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Vol 08

PRACTICAL THOUGHT LEADERSHIP ON AI AND AUTOMATION

POSSIBILITIES UNLIMITED

2ND ANNIVERSARY EDITION

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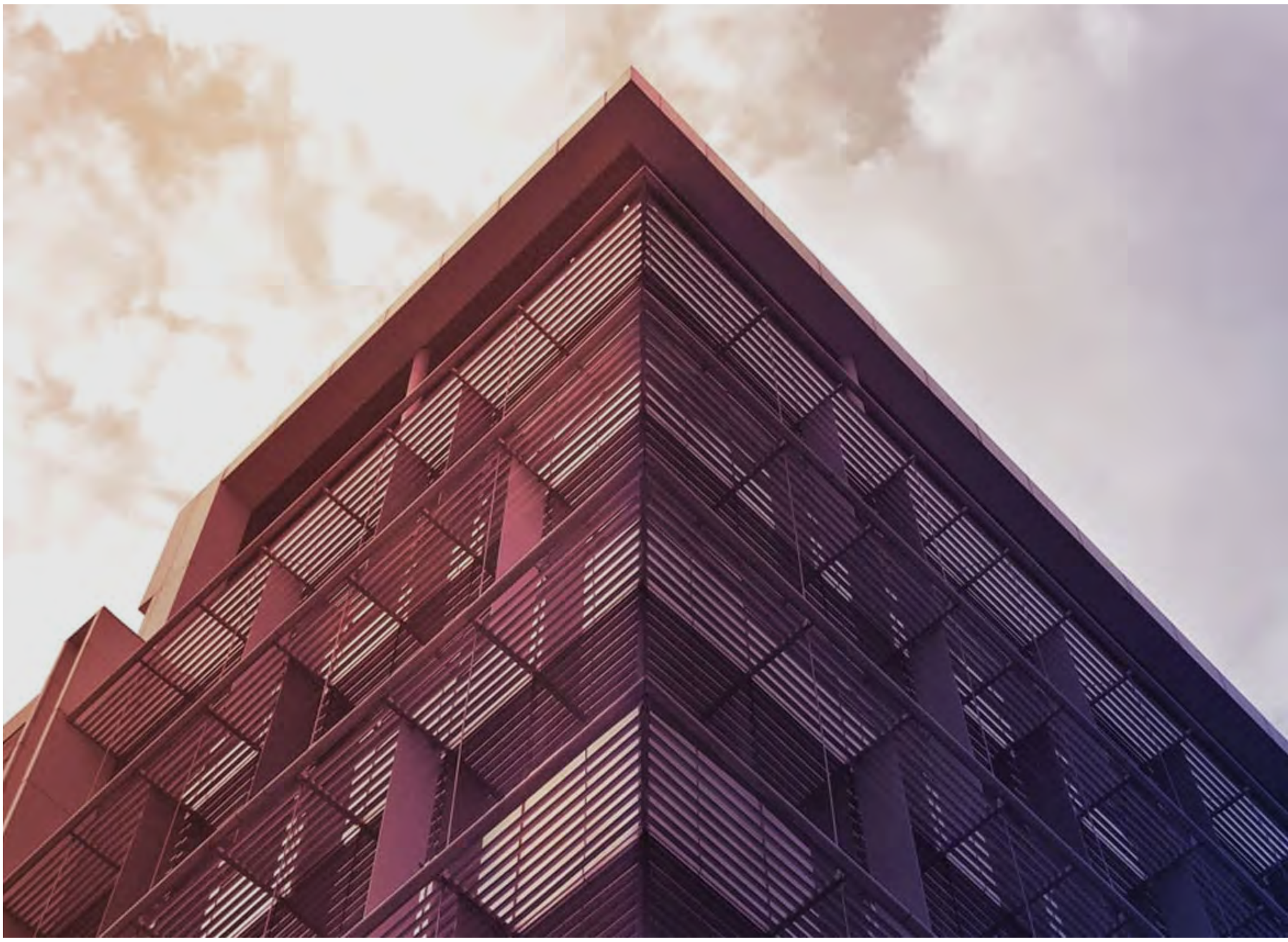

EdgeVerve Headquarters, Bengaluru, India

About EdgeVerve

EdgeVerve Systems Limited, a wholly owned subsidiary of Infosys, is a global leader in AI and Automation, assisting clients thrive in their digital transformation journey. Our mission is to create a world where our technology augments human intelligence and creates possibilities for enterprises to thrive. Our comprehensive product portfolio across AI (XtractEdge), Automation (AssistEdge) and Supply Chain (TradeEdge) helps businesses develop deeper connections with stakeholders, power continuous innovation and accelerate growth in the digital world. Today EdgeVerve's products are used by global corporations across financial services, insurance, retail, consumer & packaged goods, life sciences, manufacturing telecom and utilities.

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Possibilities Unlimited

Volume 8, February 2022

Aspirations and ambitions are exorbitant upon entering the new year, offering endless possibilities. A year where reinvention takes precedence, ramping up investments in technology – with a robust digital strategy that will redefine everything. Organizations are seeking new opportunities that lie on the next horizon. They are prepared to voyage uncharted waters and respond to the shifting breeze by leveraging the power of Automation, AI and Supply Chain.

Presenting the 2nd Anniversary Edition of The Edge Quarterly - Possibilities Unlimited

In this edition of The Edge Quarterly, we explore the strategic role of technology forging new paths with a renewed focus on creating digital-first experiences. This enables organizations to grow, inspire and lead - unlocking a new era of possibilities. Discover the latest trends, insights and how industry-leading customers redefine the future.

We hope that you will like the articles and share ideas, thoughts, and comments. You can also view the online version of the magazine for access to other cutting-edge white papers in addition to blogs on AI and Automation at **www.edgeverve.com/the-edge-quarterly**. To feature your enterprise story or transformation journey in our next edition, please write to us at **contact@edgeverve.com**

The Editorial Team

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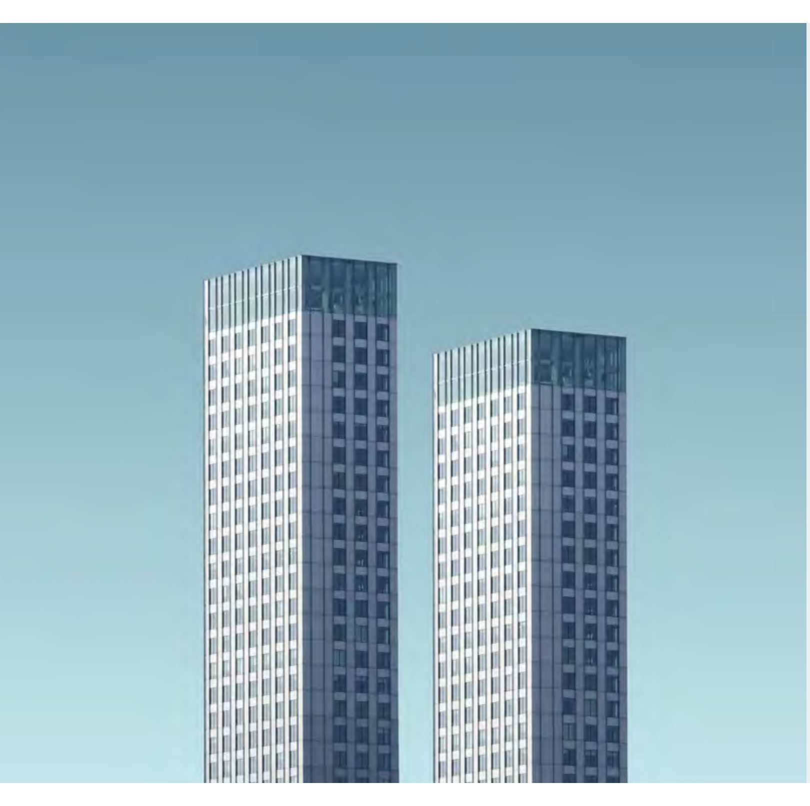

Unlocking the Power of an Intelligent Enterprise

Sateesh Seetharamiah
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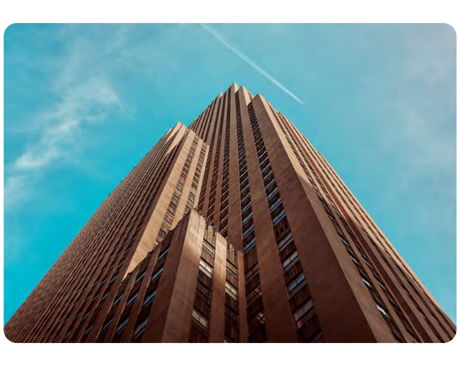


Summary

Digitization isn't just an industry buzzword. It is one of the essential business processes in this day and age. It unlocks business growth by becoming more agile using AI & Automation strategically. Intelligent Technologies, a fusion of technologies, can save a business time, money, and effort. How can businesses leverage this and pave their way to becoming an Intelligent Enterprise? Read on.

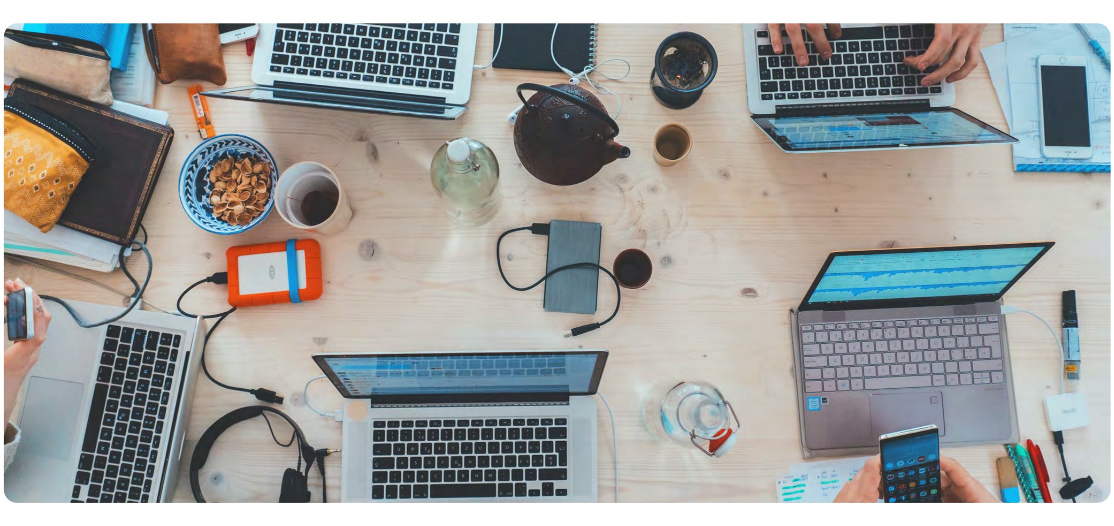
Every industry has its ebbs and flows in business. Still, the winning formula for organizations to stay ahead of the curve is by embracing digitization enabled by technologies like IoT, Automation, and AI to cope with new challenges and take advantage of opportunities.

Doubtless, by now, you've seen and heard that disaster is a laboratory for innovation. The same goes with the global COVID-19 pandemic situation, where many businesses are forced to re-look at their business strategies. But the one thing that remains the priority for organizations across the globe is customer experience, agility, and seamlessness.

These unprecedented changes have torn up various business models, giving birth to many bold new competitors that are taking the market by storm. That means 'digitization' isn't just an industry buzzword – it's an essential process for any organization that hopes to thrive in the new world.

> 69% of boards of directors (BoDs) accelerated their digital business initiatives in the wake of COVID-19 disruption, according to a new survey from Gartner Inc. Almost half anticipate changing their organizations' business model due to the pandemic. [1]

Let's dive in and learn how enterprise digitization can change business forever.



The Key to Unlocking Business Growth

The digitization process seeks to leverage digital technologies to enhance customer experience and business processes, thus meeting customers' changing needs and the market.

Moreover, it helps the organization become more agile in improving the speed of response, standardizing processes, eliminating manual processes, and using data in a much more intelligent way than ever.

Sharing his views in a recent event by EdgeVerve, AdvantEdge, **Radhakrishnan Anantha, EVP- Chief Executive Officer & MD, Infosys BPM**, said,

> "We have a base of 230 plus clients across the globe, and they have undertaken a significant digital transformation. By digitizing their processes, they have become more agile, faster, and adapt based on their customers' liking or disliking. So, when we were re-imagining their processes, we realized that Robotic Process Automation and Applied AI plays a greater role in digitizing this whole transformation".

A quick look back

If you look at Gartner, they refer to the 3Vs – volume, variety, and velocity – as the three defining properties or dimensions of (big) data. Volume refers to the amount of data, variety refers to the number of data types, and velocity refers to the speed of data processing.

Complex and unstructured data has always been a concerning factor for organizations, especially the large and medium-size. According to an Accenture report, "Nearly 80% of data in the enterprise is unstructured – work descriptions, resumes, emails, text documents, research and legal reports, voice recordings, videos, images, and social media posts." [2] In the past, organization revenue was impacted by wrong calculations and inaccurate understanding of data, which resulted in significant losses at times. During the third industrial revolution, businesses focused on ERP, CRM, and SRM that acted as a strong foundation for running any successful business.

Though these pillars are still applicable and essential, value does not exclusively come from ERP anymore.

However, in the fourth industrial revolution, things are pretty different.

> It is a "fusion of technologies" that can enable enterprises to move towards digitization in a simple term. A fusion that involves the growing utilization and application of technologies like Artificial technologies, Robotics, 3D printing, Machine Learning, etc. These technology developments expand our ability to use unstructured content for enterprise knowledge discovery, search, business insights, and actions.

Moreover, they can save time, money, and effort, thus eliminating manual and time-consuming tasks.

IDC's research finds that by 2023, driven by the need to become resilient, 65% of organizations will invest in highly configurable ERP applications infused with artificial intelligence (AI) to achieve greater autonomy in business operations. [3]

Pave your way to becoming an Intelligent Enterprise

You must have got an idea to be digitally resilient in today's competitive and changing environment and become a true Intelligent Enterprise, you need to adopt digitization by leveraging the power of **intelligent technologies**.

A recent survey found that nearly 80% of business leaders believe it will be essential for organizations to become intelligent to achieve future success, but only 17% of companies consider themselves intelligent. Further, it states that 17% of organizations identify as fully Intelligent Enterprises. This implies that the race to become an Intelligent Enterprise has got off the block, and, importantly, others still have the opportunity to join the race and still emerge winners. [4]

There is no denying that everything depends upon performance, and if it is rightly monitored and analyzed, then success is on your way. Hence, if you aim to be the front runner in your business domain, you must make sure that the performance of your enterprise solution is flawless.

However, on the other end, many enterprises are still in the dilemma of shifting their infrastructure to this new environment. Some of the factors holding back their decision are investments, time, and effort that are required to transition the workforce skillset.

But as CXO, you need to understand that the benefits, in the long run, will outweigh these temporary drawbacks.

Now the question is – Are these the only motive behind organizations trying to become intelligent efficient? And if yes, then what other strategies are organizations adopting?

Let's understand this with a real scenario, wherein Philips, a global leader in health technology, adopts digitization by automating and revamping its finance processes to meet rising customer expectations.

Philips' roadmap towards the Intelligent Enterprise

The COVID-19 pandemic has affected business-critical functions across enterprises worldwide. From impacting the way we work and provide services to our customers, it has forced us to rethink every business strategy.

So, to retain a competitive advantage and bring agility to the business, Philips was looking for a way by which they could transform their finance function without compromising on speed and quality.

"Back in 2017, when we were deliberating refreshing our tech strategy, RPA was one element we were evaluating like how to implement it in our processes. At that point in time, we got in touch with Infosys BPM and EdgeVerve team," says **Arvind Subramanian, Chief Accounting Officer, Philips**, in a recent EdgeVerve event, AdvantEdge.

They took up the challenging task of automating finance operations as a part of the Hoshin program from 2018 to 2020. "At that point in time, we had no clue what it would yield, but we said let's try to automate one million hours because we didn't want to put a dollar value to it. Our idea here was to really drive quality sustainability but also to improve the speed, especially in the closing and planning process," added Arvind.

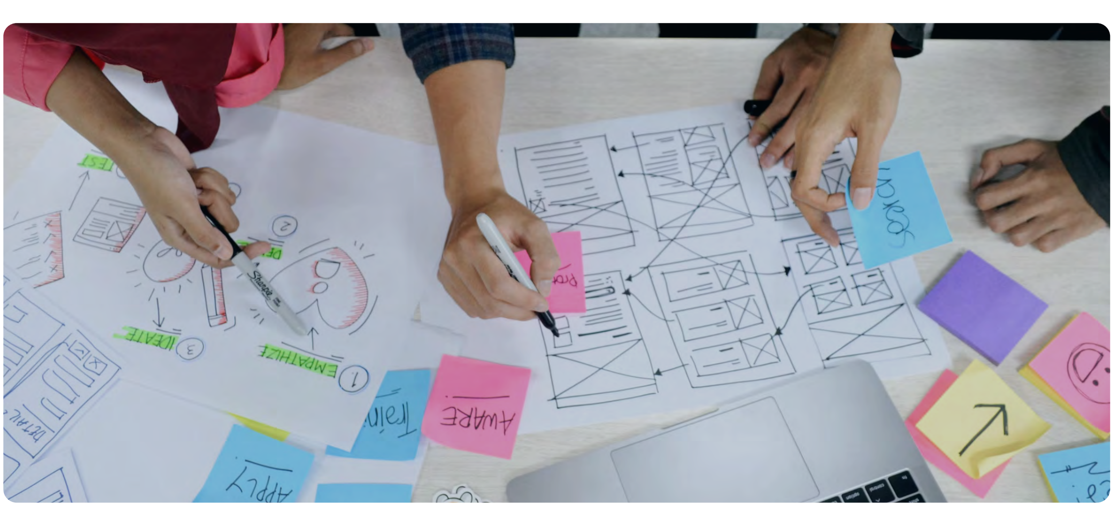
This was one of the most complex finance transformation programs in the world. Collaborative efforts led by Philips Finance leadership, supported by Infosys BPM process and technology knowledge leveraging AssistEdge Platform delivered significant business benefits.

High impact benefits delivered through Automation

To further explore the benefits experienced by Philips, EdgeVerve commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) Philips realized by deploying EdgeVerve's AssistEdge RPA platform. As per the report, some benefits realized were:

- Touchless Automation by standardizing and simplifying process globally eliminating 15,000 person-hours per annum with 72% reduction in AHT
- Automated dunning process resulting in 21% better collection (~ € 6M incremental benefits) within 3 months of implementation
- 21 AssistEdge RPA Bots created to continuously check all data postings in SAP, thereby ensuring data quality. Total effort saved 78,000 hrs per annum

He also added, "What we didn't realize were the softer benefits which we, later on, encountered like knowledge management becoming much easier than before, and also when the pandemic hit us in 2020, the importance of Resilience came into the limelight".



Intelligent Enterprise — the key to lasting business resilience

Post pandemic organizations were forced to focus on recovery, resilience, and competitiveness. And organizations that invested in resilience have been able to survive the pandemic much better than those that didn't. The pressing need was to look towards faster apt utilization of digital technologies. The organizations that had kick-started their journey earlier to become an Intelligent Enterprise benefitted far more significantly than those who just started.

> "AI and ML technologies play a big role during abnormal times. One can even predict what the forecasting is going to look like because these solutions have already hit the worst time," says Balaji Rangaswamy, VP, Information Technology & Data Analytics, Supply Chain, Boeing, during an EdgeVerve event, AdvantEdge.

Even Gartner predicts that 90 percent of large organizations globally will have deployed RPA in some form by 2022 as they look to digitally empower critical business processes while recalibrating human labor and manual efforts. [5]

Their trend report also showed that "By 2025, 50% of enterprises will have devised artificial intelligence (AI) orchestration platforms to operationalize AI, up from fewer than 10% in 2020." [6]

Where do you go from here?

Building an Intelligent Enterprise is not an easy feat. It's not something that happens overnight. It requires planning, strategy, and patience. With the speed at which digitization is becoming an integral part of every business, intelligent technologies are growing.

But earlier you start something, the better you are at it. Of course, it also depends on many factors like organization structure, offerings, management, process, etc. So, what do you think? What is your strategy to become an Intelligent Enterprise? Please share your thoughts with us.

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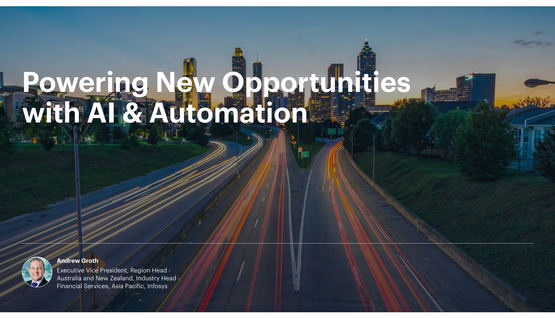

Powering New Opportunities with AI & Automation

Andrew Groth
Executive Vice President, Region Head - Australia and New Zealand, Industry Head - Financial Services, Asia Pacific, Infosys

Summary

Technology adoption across enterprises has skyrocketed in the past 18 months. With investments in cloud and intelligent automation technologies, most of them have pivoted growth even during these challenging times. The emergence of AI and Automation has enabled easy digitization of any process, system or underlying infrastructure. This, in turn, rewires the enterprise to become agile and yield tangible business results. Read on to know how enterprises can adopt, scale Automation technologies, and realize their full potential.

The last 18 months have shown us how collective resilience and motivation connect us. We've all learned to face challenges, irrespective of where we are physically or otherwise, and we all have shown a dominant spirit. While helping us survive, these attributes also have the power to make us thrive. Make no mistake. The current COVID-19 crisis has been a profoundly disruptive event at a scale that no one expected. However, there are others too. Climate change continues to be a significant threat and one we must address with urgency. Now, we have seen several disruptions across the years, and this pandemic is on a scale that most of us have never experienced before. It has upended every aspect of our lives to become a landmark moment in our transformation as a species and society.

A Perfect Storm for Technology Adoption

As we continue to find our feet in this unsettling time, it is evident that this situation is not just a humanitarian or health issue but also an economic one, affecting businesses across sectors globally. As a health crisis, social crisis, and financial crisis, this period has helped us understand what exactly resilience means. We've seen widespread digital adoption powering companies to faster transformation cycles almost overnight during this period. We've seen the ingenuity of technology supported by this speed, an explosion in quantity and analyses of data generated, and rapidly developing teams and customers more open to change and new ways of working than ever before. In fact, we've seen people and businesses embrace the shift with open arms during this period. Organizations have pivoted to remote work quickly and sustained it, with some consistency. Their strategic imperatives include growth alongside business continuity as they become more resilient. Companies today are becoming digital-first enterprises, fundamentally altering ways of working.

> Our customers across the APAC region have said that their investments in the cloud and intelligent technologies, such as AI and Automation, allowed them not just to survive but pivot during this challenging phase.

The developments driving adoption

Technology has been a great enabler for resilience and growth. Enterprises have also realized the importance of digital transformation. They are changing their business model to both survive and grow, making intelligent technologies a critical strategic imperative in their path to being digital-first businesses.

> The emergence of AI and Automation has made it possible to digitize any process, system, or underlying infrastructure to rewire the enterprise to become agile and sharpen the focus on yielding tangible business results. These technologies have grown to make an enterprise-wide impact across sectors. Their full potential, however, is best experienced with integration at scale.

How scale can help enterprises realize the full potential of Automation

Automation has moved from pilots at the periphery of an organization to bringing humans and technology together to form a connected world. Intelligent Automation will reach its full potential for large enterprises when it reaches an enterprise-wide scale, uniting tech, and human beings, bringing human talent and digital workers together seamlessly in the same workflow.

> When workers together are more separate than ever before and need to connect, this technology drives greater collaboration, creativity, innovation, and agility. Intelligent Automation increases the impact of Automation exponentially, and the next phase of evolution will see even more remarkable results through Connected Automation.

With its ability to exponentially augment the effects of digital transformation, Connected Automation will be the fabric of connection across businesses, organizations, and right across the value chain.

A Change in Mindset

Connected Automation will help enterprises move from cost savings to business differentiation. Several organizations are already reaping the benefits of early adoption. For instance, in the finance industry, banks are leveraging end-to-end AI to drive deeper customer insights, look at behavior patterns, offer hyper-personalized services and products to predict and prevent churn, cross-sell, and minimize fraud and risk detection. With the pharma sector, drug discovery that would take years and billions of dollars can be fast-tracked and is much more affordable by leveraging AI for drug target identification and validation. This intelligence will power tremendous success and progress. The enterprises that achieve these results will have shifted their mindset to make the best use of their hybrid workforce featuring human talent and their digital counterparts.

Managing the Transition to a Bright Future

While a great time for innovation, this phase is also a period of drastic and rapid change. Organizations are shortening their time-to-value by executing comprehensive change management exercises. They must identify potential challenges and the right partners to address them.

> Enterprises must also invest in people, helping them develop the right skills and competencies.

Finally, organizations must manage change and mitigate resistance to that change to realize their vision. Now is the time to plan. There's a bright future potentially ahead of us with greater optimism being shown by people, business, and government. I have complete faith that the future is bright and am excited about what it holds. There is a high demand for people, technology, resources, and opportunities - a perfect situation for AI and Automation to help us thrive.

> AI and Automation can drive intuitive decisions, build responsive value chains, and deliver perceptive experiences at scale. Their impact can amplify human potential, inject creativity and agility across the enterprise, and offer substantial end-customer value. Harnessing their power will unlock the immense value that the connection we all share offers.

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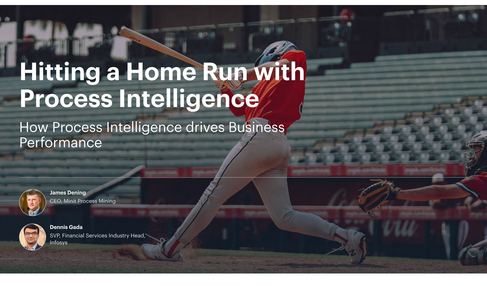


Hitting a Home Run with Process Intelligence

How Process Intelligence drives Business Performance

James Dening
CEO, Mind Process Mining

Dennis Gada
SVP, Financial Services Industry Head, Infosys

Summary

With considerable growth in Process Automation during the pandemic, businesses often grapple with gaining insights. Process Intelligence, a powerful combination of Process Mining and Process Discovery, on the other hand, can drive down operating costs considerably. Hear from the experts on how businesses can adopt Process Intelligence tools and make informed decisions about their ROI and growth trajectory.

If you were driving a car and wanted to find out how fast you are going, would you stick your head out the window and take a guess or look at your speedometer and know for sure? This was how Mint's CEO, James Dening, explained process mining at AdvantEdge 2021. Today for most companies, gaining insights about business processes is a guesstimate. They don't know for sure because they don't have any way of measuring process performance in place. According to reports, only 26% of companies utilize process discovery to understand how their business works.

In the post-COVID world, when the need to automate processes is immediate, it's in business interest to first invest in Process Mining and Process Discovery initiatives. This process intelligence will allow them to take the best path forward — Automation, Process Redesign, Outsourcing, Upskilling, or something else. Process Intelligence is the new paradigm of enterprise automation that goes beyond automating repetitive, manual tasks to redefining possibilities.

> Process Intelligence is a powerful combination of two elements:
>
> 1. Mining data from individual users of a function to identify how it's performed
> 2. Discovering how your operations are running with a holistic view of end-to-end processes

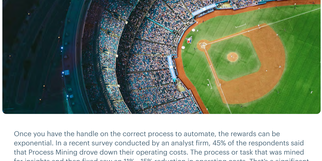
It is about navigating the business landscape with accurate insights at your disposal instead of stumbling around in the dark.

The business case for Process Intelligence

Businesses are essentially a collection of processes. Knowing how the processes are working and fixing them for maximum performance is just good business sense. Without the digital, granular insights on your processes, you won't be able to zero in on the next best action — the approach that will drive peak performance for your business. Building on the car analogy is like choosing between manual maps and GPS. Manual maps can get you from point A to point B, but they don't give you additional information like what is the optimal route, what is the traffic situation, are there road closures, etc., to help you make a better choice about which path to take and what time to start on the journey. With RPA maturity comes the need for better Automation planning — guiding customers from RPA implementation to scaling it enterprise-wide. It emphasizes building business and IT processes that drive efficiency and a host of benefits and opportunities at every step of their Automation journey. Process Intelligence, just like the GPS, can guide companies on their Automation roadmap.

Large enterprises have thousands of processes and tens of thousands of people supporting those processes. It's a complex landscape with murky documentation at best. Dennis Gada of Infosys called it what it is, "trying to find the right processes for Automation is like finding a needle in a haystack." To find that needle, you need Process Mining and Process Intelligence.

> Process Intelligence gives you more granular and accurate information at scale — something that is incredibly inefficient if done manually. It allows you to understand how thousands of people are doing the same process and what the variances are, if any. This kind of scale to get the information across multiple processes, people, and functions simultaneously is almost impossible to do manually.



Once you have the handle on the correct process to automate, the rewards can be exponential. In a recent survey conducted by an analyst firm, 45% of the respondents said that Process Mining drove down their operating costs. The process or task that was mined for insights and then fixed saw an 11% - 15% reduction in operating costs. That's a significant addition to any company's bottom line. Even one process can give tremendous RoI.

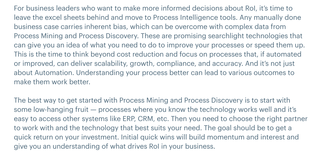
For example, one of the large regional banks used Process Mining and Process Discovery to pinpoint what they wanted to automate — a single process around low-dollar chargeback that was working sub-optimally. For disputed credit card transactions less than $25, the effort required to execute the chargebacks was not worth the returns. The bank was not even charging it back to the card processors in many cases. That intelligence helped automate the process the right way. Every time this Automation runs, it finds new money, generating revenue for the bank. This single process provided them the RoI on the entire Automation program.

Given the benefits, the adoption of Process Intelligence is on the rise. As companies become more comfortable using the technology, they'll focus on higher-level KPIs, adjacent technologies, and predictive intelligence.

Getting started with Process Intelligence

For business leaders who want to make more informed decisions about RoI, it's time to leave the excel sheets behind and move to Process Intelligence tools. Any manually done business case carries inherent bias, which can be overcome with complex data from Process Mining and Process Discovery. These are promising searchlight technologies that can give you an idea of what you need to do to improve your processes or speed them up. This is the time to think beyond cost reduction and focus on processes that, if automated or improved, can deliver scalability, growth, compliance, and accuracy. And it's not just about Automation. Understanding your process better can lead to various outcomes to make them work better.

The best way to get started with Process Mining and Process Discovery is to start with some low-hanging fruit — processes where you know the technology works well and it's easy to access other systems like ERP, CRM, etc. Then you need to choose the right partner to work with and the technology that best suits your need. The goal should be to get a quick return on your investment. Initial quick wins will build momentum and interest and give you an understanding of what drives RoI in your business.



> According to James, "AI-Powered Root-Cause Analysis could be a great place to start. It goes beyond spotting issues and faults in your process to identifying the true causes of these problems. For example, your process analysis reveals that the order-to-cash (OTC) process is taking too long. How do you go about fixing it? It would help if you had deeper insights. You need to know the exact attributes (suppliers, plants, materials, etc.) that are becoming a bottleneck. AI-Powered Root-Cause Analysis shows you the impact of each process attribute separately. For example, you'll see that supplier X is taking the longest to ship materials, which impacts the overall OTC timeline. It also allows you to go deeper. So, when you try and understand supplier X, you might notice that they are only taking longer to ship for a specific material. This analysis will later create the basis for your process improvement initiatives."

You don't have to go all-in when it comes to Process Intelligence. The key is to move fast. Pick a few processes, see what data they give you, explore how that data can help you improve or mend those processes. And then apply this learning to new initiatives. Today Process Intelligence is where Automation was five years ago. Those that automated five years ago are witnessing fantastic returns today, but those returns were not noticeable when they did that. James Dening's advice? "Get on with it. In five years, you'll be glad you did instead of sitting back, waiting, and letting your competitors steal a march on you."

Make Process Intelligence a discipline

Here's a fact. Once your processes are in good shape, they won't always stay there. As process inputs, volumes, or desired business outcomes change, they become less efficient with time. So even if you are well along the road to Automation, BPM, or Six Sigma journey, you should still look at Process Mining and Process Discovery as a way of checking ongoing health for each process. As companies go from Automation planning to ongoing management of operations or business processes, monitoring becomes essential, especially to identify and resolve business problems rather than just structural problems in a process.

> Remember is that Process Intelligence is not a technology or an operations initiative rather a business initiative. It helps you understand what makes sense from a business perspective and how you use those insights to drive the business in the right direction rather than just a technology or an operations focus. Process Intelligence is not just Automation but a much more strategic way of looking at your business and identifying the right opportunities from a growth, compliance, efficiency, and effectiveness point of view.

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Automation Predictions for a Connected Enterprise

What's in store for 2022

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Summary

With the effect of the pandemic still looming over our heads, enterprises are adopting AI & Automation solutions to embrace change. From being a competitive advantage to fast-tracking enterprise growth, Intelligent Automation is driving transformation across business categories. Read on to know how a banking behemoth is utilizing the power of automation in 2022.

From remote work and digital supply chain management, recent developments driven by the pandemic, are rewiring enterprise operations at every stage of the value chain, with Automation and AI at the forefront of the change. As a result, Intelligent Automation has rapidly transitioned into the mainstream, becoming a cornerstone of competitive advantage. So, how will this evolution play out in 2022 and beyond. What factors will power the next phase of enterprise transformation, specifically in the finance sector?
In this interview with our AVP and Global Product Head for AssistEdge N Shashidhar, Somnath Menon, Group COO, Al Ahli bank of Kuwait, lays out his vision and expectations for the future of intelligent enterprise transformation through Connected Automation.

Shashi: We believe Intelligent Automation as a technology can be leveraged to establish connections across the silos that is preventing Automation from scaling. We have recently launched our Connected Automation offering, which enables three fundamental connections – broadening the connection between people and automation, widening the relationship between processes and automation, and deepening the connection between data and automation.

Let's start with the first connection – the relationship between people and automation. How do you think automation will influence ways of working, and how can talent management strategy leverage these shifts?

Somnath: Automation is benefiting people by improving all kinds of processes, making them faster, more efficient, and more effective. I can speak about banking and financial institutions, which is my domain. For instance, we now use one login for multiple systems, and that eliminates a substantial amount of friction. These systems are fully transparent, so users know where the inputs and outputs are. Over time, the framework could be completely system-agnostic. As people adapt to this new system of working, I believe there could be scope for incredible efficiency, innovation, and creativity, but it will be a gradual shift. I also believe that there will be complete overhauling of skills to meet this new paradigm, where automation will be dependent on the human factors that influence the inputs. Biases and cultural differences amongst people who create new automation tools must be normalized through a process of validation and monitoring.

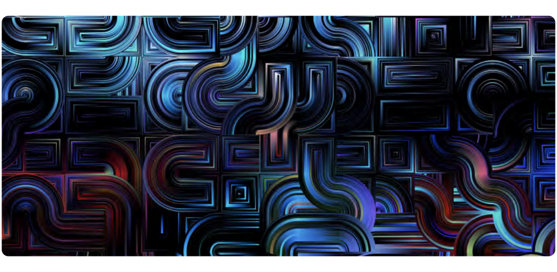
Prediction 1

As digitization reshapes the future of work, people will realize the value automation can deliver in their daily lives. The connection between people and automation will strengthen and will drive incredible efficiency, innovation, and creativity.

Shashi: Now that we've addressed the talent paradigm, let's talk about connecting business processes and automation. Automation is still a task-based intervention. Do you believe task automation will expand to process automation with the convergence of technology, low code and no code, process mining, and task mining? What is your view on how it will grow next year?

Somnath: Organizations already on their automation journey only need to ramp up their footprint, so that's straightforward.

> Task-based interventions are not efficient anymore. If you don't automate a process end-to-end, it's not going to be efficient, and you might as well not do it. If you have too many handoffs, then why bother? Theoretically and practically, any process needs to be looked at holistically. That's easier said than done because everyone manages departments and organizations within organizations. For automation success, however, there needs to be an organization-wide push, and unless there is strategy and vision, it will take time.



There is a knock-on effect for those already on the journey and seeing benefits. You may run a pilot in one department and then realize it can be effective elsewhere. We started our pilot in operations, thought it could offer help in other parts of the enterprise as well. I believe everything in life is a process, and you can build a workflow around everything. While breaking it into a process is fine, automating it is challenging. But there's another problem. Sometimes, we try to automate the processes we have, even if they are not the most efficient, instead of revisiting or reengineering them. Conviction, strategy, and vision matter here. With these in place, automation has been and will be successful.

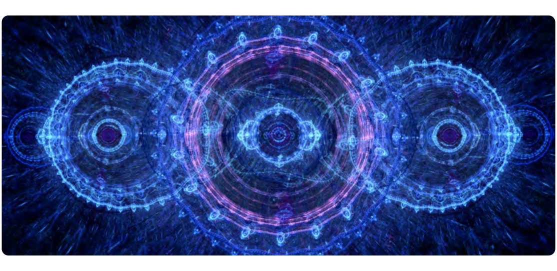
On the other hand, when people have only done it because someone has asked them to do so, that's not the most efficient process. The process is critical. I am a process person. Everything is a process - make it efficient and then automate it for a win-win. You cannot build a fast F1 car by just focusing on the engine, it has to be the whole car, including the body, tyres, design, and everything else. Similarly, if you must transform any process, it must be end to end.

Prediction 2

Task-based interventions will not be enough. Connecting automation and business processes will be inevitable but it will require enterprise-wide push.

Shashi: I believe data can be a powerful growth driver for automation, but we're yet to capitalize on this synergy. With process mining and task mining tools, enterprises can gather more intelligence about how the process is executed and check for deviations. At EdgeVerve, we are also seeing that the need for document digitization and intelligence is driving a significant uptake in the intelligent document processing. How do you think this expanded scope will unfold for data, digitalization, and unstructured data to become part of the automation journey?

Somnath: Raw data is of no use unless it is converted into meaningful datasets that serves our needs or the customer's needs. Data is the new oil, as it is now commonly said, so it is very valuable. However, without a plan and an understanding of what the end purpose is, it is as good a crude oil, which needs to be processed and refined into specialized end products. Given the depth of data available from different sources, the challenge is to define the quantity and source of data required to meet a specific delivery. So, for example, if the Bank requires performance indicators across an industry over many years, then it will need to pull data differently, than if it is trying to predict the future trends in an industry.



> Automation must be at a broader scale to be successful and grow exponentially. I am very clear that big data is moving the industry from ETL (extract, transform, and load) - what we did with data in the past in a data warehouse situation - to ELT (extract, load and transform). I believe, there is tremendous scope for automation across ELT because it is a laborious job at present.

For example, when we have to look at some reports, just the interpretation of what goes in the report is cerebral, but it doesn't have to be. Every time you generate a report, you should be able to automate it, put in the parameters, and pull the requirement information onto a dashboard. Data is massive, and it often gets thrown away because it's not utilized. Data and automation need a lot of integration with AI to make adoption meaningful.

Prediction 3

Automation integrated with AI will be the way forward and automation will underpin data transformation. The connect between automation and data will widen as enterprises will look for efficient ways to handle their data and use it based on business and market demands.

Shashi: What according to you could be the biggest driver of automation adoption?

Somnath: In terms of the future, robotics must increase convenience. It helps to think of the three Cs - customer, controls, and cost. We need to ensure automation implementation delivers what the customer wants, such as simplicity, convenience, paperless services.

If automation increases control for the customer and banks, it's worth doing. These include external controls like KYC and regulatory requirements and internal controls like error-free, well-controlled processes.

Then, there are always questions about cost and RoI.

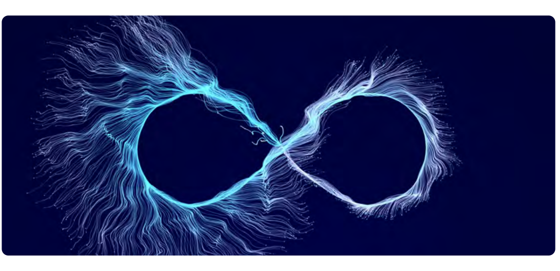
> Leaders must be careful to not measure the results of automation in the short term only, because from an effectiveness and productivity standpoint, these are continuous improvements that must be driven over time.

Each of the C's is equally important. Also, they overlap frequently. Based on your specific context, you may have a prominent C, but they all cut across the entire automation lifecycle and must factor into any automation decision.

Shashi: How will organizations balance the three Cs you talked about, especially control, since some amount of federated decentralized approach is required to scale automation?

Somnath: That's a good point. Sometimes you become so singularly focused that you don't think about the rest. In the name of customer satisfaction, growing the customer base, and making it quick and fast for the customer, the easiest thing to do is to drop the controls and compromise on them. I think that's a disaster. You must never compromise on controls, especially which are regulatory or detrimental to your organization's health. An error could sink an entire business. Controls are critical. Don't even think of comprising there.

That is why banks still have a significant advantage over all the new fintechs. They are trusted. Trust comes with controls. While it may not play as substantial a role in every context, with transactions for instance, but to put my life savings somewhere, I want to know where it is. It needs to be where I trust, which is why you find more integration between fintechs and banks because you still need both. That said, there may be a day when banking as we know it today will not exist.



> Anything is possible, but businesses that have built trust with robust controls in place are not going to go away in the near term. Even in the case of new players, people will hesitate unless their banking offering is fronted or merged with a digital wing of a more prominent bank. Growth is important, but so is control, perhaps even more. When you focus on one aspect, you can't compromise on another.

At the same time, you can't forget the cost. If your strategy says you can be number one at any price, then go for it. You can't ignore your context, but you can ask questions. Is the cost of my implementation relevant to my vision? Am I getting what I want?

Prediction 4

Although customer, controls, and cost will remain the key divers of enterprise-wide automation, achieving scale will require a balancing act between the three.

Shashi: What role do you think automation can play in ensuring more robust controls?

Somnath: There are a lot of controls in the bank. In IT and security, several areas can benefit heavily from automation. The Framework Core in NIST's Cybersecurity Framework lists five concurrent and continuous functions - Identify, Protect, Defend, Respond, and Recover. Identify and Protect are always-on functions where intelligent technology can automate a lot of work. For instance, automation could help me know my "single points of failure" and compromised areas. If I have something that ultimately scans my entire network and architecture on a regular daily basis, automated, I would be at peace because I know the threat factors are being looked at all the time. The second part is when there is an attack - you need to know what has gone wrong, and you need a way to Detect it. If I have the most possible and plausible factors already automated and automation can tell me where to look, detection becomes quicker. I still have to Respond. Here, automation can decide whether I cut off the threat, isolate it, or watch it. Again, in the case of Recover, there is a considerable role that automation can play. Finding out when the last backup was completed and how it can be recovered quickly are essential questions, but today, these things take a lot of time, and I'd say close to 90% of them are ready for automation.

Prediction 5

Banks will increasingly rely on automation technologies for robust IT and cyber security controls. Automation will play a significant role in identifying and protecting baking systems from potential threats.

Shashi: We've seen a difference in priorities in CIO/CTO-led implementations and those led by business. For businesses, scalability, reliability, and security become important, and for CIOs, it's about how quickly we can create a proof of concept or shorten the learning curve through a robust training system. How do you see this balance of control and decentralization play out in the near future?

Somnath: Any new technology depends on who is bringing it in. In an ideal world, there should be an understanding from both sides to create an ecosystem aligned with an organization's context, goals, architecture, and tools. In reality, the balancing act won't stop. Business leaders will have an issue not getting the technology they want, and CIOs can be reduced to troubleshooters when things go wrong. Technology adoption is typically driven by whoever wants it. To be effective, I think it's critical to have a digital strategy that is aligned and prioritized by the overall strategy of the institution.

> Digital transformation is no longer an enabler but a driver, and it needs a concerted push from all sides to succeed.

When you begin your automation journey, you need to start small, see the benefits, and consider scaling. There are several opportunities, in our case, that we unlocked through this approach. When we started, we had everyone add what was painful for them. Then we completed a rationalization exercise that helped decide where we'd get the biggest bang for our buck because we needed to show a benefit. While it is a long game, it's better to show some measurable impact early on. We've had some great success. Specific customer-facing tasks like salary processes that would previously take 72 hours now only take three minutes. That is a quantum leap visible to everyone, and it's a classic example of driving value for the process, that ticks off all the three Cs.

Shashi: There are things that we thought would take off but haven't. We expected the adoption of AI in automation to increase rapidly but that didn't happen. People are using the AI to automate conversation interfaces or document processing but not for the prediction AI is capable of. With the proliferation of 5G, we thought automation would span connections to edge devices, but that's not taking off either. Also, with critical workloads on the cloud, we expected cloud-based automation to pick up, but we haven't seen that. Clients aren't ready for a SaaS, cloud multi-tenant offering. Even with low-code, AI, IoT, there is a pushback, so what are your thoughts on this resistance??

Somnath: First, all of what you said should have happened, will happen. And it's just a question of when. You might want it faster from where you sit, but every one of these initiatives have constraints. For example, AI based analysis is still more backward-looking and does well with history. No one has quite cracked prediction just yet and it is not the technology that is lacking, it is a clear articulation of the business needs that needs to evolve.

Prediction 6

With digital transformation becoming a growth driver, both business and technology will have to be guided by the overall enterprise strategy. They will have to make a concerted effort to succeed.

> Banks may not make money in digital banking, at least not in the short- term, but if the core idea is to be prepared for when IoT happens, then it's a matter of future proofing and so definitely worth starting early.

I'm a big advocate of cloud-driven transformation, but it's not going to happen quickly. The issue is mostly geopolitical and also influenced by security concerns. Platforms and tools may claim to be secure, but the encryption key is with the vendor or cloud owner. If there is a political, judicial, or competition need, they can use that key and share the data, and that's why there is a huge trepidation in sharing data. In our case, we are working towards holding the encryption keys for our cloud footprint.

> Once the security is in place, I'm open to a complete transition and would even encourage it. The reality is that the way data is growing, physical data centers won't be feasible from both a management and economic view. People should focus on the security of the cloud and on who controls access.

Prediction 7

Time will separate gimmicks from technologies that will last. Automation, AI and cloud will grow exponentially as these technologies will be at the helm of economic vision of countries. But there are a lot of concerns and constraints that need to be addressed.

Shashi: In closing, what is your prediction for how Connected Automation will grow in 2022?

Somnath: COVID-19 will unfortunately continue to disrupt life, though hopefully on a diminishing scale. People are resilient, and open to either working from home, of from the office, or a hybrid. Connected Automation will capitalize on this appetite to drive a more efficient and frictionless experience. We will observe the exact contours of the transformation as it unfolds, but the journey itself is well and truly underway.

Prediction 8

Challenging times are often the harbinger of amazing innovation and a faster rate of adoption. Connected Automation will capitalize on the appetite to drive a more efficient and frictionless experience.

Disclaimer Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the respective institutions or funding agencies

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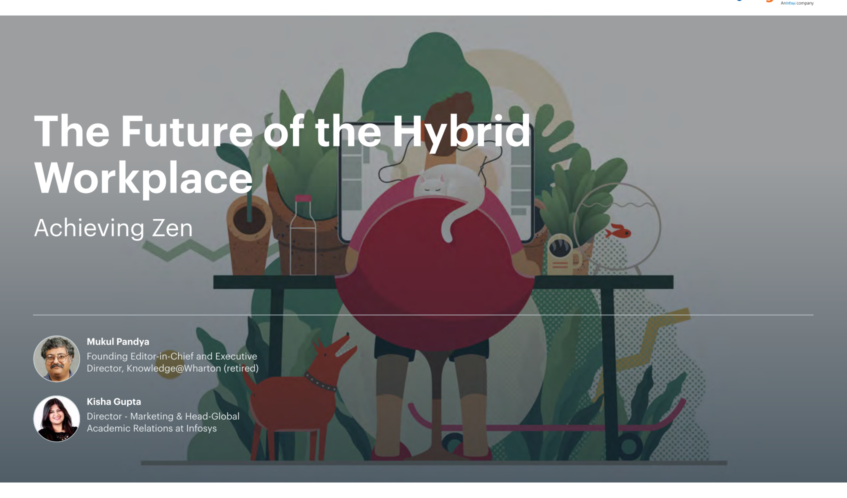

The Future of the Hybrid Workplace

Achieving Zen

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Summary

The pandemic has redefined work and the workplace. Work from home to work from anywhere is the global mantra. Should a company embrace the concept of hybrid workplace, go digital all the way or start calling employees to work in a phased manner? How can technology enable the new workforce in the new found work spaces? Read on to know more.

As an event that has affected every human being, COVID-19 is a watershed moment in the development of our society. With our innovation outpacing evolution, changes to culture represent changes to the human experience, and with workplaces, the pandemic has proved transformative. Despite their resources, agility and flexibility, can organizations adapt to a new paradigm of workplace models? What are the most significant developments and challenges organizations must address? How will talent and technology drive this shift?

In this conversation with Mukul Pandya and Kisha Gupta, we explore these questions from the viewpoint of industry, talent, research, and perhaps most compellingly, the interviewees' subjective context.

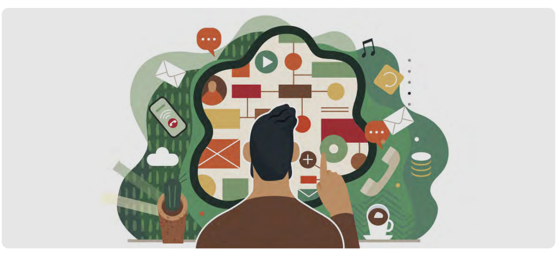
Editorial Team: The world has changed, and so has the "world of work". What are the most prominent developments in the COVID and post-COVID world?

Kisha: COVID-19 has changed the social nature of work. We can travel for leisure, but not to the office. Organizations won't push for a complete return, given the potential fallout from the risk of something going wrong. It's great that we have been able to adapt, but I believe we're on the cusp of rediscovering the charms of the old normal while being aware that some aspects have changed.

When COVID-19 happened, the optimist in me expected a temporary change. However, when I see it unfolding, there is a significant number who do not want to return. The people who started pre-pandemic are open and pretty bullish about a hybrid situation combining remote and in-person work. The ones who began work during the pandemic, however, may not see the need to come to work. That strikes me as odd because the latter has met nobody at work. Relationships are valuable. The reason our organization, for instance, could move faster is that everyone knew and trusted each other.

> For me, knowing thousands of stakeholders and having mutual trust made for an easier transition and allowed me to take our **massive global internship program online**.

Mukul: I agree with Kisha. The nature of work was already changing before the pandemic. COVID-19 accelerated this transformation, notably the dramatic increase in remote work. Let me address it from the context of learning and education, given my experience in that area. Remote learning through Massive Open Online Courses (or MOOCs) was already growing via platforms such as Coursera, Udacity, or EdX. Many universities offered these online courses via these platforms, but they were peripheral to the primary pedagogical model, which was still based on on-site learning on college campuses. Almost overnight, universities had to pivot to remote learning for all classes. Many of these changes will probably continue in the post-COVID world. Once the genie is released, it won't go easily back into the bottle.



Editorial Team: How do you think these transitions and transformations will impact the organizations in the medium-long term?

Mukul: Hybrid work has been in the mainstream for some time now, just not at this scale. Nicholas Bloom at Stanford University's Institute for Economic Policy Research wrote in June 2020 that 42% of US workers were working from home full time. This shift accounted for more than two-thirds of economic activity, a non-trivial amount by any measure.

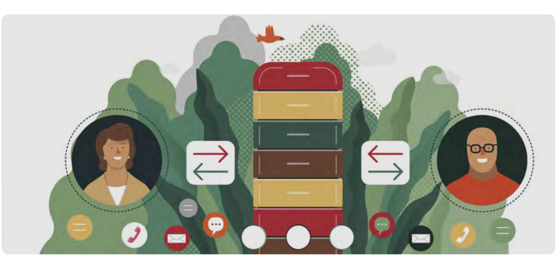
Teams accustomed to working like this found it easiest to adapt. Here, I want to give you the example of the Knowledge@Wharton team I used to manage. Knowledge@Wharton is an online publisher. In the past years, whenever there was a snowstorm, people couldn't travel to the university. So we were already used to sitting at our desks at home, getting on conference calls, and doing whatever we needed to publish our edition, once a week and later twice. The internet is, after all, meant for distributed work.

> But in the medium-term, organizations could also face a severe negative impact. For example, executive education has been a significant source of income at many major institutions and business schools. Onsite programs took a big hit during the pandemic, and it isn't easy to replace such revenues with online learning in the short run.

Kisha: It is a substantial change that has both advantages and limitations. The good news is that our interns have adapted well and learned to live with it. They have shown resilience and ingenuity, from exploring new ways to interact with people and build relationships to taking charge of their learning and managing work.

> In terms of delivery structures, we have a greater focus on in-time-zone peer networks instead of an out-of-time-zone peer network.

Our interns are currently working on problems particularly relevant to their location, so while the global experience has changed, the local impact has deepened. The inability to visit India, on the other hand, takes away from the visceral experience of visiting a country so unique and stimulating, which a virtual experience can't replace. So, although I am grateful for the safety and adaptability possible for many of us, the comfort and restrictiveness of the current environment can also stunt personal growth.



Editorial Team: What is your view on remote work, and how has it influenced talent acquisition and employee engagement?

Mukul: As I mentioned in the example of the Knowledge@Wharton team, remote work favours some types of work over others. Managers, professional service sector workers, finance workers, and others with broadband connectivity could use platforms like Zoom, Microsoft Teams, or Google Meet and adapt to remote work quickly, but in other fields like travel, food services, or health care, remote work cannot easily substitute for on-site work. These factors have a significant impact on talent acquisition. If you are engaged in work that lends itself to being done remotely, you have access to a broader talent pool than you might have had in the past.

Employee engagement is a more complicated question.

> You might think people would become more productive since they no longer have to commute and travel time is added to the workday, but I have heard countless colleagues saying work has become more stressful because the boundaries between work and home have disappeared. People today are in endless Zoom meetings, with minimal downtime or respite. That is unhealthy.

We cannot escape the consequences of this productivity-driven culture unless it develops empathy and a conscience.

Kisha: Remote work has its advantages for organizations, including the cost of physical facilities, infrastructure, and maintenance. Access to a broader talent pool is also another benefit. The pillars of a good relationship—loyalty, connection, respect, and shared purpose—are the actual markers of employee engagement. A strong culture can help you attract and keep people by reinforcing these pillars, but building one is more difficult now than before. For inspiration, we should look to companies that have been remote by choice, even before the pandemic, to understand how they built and ensured a strong culture across a distributed workforce. One aspect that stood out to me about such firms was their commitment to transparency at every level—scope, salary, growth, and acceptable standards of behaviour. Developing specific guidelines for each of those parameters before communicating them to employees across the organization is a crucial imperative alongside ensuring the highest standards of inclusivity.

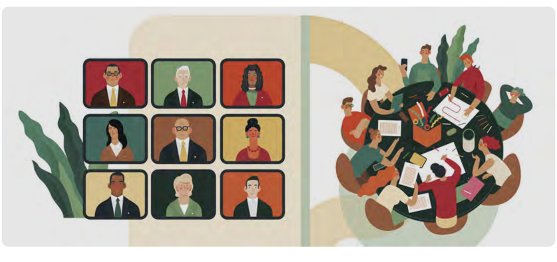
Editorial Team: How can organizations approach the question of remote work, hybrid work, or returning to the office? What aspects must they consider?

Kisha: In the short term, from what we have seen, and it's hard to look too far into the future, given how fast the situation is changing, the shift in work paints a rosy picture for organizations. People are productive while working away from home, and companies save substantial amounts on infrastructure maintenance costs and other operational expenses. So, from that lens, you could say things are going well. However, it's safe to say that the decay of organizational social fabric is firmly underway and must be addressed urgently.

> Technology can handle several aspects of work, but these don't include social connection, culture, and trust. I believe organizations must focus on these areas.

Mukul: There are a few key aspects to consider as organizations think about hybrid work, not just where to work but also when to work. First, the definition of the workday is changing from the old notion of 9 to 5. This shift is especially true of people who work across multiple time zones. Whether organizations can balance efficiency, effectiveness, and uniformity remains to be seen, but this balance matters in any business decision.

The fact is that employees recognize the issues of the old model of working and want the change to develop into something congruent with their needs. Slack conducted a global survey of knowledge workers about a year ago, and its findings confirm this desire for a transition. According to the CEO, Stewart Butterfield, "**Our Future Forum research** of 4,700 knowledge workers found the majority never want to go back to the old way of working. Only 12% want to return to full-time office work, and 72% want a hybrid remote-office model moving forward."



Editorial Team: Much has been said about its advantages, but what are some pitfalls of remote work?

Kisha: Virtual working can see people lose their influence in the workplace or at least hamper their ability to build it. Trust is such an essential component of work, and it is challenging to earn virtually. Perceptions constructed entirely on limited online interactions present a skewed view of people. Another aspect to consider is the redundancy of carefully developed environments and physical infrastructure. Office spaces, buildings, and training centres represent billions of dollars in investments, all of which face obsolescence in an entirely digital scenario. These aspects lead me to believe that we need a hybrid of context, environment, and mindset.

Mukul: It may be helpful to think about the pitfalls of remote work from two perspectives: employer and employee. Peter Cappelli, a professor of management at Wharton and the director of the school's Center for Human Resources, has written a timely book about this—**The Future of the Office: Work from Home, Remote Work, and the Hard Choices We All Face**—that I would recommend to readers of The Edge Quarterly. In this book, Cappelli writes that there is no consensus about handling remote work policies among employers. This divergence of views, combined with the resurgence of COVID-19's new variants, has forced companies to postpone deadlines for bringing people back to offices, which has meant that almost all companies seem to be waiting to see what others will do.

> From the perspective of employees, a big issue is balance—and not allowing the blurring of work and home life to the degree that each of them becomes unproductive. Do people think they are working from home, or does it seem like they and their families have moved into the office? I have heard many people say it feels like the latter. The impact on family life is a big issue.

People tell funny stories about children wandering in while a parent is at a video conference – but there's a sadness to such reports. What happens if children are neglected because work never seems to stop? Then there is the issue that faces hybrid work specifically—**the divide between people who work from home and those who go to the office.**

These are intangible costs that companies might overlook because they are difficult to measure, but for that very reason, they are critical. Even with a return to work, organizations have to fight several challenges, none more critical than offering employees the ability to rest, learn, recover, and reset.

Editorial Team: People are moving to less expensive areas given the ability to work remotely. Is this affecting pay? Since the value of the work hasn't changed, should it?

Kisha: It should not, but the question is more nuanced than that. One view is that the cost of living of a location should play a part in the remuneration, which is understandable. However, if I choose to work from multiple locations, will organizations calculate the cost of living of each area and offer a tiered salary? That seems impractical. I believe companies should set wages based on the role and not the location.

Mukul: I find this a disturbing trend, and one that I have heard about from friends who work in the Bay area near San Francisco. However, when workers work in remote locations where real estate is less expensive, and thus the cost of living is presumably lower, some companies are reducing annual pay increases or even imposing pay cuts. Another trend to which we should pay attention is the tendency of some countries, especially those with a robust digital infrastructure, to attract digital nomads. Estonia, for example, has created a digital nomad visa to attract such workers. It lends an interesting dimension to the global war for talent.

> Digital nomads are net positive contributors to local economies because they work remotely for overseas employers, so they don't compete for local jobs. On the contrary, their income is generated globally but spent locally, so they stimulate local economies. We should pay attention to this trend and see where it leads. It will have exciting implications for remote and hybrid work in the future.

Editorial Team: Does technology have a role to play in this transition? What can it do?

Mukul: To me, the issue of remote and hybrid work is a human issue.
Technology can help drive productivity, but as the report above said, that may come at the cost of adding to exhaustion. Relaxation is crucial for creativity and overall well-being. No amount of wealth–whether 500% pay hikes or increases in wealth from stock options as technology stock prices rise-can compensate for long-term damage to mental and physical health. I see that as a considerable risk. I hope technology leaders will pay attention to this issue.

Kisha: Technology can enable inclusion. It allows us to tap into talent pools previously inaccessible and expand our hiring to new geographies. Another aspect of technology is its ability to drive extreme efficiency and focus humans on value-driven tasks.

> Consider the case of ML-driven executive assistants that can understand the behaviour of their human users, manage schedules, generate reports, and make recommendations for improvement. Another great idea that we are experimenting with is a peer-to-peer learning platform designed for specific purposes. If there is a problem, technology has a solution, but my point remains—humanness is essential to better work and better lives.

Nothing will change that.

Editorial Team: Who owns technology adoption for workplace strategy? Does it sit with IT, company leadership, or HR? What can each of those functions do to make a case for tech-driven employee engagement?

Kisha: In a services organization, it would be best owned by one department-agnostic leader. A siloed approach, either with IT, marketing, or HR, won't work because these departments just weren't built for this specific purpose. Since it's a new objective, organizations should create a specialized role with clear goals and then appoint a team governed by a department-agnostic leader focused on strategy and internal communication, implementation, and change management. Listening will be an essential part of this role, especially the ability to separate signal from noise. Other aspects of the mandate would be running pilots fast, being open to failure, and getting results to improve the process. Incubating ideas without action is just not going to work.

Editorial Team: What are your recommendations for organizations looking to adapt to this scenario?

Kisha: Assuming you have to adapt to the way things are today, focus on radical transparency. Tell people what they need to do, what impact their work will have, and where achieving their goals will take them. This need for transparency is especially true for mid-size and small firms that can't buy their way into better talent pools.

> Companies should also look to empower people by giving them the option of hybrid work and allowing hiring teams to form clusters of people across locations. Organizations can have offices based on where people are. These open collaboration spaces can then act as hubs responsible for specific tasks. Companies should also hone the ability to hear continuously, act, react and change.

Mukul: Stay on top and keep studying these issues. A lot of experts are writing about them, and they don't necessarily agree with one another. If handled correctly, remote and hybrid work can have many positive effects – flexibility, productivity, and employee satisfaction. But there are equally severe problems involving pay equity issues or the inequality time bomb. My first recommendation is that organizations should address these issues thoughtfully and with emotional intelligence. Empathy needs to become a crucial component of every company's culture. Second, focusing on optimising work at the activity level, not just the role or location level, might be a better lens to use when redesigning work structures. Finally, as difficult as it may be, employers should consider individual employee needs instead of a blanket approach. People have different lives and contexts, and their work should consider the uniqueness of their circumstances.

Editorial Team: What are the risks of ignoring the need for change?

Kisha: Companies should understand their unique context and make changes, if necessary, accordingly. The reality is that no one has cracked a formula, but that's no excuse to avoid trying. I don't believe in drastic predictions and see the situation as an opportunity to evolve. A fear-led mindset will only offer survival tactics. Enterprises that respond with innovation, ingenuity, and empathy will earn a compelling competitive advantage. That is the benefit.

Mukul: Companies can't just be bottom-line oriented. The risk of not adapting to change when it is warranted is that it will hit the wallet. That's the issue at the heart of the matter. Companies guilty of clutching onto one revenue stream because it has worked in the past, without considering the need to create others, are likely to be in a spot of bother. Competition is already and will continue to be disruptive. Countries otherwise unheard of in this context are emerging in the race for global talent, as are innovative ways of working and brand-new roles. For organizations, the risk of ignoring the need for change is death by obsolescence. Life is not going to wait. That's the bottom line.

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The Next Frontier of Automation

Hyperactive about Hyperautomation - Part 1

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Summary

The pandemic has seen enterprises find newer ways of ensuring business continuity. Automation of tasks has been at the forefront of achieving organizational Digital Transformation at scale. Automation is now Intelligent and is a confluence of RPA, ML, AI & more. Hyperautomation is the next frontier of enterprise growth that unlocks immense gains in innovation, agility, resilience and customer-centric operations. Read on to know how Hyperautomation can be a cornerstone of an enterprise's competitive advantage.

This article is the first of a three-part series introducing enterprise leaders to Hyperautomation. The following two pieces will address how you can evaluate your enterprise's readiness to take on the Hyperautomation journey and how successful implementations can help you drive exceptional customer experience at lower costs.

The last two years of the pandemic have seen enterprise leaders weather the mammoth challenge of ensuring business continuity while driving growth. Technology-enabled transformations resulting in the Automation of tasks have been at the forefront of their response. Automation was first implemented to bring efficiencies to repetitive processes executed through rules-based decision-making. With the advancement in technology, Automation soon expanded its horizons to become Intelligent Automation by drawing on technologies at the confluence of RPA, ML, AI, computer vision, and NLP. Intelligent Automation enables enterprises to push the boundaries of Automation with higher accuracy, cost, and efficiency, making it critical to this technology-enabled transformational change to automation journey. With the value of Intelligent Automation firmly established, organizations are now set to unlock the next frontier of enterprise growth - Hyperautomation.

Interpreting Hyperautomation Journey

In 2019, Gartner **listed Hyperautomation as a top strategic technology trend** for 2020. According to Gartner, "Hyperautomation deals with the application of advanced technologies, including artificial intelligence (AI) and machine learning (ML) to increasingly automate processes and to augment humans."

> A real-world example of Hyperautomation implementation is the combination of RPA and AI in call centers to provide a Digital Twin to call center agents. This would enable the Automation of human agent processes executed on the agent desktop and supplement the interaction by quickly pulling information about the client from multiple systems. The Digital Twin further enhances this exchange through intent prediction and the customer's intent-based decisions, actions, and contextualized presentations, resulting in reduced repeat calls by the client. This efficiency enhances customer experience and reduces the cost of operations, resulting in higher Net Promoter Score (NPS).

EdgeVerve **published a white paper** introducing a concept for a vision that would drastically transform enterprise operations by creating a customer-centric workforce driven by a human-digital twin. We called this vision Automation Singularity.

"Automation Singularity is a highly customer-centric and agile-oriented state of constant improvement and optimization through the future workforce, opening up an expanded horizon of possibilities. Human specialists drive customer orientation using their creativity and empathy and are complemented by digital workers with extreme productivity and consistency. Automation Singularity serves as a beacon for enterprises to conceive, design, structure, and deliver products and services. The idea of Automation Singularity is a journey where a variety of automations (including attended and unattended Automation) along with AI capabilities will unleash unprecedented value, touching every process, every employee, and every system in the enterprise." - EdgeVerve White Paper on Automation Singularity.

Envisioning a state of Automation Singularity is the first step on the Hyperautomation journey.

> Hyperautomation is now set to become not just a reality but a prerequisite to compete and thrive in an uncertain world. With low-code and no-code platforms lowering barriers to adopting Hyperautomation enablers like Intelligent Automation, enterprises can now chart a clear, specific, and contextual Hyperautomation journey. The organizations that understand this capability and move fast will unlock immense gains in innovation, agility, resilience, and customer-centric operations to establish industry leaders for the next generation.

Why Hyperautomation is the Next Frontier

To keep up with the demands of accelerated digital transformation cycles, the rapid and virtually seamless transition to remote work, competition from disparate segments, and evolving customer needs, enterprises must have a laser focus on making Hyperautomation a cornerstone of their competitive advantage.

As we enter the third decade of the 21st century, it is evident that Digital Transformation is not a linear journey. Black Swan events like the pandemic alter the course of our evolution dramatically, and this change is most apparent in technology adoption. Resource shortage during the pandemic led enterprises to evolve their ways to accelerate the Automation of the tasks completed by human agents. Therefore, adaptability is and will continue to be critical as enterprises move from a survival mindset to one of thriving. A look at Google Trends data for the interest in Hyperautomation points to a clear spike in the idea's popularity, specifically its relevance to enterprise transformation.

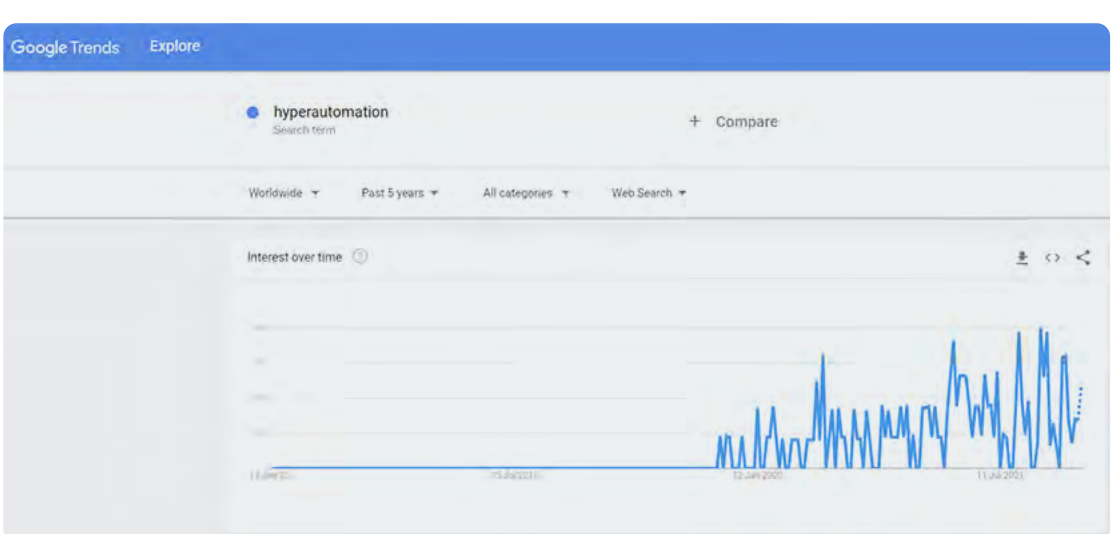

Fig: Search volumes for Hyperautomation have been on an upward trend since 2019 and continue to spike.

Note: This graph shows the interest in Hyperautomation over time. Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term.

As this **McKinsey report**, aptly titled "The Recovery Will be Digital," states, the current context needs C-suite executives to "remember it's 99% perspiration", urging them to obsess over improvements in tech, better customer experience, and ease of use. With its ability to drive extreme efficiency and quality at scale, Hyperautomation helps them do just that. However, to achieve benefits beyond the low-hanging fruits represented by task-based speed, enterprise leaders must center their planning on Intelligent Automation that will drive their Hyperautomation journey. Powerful platforms that provide a combination of RPA, Process Discovery, and Process Mining will enable enterprises to accelerate their progress.

The Premise and the Promise

For any enterprise, a vision for Automation Singularity will drive the destination and design of the Hyperautomation journey. Such a vision involves a holistic approach to Automation, enhances end-to-end operational decision-making, and, more importantly, moves organizations towards AI-driven decision-making, especially for complex processes.

> With the promise of human-empowered Automation on offer, enterprises can bridge the gap between the human and digital workforce, unleashing unparalleled creativity, efficiency, quality, and enriched intelligence in decision making across the organization. The resulting transformation will touch every enterprise's employee, process, and system. It will enrich human decision-making and unleash unprecedented human value. Furthermore, it will enable leaders to drive their organizations towards being truly agile, hyper-productive, and future-ready intelligent enterprises.

Hyperautomation improves upon previous iterations of Automation through a suite of smart features, such as:

- **Cognitive Services**
  Cognitive Automation is the application of machine learning technologies to Automation to take over tasks that would otherwise require manual intervention to achieve results. With cognitive services, enterprises can make their workflows more efficient beyond the scope of current Automation technologies to accomplish a higher level of operational efficiency.
- **Contextual Intelligence**
  Contextual effectiveness drives use at scale. For any technology to have enterprise-wide adoption, it must serve a variety of uses cases and user contexts. Advances in machine learning and AI combined with the empirical data used to identify Automation candidates can create a continuously improving digital brain for organizations capable of mitigating risk, improving performance, building resilience, and accelerating innovation.
- **Smart Bot Management**
  Enterprises can now develop and manage their smart bots with the right platform. The ability enables the deployment of digital workers specific to an organizational context. Additionally, with low-code and no-code platforms, business users can also design automations, shattering the silos that previously restricted the scale of automation projects.

Implementation Imperatives of Hyperautomation

Leaders looking to build their enterprise for Hyperautomation will face a set of complex challenges. While these obstacles are dwarfed by the opportunities the solutions represent, they deserve your attention. In our experience, the most prominent of these imperatives include:

- **Establishing a return on investment (ROI)**
  The Hyperautomation journey involves end-to-end workflow Automation that touches multiple units within an enterprise. Establishing RoI and seeking executive sponsorship in such scenarios isn't straightforward. Several Automation pilots fail to start, simply fail, or fail to scale because of a lack of understanding or ownership of comprehensive value in the early stages of implementation. Enterprises must evaluate their business context to select the best journeys for Automation before estimating and measuring the RoI. This demands strong leadership that can drive cultural change through organizational silos, supported by best-in-class platforms in the market that use a data-driven approach backed by empirical data, process intelligence, and tools to measure RoI.
- **Ensuring leadership for the entire project**
  While Hyperautomation affects every process and person in the enterprise, it is essential to have clear and continuing leadership capable of owning and driving the implementation process. We have found that successful Hyperautomation implementations need exceptional leadership and enhanced collaboration.
- **Comprehensive change management exercise**
  Hyperautomation will transform your entire organization. A transformation of this magnitude needs the development and execution of a total change management exercise to ensure buy-in and education at all levels across the organization. The narrative around the concept of Hyperautomation is rife with misinformation, and prioritizing change management and education will ensure that your entire organization is committed to the Hyperautomation journey.
- **Establishing, tracking, and managing project timelines**
  Digital transformation driven by Hyperautomation is a vision driven by a habit beyond a short-term implementation. Breaking every implementation into a series of well-structured and tracked projects will help enterprises enjoy greater success in their journey and support their execution teams rack up a series of small wins critical to maintaining motivation and leadership trust.

We are fortunate to be living in an age of endless possibilities supported by technological progress and innovation. Hyperautomation represents the very best that this evolution has to offer in the enterprise space. More importantly, it provides solutions tailored to an enterprise's specific context instead of a cookie-cutter approach to efficiency. Now that you understand the value and potential impact of Hyperautomation, the next step would be to develop an intrinsic understanding of your organization's context to create a plan in line with your specific needs and challenges. The next article in this three-part series will guide you through a step-by-step process of understanding your enterprise's readiness for Hyperautomation and maturity in its transformation journey.

EdgeVerve AssistEdge is an Intelligent Automation platform designed to supercharge your enterprise's Hyperautomation journey. As a cohesive Automation platform with enterprise-grade capabilities, it combines the best that Intelligent Automation has to offer with EdgeVerve's extensive and proven track record in consulting, offering you powerful support. Please click here to learn more about the platform and request a demo with an expert.

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Automation - Scale it to Nail it

Powered by Connected Automation

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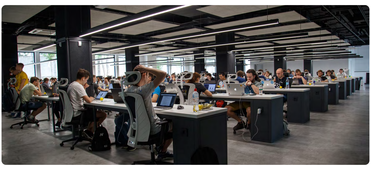
Summary

Automation is rewriting the story of human productivity. Enterprises prioritize Automation to maximize productivity but fall short of optimizing it by taking a tactical, siloed and disconnected execution approach. How can an enterprise plan and execute a seamless and scalable Automation approach? Read on to know more.

Automation has shape-shifted large global enterprises and is rewriting the story of human productivity. A study suggests that almost 95% of enterprises prioritize process automation to maximize productivity. However, a tactical, siloed, and disconnected approach focused on effort and cost savings is holding them back from scaling and unlocking the true potential of automation. The pursuit of quick, small wins to showcase value has led to fragmented automation initiatives across the enterprise. These empower just pockets of specialists and do not draw on enterprise-wide data sources, limiting their effectiveness.

But what do companies need to scale automation? What could be holding them back? How can they drive a holistic automation agenda? What are the right metrics to influence and drive? How can a broader ecosystem of employees be enabled to drive automation at scale? And how should this operating model be structured to democratize automation yet retain control on security aspects? These are questions that most businesses are grappling with today. Here are a few thoughts on moving forward and scaling their automation programs.



FOUR LEVERS TO DRIVE AUTOMATION AT SCALE

1. Forge deeper connections between Processes, Data, and People.

As enterprises take a more strategic view of automation, data, human interactions, and complementary technologies, there is an opportunity to reimagine business models, customer interactions, and execution. Companies need to map out and radically rethink customer journeys before automating them. To align with the digital transformation of North Star, companies need to take a more strategic view of automation and see it as an enabler of customer impact. In a panel discussion at AdvantEdge 2021 , Bernard Shafrik of Forrester notes that "Conversations have shifted from cost-cutting to revenue growth and exploring new business models via automation technologies."

> It is here that **Connected Automation**, a human-centred holistic approach, can help ensure that enterprises automate end-to-end processes supported by data and cutting-edge intelligence. To derive sustainable value, organizations need to build capacity to deliver personalized customer journeys based on hyper-efficient execution. This would reshape the enterprise to tap human expertise for empathy and innovation while leveraging bots for productivity and quality.

Connected Automation assists enterprises forge deeper connections between Processes, Data, and People.

- **People:** Wider connection of people into automation journey through low code platforms for citizen developers and enterprise personal automation assistants.
- **Process:** Stronger connection of processes into automation journey with end-to-end process orchestration through workflows and auto-automation.
- **Data:** Deeper data connection into an automation journey through contextual data discovery, intelligent document processing, and advanced insights.

2. Think beyond the bot

There is a growing realization that automation isn't just about bots. Instead, it's a suite of products and adjacent technologies that help drive the enterprise digital agenda.

> Most companies struggle with scaling automation because they apply RPA on a task level instead of an end-to-end business process level. To achieve end-to-end automation, they need to deploy a set of automation technologies.

These could be low code tools that bridge the gaps left by RPA, decisions and rules engines, process and task mining, document processing, natural language processing, unstructured content processing, and even governance functions that allow the distribution of automation tool capabilities across the company.

Also, after the bots are deployed, they need to be monitored and measured for performance. Active bot management is required to preempt and prevent bot failure that could adversely impact business outcomes.

3. Democratize to scale

Running a tight ship through automation CoE may sound great in theory but often stifles automation scalability. In addition, today, most automation initiatives are triggered and owned by IT teams. Companies need a democratized environment where everybody has the ability and the tools to drive automation.

> The evolution of low-code and no-code platforms means that the status quo can change. In addition, it ensures that non-technical users play a significant role in automation design and deployment.

Consider the case of **citizen developers**. By enabling employees to design and develop automations that improve their efficiency and productivity, organizations hand technology to control back to the people it affects the most, and the early results are staggering. Citizen developers can scale the automation footprint by over 70% while reducing manual effort. Empowering employees to build automation programs allows them to become authors of an enterprise's transformation journey instead of mere actors in a broader strategy. With Connected Automation, employees can now help organizations move from process discovery to design and deployment, all while making their roles more strategic, as bots customized to their requirements take over complex asynchronous processes.

4. Create an operating model that supports scale

Automation, like innovation, works best when it occurs everywhere in the company and not just in silos. A distributed approach that fosters collaboration and doesn't need a CXO to sign off on every little thing would be the desired setup. However, there is a possibility that such a model would descend into chaos.

> Companies should aim for balance - a central story owned by businesses and supported by IT that is then translated to the application at the citizen developer level.

Each team should play to their strengths and own the aspects of the story they are good at. For instance, ensuring security and reusability, preventing redundancy, overlaps, manual workarounds, etc., are areas that corporate IT teams should own. Similarly, the business users should own what to automate and how the experience is delivered.

Create deeper connections with connected automation

It's clear from these four drivers that successful scaling depends on the strength of connections between automation and Process, Data, and People. And that is the premise of connected automation. By connecting these three core aspects, **connected automation** eliminates siloes and hidden areas. It brings forth all the available data in the organization – improving digital visibility to deliver employee and customer outcomes.

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Product Traceability Mastered

With TradeEdge for a global F&B company

Summary

TradeEdge Reinvented Supply Chain Traceability at Mars. With a significant investment strengthening the distribution network and supply chain, TradeEdge implementation helped a global F&B client manage market traceability — Hold and Release Process — for the company's digital supply chain initiative. Read on to know it was implemented & achieved.

> "The benefit of the Traceability Transformation Program to the wide industry is in demonstrating that it's possible to meet these requirements and provide traceability to our consumers — to understand what is happening upstream in the supply chain and what's happening outbound — where our products sit at any moment in time, to place products on hold or recall them if necessary and do so in an effective manner. This is achievable for a large company like Mars and sets the standard for others to follow."
>
> **Ben Kreider, R&D Digital Transformation Director at Mars**

Mars is a global manufacturer of confectionery, pet food, and food products. Mars, Incorporated, prides itself on being family-owned for over 100 years with bold ambitions to invest in the long-term future of their business. It also provides veterinary health services and operates in more than 80 countries.

TradeEdge Traceability program has helped Mars meet the needs of market traceability for the company's digital supply chain initiative. TradeEdge absorbs and harmonizes data from multiple ERP(Enterprise Resource Planning) and warehouse management systems agnostic and provides a unified business consumption layer to business users.

This program is being implemented globally across all Mars business segments, leveraging Agile ways of working in a decentralized business landscape. Mars can meet commitments despite restrictions arising from the Covid-19 pandemic.

Key Challenges addresses through this program

- The variable data attributes that were required to be collected (based on customers requirement, product type, and industry) made it difficult for an ERP system to meet a specific traceability requirement
- Slow speed of deployment due to complexity in organization's processes and challenges associated with varied technology maturity across the supply chain

How does an enterprise achieve a Successful Transformation Program?

- The entire organization needs to be aligned with the program, from senior leadership to the field staff — focus on delivery and execution
- Integrating data from disparate data sources requires the organization to be flexible, thus providing a unified user experience for stakeholders
- With changing consumer shopping behavior due to the pandemic, companies need to implement a direct-to-consumer strategy to retain customers

The TradeEdge Traceability Solution

It is a cloud-based and globally scalable solution designed to enable enterprises to control the inventory movement in near-real-time (Hold & Release Process). It offers enterprises a scalable ERP-agnostic solution that connects with legacy and modern records systems across the supply chain. TradeEdge implementation helped Mars harmonize data from multiple ERP and warehouse management systems agnostic, providing a unified business consumption layer to business users.

It achieved

- Faster time-to-resolution
- Automated mapping, cleansing, standardizing, and structuring of data
- The single version of the truth with a unified, holistic data repository
- Standardized Hold and Release Process

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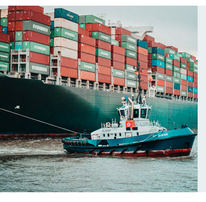

Role of Automation in post-pandemic supply chain

Bhavna Uttamchandani
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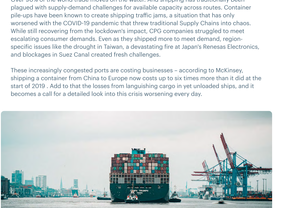
Summary

The pandemic has thrown traditional Supply Chains into chaos. From the lack of workforce creating bottlenecks, increased wait time of shipping containers leading to shortages to them impacting the final price of the products, the Supply Chain process has seen it all. How can we unclog Supply Chain with the correct use of technology? What are the key steps to optimize costs and ensure timely delivery? Read on to know more.

Over 90% of the world trade moves on the water. And shipping has traditionally been plagued with supply-demand challenges for available capacity across routes. Container pile-ups have been known to create shipping traffic jams, a situation that has only worsened with the COVID-19 pandemic that threw traditional Supply Chains into chaos. While still recovering from the lockdown's impact, CPG companies struggled to meet escalating consumer demands. Even as they shipped more to meet demand, region-specific issues like the drought in Taiwan, a devastating fire at Japan's Renesas Electronics, and blockages in Suez Canal created fresh challenges.

These increasingly congested ports are costing businesses – according to McKinsey, shipping a container from China to Europe now costs up to six times more than it did at the start of 2019 . Add to that the losses from languishing cargo in yet unloaded ships, and it becomes a call for a detailed look into this crisis worsening every day.



What brought the industry to this point?

Several factors have converged to create the current crisis. For one, global trade has always been imbalanced. For example, more goods move from Asia to the U.S. than vice versa. This means that empty containers languish at U.S. ports, waiting for cargo to begin their journey back. North America alone faces a sizeable imbalance – i.e., for every 100 containers reaching the United States, only 40 are exported, and 60 out of every 100 containers keep on accumulating at the ports.

To this already skewed equation, the U.S. introduced a trade policy in 2018 and increased tariff rates under sections 232 and 301. The consumer goods industry responded by shipping their products to the U.S. before the new tariff came into effect. The upsurge in imports immobilized the already struggling ports. Then came COVID-19 and took away a significant chunk of workforce available to handle this marine traffic. The non-availability of workers paralyzed the entire ocean Supply Chain while demand from consumers under lockdown continued to grow. In October 2021, marine container shipments from Asia to the U.S. hit a record high - up 23.3% Y-o-Y.

All this has led us to the situation depicted in the figures below. The number of ships waiting to enter ports is growing alarmingly. And even if they do manage to enter, they must wait a significant amount of time before they can unload their cargo.

Figure 1: Number of containers ships waiting to be enter Los Angeles port

Source: Marine Exchange of Southern California & Vessel Traffic Service L.A. and Long Beach

Figure 2: Number of containers waiting to be unloaded

Source: Pacific Merchant Shipping Association

> This is the beginning of a vicious cycle. Consumers demand more, so companies produce and ship more. Lack of workforce creates bottlenecks, and shipped containers wait weeks to enter the port and unload. Shipping empty containers back to the supply port are costly, so they pile up at the port of demand, further blocking inbound traffic. Meanwhile, the supply port faces a container shortage as most containers are still at the demand port. Consumer goods companies wanting to ship new products must now pay a significantly higher cost for the containers, thus impacting the price of products.

Whose problem is it anyway?

While at one glance, it looks like a problem for the shipping industry, the real challenge here is for the consumer goods players. The pandemic has forced them to take a more active role in their end-to-end Supply Chains, and many of them have taken steps to resolve the current crisis. Amazon, for example, made their containers to avoid container shortages and the hustle to return empty containers quickly. They exponentially increased their workforce and number of warehouses to unload goods rapidly. And they leased long-haul plans to ship smaller volumes faster. While these initiatives helped them continue their product movements uninterrupted, ensuring timely delivery and minimum stockouts, they were drastic and cost-intensive. Not everyone in the CPG industry could (or should) do what Amazon did. What then is the alternative?

Some firms are switching to using smaller ports to avoid congestion at the bigger ones. While this affords them the flexibility of loading and unloading, the cost of using these ports is much higher. Small ports accommodate smaller ships, increasing shipping costs per item and carbon emissions. Like Home Depot and Walmart, others are going the collaboration route for port resources, personnel, capacity, and distribution networks.

There are other proposals, such as fining companies for keeping the empty containers on the port property for a long duration and keeping the ports open 24*7 to accelerate the loading and unloading of vessels. These are, however, short-term efforts towards a structural Supply Chain problem that needs a broader, long-term intervention.

> Transportation and Logistics 2030 report elaborates on the trend and inevitable shift in the conventional Supply Chain, towards a new distribution with developing nations at the forefront of the networks. The current shipping container crisis further highlights the need to redesign the global Supply Chain and shift some of the major hubs to tier-2 ports in developed nations while designing the new international routes through strategically essential ports in the rest of the world. This exercise has been on the backburner, but the current crisis and its worsening nature call for some strategic changes.
>
> Digital technology-enabled solutions are the only way this mammoth task of redistribution and redesign can happen. We need to create a parallel information value chain and some long due Supply Chain redistribution efforts.

Unclogging Supply Chains with technology

Information is essential to minimize congestion at the ports and get traffic moving smoothly. Suppose all players involved in the logistics could get a view of how many ships are awaiting entry, how many of them need to be unloaded, what is the workforce available, what is the warehouse capacity, what is the last mile transport availability, what cargo needs to be shipped out, etc.. In that case, shipping could be planned much better.

This information exists in bits and pieces and manual paper trails, but there is no comprehensive single-view. To get a single source of truth, we need to start looking at shipping less as an isolated activity and more as an integrated part of larger CPG Supply Chains. Every aspect of shipping needs to be digitized. The data is made available in one single format into a typical data frame that could be utilized for analytics-led decision making—effectively creating a connected network of every activity and building transparency into the system.

Once this information is available, companies can use intelligent digital solutions to maximize resource efficiency. It is then that technology can offer insights such as which warehouse to use to minimize transport time and get maximum capacity, which shipping route to take to avoid congestions and balance container supply and demand, which alternative port is available that can handle the size of the ship, etc.

> The use cases of this data availability could be in:
>
> - Route optimization – to predict and create routes based on the weather forecast, minimum shipping traffic, fuel consumption, criticality of goods, container rates, unloading container time at ports, etc.
> - Predicting busy or slow shipping patterns
> - Container capacity management – to identify the availability of empty containers and decide how they can be filled and scheduled to be sent back.
> - Getting live information of warehouse storage availability

While this global restructuring and mega-digitalization is a long-term strategic solution, several technology-enabled solutions could improve value chain visibility and even the odds in dealing with the current crisis.

- **Digital payment solutions for complex shipping contracts**
  Currently, there are complex mechanisms at play when it comes to containers carrying high-value items, precious goods, or restricted goods. These require multiple physical inspections and heavy paperwork before payments can be made. Digital solutions to expedite these services would decrease the idle time of ships at the ports and eventually increase port utilization.
- **Digital route planning and cost-effective lane solutions**
  Currently, ships wait 6-7 weeks before getting a chance to unload. Technology-enabled dynamic route planning and lane selection solutions could result in cost-effective route selection, provide continuous route traffic and port congestion updates, and dynamically offer route change options to nearby ports.
- **Paperless transactions and data integration**
  Shipping is still dependent on a lot of paperwork – a state that increases chances of errors, data loss, and duplication of processes. Digitizing processes could eliminate manual intervention and make the flow of information more accurate and on-demand. This can reduce the processing time of the ships at the port, thus reducing the operating cost and idle time.

The future of shipping is connected

Everyone part of the shipping value chain knows the importance of automated solutions. They've taken steps to adopt Automation for existing operations. The challenge is that these solutions remain in siloes obstructing the free flow of information. While deploying Automation is excellent, it's time for the industry players to think about the whole Supply Chain, partner integrations, and how data availability can improve overall outcomes for their business. As we prepare for the inevitable global Supply Chain redesign, only the connected will come out winners in our post pandemic reality's dynamically changing environment and consumption pattern.

Disclaimer: Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the respective institutions or funding agencies

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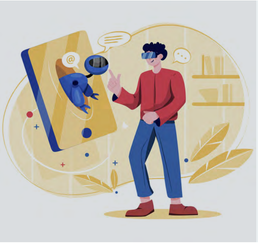

Enhancing Customer Experience with AI

How Natural Language Processing (NLP) aids Enterprises

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Summary

Natural Language Processing (NLP) led support saves up to 30% of customer service costs. While it is great for enterprises, is it living up to its hype? We address the use of NLP-based conversational AI solutions and their need for a structured deployment approach through this article. From using intelligent chatbots to responding to customer queries to choosing the best adoption practices, learn how NLP brings value to the enterprise.

If you transact online, you probably have first-hand experience with a chatbot. A small helpful pop-up that's there to help you navigate your digital journeys with ease. It's supposed to answer all your queries, eliminating the need for an expensive, human customer support agent. For companies, the savings are lucrative – some reports peg this as a 30% savings in customer service costs. But is it delivering all it promised for the customer? Customer frustration from Natural Language Processing (NLP)-led support is a reality today. I am quite positive that you've been frustrated with a chatbot that took so much of your time without giving any helpful resolution to your query. Most people feel that interacting with a chatbot is just going around in circles, wasting your time. And studies show that when customers are already angry or frustrated, interacting with a human-like bot can worsen their experience.

Hailed as the best thing since sliced bread, NLP was to be a technology that forever changed the game for customer experience. Then what went wrong? Why does it feel like it's not living up to its promise? Why are more companies not able to realize the real value of NLP? It all boils down to the approach.

While businesses deploy NLP in various use cases, let's explore this topic from the lens of NLP-based conversational AI solutions.

Technology is only as good as its deployment approach

There is no doubt that NLP is an essential part of any business' customer support toolkit. Given the explosion in customer data streaming in from all sorts of channels, human agents can't keep up with the need for personalized support.

> All the social chatter that's out there is a gold mine for businesses looking to understand and engage their customers. And NLP can help them make sense of all this unstructured data and respond effectively. There is tremendous potential in this technology, and businesses know it. That's why the global Natural Language Processing (NLP) market is expected to be worth USD 48.46 billion by 2026, registering a CAGR of 26.84% during the forecast period (2021-2026).

Advancements in NLP technologies are happening every day. We see new ways of understanding contexts, people sentiments, and behaviors, focusing on understanding human minds from their actions in the digital world. Today NLP systems can understand nuances of human language like sentiment and intent and generate a human-like response. The latest R&D is in language generation models like question generation, abstractive summarization, and visual understanding. This helps in understanding and generating more accurate responses in search results, chatbot interactions and virtual assistant capabilities delivering better customer experiences and bringing value to businesses.

NLP brings value to the enterprise

1. As intelligent chatbots acting as the first customer point of contact for quick resolution of queries
2. As a conduit to tap into customer shared voices and support business decisions along with sentiment analysis
3. Support human agents with right information based on NLP queries, improving productivity and effectiveness
4. Intelligently route IVR and tickets to track and respond to customer issues faster

There are some great examples of how companies have used NLP to understand the underlying reasons for consumer behavior. For example, social and sentiment analytics helped beverage company Ocean Spray identify key consumer behaviors around cranberry juice. These insights helped them design the launch of two new product lines in line with customer preferences that exceeded expectations .

However, despite rapid evolution and lucrative use cases, NLP technologies are only as good as their approach to their deployment.

> To deliver a human-like experience, conversational NLP solutions should be able to take a customer conversation to a logical conclusion. An outcome that is clearly missing in almost all the deployments out there. The reason? In a rush to digitize operations – no doubt necessitated by the pandemic – companies have implemented quick-fix NLP solutions in siloes.

These bots have been left to serve customers with limited training and are grossly unequipped to handle the job. Even as these solutions struggle with customer demands, companies have left human-in-the-loop on the sidelines, leaving consumers with no option if the bot is unable to service their request. Would you leave a fresh graduate in charge of your customer service without any training? No, right? Yet, that's exactly what is happening to these bots.

A new approach to NLP

Companies need to think of them across three vectors: technology, process, and purpose to get value from their NLP investments.

NLP adoption best practices

1. Start small, with simple use cases that are better suited for NLP adoption.
2. Improve on the use case till the technology is able to deliver the desired outcome(process service requests thoroughly to customer satisfaction.
3. When moving to a slightly more complex case, adapt an agile and iterative approach. Apply learning from each iteration to the journey.
4. Ensure that the AI bot has access to all knowledge base handles, including a human expert it can consult or handover in case it isn't able to determine a conclusive answer with proper dialog management.
5. Create a comprehensive learning / reinforcement feedback mechanism for the AI bot to learn from each conversation.
6. Evolve the bot to remember and recall previous conversations (dialog history) with the same customers and use it in current context to answer their latest concern which is normal when a human agent interacts with same customer again.

- **Technology**
  Don't look for out-of-the-box solutions: With NLP, an out-of-the-box approach will never work. Each enterprise must think through its products, possible service areas, validations and envision the end-to-end transaction needed completely before deploying AI chatbots. Unless the responses are solving customer issues, or serving the customer request, any AI solution as part of digital transformation will not be successful. Your approach should be listening to the customer, rightly interpreting what they are looking for, and answering the question sooner than asking too many questions to confirm the query itself.
- **Process**
  Train the bot, keep human in the loop and re-train: While NLP is a trending topic and adoption rates are increasing, it has a long way to go to understand, interpret, and generate human-like responses. Therefore, just pushing an NLP solution to front-end customer service is a recipe for disaster. You need to train it to your customer needs, give it time to learn, and figure out the right response. NLP can't be an entire solution for now – there is a need to monitor and train it and add human to the loop. Take it as a process and take it slow. Treat the AI bots as your new support agents trying to learn, gain more knowledge and expertise as they converse with more customers, and learn on the job.
- **Purpose**
  Do what works for your business: Everyone is rapidly digitalizing. That doesn't mean you should too. Don't look at digital as a race but rather weigh in how relevant is it for your business today. Identify critical areas of impact and what aspects make the most sense to pass on to the bot and start with those.

Course correct your NLP journey

COVID has accelerated the need for digital transformation, pushing companies for quick-fix digital solutions. But a haphazard implementation may actually be a major setback on the larger digital transformation journey. True, the pandemic pushed us all in a tight place, but now is the time for course correction. The need is to watch out for emerging research outcomes in NLP and embrace its benefits wisely, steadily, and with governance and AI Ethics.

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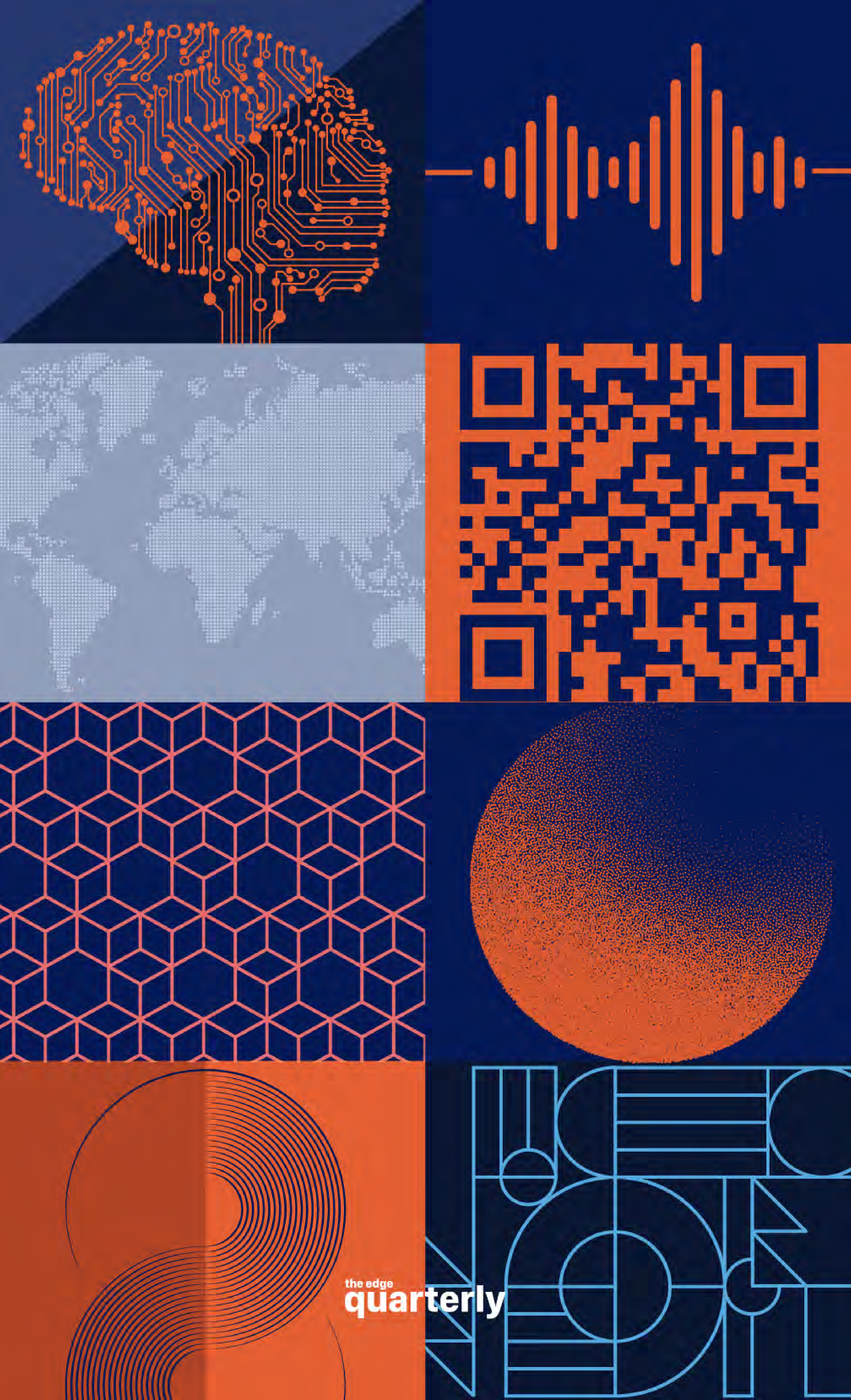
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