find better things to do than to center a heading, they would have found plenty. Similarly, the modern workforce, supported by automated routines, will be able to develop ideas and resolve problems to a degree that isn't currently possible.

Processes

People will be more efficient because processes will be able to handle more of the repetitive, time-consuming tasks that currently occupy their working day. In fact, as these processes become more intelligent, and more automated, they will grow to become, in a sense, team members in their own right. We might call them a virtual workforce, or an AI workforce, working alongside people. Effectively, they'll be doing all the non value-adding processing that no one wants to do, but they'll be doing it automatically and effortlessly.

We're already seeing this happen. Individual pinch-points are being addressed by robotic process automation (RPA) routines, enriched by artificial intelligence (AI) driven by data. To quickly identify process improvement and automation opportunities, industry leaders employ smart process analytics and management tools such as process and task mining, as well as creating a digital twin for operations – as described by my colleague Lee Beardmore in his previous article.

In addition, as we have seen in the articles on the supply chain and on F&A, process silos are being taken down. In other words, it's not just discrete activities that are being improved, but entire value chain. The result? Even less friction.

Technology

My third perspective is technology, and in particular, of the data on which it acts. In order to create a frictionless enterprise, we first need to define our data estate.

In particular, we need to identify the data upon which a digitally augmented workforce can act.

> "As these processes become more intelligent, and more automated, they will grow to become, in a sense, team members in their own right. We might call them a virtual workforce, or an AI workforce."
>
> **Marek Sowa**
> Head of Intelligent Automation Offering

> "In order to create a frictionless enterprise, we first need to define our data estate. In particular, we need to identify the data upon which a digitally augmented workforce can act."
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> Head of Intelligent Automation Offering

If we can map this data, as well as the processes from which it is derived, we can develop a digital twin of the enterprise – a comprehensive model of operations that we can use offline to notice bottlenecks or, conversely, to spot performance gaps. Are they the result of insufficient human resources? Is the workflow remiss? For instance, it may become clear that processes are incompatible – "the website isn't in synch with the order management system" – and an automation artefact or a bespoke fix is needed to smooth out the bump. The data on which the digital twin is based will help in the understanding and resolution of issues such as these (read Lee Beardmore's "Digital twins for business operations" for an in-depth look at the digital twin).

What's especially useful about the digital twin approach is that the safety it provides can generate the confidence to be creative, and to take risks that wouldn't be possible with live systems. Companies can create prototypes to solve problems or improve performance, and if those prototypes fail, well, no problem: they fail rapidly, and without consequences.

In fact, companies can even deliberately use digital twins to disrupt the existing set up. For example, adding a new, automated step to a process that already works may seem unwise – but it may deliver benefits to operations as a whole. Could this have been expected? Possibly not. Would anyone have risked finding out on a shop-floor system? Certainly not.

In short, sometimes it's worth introducing a disruptive friction if there's a chance it will prevent a larger value generation issue. It's the tiny piece of grit in the oyster that produces the pearl.

I'd encourage you to read the other articles in this series. In the meantime, you might be interested to know that Capgemini has been named a leader in the intelligent automation of business processes in Everest Group's PEAK Matrix™.

Marek Sowa *helps clients to transform their business operations leveraging the combined power of AI and RPA to create working solutions that deliver real business value.*

"
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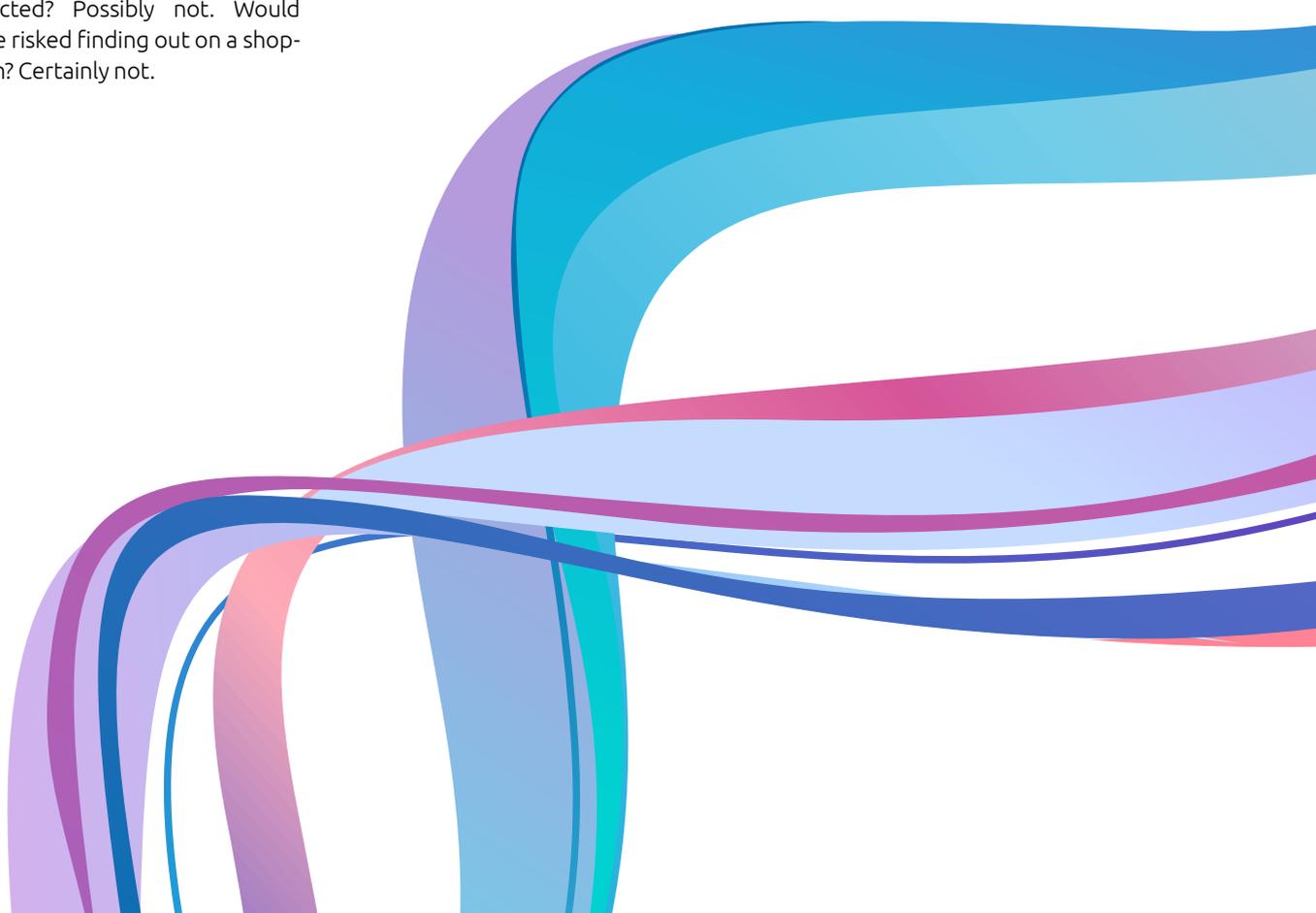
About
Capgemini

Capgemini is a global leader in consulting, digital transformation, technology and engineering services. The Group is at the forefront of innovation to address the entire breadth of clients' opportunities in the evolving world of cloud, digital and platforms. Building on its strong 50-year+ heritage and deep industry-specific expertise, Capgemini enables organizations to realize their business ambitions through an array of services from strategy to operations. Capgemini is driven by the conviction that the business value of technology comes from and through people. Today, it is a multicultural company of 270,000 team members in almost 50 countries. With Altran, the Group reported 2019 combined revenues of €17 billion.

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www.capgemini.com/business-services

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People matter, results count.

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