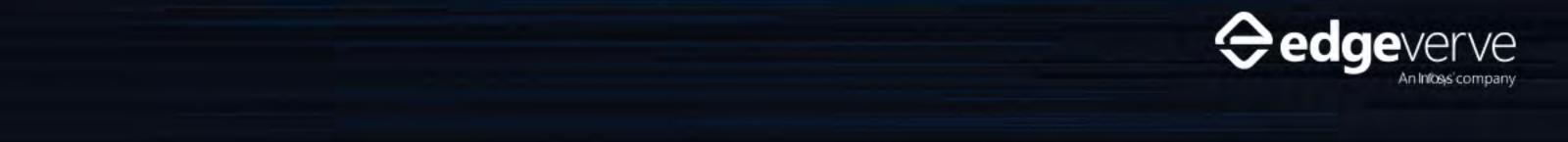
# the edge OUGATE CONTRACTICAL THOUGHT LEADERSHIP ON AL. AUTOMATION AND ANALYTICS

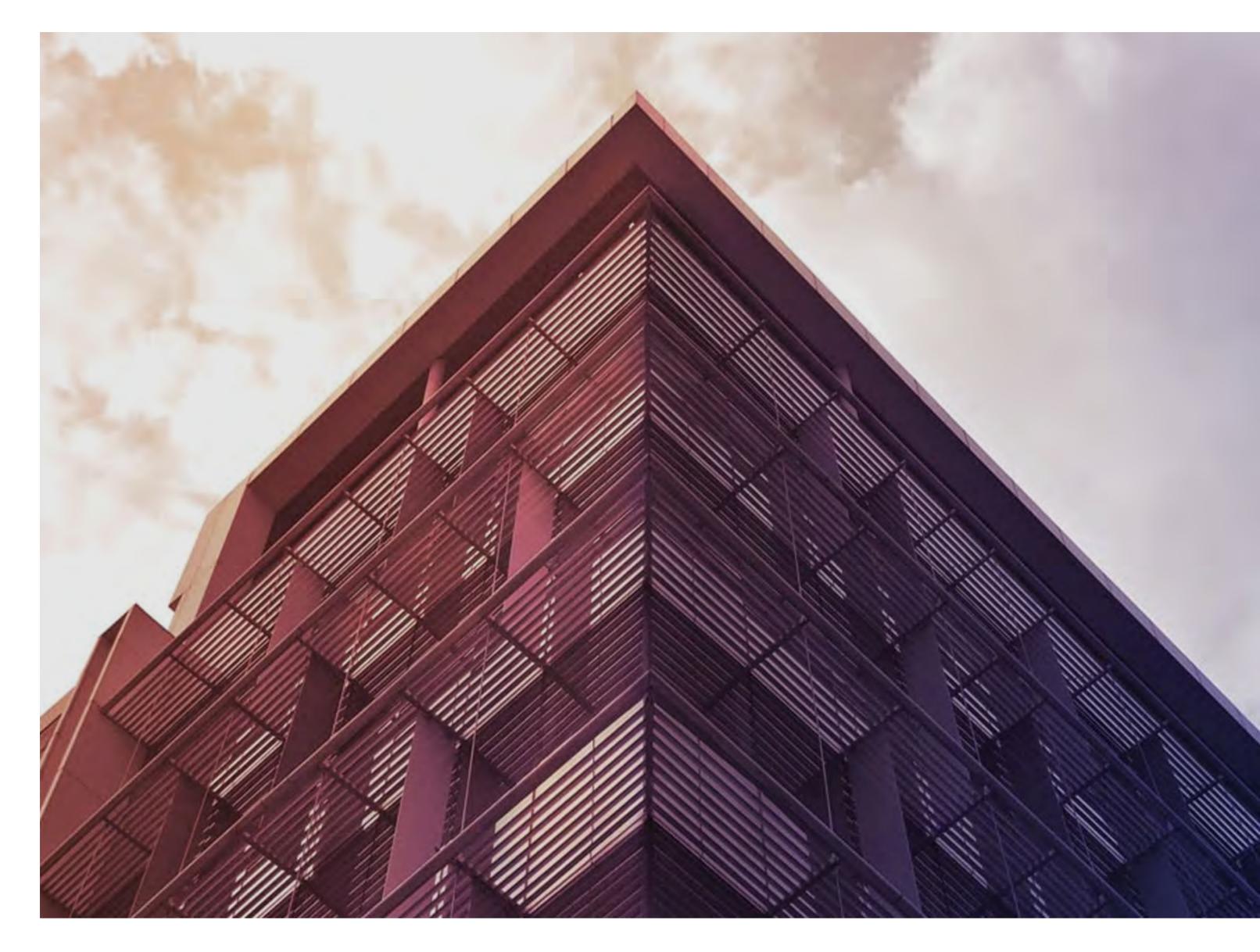


# FUTURE-READY

# EMBRACING TOMORROW WITH A CONNECTED ENTERPRISE







EdgeVerve Headquarters, Bengaluru, India

### **About EdgeVerve**

**EdgeVerve Systems Limited**, a wholly-owned subsidiary of Infosys, is a global leader in developing digital platforms, assisting clients to unlock unlimited possibilities in their digital transformation journey. Our purpose is to inspire enterprises with the power of digital platforms, thereby enabling our clients to innovate on business models, drive game-changing efficiency and amplify human potential. Our platforms portfolio across Automation (AssistEdge), Document AI (XtractEdge), and Supply Chain (TradeEdge) helps inspire global enterprises to discover & automate processes, digitize & structure unstructured data and unlock the power of the network by integrating value chain partners. EdgeVerve, with a deep-rooted entrepreneurial culture, our innovations are helping global corporations across financial services, insurance, retail, consumer & packaged goods, life sciences, manufacturing telecom and utilities, and more.

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# Future-Ready Embracing Tomorrow with a Connected Enterprise

Volume 12, September 2023

In today's business landscape, resilience and growth are paramount. Al and Automation play a pivotal role in addressing these imperatives. However, many enterprises struggle with silos across people, processes, and technology. The challenge lies in choosing the right technologies and integrating them holistically rather than treating them as isolated solutions.

To unlock its full potential, organizations must adopt a Connected Enterprise approach—a seamless integration of people, processes, technology, and systems. This transformative approach unlocks novel business models, enhances resilience, boosts productivity, and streamlines processes. It requires embracing change and leveraging technology's power beyond mere survival.

In this edition of our magazine, our experts provide invaluable insights on building a Connected Enterprise through the strategic use of technology. Discover how to create value networks (across your businesses) that deliver exceptional client value, achieve unmatched efficiency, foster innovation, and fortify your business for the future.

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# **Mastering The Future**

The Inevitable Rise Of AI-First Organizations



5

Mohammed Rafee Tarafdar EVP, Chief Technology Officer, Infosys



#### Summary

The excitement around generative AI has created an investment frenzy and organizations are making big bets on it. However, while they pump in the money, businesses are approaching AI with the same mindset that they have deployed for tech adoption earlier. Unfortunately, that approach will not work for AI. Read this article to find out what you need to do to truly unleash the potential of AI.

Lemonade, the built-for Al<sup>1</sup> insurance platform, managed to do what no other traditional insurer had achieved. They issued new policies in 90 seconds and processed claims in 3 minutes<sup>2</sup>. They've taken intelligent automation to the next level and removed almost all non-core human intervention. This is just one example of how Al-first companies will disrupt operating models across industries. Ash Fontana, famed Al investor and author of "The Al-First Company – How to Compete and Win with Artificial Intelligence,<sup>3</sup>" highlights the case of Al-first companies mostly being trillion-dollar companies and still seeking to dominate more industries than ever before.

While AI was already making rapid inroads into the enterprise, the excitement around generative AI has created an investment frenzy. Estimates suggest that by 2030 the global AI market will surpass USD 1.8 trillion<sup>4</sup>. When it comes to AI, we've crossed over from awareness and are firmly in the realm of action.

Organizations know the transformative potential of AI and want to make it an inherent part of their business and growth strategies. And they are making big bets on it. JPMorgan Chase, for instance, has committed to drive \$1 billion in business value through AI investments by the end of this year<sup>5</sup>. Gartner found that 55% of organizations that have previously deployed artificial intelligence always consider AI for every new use case they are evaluating<sup>6</sup>.

However, to truly unleash Al's potential, we need to shift our mindset – move away from a piecemeal, use-case-based approach and think Al-first straight through processing.



#### **Thinking AI-First**

Design-led engineering has made a significant impact in shaping the direction of many a product and services. Al now seeks to claim its place as an integral part of organizational strategy. Al technology and model evolution are happening at a breathtaking pace, with new models and techniques emerging weekly. An Al-first business prioritizes using artificial intelligence in its operations and strategy to become an autonomous enterprise.

An AI-first organization amplifies human potential, unlocks the collective intelligence within the organization's resources, and paves the way for exponential growth and scaled impact.

The evolution to this state typically involves moving through a journey of three horizons;

#### Horizon 1: Conventional AI

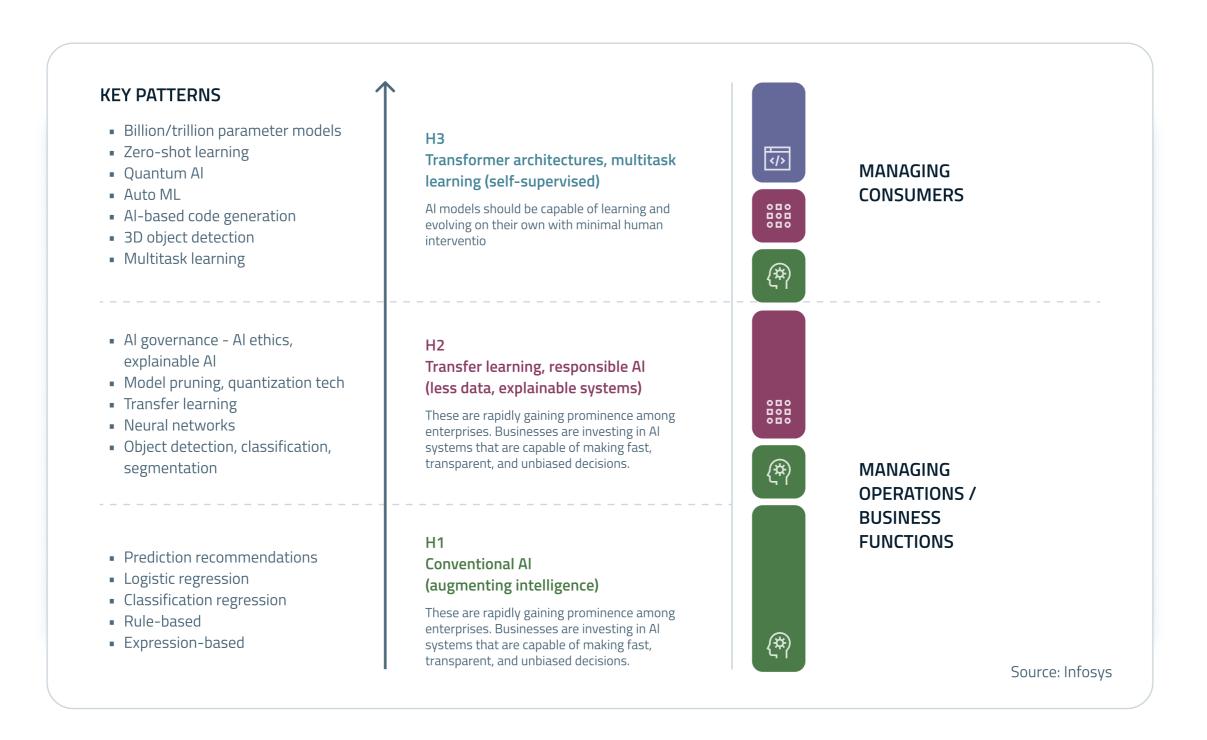
During this wave, companies are primarily focused on automating processes and using AI to improve efficiency and productivity. Think of rule-based systems and supervised learning to perform tasks like data entry, image recognition, and the AI system being fast, transparent, and unbiased. These include use cases like intelligent document processing, fraud detection, loan approvals, etc.

#### Horizon 2: Predictable & Responsible AI

This wave features companies beginning to explore the potential of AI to create new business models and revenue streams. This involves using AI to make predictions and recommendations and to personalize customer experiences. Think Netflix or Uber and how they have leveraged AI to change business models and customer experience.

#### Horizon 3: Self-supervised AI

In this wave, companies are at the forefront of AI innovation and are exploring the potential of self-supervised learning and other advanced AI techniques. Facebook AI has worked in self-supervised AI, particularly in developing unsupervised learning algorithms.



The move from H1-H3 (horizons) for companies is challenging, and overcoming these requires thinking along the lines of four building blocks to model an AI-first organization truly.

#### The Four Building Blocks Of An AI-First Organization

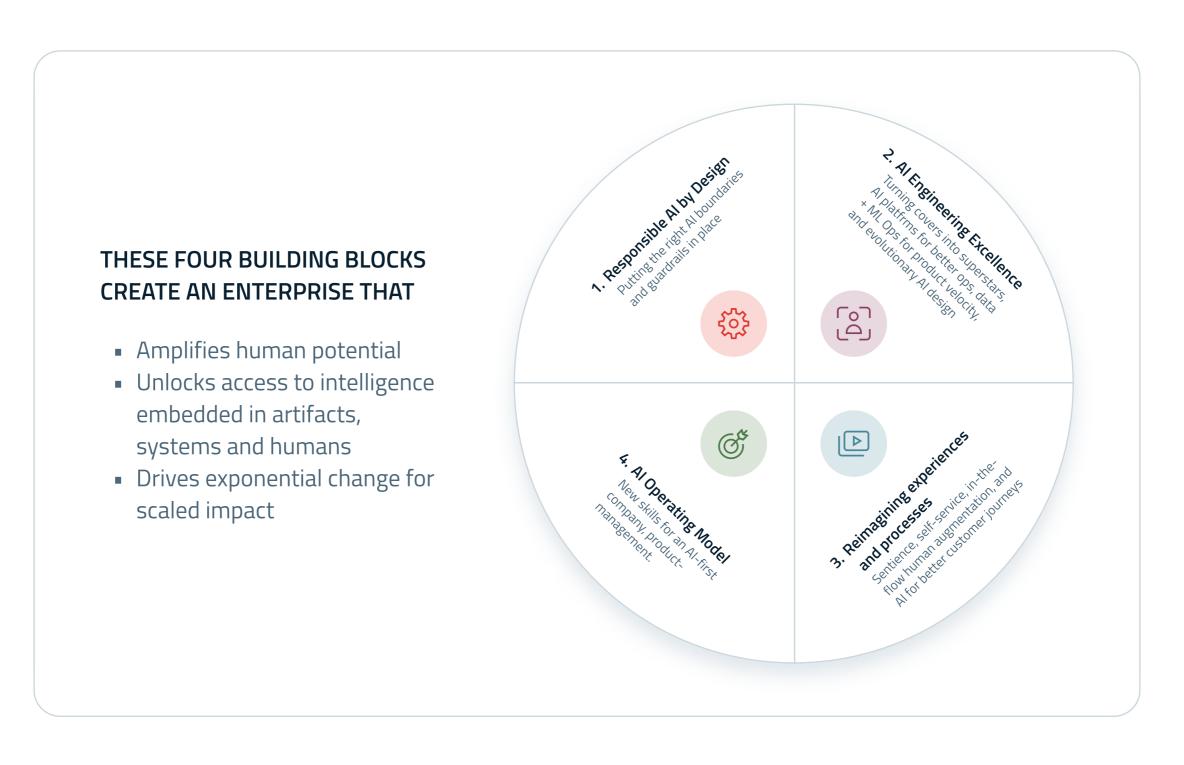
#### 1. Responsible AI by design

Although Al adoption is exploding, the domains of security, ethics, and governance are scrambling to keep up. Hackers are already breaking the guardrails of tools such as ChatGPT to misuse their potential. Facial recognition algorithms have been found to exhibit racial bias, with higher error rates for people of color. This has raised concerns about using facial recognition technology in law enforcement and other applications and the potential for discrimination and harm. Similarly, algorithms used in hiring have been found to exhibit bias against certain groups, such as women and minorities. This can perpetuate existing inequities in the workplace and limit opportunities for specific individuals. Companies aiming to be Al-first must create a robust framework to ensure Al's responsible and ethical use.

#### 2. Al Engineering Excellence

Companies must focus on AI engineering excellence to drive the velocity of AI products. This includes leveraging productivity-enhancing tools such as OpenAI's Codex, GitHub's Copilot, and ChatGPT, which can empower hard-pressed coders, to platform engineering, which equips developers with self-service capabilities through an internal platform. They also need to consider the impact of large language models (LLMs) and generative models on data and machine learning operations (MLOps). And finally, the AI systems should be trustworthy and built to evolve. This means developing self-supervised AI models incorporating reinforcement learning with human feedback (RLHF) across knowledge, reasoning, and actuation.

And finally, the GPT models are dated and can only provide information till the point in time when they were last trained. GPT4, for instance, was last trained in September 2021, and its responses are limited to information before that time frame.



#### 3. Reimagining experiences and processes

Most existing processes aren't suitable for an AI-first enterprise. In the connected, generative AI era, firms must move from vertical or horizontal entities to providers of a complete customer journey. While we reimagine and re-engineer processes for an AI era, it's essential to acknowledge the importance of a human-in-the-loop (HIL) to comply with regulations and to ensure that trust, transparency, and explainability are not compromised.

#### 4. The AI Operating Model

Our Digital Radar 2023 research found that it is not necessarily the introduction of technology that makes the difference but the way in which the firm is organized to take advantage of it. Al-first businesses need a new way of looking at the organization, with teams organized around dedicated customer journeys or value chains. Companies will also need to look at building the skills needed to enable an Al-first spirit. Employees now need to pivot to problem-solving with a human touch transcending over traditional processes, geographies, or functions, focusing on empathy and integrity.

#### The Future With AI-First Organizations

It's increasingly becoming evident that AI will move from simply being a tool to manage operations and business functions to now managing consumers in large, connected ecosystems. While AI democratization has begun, only those with the right digital and cloud foundation can leapfrog into this era. At the same time, workplace transformation and AI-driven labor market shift are on the horizon to ensure AI is harnessed to amplify human potential and not displace it. Riding the AI wave is not going to be easy. It will shake the foundations of how businesses operate. Yet, if done right, it will be incredibly rewarding.

**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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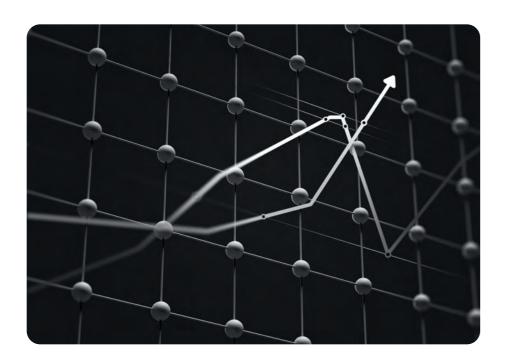


# **Fuelling The Future**

Achieving Dominance In The Data And Al Economy



Sunil Senan SVP And Global Head, Data Analytics And AI, Infosys



#### Summary

Distilling insights from data is a crucial aspect of the quest to become a connected enterprise. Yet, most business struggle with it. However, AI seems tailor-made for the job. In this article, we discuss the value of Data and AI economy and ecosystems, the challenges preventing businesses from unlocking this value, and discover areas of focus for our data strategies.

Businesses now understand that they are only as good as their data. The adage, "Data is the new oil," has sparked interesting conversations around its merit. Like oil, data must be refined first to be useful. Unlike oil, data can be reused multiple times. And while oil might soon deplete, data will only continue to grow. This is true, especially with 5.3 billion people<sup>1</sup> continuously contributing through every touch, tap, and swipe on their devices. Just in the last decade, our data lakes expanded from 2 zettabytes to 120 zettabytes<sup>2</sup> - a storage equivalent of 60,000 billion movies!

While we have come a long way in collecting and storing data, the real challenge is in distilling invaluable insights from this 'Crude Data.' These include insights into customer behavior, emerging market trends, and even predicting the future. This is no easy task, but it is a job that seems tailor-made for AI, leading us into the new 'Data and AI economy.'



#### The Power And Promise Of A Data And AI Economy

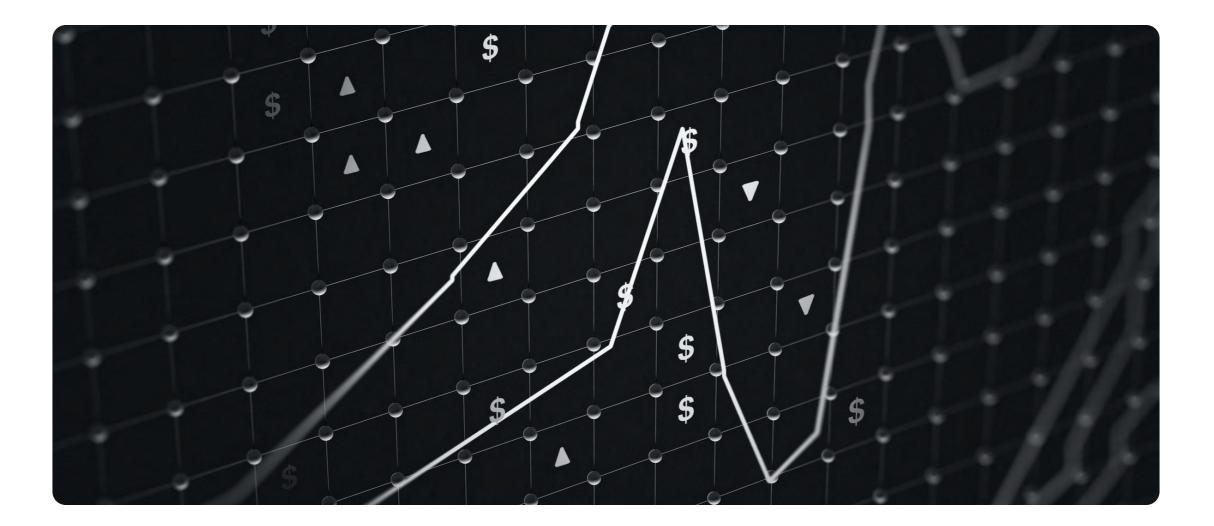
Data from digital footprints holds immense value, but most of it is often monopolized or trapped in silos. For instance, sophisticated fitness apps collect and track details like our daily workouts and health metrics. Left in silos, these insights can only create so much value for the company with creative dashboards and upselling. However, this data can be more valuable to health insurance players, allowing them to assess customers' lifestyle habits and potentially adjust premiums accordingly. These efforts clearly add immense industry value, but the story doesn't end there.

New collaborative use cases are not only creating value but saving lives. For instance, smartwatches<sup>3</sup> have been known to detect irregularity in user heart rates and alert emergency services if needed. Collaborations within and between industries have the potential to solve not just the industry challenges but humanity's most pressing problems – hunger, disease, and even climate change.

Infosys recently facilitated an agriculture data-sharing ecosystem exemplifying the benefits of collaboration. With this platform, a farmer can move away from traditional guesswork farming to a data-driven approach with weather predictions, soil health metrics, and market trends. Farmers can also access tailored bank offers, find the best deals on supplies, and receive government grants. Every participating industry reaps benefits from this two-way shared data ecosystem.

These interconnected innovations and synergies, extending beyond industry boundaries, are undeniably establishing the groundwork for new business models, products, and services, building the Data and AI economy.

Interestingly, over 40% of business leaders<sup>4</sup> see the data economy as a chance to boost revenue and find new growth paths. However, nearly half only use data for basic insights. What is holding these businesses back from grabbing this huge opportunity?



#### Strategies To Win In The New Economy

There is no quick way to succeed in the data and AI economy, but with a clear strategy and the drive to explore new ecosystems, businesses can stand out and dominate the market. Here are the key aspects that need to be addressed in the data and AI strategy.

#### 1. Responsible by design

Enterprises should have a data collaboration system that enables participation in the AI economy which is firmly rooted in trust, ethics, and privacy—what we term "Responsible by Design". Without this vital foundation, business partnerships risk unresolved security and compliance issues and cannot fully thrive.

#### 2. Modernizing the core systems

Many companies today still carry IT landscapes that were established prior to the digital era. These systems struggle to embrace AI, advanced analytics, and the latest innovations in data collaboration platforms. To keep pace with today's digital and AI advancements, companies must renew and modernize their legacy systems. AI-first modern architecture on a data cloud foundation is a good starter.

#### 3. Perfecting data capabilities

Enterprises should focus on creating data products that seamlessly integrate both internal and external data sources for impactful insights. It is also equally crucial to have systems in place for safe sharing and collaboration, both internally and with trusted external partners.

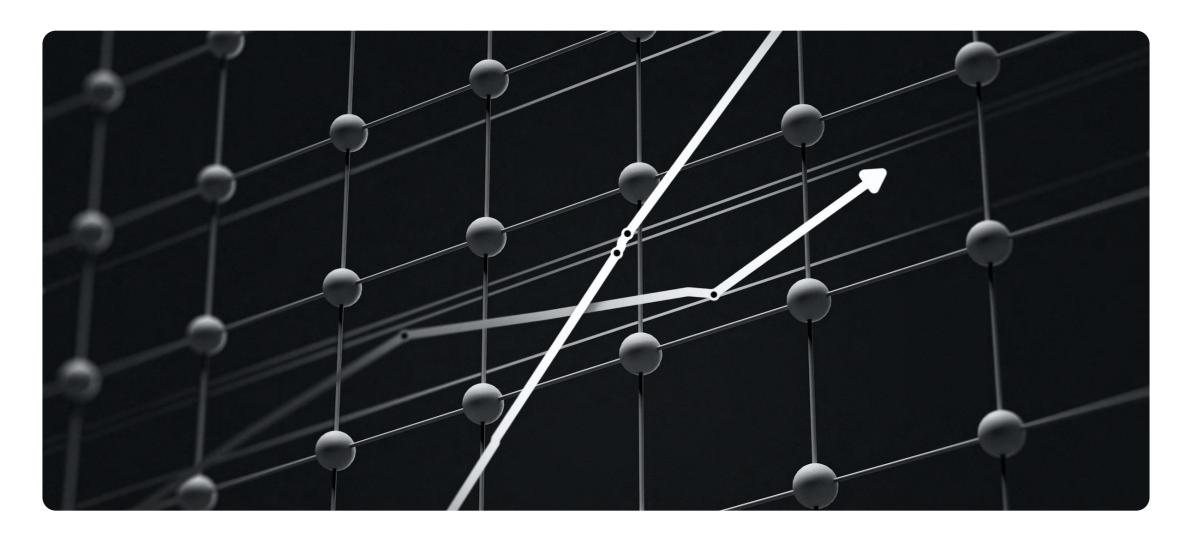
With the right strategy in place, it is now time to discover and leverage the drivers that can enable a successful data-sharing economy. We can group the ecosystems based on the value they offer. Some help with data flow by reducing friction in the value chain, while some can be assembled around solving a business need or creating a customer experience.

#### Synergies In Tightly Coupled Value Chain Industries

All businesses have a vast network of partners and interdependencies across the value chain. Collaborating with enterprises across the ecosystem can help achieve the collective goal. The use cases are many. Take, for instance, industries like sustainability and transport.

Using Data and AI, these sectors can achieve shared goals like reducing carbon footprints by suggesting greener routes or efficient shipping techniques. The financial industry can leverage these insights to create a new dimension to support socially conscious investors. Healthcare and life sciences also offer unique opportunities to create interconnected ecosystems that prioritize patient well-being.

Businesses can think outside the box and form new ecosystems that bridge industry boundaries and not just the value chain.



#### Synergies For Hyper-Personalized "Phygital" Experiences

More and more consumer-focused companies empower customers to personalize products or combine services for unique experiences, acting as a central "consumer hub" onboarding other providers to ensure excellence.

For instance, auto manufacturers could combine various B2C services such as entertainment, travel, and hospitality to provide tailored and exclusive offerings for consumers.

Leveraging AI-powered insights into consumer preferences, the Data and AI economy delivers hyperpersonalized "Phygital" experiences—seamlessly blending physical and digital interactions in a carefully curated ecosystem.

#### Synergies Among The C-Suite And Boardroom

The most influential success factor often overlooked by companies in the Data & AI economy is topdown sponsorship within the enterprise. The CEO and the Board must be completely onboard and commit to the data and AI economy cause. They must support the organization with the right organizational structure, business, and operating model. Their ways of working should include frequent stand-ups on progress and workshops for lessons learned - centered on the data and AI economy.

Chief Data Officers (CDOs) and data teams have always been cost center functions. But for the data and AI economy to succeed, C-suite should reconstruct these teams as profit centers. Data teams' focus should now evolve into innovating new business models around data sharing and capitalizing data services.

#### **Privacy Cannot Be The Price For Value**

No discussion is complete in the digital era without addressing the data privacy challenge. The extensive collection and usage of personal data from smart devices raise concerns about privacy and informed consent. User consent is often buried in lengthy legal text, leading to data transactions happening without users' knowledge. Even seemingly harmless apps, like weather forecasts, can gather sensitive information about users' daily routines and social activities. This kind of granular data has high commercial value but rarely benefits the user. While innovative platforms offering dollars for data straight up have become popular, privacy advocates warn users against it.

Privacy considerations in data sharing are intricately complex and require careful evaluation. To ensure a bright future in the data and AI economy, companies must raise and address the right questions and enlist global support in formulating new policies.

#### Embark On The Digital Mayflower

Every moment, we are generating huge islands of data, and enterprises must find a way to bridge them. While the dramatic potential is easy to visualize, the technical and operational reality is quite complex. To extract maximum value, businesses must continuously innovate for data products and new resilient business models. The focus should always be on offering end-to-end experiences to customers through a single access gateway.

Despite this promise and the progress of technology, many still have perception roadblocks about data sharing. Given the cyber-attacks and data privacy breaches, the onus is on the leaders to address these perceptions.

Leaders must act promptly. Those who transcend the enterprise and industry borders create a customer-centric, unified value proposition and win in the new economy. Are you ready to lead your organization and conquer the new economy with data and AI ecosystems?

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# Unlocking The True Potential

With A Connected AI & Automation Approach



Sateesh Seetharamiah Global Head, Edge Platforms, EdgeVerve



#### Summary

Within the dynamic landscape of modern business, the paramount objectives are resilience and growth, domains in which the ascendancy of AI and automation is indisputable. Yet, the intricate challenge resides in the harmonious integration of these technologies within a holistic framework. Enter the stratagem of a connected enterprise – a synthesis of human capital, processes, technological innovation, and systemic orchestration. This strategic endeavour not only deconstructs operational silos but also confers enterprises with the acumen to confidently traverse realms of uncertainty. Read the article to know how an enterprise can transform itself into a connected version of itself.

In today's rapidly evolving business landscape, resilience and growth are paramount. Artificial intelligence (AI) and automation play a pivotal role in addressing these imperatives. However, many enterprises need more support due to fragmented systems across people, processes, and technology. The real challenge lies in selecting the right technologies and seamlessly integrating them into a holistic solution instead of treating them as isolated fixes.

The Global Connected Enterprise Market report<sup>1</sup>, published by Verified Market Research, values the market size of the Connected Enterprise at an impressive USD 344.12 Billion in 2021 and is projecting a significant growth of USD 3,679.60 Billion by 2030. This remarkable expansion is primarily driven by the increasing demand for automation and other emerging technologies, which play a pivotal role in propelling the rapid growth of the global Connected Enterprise Market.

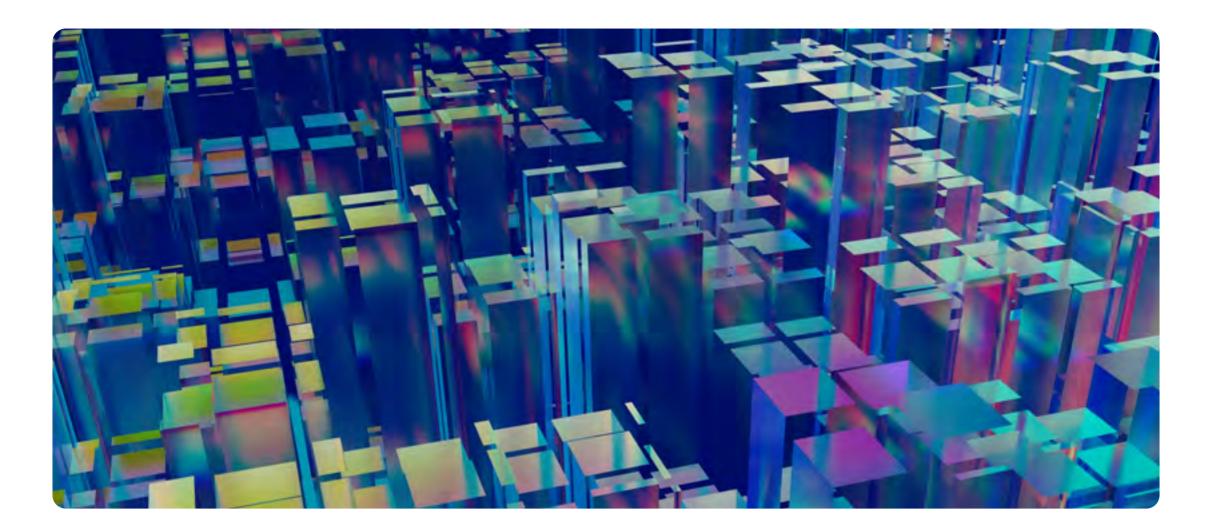


#### The Importance Of A Connected Enterprise

To fully unleash their potential, organizations must embrace a Connected Enterprise approach—a seamless integration of people, processes, technology, and systems.

This transformative strategy unlocks innovative business models while enhancing resilience through streamlined processes that increase productivity. It necessitates embracing change rather than merely surviving by harnessing the power of technology. By strategically utilizing technology within a Connected Enterprise framework, businesses can create value networks that extend across their entire operations.

These networks deliver exceptional value to clients and achieve unparalleled efficiency while fostering innovation—an essential component for future-proofing your business. Embracing a Connected Enterprise empowers businesses with the tools to confidently navigate an uncertain future. By breaking down silos between departments and leveraging cutting-edge technologies effectively across all operations—people included—they can unlock untapped potential for growth and success.



#### The Role Of AI And Automation In Digital Transformation

In an age where digital transformation is no longer just a trendy term but a vital necessity, Automation takes center stage in a significant revolution. The constant stream of innovation has sparked an incredible shift, reshaping how organizations function and compete in an increasingly interconnected global market.

As businesses strive to navigate this complex environment, one thing becomes evident: those who can effectively harness the power of technologies such as Robotic Process Automation (RPA), Artificial Intelligence (AI), and Machine Learning (ML) will dominate the future by streamlining operations, enhancing efficiency, and generating fresh value.

Attention quickly pivots from individual automation projects to comprehensive enterprise-wide automation strategies within this context. Unlocking the potential of automation initiatives allows businesses to create transformative change within their organizations.

#### The Evolving Role Of The Chief Information Officer (CIO)

The Chief Information Officer (CIO) role has gained significant prominence due to the rapid proliferation of technology trends. In this era of Automation, CIOs have evolved from being functional heads to becoming strategic orchestrators of digital transformation. Their responsibilities now encompass overseeing enterprise-level strategies, governance, and platform technology. Apart from making crucial decisions regarding automation technology standardization, they must balance centralized and individual initiatives while ensuring robust control, security, and quality.

Furthermore, the scope of CIOs has expanded well beyond traditional IT governance.

These visionary leaders are at the forefront of leveraging Automation to achieve innovative business objectives. They are investing in

#### cybersecurity, cloud technology adoption, data analysis capabilities enhancement, and advancements in artificial intelligence (AI).

For them, Automation is not just a tool; it represents an initiative that promises immediate returns and comprehensive transformation within a relatively short timeframe.



#### The Power Of Connected Automation

Connected Automation is an emerging trend that merges the capabilities of Robotic Process Automation (RPA) with AI and machine learning. This innovative strategy offers a comprehensive automation solution, enabling organizations to streamline complex and valuable tasks. Connected Automation enhances agility, efficiency, and resilience by integrating various digital technologies and establishing interconnected workflows.

This holistic approach goes beyond automation alone by connecting employees, processes, and technologies across the enterprise. It facilitates seamless information flow throughout the organization, empowering stakeholders to optimize operational efficiencies and provide exceptional value to customers.

As we progress further into the future, this integrated approach to Automation will revolutionize how businesses function and compete in their respective industries. The power of Connected Automation lies in its ability to leverage advanced technologies while ensuring a unified framework for automation initiatives.

With this transformative methodology, businesses can unlock their full potential by harnessing the benefits of technological advancements alongside streamlined processes.

Connected Automation represents a game-changing concept that enables organizations to evolve into highly efficient entities capable of delivering unparalleled customer experiences.

By embracing this interconnected approach to automation, businesses can position themselves as leaders in their fields while staying ahead of evolving market demands.

1. The role of Al in automation strategy: The automation field is being transformed by Artificial Intelligence (AI), with branches such as Generative AI automating creative tasks and AI-powered predictive analytics offering valuable insights derived from data. However, successfully incorporating these subsets of AI into a comprehensive automation strategy necessitates careful attention to data governance, ethical compliance, and skill development.

As organizations undergo digital transformation, the role of Chief Information Officers (CIOs) becomes increasingly critical in leading the way towards effective deployment of AI in Automation. By adopting an AI-centric approach, businesses can foster innovation, enhance efficiency, and unlock exceptional value.

- 2. The benefits of automation in the workforce: Automation proves to be a valuable asset in a society dealing with increasingly competitive job markets and rising prices. By increasing efficiency and filling workforce gaps, Automation decreases employee turnover and fosters more desirable work settings that attract fresh talent. It represents a fundamental change in our approach to work, providing an innovative remedy for labour-related issues and financial obstacles.
- 3. Establishing RPA centres of excellence (COE): To achieve a prosperous automation strategy across an entire enterprise, it is imperative to establish an RPA Center of Excellence (CoE). An adequately organized RPA CoE brings together people, processes, and technology to facilitate the expansion of automation initiatives and improve operational effectiveness. It acts as a central knowledge repository, promoting optimal approaches, encouraging teamwork, and fostering a culture of ongoing learning and innovation.

#### **Embracing Emerging Trends For Future Success**

In this fast-paced digital landscape, the rapid evolution of technology shapes the best approaches to implementing comprehensive automation strategies. By embracing these evolving trends, businesses can fully harness the power of automation and open up new avenues for growth and success in the digital age. The industry's future lies in those who boldly embrace these trends, recognizing that automation is not just a tool but a catalyst for transformative change.

As we move further into the 21st century, successful organizations will be characterized by their ability to foresee these trends and dare to take decisive action. The journey towards enterprise-wide automation may present challenges, but it promises significant rewards. Those who embark on this path will position themselves at the forefront of business transformation in years to come.

#### The Potential Of A Connect Ecosystem

The potential impact of a connected ecosystem on various industries must be considered. By establishing seamless and secure connections between people, technology, and processes, organizations can leverage innovative systems that harness the power of data analytics. This leads to improved overall operations and reduced operational costs. Forward-thinking companies worldwide increasingly recognise the benefits of transitioning from traditional IT infrastructure to a connected ecosystem. As a result, there will be a significant surge in demand for connected enterprise solutions and services in the coming years, presenting exciting growth opportunities across different regional markets.

In such a competitive industrial landscape, even well-established companies are motivated to embrace a connected ecosystem to achieve optimal productivity, effectiveness, efficiency, and cost competitiveness. The allure of these advantages will drive enterprises towards adopting this innovative approach. By doing so, they position themselves at the forefront of technological advancements and ensure long-term success.

By embracing connectivity within their organization's framework through advanced technologies like AI and Automation coupled with robust data analytics capabilities, businesses can unlock new levels of efficiency while streamlining their operations for enhanced performance.

Ultimately, a connected ecosystem is not just an option but an imperative for businesses aspiring to unlock their full potential in today's rapidly evolving digital landscape. It offers unparalleled possibilities for growth by revolutionizing how organizations operate across multiple industries – paving the way towards increased productivity, operational excellence, and sustainable success. The time is now for organizations worldwide to seize these opportunities presented by connectivity and embark on this transformative journey towards becoming truly future-proof enterprises.

**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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8

#### Summary

Al drives marketing into the future, supercharging tasks from research to engagement. The question is no longer "if" Al can transform marketing; it is how to harness its power to stay ahead. It is about how to augment human potential with Al to achieve unprecedented results. In this article, we discuss Al's impact and lay out strategies to master its transformative force, addressing potential challenges head-on.

# The days of generic marketing campaigns and treating the audience as an identical cluster are well behind us. The driving force behind this shift in marketing is AI, which plays a pivotal and defining role. A transition from the traditional to a Generative AI approach has enabled marketing strategies to add up to \$1.2 trillion<sup>1</sup> in value across industries.

For a while, Al's capacity to transform marketing has been obscured by a fog of hype, but the breakthroughs are real. The central idea of this article is that Al can significantly accelerate and improve many traditional marketing tasks, from research to engagement. As we explore these unprecedented opportunities, we will also lay out steps to address and avoid potential challenges that Al can bring with its power of transformation.



#### **Riding The AI Wave From Research To Outreach**

Al dramatically augments and amplifies the potential of marketing professionals, making it an imperative and not just an option. Al's profound impact can be felt in all fundamental areas of marketing, bringing forth productivity, accelerated time to market, and a head start in the brand narrative. Here are a few low-hanging fruits you can target for the best ROI.

- 1. Secondary Research: The magnitude of human effort spent scavenging through primary and secondary content is quite high. What if we had a cohesive view—a unified market and competitive intelligence profile that is automatically updated? AI leaps into the spotlight, helping aggregate data from the public domain and proprietary corporate databases to build this unified intelligence like a 'competitive market assistant' that keeps marketers updated in real time.
- 2. **Positioning and Messaging:** The potential of AI continues beyond data analysis into generating insights and crafting value propositions. AI can generate this initial proposition, later polished by marketing experts through refining and feedback. This seamless partnership of AI and human finesse ensures a robust value proposition. The ability of AI to assemble the first version of this proposition, even if it is just 60% accurate, gives a head-start and allows marketers to direct their focus to areas that need finetuning.
- 3. **Sales Readiness:** With capabilities spanning text-to-PPT, text-to-image, outline-to-PPT, podcast narrative conversion, and battle card creation using competitor data, AI simplifies and accelerates the generation of artifacts such as elevator pitches, battle cards, and sales scripts. AI optimizes aesthetics and relevance across platforms, leading to higher engagement rates. With AI, marketers gain more than just groundwork; AI transforms into a valuable ally, a competent assistant working in tandem. The marketing team can then effortlessly collaborate with AI, utilizing their combined efforts to enhance strategies and initiatives.
- 4. **Content Creation:** Instead of getting bogged down by the immense demand for diverse content across multiple channels, the marketing team can implement an AI solution to streamline content creation. Gartner expects that by 2025, 30% of outbound marketing messages<sup>2</sup> will be AI-generated, up from almost 0% in 2022. AI assistants based on GPT models and beyond can create compelling content ranging from drafting press releases to curating social media posts to webpages, enabling marketers to focus more on crafting nuanced strategies that resonate with their target audience and honing the message to perfection.
- 5. **Breaking Language Barriers:** In an increasingly globalized market, reaching international audiences has never been more crucial. AI-based translation services can provide accurate translations of your content, ensuring the essence of your brand's message is communicated accurately and authentically, irrespective of geographical boundaries.

The goal is not for AI to replace human effort but to amplify human potential, offering us a jump start and insights to accelerate time to launch and build deeper client connections. AI offers many benefits, and it is crucial to address the rising concerns around data privacy and ethical considerations that come with its application.



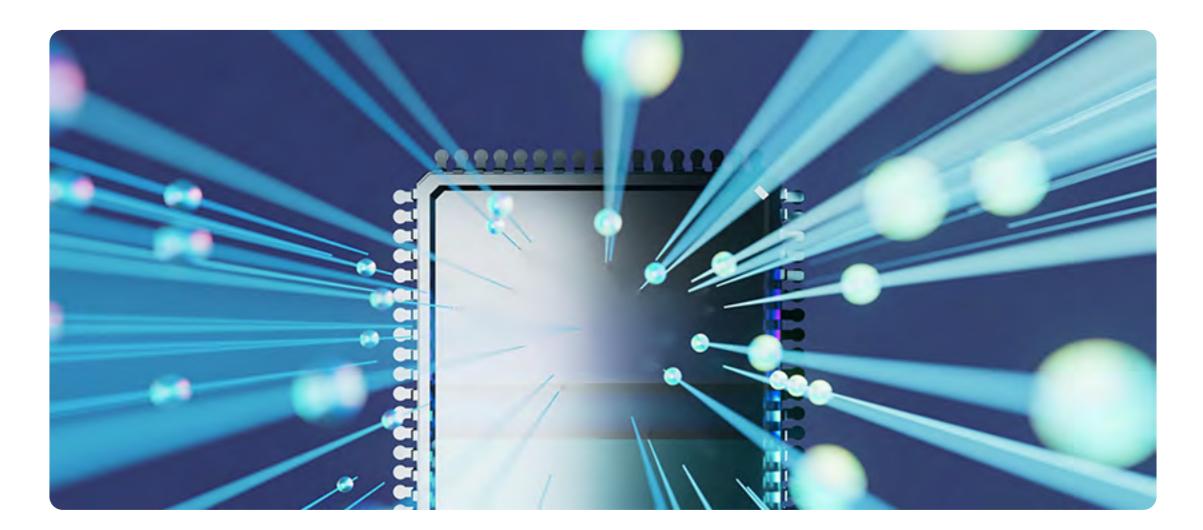
#### Ethics, Data Confidentiality And Privacy

Cybersecurity and privacy impact a company's valuation directly, not to mention its reputation. Marketers should develop stringent guidelines and adhere to an ethical AI policy to ensure the responsible use of AI technologies. Ethical considerations in AI deployment must be central to every discussion or decision.

Here is a checklist to get started and stay on the ethical journey.

- 1. Data Privacy and Confidentiality: 60% of marketing leaders believe collecting customer data while balancing privacy and customer value<sup>3</sup> will be more challenging in 2023, while 84% of businesses say<sup>4</sup> it is their most valuable factor when buying software. It is evident that when adopting AI or any new technology, marketers should focus on the privacy and confidentiality of the information shared: Does the data remain within the company, or could it potentially extend outside? And if some information is found outside the company, will this be acceptable?
- 2. Enterprise GPT model: Marketers should look at the emerging concept of 'Enterprise GPT,' which offers enterprise-grade security and privacy and longer context windows to process historical internal data. A private, enterprise version of AI models should not feed internal company data into the public domain but be able to access public domain data. This model would ensure the company's confidential data remains secure, safeguarding proprietary information. Companies could then maintain a repository of templates, creatives, and licensed assets, which the E-GPT (AI tools) can leverage.
- 3. **Centralized governance of marketing tech:** Taking an AI-first approach necessitates a synergy between marketing and technology teams. In today's landscape, the CMO organization can no longer ignore technology's significance. Technology has seamlessly woven into their role, becoming an integral aspect rather than an external mandate. The evolution of AI fosters enhanced collaboration and partnership between the CMO and CIO, resulting in improved outcomes.

Recall the early days of e-commerce, when consumers were skeptical about sharing credit card information online, questioning its safety and security. Today, it's second nature to most of us. Just like the initial skepticism around e-commerce has given way to trust and ease of use, so will concerns about AI ethics. With the proper groundwork and vigilance, ethical AI will soon be standard, not an exception.



#### **Upskilling For The AI-First Future**

It's important to remember that while AI can increase efficiency, drive growth, and improve productivity, it cannot replace human intervention. Consider digital marketing, product development, go to market (GTM), analyst relations, and branding functions. They all stand to gain from AI, but to fully harness its potential, upskilling is crucial. Staying relevant means understanding how AI can amplify their efforts across these areas. Marketers now need to embrace this technology enthusiastically rather than dismissing it with statements like "I'm not a tech person."

#### Leading The Way With An AI-First Mindset

The journey to an AI-first approach has hurdles, but the potential benefits outweigh these challenges. It's about connecting the dots, breaking down silos, and driving a seamless crossover between sales, marketing, product development and other functions.

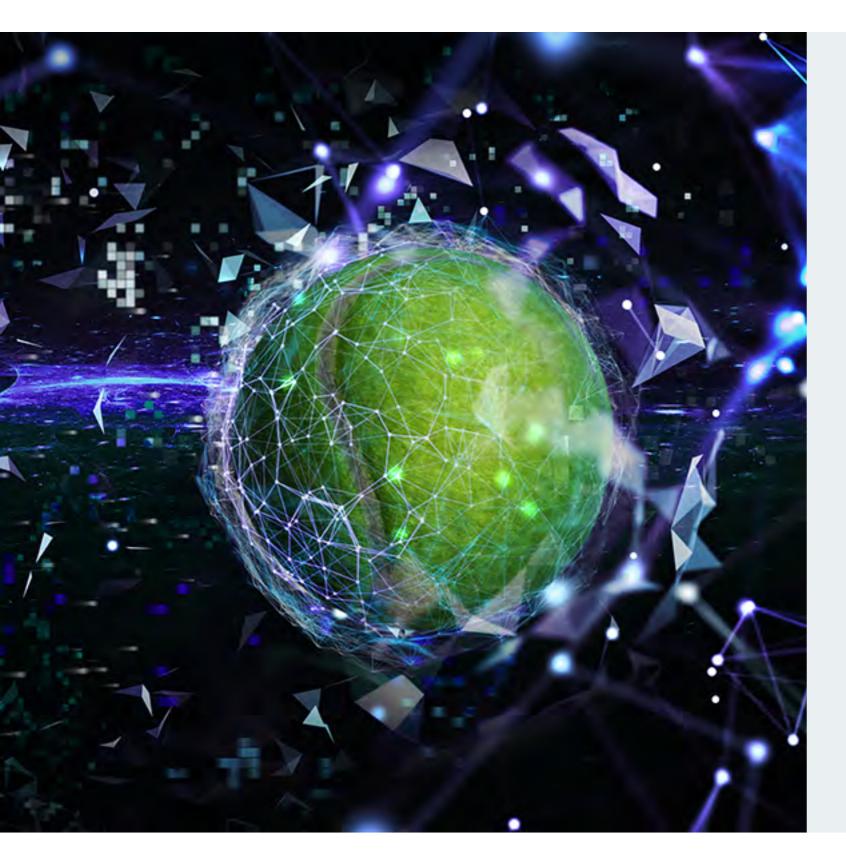
The question is not whether to incorporate AI in marketing—the fog of hype has cleared on that - but how to harness its power to stay ahead. Just like in every business function, with the proper application of AI in the marketing domain, the narrative of 'man vs. machine' evolves into 'man with the machine!

The early adopters that adopt an AI-first approach to marketing are the ones that will be at the forefront of driving customer engagement and setting the narrative in the market while the late followers play catchup. Are you ready to adopt an AI-first mindset and lead your organization to be among the pioneers?

**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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## Game, Set and Match

How Tennis Is Leveraging AI



Naveen Rammohan Vice President, Segment Head Marketing -Business Verticals, Sponsorships, Flagship Events At Infosys



#### Summary

Discover how AI is transforming the world of tennis. From analyzing player movements to predicting match outcomes, AI is revolutionizing coaching, player performance, and fan engagement. Technologies like VR training simulations and AI-driven platforms are creating immersive experiences for fans and helping players enhance their skills. The benefits of democratizing coaching and providing data-driven insights to athletes are undeniable. Explore the AI-powered future of tennis, where even amateur players could be trained by the best coaches worldwide, with the potential for the next tennis great to emerge with AI-augmented expertise. Dive deeper into the article for an exciting glimpse into the future of this sport.

The 2019 Wimbledon Championship - Men's Singles Final between Novak Djokovic and Roger Federer – a 5-set final that lasted almost 5 hours and saw Djokovic win against Federer. While long hours of practice and game strategy were a critical part of this victory, they were aided by RightChain's Al Apps,<sup>1</sup> which worked with match analysis company Brain Game Tennis and Tennis Analytics to find repeatable patterns, measure rally lengths, and determine where precisely a player hit a ball, enabling a more detailed analysis. This was just one example of how Al is being leveraged and is just the start of where technology can take the sport.

There's more to the game of tennis than just hitting the ball back and forth. Skills, speed, and strategy play a massive role in this sport, helping players react quickly to their opponent's moves while making smart decisions about their shots.

Today, technology is aiding players and coaches to take their game to the next level. Using machine learning algorithms and virtual reality during the training, they can track player movements and evaluate a player's strengths and weaknesses. With AI, coaches analyze vast amounts of data to gain insights into player performance and develop personalized training programs that help players improve their skills and dominate on the court.



#### Al In The Court: Creating Match-Winning Strategies

While technology has been a part of the sport for long, one of the early uses of AI was the Hawk-Eye<sup>2</sup> system during the Nasdaq-100 Open in Miami in 2005, which used a series of cameras to track the flight of the ball and determine if it was in or out of bounds. This was used further in many other leading tournaments, including the US and Australian Open tournaments.

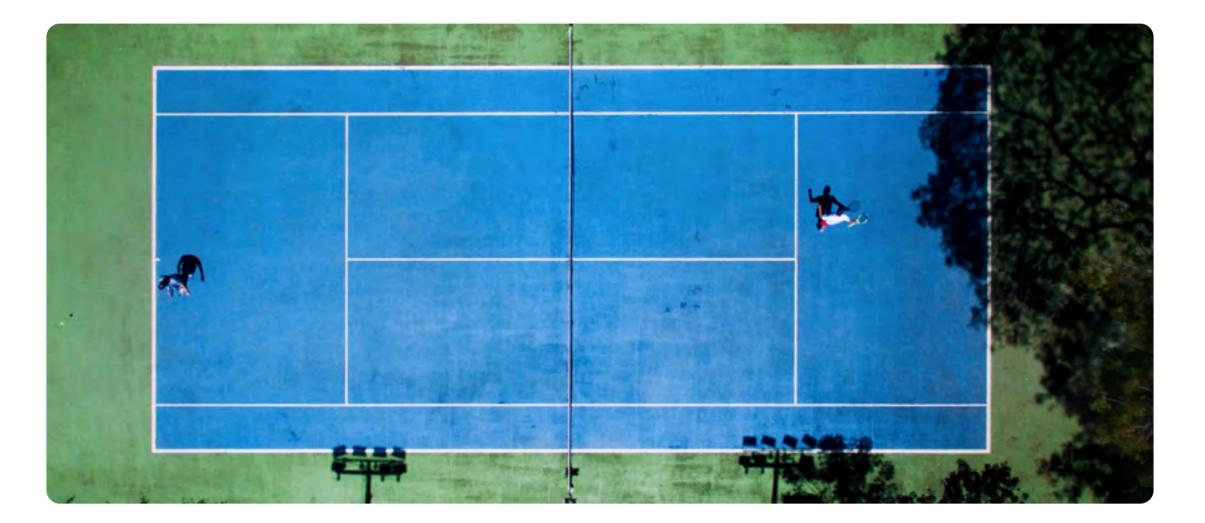
Al is being used to track everything on the court, from the speed of their shots, the power in the serves, the amount of spin on the ball, footwork, and movement using cameras and sensors on the player and the racquets – and the data is being used to analyze their performance and improve speed, power, and accuracy of their shots in addition to overall agility and responsiveness on the court.

In addition to tracking player movements and analyzing their shots' delivery, AI-based win predictors are calling possible match outcomes. Historical data is being combined with real-time match variables, including player form, injuries, and weather conditions. Grand slam tours, including the Wimbledon tournament, Roland Garros, ATP, and Australian Open, are leveraging digital platforms powered by AI technologies like IBM's Watson<sup>3</sup> and Infosys' Cobalt Cloud<sup>4</sup> to formulate players' performance indexes, helping predict the likelihood of win during the matches.

Infosys' Tennis Platform provides a comprehensive analysis of the match for both players and coaches. It allows them to dissect the game from multiple angles and dimensions, facilitating an indepth performance analysis.

The platform draws data from various sources, including match video feeds, and employs sophisticated algorithms to provide fast and accurate match analysis. It also allows for rally replay and stroke analysis through AI Videos, making it an all-encompassing tool for improving performance.

Al is also being used to rethink and redesign the tennis racquet⁵, making it lighter, more powerful, and futuristic. These can be personalized to the player's form and style, further enhancing their performance on the court.



#### AI Beyond The Court: Creating Immersive Environments With AI AR/VR

Virtual and augmented reality and AI create a convergent and unified sporting experience. From immersive 3D web viewing of matches to safe yet near-real virtual training environments, the Infosys Tennis Platform brings world-class tennis to everyone– amateur players, beginners, and experts - in the comfort of their homes, gyms, or other training environments.

Players can immerse themselves in a simulated tennis environment where they can practice their skills against virtual opponents, replicating real-world players' playing styles and different near-match conditions, such as playing surfaces, predicted weather and other court conditions, allowing players to prepare for different types of tournaments and

#### matches.

This will enable beginners and seasoned players to develop their skills and techniques in a safe and controlled environment without injury.

These intelligent platforms deliver a wealth of data for the invested fan, from the standard match stats, stroke summaries, match summaries, and leaderboards. Audiences viewing the matches from home or elsewhere get a 3D court view, including ball trajectories, live replays, and multiple viewing angles, overlayed with live insights and match data.

Infosys' Tennis Platform, powered by AI/ML technology, uses open-source technologies and a cloudneutral architecture to combine match assets such as broadcast coverage and match statistics from the chair umpire, radar gun, and Hawkeye to assist and automate highly creative manual tasks.

The platform also incorporates cutting-edge statistical, audio, and video analytics to identify important aspects of a tennis "point," such as its significance, excitement, and drama, to enrich the experience for all stakeholders involved.

Fans were transported into a live stadium environment, reliving the complete match experience delivered on PlayStation® VR, which included a 360-degree view of the match with integrated AI-driven match statistics into the screens so fans got a real virtual tennis match experience.

Augmented reality was used to give people immersive tennis experiences. Using augmented reality HoloLens experience to create immersive tennis retail customer experiences with virtual dashboards and holographic displays, customers tried on different products with varying styles and colors. At home, in the office, or anywhere else, augmented reality transformed any surface into a virtual tennis court using holographic surface displays cast via mobile devices with 3D views, in-game data, and stats. Due to the pandemic-induced lockdown in 2020, fans could not attend the Australian Open. However, the AO Virtual Hub, powered by Infosys Meridian, provided a unique phygital experience to viewers worldwide. This platform allowed them to access exclusive events, behind-the-scenes tours, live performances, 360 match viewing, and many more exciting features during the tournament.

The Roland Garros, 3D Art Museum, brings the history and heritage of RG to fans globally through Social VR, new mixed reality experiences, and immersive digital platforms. The 3D art display includes 42 posters for viewing via guided and non-guided tours. The racket room showcases the story and evolution of tennis rackets. The International Tennis Hall of Fame (ITHF) is taking steps to preserve and honor the sport's legacy by leveraging advanced 3D and VR technologies. These cutting-edge platforms enable fans to engage with tennis history while keeping up with tournament action and player performance analysis.



#### Stats, Views, And Stories Powered By AI: Providing Content For PR And Media

The AI-powered platforms mentioned earlier provide broadcasters, sportswriters, and journalists with a ready source of data, analysis, insights, and match statistics. With numerical and video-based insights about best shots, court movements, rally analysis, and real-time player performance, a wealth of content is available for distribution over print, audio, digital and social media. Fans can easily replay the best moments of any match with related insights and share the same on social media. Fans can also easily access past data about performance, history, and other players' stories to build engaging content and shared perspectives.

The Tennis Platform offers media teams a range of Al-enabled features, such as Al Highlights, Al Shot of the Day, and Assisted Journalism. Al Highlights allows media teams to use Al-powered video analytics to tell the story of the match by selecting the most interesting, crucial, and dramatic points during the game.

This is done using cues such as crowd noise and AI-enabled scoring based on chair umpire data. AI Shot of the Day enables media teams to pick the best shots from all matches played on a given day and categorize them into 9 shot types for easy selection. Additionally, AI Assisted Journalism helps journalists to create match reports with readily available post-match insights enabled by AI. These insights can be easily integrated across publishing platforms by embedding them into the reports.

The incorporation of innovative tools in Infosys Match Center, including MatchBeats, Rally Analysis, and Stroke Summary, is transforming the way statistics are presented. MatchBeats offers fans and journalists a comprehensive visualization of statistics, enabling their interpretation in context, while Rally Analysis provides an in-depth analysis of the winner in rally-length battles. Stroke Summary gives a summary of points gained and lost while executing various types of strokes.

Other innovations include CourtVision, which aids in identifying player tendencies and patterns by overlaying significant statistics onto a court layout. This, in addition to the Patterns of Play feature, is especially useful for fans eager to learn about player strategies by highlighting successful patterns players use. With live AI commentary describing the point and score in real-time, this feature can even assist fans who can't view the game, allowing them to keep track of each point as it is played.

#### Future Of AI In Tennis: Creating New Opportunities And Advancement

Al is revolutionizing the game of tennis, helping players, coaches, and fans to gain new insights and access innovative tools and platforms. The ITHF 2022 event, provided a sneak peek into a comprehensive metaverse experience that uses AI and AR/VR-enabled technology to celebrate legends like Serena Williams and Roger Federer when they are inducted into the Hall of Fame. Fans can access the museum virtually to view various artifacts, create collectibles using NFTs, and other immersive features to commemorate different museum categories. Al-driven platforms deliver immersive VR experiences for all tennis fans to play against their favorite players, train, shop, and even serve up an ace on the moon.

From analyzing player data to provide virtual reality training simulations, Al transforms how we experience and consume tennis. Real-time performance trackers and wearable technology, such as bright clothing, are revolutionizing sports by enhancing various aspects ranging from training to injury prevention. By analyzing player movements, coaches can obtain valuable data-driven insights that help them identify areas for improvement and determine the specific needs of each athlete.

This information can be crucial in helping athletes focus on their weaker aspects and enhance their overall performance.

While there are some concerns about potential bias in the algorithms used to analyze the data, the clear benefits of AI in tennis cannot be denied. As technology evolves and enables expert coaching to be more democratized, amateur players and beginners can get trained by the best coaches worldwide' The World No.1 seeded player of the next decade may just have been trained by the coaches of that time and augmented versions of tennis greats like Steffi Graff, Ivan Lendl, Roger Federer, among others, powered by the cutting-edge intelligence of AI – a dream come true for the true tennis enthusiast.

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the edge

quarterly



# The Intelligent Insurer

What AI Holds For The Insurers Of Tomorrow?



Vikesh Gupta Head Of Sales, Insurance, Infosys

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#### Summary

The insurance sector is undergoing a pivotal shift with stiff competition and changing customer expectations demanding a rejig of operating models. Insurers need to shed their reliance on manual operations and create digital, connected, intelligent processes and systems. However, a shift of this magnitude is not an easy task. So, what can insurers do to stay competitive, and what role will artificial intelligence (AI) play in this journey? Read the article to find out.

Deep into the battle for the consumer, the insurance industry is experiencing a tectonic shift. The rise of nimble AI-first insuretech players and changing customer expectations are keeping insurance leaders on their toes.

"What would be the next-new for the industry?" "Should we take drastic measures to reinvent our business or wait and watch how things unfold?" "How do we ensure compliance in an increasingly stringent regulatory environment?" "How do we align better with customer needs and proactively deliver better experiences, products, and services?" These are some of the key questions every industry player is asking.

While the future may be ambiguous, one thing is clear – the current operating models in insurance are long due for a refresh. What insurers need is speed, accuracy, and efficiency. They need to shed their reliance on manual operations and create digital, connected, intelligent processes and systems. However, a shift of this magnitude is not an easy task. So, what can insurers do to stay competitive, and what role will artificial intelligence (AI) play in this journey?



#### The Impact Of AI Technologies On The Insurance Value Chain

We spoke with 50+ industry practitioners to understand how this disruptive technology will shape the future of insurance. Here are some key thoughts that resonate across the board:

1. AI will revolutionize product and service templates, improving underwriting accuracy, reducing fraud, and offering superior customer experiences.

- 2. A surge in the use of chatbots and virtual assistants will deliver near-human experiences for customers improving customer service.
- 3. All has the potential to dramatically reduce the cost of insurance and open a whole new market for uninsured individuals who can benefit from affordable coverage.

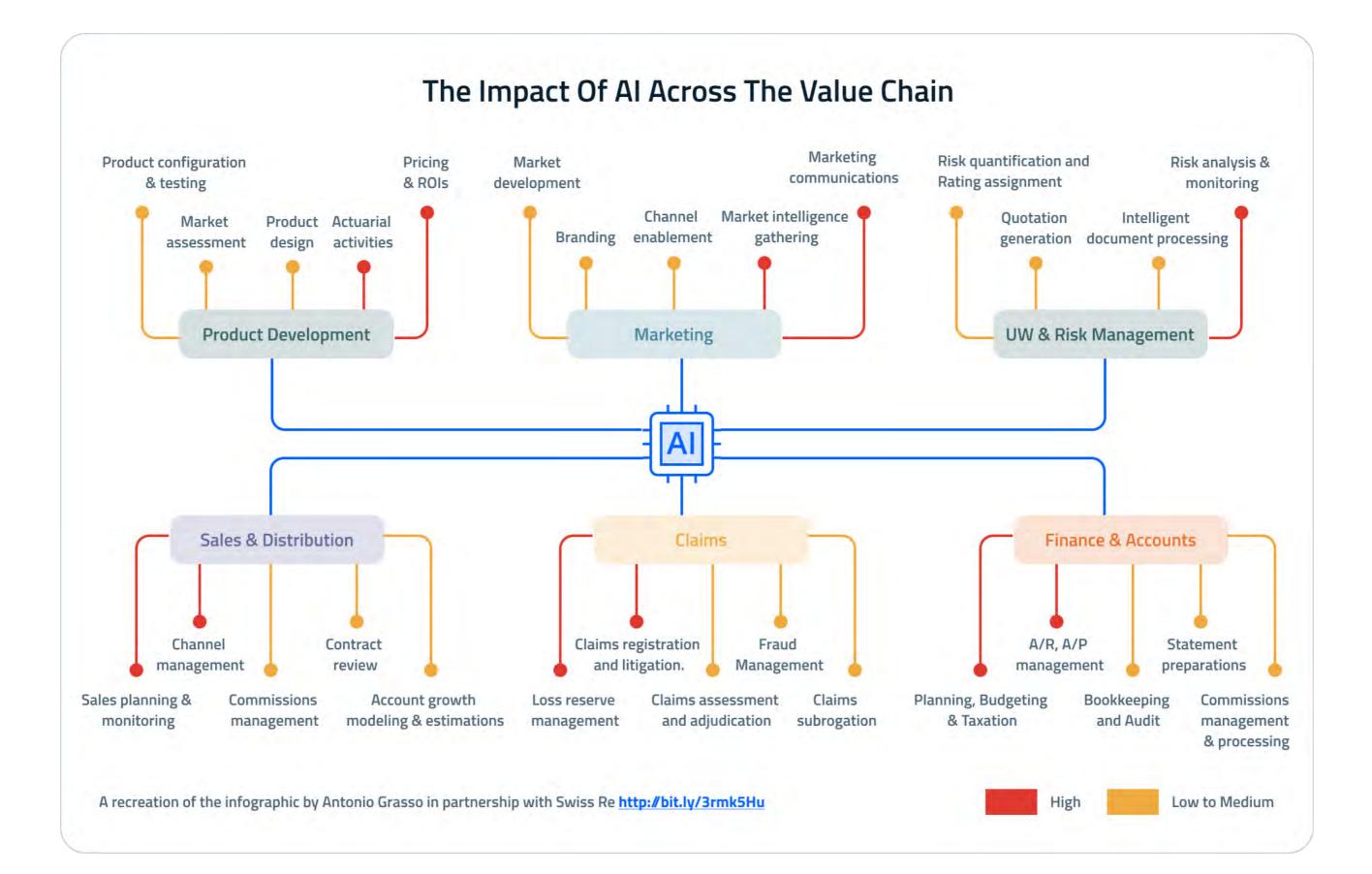
While there are indeed many benefits, the survey cautions for a measured approach to Al as:

- 4. Al may lead to greater inequality with biased algorithms denying coverage to specific groups, and hence ethical AI is a key priority.
- 5. While AI may make some job roles obsolete, it will also create new jobs and lead to greater satisfaction and efficiencies for the workforce.

Al's impact can already be felt across the value chain (See Table) in various degrees

For instance, intelligent document processing (IDP) is helping unlock hidden insights and make underwriting and claims processing faster and more accurate. A leading commercial insurer used IDP to improve submission management and underwriting efficiency, unlocking a 5% improvement in the 'Submission to Quote' ratio and ~15 20% improvement in the 'Quote to Bind' ratio.

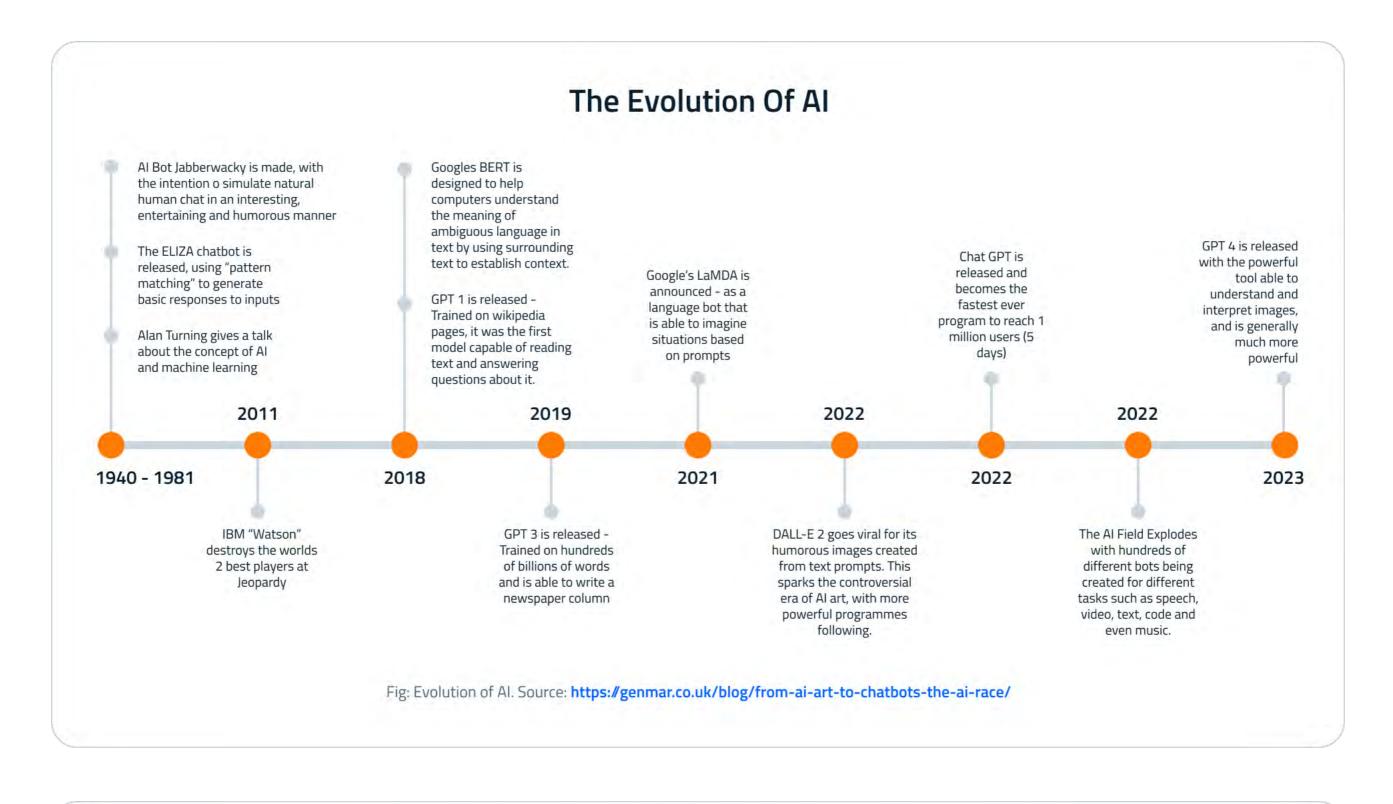
Similarly, a healthcare insurer used intelligent automation to reduce average claim settlement time by 60%, and another transformed customer service with a 15% increase in agent productivity.



The benefits of AI are obvious, and insurers across the spectrum are rapidly trying to adopt, deploy and use it. While a host of large insurance carriers are currently building AI tools and platforms, their mid-sized counterparts are exploring multiple and motley off-the-shelf AI platforms (See Table).

Business Function	Few Tools & Platforms names (not exhaustive)
Underwriting	Shift Technology, DataRobot, PolicyPal, Intellect SEEC, RiskGenius, Verisk Analytics, et al.
Claims Management	Lemonade, Tractable, Snapsheet, Xtract AI, ClaimForce, etc.
Risk Management	Praedicat, Zest AI, Predictive Insights, CyberCube, Riskonnect, FICO Decision Management Suite, Aon Risk Management Solutions, SAS Risk Management, RMS Risk Management Solutions, etc.
Customer Experience	Cognitivescale, Spixii, Insurify, Planck Data, Zendesk, Sprinklr, Haptik, LivePerson, Verint, etc.
Fraud Detection	FRISS, Shift Technology, Featurespace, SAS Fraud, and Security Intelligence, etc.
Chatbots	Amelia, Aivo, DigitalGenius, LivePerson, Salesforce Service Cloud, Ada, Bold360
Personalization	Pega Customer Decision Hub, QBE's Claims Analytics, Cover Genius XCover, HyperScience, DataRobot, DataVisor, Personetics

The evolution of AI (See Fig: Evolution of AI), especially the latest advancements, has also spurred new use cases. As the technologies continue to evolve (See Table), insurers are finding interesting applications. For instance, Swiss RE and Microsoft have partnered to explore the potential of digital twins in various use cases, such as analyzing ship risk by simulating part failures<sup>1</sup>. Another example is one of the world's largest commercial property insurers, which has been using digital twins to simulate the behavior of insured assets under different scenarios, mitigating risks and estimating reconstruction costs.





#### 2023 to 2025

2025-2027

**Digital Twins & Coworkers** Create virtual replicas of physical assets to monitor them in real-time and and digital coworkers to monitor potential risks to minimize losses or claims.

Machine Driven Decisions Analyze historical data (such as claims data) to detect potential fraud.

#### Natural Language Processing

Create human-like conversations, understand, and analyze sentiments from natural language sources.

Courtesy assessment of 50+ industry practitioners.

Large Language Models Interpret vast amounts of unstructured data, including customer information, claims data, and market trends.

Data Mesh

Decentralized data architecture to improve data governance and management for accurate and reliable Al outcomes.

**Knowledge graphs** 

Analyze data - policyholder information, claim history, market trends, etc. - to detect patterns or anomalies that could suggest potential fraud.

#### 2027-2030/Beyond

Multi-modal AI

Combine various data types, such as text, audio, and visual information, to provide a comprehensive understanding of customer inquiries.

Artificial General Intelligence Technologies to analyze large amounts of unstructured data from multiple sources to make recommendations and event act - altering Insurance business across.

#### Reinforcement learning

Perceive and interpret the environment, take action, and learn through trial and error to impact Insurance functions..

Similarly, Liberty Mutual has been using **Natural Language Processing** to interpret records, assess risks, and devise industry-leading predictive models<sup>2</sup>. This enables them to deliver enriched claims experience to customers, simultaneously analyzing customer feedback and sentiment, with the potential to reduce attrition and improve NPS. Some insurance industry leaders are already investing in developing Large Language Models to create customized insurance policies tailored to individual risk profiles. One example is a group of mutual insurance companies in the US that are experimenting with LLMs to gain insights into customer interactions and preferences to offer personalized insurance solutions. Noteworthy also, is that InsurGPT, a generative AI model designed specifically for insurance by the upcoming InsurTech Roots Automation, is gaining traction among insurers.

To create a strong foundation for AI, companies like Zurich Insurance<sup>3</sup> are exploring the **Data Mesh** and creating data-as-a-service platforms. This platform enables Zurich Insurance to analyze various data sets, including weather patterns and natural disasters, to assess the risk of insuring properties in specific geographies. This has resulted in the ability to adjust premiums and coverage accordingly, providing a competitive advantage in the industry. For a comprehensive understanding of customer inquiries to serve them better and create better experiences, Lemonade, a new-age insurer, is leveraging some facets of multi-modal AI in its AI Maya and AI Jim bots. It also enables end-to-end self-service by prompting customers to upload home images and videos through the app to process claims, making the process smooth and hassle-free.

Given the potential applications of AI on the horizon, insurance is an exciting space to be in. However, to make these applications possible, insurers really need to get their house in order.



#### Gearing Up For AI: Pre-Requisites FOR Organization

Organizations really need to step up before they can truly realize outcomes from their investments in Al initiatives, and this means setting a stable ground on at least three key areas:

1. Data Infrastructure:

Data is the foundation for AI success. Insurers need a robust data infrastructure for data storage, data integration, and data governance that can handle the volume, variety, and velocity of data required for AI applications. This infrastructure should also ensure data quality, security, and compliance.

2. Data Quality and Accessibility:

High-quality and well-curated digitized data is an absolute must to enable effective AI model training, evaluation, and, finally, to drive applications with outcomes.

3. Regulatory Compliance and Ethical Frameworks:

Companies need to stay updated on emerging regulatory guidelines while simultaneously setting up frameworks to ensure bias mitigation and monitor the explainability of AI model outcomes.

Robust governance and regulation have become non-negotiable as AI adoption increases. While AI has a vast transformative potential, its deployment without adequate oversight can lead to ethical pitfalls. Already we see models perpetuating biases and resulting in discriminatory outcomes. In addition, the extensive data that AI systems require presents significant privacy and security challenges. To build stakeholder trust, there needs to be provisions for data governance and transparency. Beyond ethical considerations, AI missteps could lead to reputational damage and legal liabilities.

Our conversations with 50+ insurance executives highlighted these concerns. Their view is that insurers looking to capitalize on the benefits of this technology must put some guardrails in place. For instance:

- 1. **Prioritize data protection** by ensuring customer information is safeguarded against unauthorized access.
- 2. Monitor AI models to prevent discrimination against protected groups such as gender, race, or age.
- 3. Be transparent with customers about the decision-making process of the AI model.
- 4. Seek explicit **consent from customers** by providing them with specific information about how their data will be used and any potential consequences.
- 5. Develop processes and systems to **audit and monitor** the performance of AI models over time to ensure their continued success.

#### The Future Is Intelligent

AI has the potential to forever change the way insurance operates by shifting the focus away from compensating for loss to loss prevention. For instance, in healthcare, it can enable preventive care, changes in nutritional styles, etc., to enable healthier lifestyles and fewer claims. In automotive, it can track and reward good driving behaviors minimizing wear and tear and accidents. And in buildings and facilities, it can enable preventive maintenance to prevent losses due to breakdowns. Better risk decisions, event prediction to reduce losses, etc., can help insurers reduce costs, improve profitability, and enhance customer service while the customers enjoy better coverage at lower premiums.

There is indeed a tectonic shift happening in insurance, and a lot is at stake. Only those companies who will embrace this disruption with open arms, who are willing to break down and reimagine legacy operations, and who are able to create a stable digital foundation will emerge winners in an AI-led future.

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### **Unearth Hidden Data**

with Operational Work Insights

This article is an extract from a **fireside chat** between **N Shashidhar** - Vice President & Global Platform Head EdgeVerve, and **Amardeep Modi**, Vice President at Everest Group



#### Summary

In a world where disruption is the new norm, business longevity is threatened by several factors. While enterprises seek digital transformation, hidden data has thwarted their efforts at a granular level. At a time when companies need more informed and fact-based decision-making, they hit their biggest barrier – data-driven insights. How can they unearth insights buried under everyday user interactions and leverage them to fuel transformation? Read this article to find out.

Companies are dying younger – the average lifespan of a company on the S&P 500 was just over 21 years<sup>1</sup>. The reason? Failure to adapt to an ever-changing and increasingly complex environment where disruption isn't a single pivotal event but rather a permanent condition. Profound global shifts have got enterprise leaders grappling with various challenges, including – pandemics, geo-political conflicts, inflation, recessions, and permanent shifts in consumer behaviours.

Enterprises have invested billions of dollars in digital transformation programs to avoid these disruptions and capture more significant opportunities. Despite all these efforts, almost 70% of business transformation projects fail<sup>2</sup>. Where are they going wrong?

Most of these failures can be attributed to a lack of transparency and a fragmented understanding of their business. At a time when companies need more informed and fact-based decision-making, they hit their biggest barrier – data-driven insights.

To overcome this barrier - over and above the business model and operating model transformation there is a need to embark on a data transformation led by artificial intelligence (AI). This third leg of transformation would be about shifting enterprises from the foundation of people and processes to one of software, data, and algorithms. What would such a shift entail?



#### **Operational Work Insights - The Crux Of AI-Led Transformation**

To create an understanding of their business, companies need three types of data:

- 1. Firstly, operational transaction data stored in system logs, databases, data warehouses, and data lakes
- 2. Then, value chain data comes from partners, suppliers, distributors, and other parts of the ecosystem.
- 3. Lastly, the data that still needs to be created must be generated. This data, hidden within the interactions between humans and software, can yield vital contextual insights available via the right discovery platform.

Most organizations depend on enterprise applications such as Oracle, SAP, and Salesforce to capture business data and leverage process mining to build an understanding of their processes. However, these represent only the tip of the iceberg, as employees spend 60% of their day on productivity applications like Excel, Word, PowerPoint, etc. This substantial portion of interactional data—critical for extracting hidden business value—lies uncharted. Tapping into this data can paint a more comprehensive picture of how work is done and give comprehensive operational work insights. However, process mining is not capable of capturing this hidden data. Task mining, on the other hand, can bridge this gap and get granular insights across diverse applications to unlock business value.

Task mining can help discern opportunities for automation and optimization, enhancing the customer and employee experience, improving risk management, governance, and compliance, and even driving top-line growth by uncovering upsell or cross-sell opportunities.

For instance, an operations leader can use operational work insights to identify the bottlenecks and blind spots in operations and understand how efficiency and other KPIs can be improved. Similarly, a compliance leader will be able to monitor and identify if the employees are adhering to the policies and compliance requirements.

Task mining enables compliance leaders to predict potential compliance failures and avert them in near real-time. An automation leader would benefit from discovering automation opportunities and minimizing the costs associated with manual discovery. Operational work insights provide better identification and scalability of automation.



#### How Task Mining Accelerates Digital Transformation

Task mining is particularly beneficial in accelerating digital transformation journeys. The digital transformation lifecycle can be segmented into six stages: Discovery, Design, Develop, Evaluate, Execute, and Monitor. Task mining can add significant value at each stage.

- 1. During the discovery stage, it provides insights into work patterns and identifies essential factors such as time to complete tasks, frequency, cost, and deviations or variations.
- 2. In the design phase, it helps identify bottlenecks and barriers and feeds into the design blueprint.
- 3. During the develop phase, task mining helps analyze automation potential.
- 4. In the evaluate phase, it aids in prioritizing optimization and automation opportunities.
- 5. At the execute stage, task mining informs change management efforts, promotes collaboration, and helps accelerate automation implementation.
- Lastly, during the monitor stage, it helps enterprises monitor process performance and employee productivity against desired outcomes, aiding in the continuous improvement of processes.

However, despite the evident benefits, a few challenges hinder the widespread adoption of taskmining solutions.



#### Key Challenges And Common Pitfalls To Task Mining Adoption

Compliance and data security considerations

Organizations are not keen on exposing sensitive data to third-party providers.

Neglecting internal resistance

Granular oversight into day-to-day operations can feel like surveillance and create a climate of insecurity and hesitancy to embrace the technology.

A siloed approach

Deploying multiple task mining initiatives across business units and departments without an overarching strategy or cohesive approach doesn't provide an accurate picture.

#### Lack of technology awareness

General skepticism regarding the credibility of new technologies and lack of awareness about the capabilities and importance of task mining could impact stakeholder buy-in.

Not tracking the right business metrics

Tracking for the sake of tracking yields no benefit. Companies need to define relevant metrics and KPIs and go after those.

Lack of process SME involvement

The input from process stakeholders is crucial in setting up the right metrics to track using task mining.

Underestimating enterprise IT involvement

Organizations often underestimate the time to secure approvals from enterprise IT for data access. This could cause unexpected delays in the process.

To overcome these challenges, enterprises need a well-thought-through approach to task mining that is people-first, leverages multiple technology levers, is integrated with automation, and is a joint effort between process excellence teams, automation teams, enterprise IT, and business leaders. To make the pot even sweeter, the approach can be self-funding – leveraging automation to generate and use these savings to fund transformation.

#### **Unlocking Unlimited Possibilities With Generative AI**

As with everything else, Generative AI has a great potential to influence task mining. For instance, it could democratize the insights by helping even business users access them in natural language conversations. Large language models could be employed to summarize and synthesise insights swiftly, comparing the current output of the process discovery with standard operating procedures, for instance. Moreover, as AI evolves into a multi-modal form, it could generate a video of a user performing a task and then regenerate the required insights and documentation. This could increase the potency of task mining technologies, expediting their maturity. This acceleration would extend the depth and breadth of insights and deliver them faster.

#### The Road Ahead

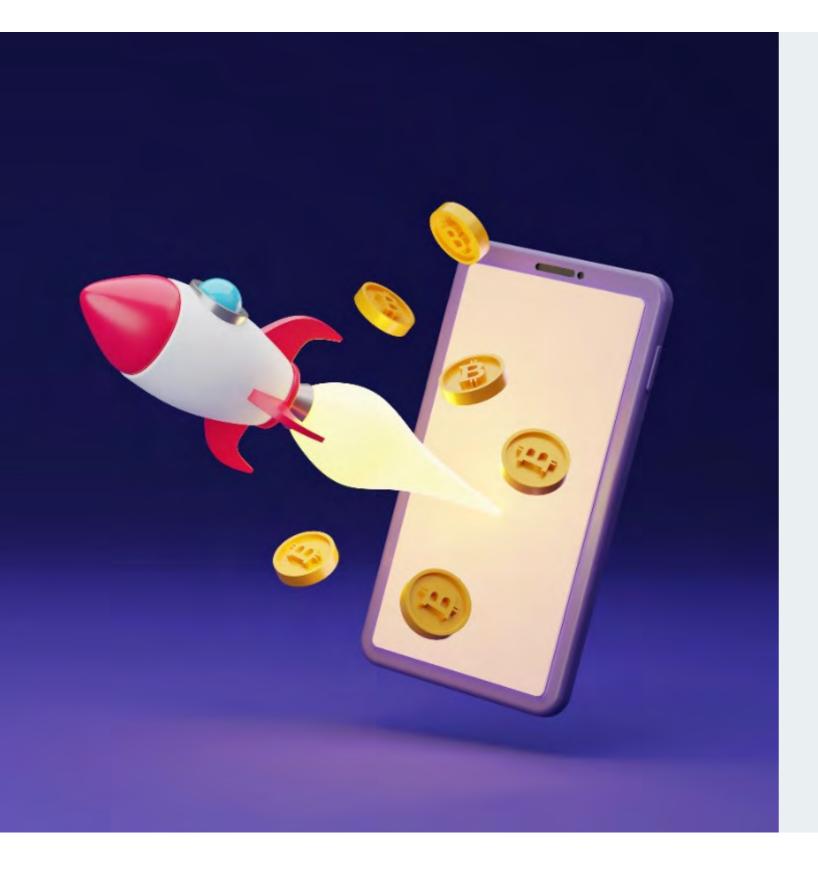
The task mining software market is still in the early stages of maturity but is accelerating at 75+% CAGR<sup>3</sup> and is expected to reach US\$480 million in 2024. Embracing the right combination of digital transformation actions today can add US\$1.25 trillion in market capitalization across Fortune 500 companies alone.<sup>4</sup> The time is ripe to take advantage of this opportunity, and the first movers will gain significant ground quickly.

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## Turning Risk into Opportunity

Rewriting the Underwriting Story with AI

This article is based on a **webinar** between

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Thomas Kuhnt, Chief Operating Officer and Member
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Sathish Kumar, EV Director, Head of Product Management,
XtractEdge platform, Edgeverve
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#### Summary

A staggering \$47 billion loss and an ever-changing risk landscape are the tip of the iceberg weighing down the commercial line insurance industry. Insurers must shed non-value-added tasks and focus on crafting new products to stay ahead. However, talent shortages, manual tasks and data deluge are holding the industry back. The answer lies in intelligent automation, offering streamlined workflows, data-driven insights, and precise risk assessments. Learn how AI empowers insurers to automate repetitive tasks, reduce administrative costs, increase underwriting capacity, and improve ROI.

The commercial line insurance underwriting industry is at a pivotal juncture, facing numerous challenges in an ever-evolving market. The pandemic has resulted in a staggering \$47 billion<sup>1</sup> loss for the insurance industry, further intensifying the need for prompt action. However, it was just the beginning of a more significant shift in the risk landscape – geopolitical conflicts and more frequent catastrophes have created an urgency for underwriters to be at the top of their game. With these challenges, a pressing question remains: How can insurers manage the cost of risk transfer without imposing premium hikes?

The answer lies in a two-pronged approach: the ability to innovate products and shedding the weight of non-value-added tasks that hinder efficiency.

Instead of getting caught up in administrative work, underwriters must invest time in creating groundbreaking solutions that benefit their customers. However, extensive paperwork, non-standardized data sources, fragmented systems, and manual processes have become bottlenecks, affecting efficiency and agility.



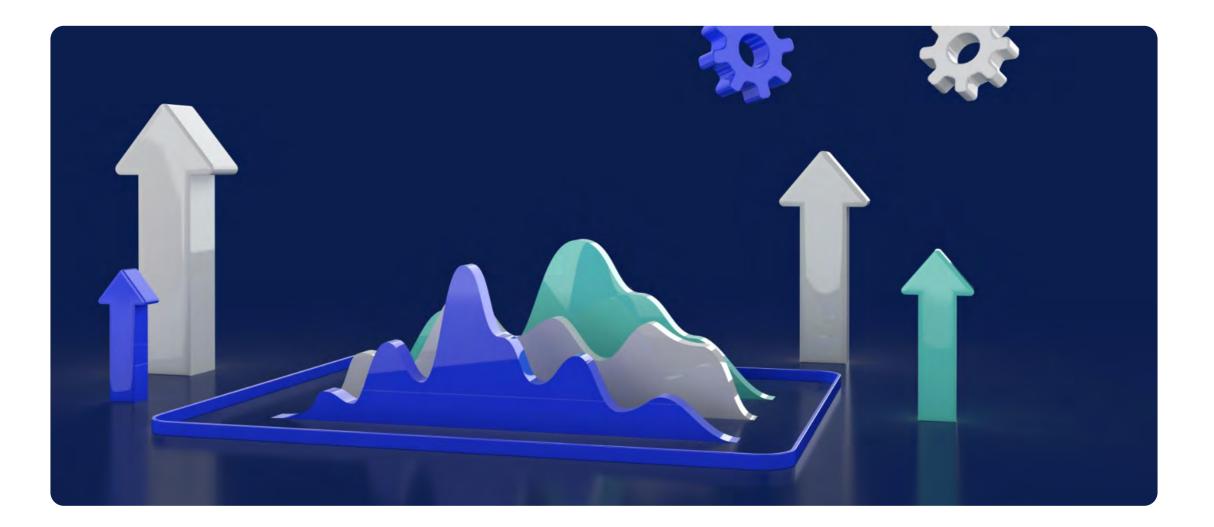
#### Underwriters Are Drowning In Manual Tasks And Paperwork

Data overload increases processing costs and hinders underwriters' access to relevant and timely information. As information pours in from various sources and brokers in non-standardized formats, cleaning and extracting meaningful, relevant insights consumes valuable time and effort. The rekeying and duplicating of data across multiple systems further erodes productivity. Take, for instance, the growing concern about cybersecurity risks. To price it effectively, underwriters must tap into data from cybersecurity centres of hyperscalers. However, interpreting this information isn't simple, as customers often have a hybrid setup—part on-premises and part on-cloud. Besides presenting data effectively, underwriters require statistical evidence to ensure responsible decision-making. Processing such an extensive amount of data inevitably escalates backend costs and time.

While the data deluge is a concern, process inefficiencies also take their toll. For instance, while dealing with submissions, underwriters tend to follow <u>FIFO</u> as they don't have a system to prioritize applications. As a result, they waste valuable time on low-priority submissions, leading to a loss of business. In addition, an acute talent shortage creates a need to do more with less. Experienced underwriters are retiring, creating a significant knowledge gap. While efforts must be underway to bridge this gap, a more sustainable long-term solution is to figure out a way to achieve more with fewer people.

So, what can commercial insurers do to stay competitive and relevant?

The answer lies in intelligent automation, especially when it comes to underwriting. Relentless automation presents a roadmap to success: streamlined workflows, data-driven insights, precise risk assessments, and accurate, swift decisions.



#### The Promise Of Automated Underwriting

A leading financial services company providing clearing and settlement services leveraged intelligent document processing (IDP) and achieved a 50% increase<sup>2</sup> in underwriting capacity. Their application processing time was reduced by 80%, helping double new business conversions. In another instance, automation reduced the cost<sup>3</sup> of the claims journey by as much as 30% and delivered an ROI of as much as 200%.

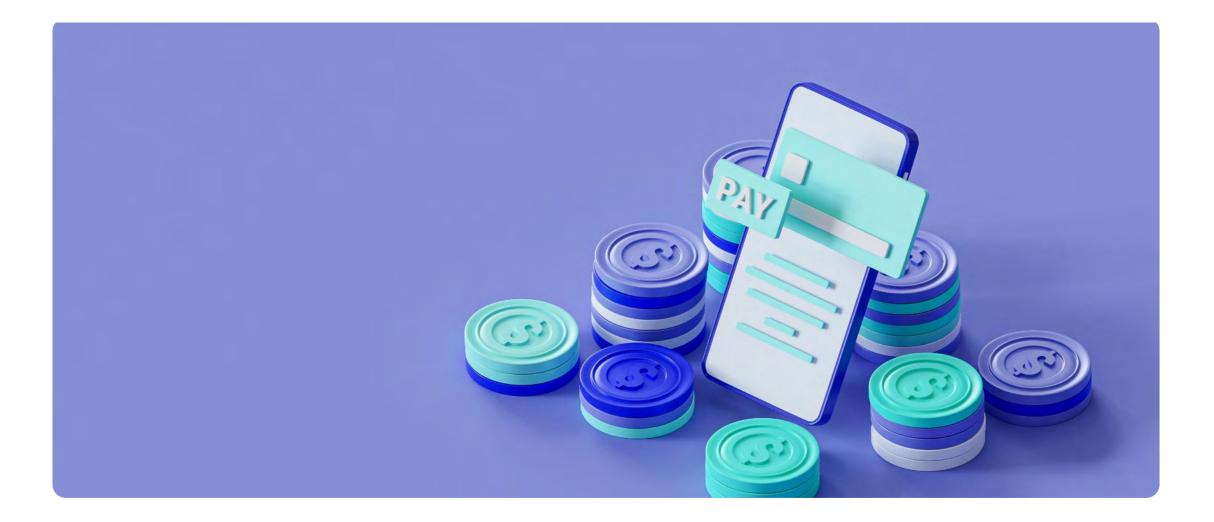
These are just some instances of how intelligent automation can revolutionize commercial insurance. For underwriting alone, there are many use cases, for instance:

- 1. IDP can extract and validate data from new submissions and derive relevant insights from it to help underwriters make better risk and pricing decisions
- 2. Al can check new submissions based on pre-set rules to prioritize submissions and help underwriters pick the important ones first
- 3. Intelligent, connected systems can automatically extract and plug in relevant third-party information to enhance the applications and give a clearer picture to the underwriters
- 4. Al and ML models can analyze this data to help triage risks and make pricing recommendations

Consider a situation where a batch of property-related data, including addresses and information about the surrounding areas, is presented to an underwriter. Typically, the underwriter must manually search multiple websites and platforms to gather details about each location, such as crime rates or neighbourhood characteristics. What if there are 100s of addresses? Excessive data would overwhelm the underwriter, making it difficult to determine what is relevant and what to disregard.

Al-based automation, on the other hand, can effortlessly gather information, contextualize it, and present only relevant insights for decision-making. If additional parameters are required, the underwriter can request more information via simple NLP queries.

Intelligent automation eliminates unnecessary human intervention, freeing up valuable time for underwriters to innovate new products and engage in value-added tasks that directly benefit customers.



#### Refocus On Value And Improve ROI With A Holistic Automation Approach

While automation technologies can bring efficiency and scale, it is essential to refrain from creating independent workflows for every line of business, as it would undermine the benefits of automation.

The key to success is to take a holistic approach – creating a connected system and striking a balance between customization and standardization. Simply automating disparate processes in siloes will not lead to cost reduction or effective outcomes.

Let's consider an example. With over 30 categories to assess and variations within each category, implementing separate, independent workflows for each line would be counterproductive. That would undermine the economies of scale that automation can bring. The ultimate focus should remain to elevate the value chain, enabling underwriters to dedicate more time to critical decision-making and excel in underwriting. And so before you embark on an automation journey, it's essential to assess your existing processes and leverage process discovery to find ideal candidates for optimization and automation.

#### The Converging Paths: Underwriters + AI Collaborate For Big Gains

As underwriting undergoes digital transformation, it's important to remember the value of an underwriter's expertise and judgment in risk pricing. Take this case in point. Flood maps often show the whole island as a flood zone, but local underwriters hold vital insights about the actual situation on the ground. They know the precise roads, problem areas, and the preventive measures in place. This unique insight allows them to make informed decisions beyond what data alone could provide. Hence, human underwriters are irreplaceable.

The industry needs a balance where humans and AI work together in tandem. For instance, AI can crunch the data and present the underwriter with three pricing options and the justification for each. Based on their experience, the underwriter can make an educated decision.

As AI and automation take away the cognitive load of the mundane and the repetitive, commercial underwriters would find themselves focusing on new, complex, unusual cases that call upon their expertise. Collaboration between humans and machines is a win-win for all, leading to an agile, efficient, and prosperous future. Are you ready to embark on this journey?

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## From Data to Decisions

### Achieving an Autonomous Supply Chain with Demand Sensing

This article is an excerpt from a webinar between

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#### Summary

Lack of supply chain visibility and over-dependence on manual processes such as inventory tracking are some key challenges for supply chain leaders. These challenges hinder profitability and growth in an environment of unpredictability, rapid inflation, changing customer needs, and frequent disruptions. Are connected and autonomous supply chains the answer to thrive in a post-pandemic world? Read this article to find out.

Demand volatility, disruptions, and uncertainties have highlighted the significance of responding efficiently. Events like the pandemic, the Texas Deep Freeze, and geopolitical blockades have exposed supply chain vulnerabilities, causing shortages and widespread disruptions. In the face of continued flux, how can supply chains flow seamlessly? The answer lies in end-to-end visibility.

#### The Problem With Navigating In The Dark

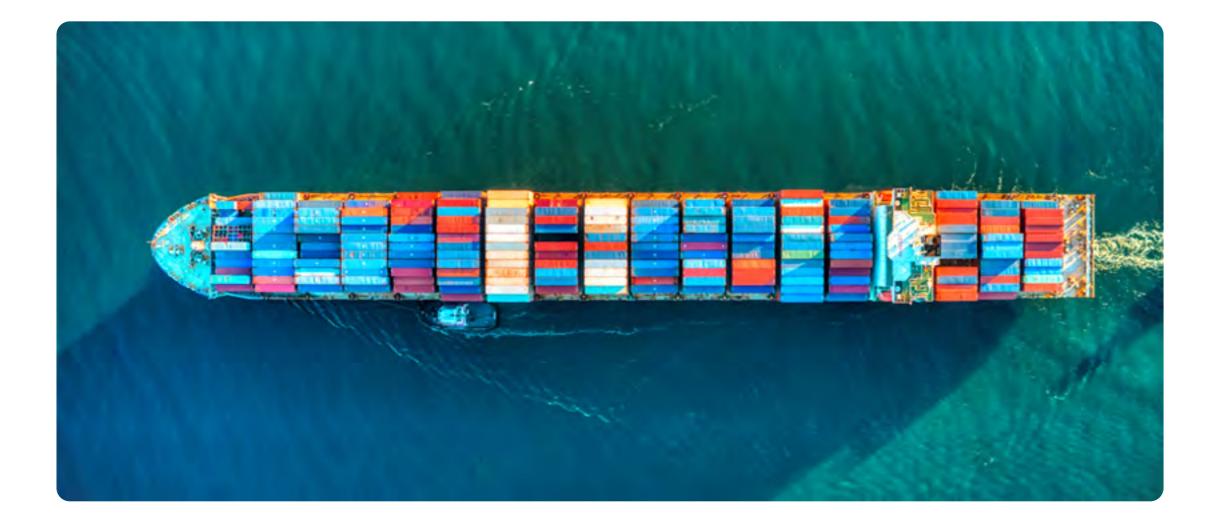
Research suggests that 70% of companies need more supply chain visibility, and most rely on manual inventory tracking. Supply chain executives struggle to identify what's happening outside their organizations and, as a result, cannot plan ahead. Limited visibility also impacts the ability to swiftly sense and respond to disruptions.

Supply chains are not static; changing one factor can have lasting repercussions. For instance, if the lead time for a supplier changes from six weeks to 50 weeks, you'll need to find some alternatives. Or what if the price changes and the cost is no longer viable? You'll either need to raise your price or find another supplier. But without visibility into the system, finding and flagging these issues is difficult.

Traditional forecasting methods must catch up to the agility modern supply chains require in the face of unprecedented demand volatility. The reason? They rely on shipment data and not actual demand data. They built long-term demand plans based on economic data, major events, or best guesses from salespeople.

Unfortunately, in a world of doorstep delivery and fragmented demand, that's what it is – informed guesswork. As a result, companies find that the goods they produce, especially if they have a long lead time, may be completely irrelevant when they hit the shelves because the demand has shifted. Demand forecasting is about getting the quantities right and where to position that inventory. Not knowing where the demand is could leave you with stockout situations despite having the right stock on paper, just because it's sitting in the wrong location. Demand sensing has emerged as a powerful concept at the heart of the supply chain transformation.

Companies need short-term visibility. How is my inventory moving in a day, in a month? And this is where they currently don't have a clue. And that's why demand sensing is becoming crucial to see and understand what is happening based on real-time customer demand.



#### Lifting The Veil On Data To Shift From Efficiency To Resiliency

Post-pandemic, the focus has shifted to supply chain resilience, and companies want to get more visibility into both the supply and demand side - what is my supplier's supplier carrying or what is my customer's customer buying - to prepare for any eventuality. However, the biggest challenge is the inability to collect, harmonize, and process demand signals in near real-time. Disparate systems and heavy dependence on manual processes create data siloes and latency in demand visibility.

To bring demand sensing into their supply chain operations, companies need a planned approach:

- 1. Connect with your partners to align business goals Get the buy-in from suppliers and customers that there is a real benefit in this partnership and incentivize them for data exchange. For instance, today's retailers recognize the value of collaborating directly with their suppliers. They are open to sharing point-of-sale information that, until recently, they were not willing to do.
- 2. Leverage technology to create a connected ecosystem Meet your partners where they are in their technology maturity. Make it easy for them to share data with you irrespective of the system or format they use.
- 3. Harmonize and process the data to make it usable by downstream systems -Information coming in from different partners will have significant variations in details, number of attributes, product hierarchies/codes, granularity of information, frequency, etc. Your system should be able to harmonize this data and make it usable for other systems.

However, it's impossible to monitor everything from the get-go. If you are just starting on this journey:

- Concentrate on the products or categories posing the most significant challenges or opportunities.
- Engage with customers and suppliers to understand available information and data sources, seeking their willingness to share relevant data.
- Determine how to best utilize the obtained data to drive demand-sensing strategies and improve decision-making.



#### Building A Connected And Autonomous Supply Chain

All parties look at the same truth in a connected ecosystem. Supply chain planning then becomes harmonious like an orchestra, as opposed to each one singing their tune. Once you have the data, you can use it to create connected downstream systems that are the building blocks of an autonomous supply chain.

For instance, the change in lead time or price from a supplier that we discussed earlier

An autonomous system can track these external events, understand what is happening in the supply chain, and automatically adjust critical parameters within your planning systems. These automatically executed adjustments eliminate delays caused by manual interventions and ensure accuracy.

For instance, when lead times change, autonomous systems update the planning system's minimum order quantity, streamlining the process and ensuring fairness tied to external indexes. Moreover, autonomous agents interpret customer order changes from emails, automatically adjusting shipments and orders, freeing up planners for strategic tasks. This agility empowers organizations to swiftly adapt to dynamic supply chain conditions, enhancing efficiency and responsiveness to meet future demand challenges.

In addition, autonomous actions reduce the burden on the workforce, freeing up their time to do more value-added work. Add Generative AI to the mix, and we see the outcomes amplifying.

For instance, these models can create "what if" scenarios and digital twins to augment human decision-making.

#### The Era Of Guesswork Is Over

Supply chain challenges need an audacious response - from the archaic and manual to the agile and automated. The future belongs to those who embrace the power of connectivity, autonomy, and datadriven intelligence, leaving uncertainty behind. Are you ready to get started on this journey?

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# Neoskilling

A key step towards a connected enterprise



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#### Summary

In the ever-evolving world of work, where technologies constantly define the future of work, do upskilling and reskilling remain relevant? How can companies prepare their workforce for tomorrow's challenges? Read this article to find out.

The knowledge economy is stronger than ever. Knowledge workers constantly enhance existing skills and learn new skills to stay relevant. The Infosys Digital Radar 2023 research<sup>1</sup> identifies "building tomorrow's skills today" as one of the four key principles for successful digital transformation.1 Business leaders follow "continuous digital learning of employees" as their top practice to meet corporate objectives.

External market trends and internal enterprise requirements together shape the skills an enterprise will need tomorrow. People create value through contemporary skills that match market needs and leverage emerging technologies. How can leaders train their workforce on these skills?

Neoskilling is an innovative approach that future proofs organizations by training the workforce in tomorrow's skills.<sup>2</sup>

Neoskilling is the identification and quick, repeated acquisition of relevant skills. It encompasses skills related to emerging technologies like blockchain, machine learning, cloud computing, and the internet of things, and new-age domains like sustainability and responsible and explainable design.



Neoskilling cultivates higher-order thinking, emphasizes soft skills, and embraces cultural considerations. It comprises proactive development of essential, technology-agnostic skills for an enhanced, dynamic workplace of the future.

The workplace of the future is also an interconnected theme.

The connected enterprise, a prevailing megatrend, is a reality now with real-time data exchange, streamlined workflows, and agile decisionmaking. This connectivity is essential to stay competitive in today's hyperconnected world. This idea breaks down barriers and promotes interdepartmental collaboration and innovation.

Tomorrow's enterprise will automate repeatable tasks, embrace AI, and empower a skilled workforce to thrive in this hyperconnected world. For instance, generative AI lays the groundwork for a document, and then a human refines it.



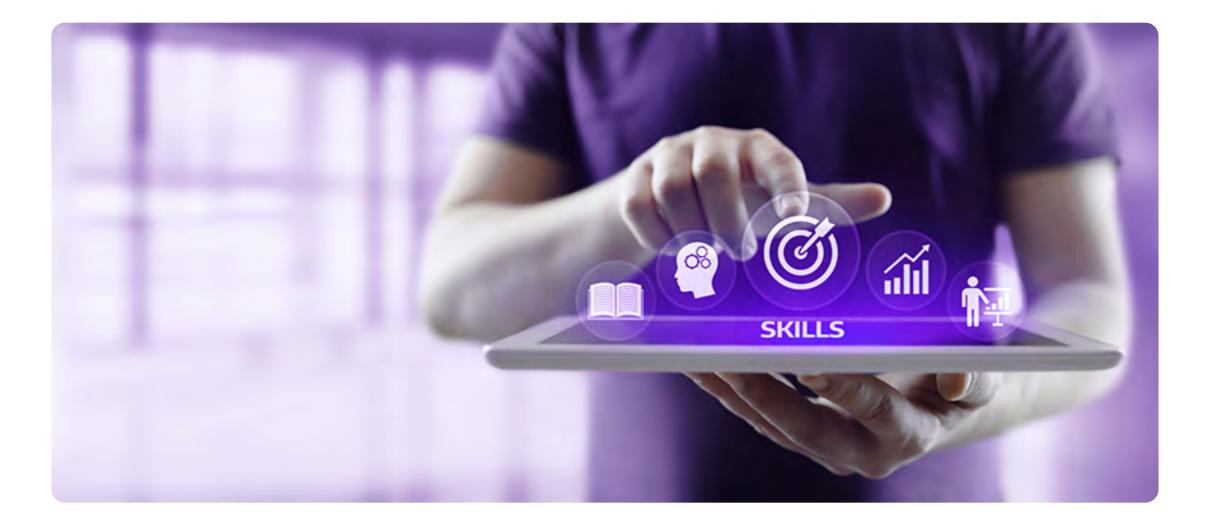
#### Neoskilling And Connected Enterprises – A Synergistic Pair

The connected enterprise and neoskilling create a symbiotic relationship. Connected enterprises hire and develop tech-savvy employees to take on greater responsibilities. These employees make the

enterprise agile and densely interconnected, driving the need for greater neoskilling. The organization receives dual benefits by investing in neoskilling: skilled workforce and enhanced collaborations and innovations.

# The traditional relationship, where companies create scale through people and value through technology, is flipped.

People now drive value with contemporary skills that scale impact through emerging technologies and match market needs. Neoskilling creates a transformative pathway.



#### Making Neoskilling Work For Your Organization

Steps to streamline neoskilling:

#### 1. Identify the skills

How can organizations identify skills for the future? We present multiple approaches in our book<sup>2</sup>.

- Expand focus beyond your industry to the broader second-order environment.
- Organizations should have gardener, farmer, and forester roles for short-, medium-, and long-term needs and accordingly shortlist the requisite skillsets.
- Create a roles and progression architecture that provide pathways to guide employees who pursue continuous learning.

#### **IDENTIFYING A NEO SKILL**

#### Consider Sustainability.

- 1. Countries and organizations have announced target years to reduce their carbon emissions and become netzero. However, the green skills required to achieve a net-zero status are short in supply.
- 2. Some examples for such skills are
  - a. life cycle assessment,
  - b. carbon accounting,
  - c. hydrogen engineering and
  - d. battery manufacturing.
- 3. LinkedIn witnessed a 20% rise in green job postings in 2022. At the same time, profiles on the portal with at least one green skill grew only 8.4%.<sup>3</sup>

#### 2. Disseminate the skills

Once identified, organizations should disseminate the skills among employees and establish a learning culture that incentivizes employees to invest in personal growth and development. Mentoring and coaching programs, targeted learning programs, workshops, certifications, rewards and recognition engage learners across the spectrum.

Alongside, leaders must align neoskilling with the organization's long-term vision to reap its full benefits.

#### 3. Leverage technology

Digital technologies play a key role in low-cost, large-scale skill development.

MOOC (Massively Open Online Course) platforms are the preferred channel for skill development initiatives. Al integration into online learning platforms rapidly disseminates skills through hyper-personalized learning.<sup>4</sup> It enables course customization by content, sequence, pace of delivery, and evaluation to suit every student's learning appetite and objectives.

"While MOOCs created massive access, AI can create mass personalization. Everybody can get a specialized experience," says Prof. Anant Agarwal in his interview with Infosys Knowledge Institute.<sup>4</sup>

Gamification of training and bite-sized learning approaches work well for consistent and on-the-move learning.

#### The Future Of Work

The Infosys Future of Work <u>study</u> emphasizes that the fastest growing companies automate tools, modernize technology, and reskill workforce to succeed.<sup>5</sup> These initiatives add 6.7 percentage points to revenue and 7.7 percentage points to profits. In a connected enterprise, all entities communicate with each other, from people to processes, products, and physical and virtual assets. A skilled and talented workforce is imperative to lead automation and modernization in such an environment. This underlines the necessity for neoskilling.

Neoskilling is not a fad but a paradigm shift that its possible for organizations to transform into connected enterprises, to implement, adopt, and sustain change. A culture of continuous learning keeps enterprises at the forefront of technology, ready for not just current but future challenges and opportunities. The first step begins with neoskilling, and those who adopt will unlock a connected and collaborative future.

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# Transforming Quick Commerce

Enhancing Last Mile Delivery



**Bhavna Uttamchandani** Senior Analyst, Product Management, EdgeVerve



#### Summary

In the dynamic and fiercely competitive world of business today, retailers are continuously searching for innovative methods to enhance their operations and provide exceptional value to their clientele. The emergence of Quick Commerce is poised to revolutionize the retail landscape. However, numerous challenges need to be addressed. Rapid service costs require innovative logistics, technology, and supply chain optimisation through real-time information. Read the article to know how technology can help better the entire customer experience.

One area that has garnered significant attention is last-mile delivery, which refers to the final phase of the supply chain wherein products are transported from fulfilment centres or stores directly to customers' doorsteps.

#### **Understanding Quick Commerce And Last Mile Delivery Automation**

The advent of quick commerce and the escalating customer demand for prompt and hassle-free delivery have compelled companies to reconsider their strategies and embrace a connected ecosystem of various technologies. As per Verified Market Research<sup>1</sup>, the Last Mile Delivery Software Market achieved a valuation of USD 7 billion in 2021. By 2030, this market will soar to USD 16 billion with an impressive compound annual growth rate (CAGR) of 9.3% between 2023 and 2030.

Automated last-mile delivery software plays a crucial role in the success of delivery businesses. It caters to customer demands and simplifies the entire process. In quick commerce, this software optimizes the final stretch from distribution centres to customers' doorsteps by providing accurate Estimated Delivery Dates, seamless logistics, and prompt issue resolution. With features like route optimization, real-time tracking, and electronic proof of delivery, this software enhances customer engagement while ensuring efficient routes and personalized deliveries.

In today's era of booming online shopping, it empowers businesses with greater control over their operations while increasing speed and affordability to meet ever-growing customer expectations. As a result, companies are increasingly adopting these automated solutions to improve productivity, reduce costs, and optimize routing strategies for maximum efficiency.



#### The Quick Commerce Boom In India

The rapid growth of quick commerce can be attributed to the expansion of e-commerce into the grocery sector, further fuelled by shifts in consumer behaviour caused by the pandemic. This transition from purchasing lifestyle items online to ordering groceries led to the emergence of quick 10-20 minute delivery services, commonly known as q-commerce. In India, the market is abuzz with an increasing number of quick commerce companies, including those operating in the food aggregation and cab service sectors. In 2020 alone, Indian quick-commerce reached a staggering \$49 billion.

According to ET Retail, Q Commerce is expected to experience exponential growth from \$700 million to eight times that amount by 2025. However, despite this impressive growth trajectory, profitability remains a significant challenge for these businesses due to losses ranging from Rs 20-50 per delivery. The primary hurdle lies in the reluctance of Indian consumers to pay for faster delivery services, which presents a significant challenge.

Quick commerce, characterized by real-time order fulfilment, incurs considerable expenses. Unlike the multi-day model of traditional e-commerce, hyperlocal quick commerce requires multiple fulfilment centers across cities, leading to increased costs in manpower, resources, and maintenance. Furthermore, quick commerce experiences lower average transaction values compared to traditional e-commerce. Frequent purchases with lower monetary value strain profit margins and necessitate innovative approaches to cost reduction and improving efficiency in the last-mile delivery process.



#### **Innovations In Last Mile Delivery**

Several innovative strategies and technologies have emerged to address the challenges faced by quick commerce companies. Let's explore some of these innovations reshaping the last mile delivery landscape.

#### Reducing the Cost of Delivery:

Quick commerce's success relies heavily on analysing various metrics, such as order count, value, repeats, and expenses per delivery. To achieve this success, a prominent player in the Indian quick commerce industry has implemented three innovative strategies that have transformed their operations.

- **1. Focused delivery hours by limiting morning deliveries:** This approach has allowed them to reduce staffing and transportation costs while eliminating the need for multiple centers.
- 2. Strategically positioned next-morning delivery as an exclusive perk: They are optimizing their routes more effectively while managing customer expectations. This strategy has proven effective in reducing costs.
- **3. Doorstep milk delivery introduced as an entry point for customers:** This personalized service helps build rapport with customers and encourages them to place more orders while increasing the average order value.

These strategic shifts contribute to increased order value and result in better control over last-mile delivery costs - a significant expense for these businesses.

#### Warehouse Optimization

Efficient management of warehouses plays a vital role in the operations of these companies that handle large quantities of diverse products. Unlike traditional e-commerce, These companies focus on managing fragile and perishable goods requiring precise and quick handling. Any incomplete or damaged shipments can result in customer dissatisfaction and negatively impact future orders.

To ensure smooth operations, businesses need to implement real-time inventory systems. These systems utilize barcode technology and shelves designed for easy scanning to store important information such as product details, pricing, shelf life, and more.

Businesses can automate inventory tracking by implementing a robust warehouse system while synchronizing real-time product availability with customer applications. This seamless automation streamlines processes reduces errors, and enhances overall efficiency – ultimately leading to an improved customer experience.

#### Last Mile Innovation with Drones

To address the increasing need for efficient last mile delivery, businesses are exploring drone solutions to overcome traffic, sustainability, and traditional constraints. One key obstacle in this endeavour is route planning.

However, innovation has led to the development of an algorithm known as the "Travelling salesman problem for Unmanned Aerial Vehicles" or "TSP for UAV", which optimizes routes specifically for drones. When it comes to quick commerce, two primary strategies involving drones have emerged:

#### 1. Flying Sidekick TSP (FSTSP)

involves using ground vehicles for route optimization followed by drone deliveries. The aim is to reduce both costs and delivery time.

#### 2. Parallel Drone Scheduling TSP (PDSTSP)

involves trucks and drones working autonomously to optimize routes and enhance efficiency. This approach provides a glimpse into the future of logistics driven by technology.

These advancements in drone technology hold great promise for revolutionizing last mile delivery operations and paving the way towards a more streamlined and tech-savvy logistics industry.

#### The Power Of A Connected Enterprise

To overcome the challenges faced in the final stage of delivery, businesses must adopt a connected enterprise approach that brings together people, processes, technology, and systems to form value networks. This approach not only improves efficiency but also stimulates innovation and future-proofs organizations. Implementing this model goes beyond breaking down silos; it involves optimizing operations and strategically integrating technology.

- By implementing a unified order management system that provides a comprehensive overview of inventory and integrates with warehousing and logistics processes, businesses can achieve an end-to-end solution that enhances efficiency and customer satisfaction.
- 2. Utilizing advanced technologies such as artificial intelligence (AI) and automation can further optimize last mile delivery by predicting demand patterns, optimizing routes, and improving overall efficiency.
- 3. A connected enterprise also enables organizations to gain valuable insights into customer behavior, empowering them to make data-driven decisions while delivering personalized experiences and fostering innovation.

The impact of last mile delivery on customer experience and the success of quick commerce drives the adoption of a connected enterprise. By embracing this approach, businesses can significantly reduce costs, improve operational efficiency, and deliver exceptional customer value.

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# Maximizing Straight Through Processing

With Intelligent Automation At Scale



**Shrikant Deo** Director, Product Management, EdgeVerve



#### Summary

A piecemeal approach to automation has been doing more harm than good when it comes to ROI from digital transformation. In the AI era, companies need a new approach that can tie together their tech investments to transform end-to-end user journeys. Read this article to understand what this approach can be and the magnitude of benefits it can deliver.

Imagine having a Star Wars lightsaber - a device that can cut, melt, and burn virtually anything and gives you the status symbol of space-age coolness. But instead of using it to its full power, you just use it as a torch. That's what businesses are doing with automation. Their piecemeal and short-sighted approach to automation is curtailing its potential.

Merely replacing repetitive manual work, automating a singular function in the business, or patching issues as they appear is doing more harm than good. Automation siloes prevent the free flow of information and insights across the enterprise and become roadblocks to digital transformation.

What if enterprises approached automation differently? What if they could increase the scale and scope of automation and leverage it to maximize straight through processing (STP) and augment human potential?



#### Reaping The Benefits Of Scale, Scope, And Augmentation

Taking a holistic and well-thought-through approach to automation can unlock exponential gains. For instance, a U.S.-based healthcare insurer expanded the scope of automation to increase ROI. They served a large customer base of ~ 39 million people, and complex business processes led to inefficient customer service. While they had some automation in place, a siloed approach limited the scope and resulted in sub-optimal ROI. As only a patchwork of small tasks were automated, their operations still needed heavy manual intervention to stitch the tasks together and complete the process.

They revisited their automation program and moved the focus away from task-level automation to look at end-to-end operational processes. They identified opportunities for optimization and automation with process discovery and leveraged the insights to automate entire processes (not individual tasks).

Process orchestration along with a low-code/no-code (LCNC) platform helped them achieve STP and even augment the minimum human intervention needed. They automated 80+ processes across several portfolios with cross-functional bots to expand the scope of automation.

This new approach helped them clear a backlog of 70,000 records with <3% errors in claims processing and led to a 7% productivity improvement. Saving the bandwidth of over 170 full-time employees led to a potential annual savings of USD 6 Mn. The visible increase in automation ROI was incentive enough for the company to quickly roll out a similar program across six business areas deploying 120 cross-functional bots for 5000 users. In addition to scope, increasing the scale of automation also has transformative outcomes.

For instance, a large Australian bank increased the scale of automation by identifying and prioritizing the right processes. They leveraged process intelligence to gather granular process insights and create powerful automation blueprints. The result? 80% faster and 60% better process understanding to improve automation outcomes.

And finally, a cohesive approach to automation can go a long way in augmenting the workforce potential. For instance, a large U.S. telecom company improved customer experience by unearthing workforce insights and fixing the gaps in performance to augment agent productivity by 20%. However, driving scale, scope, and automation requires AI-driven automation maturity, multi-dimensional insights, and holistic process execution via centrally managed automation journeys. And this is where most organizations fail.



#### Why Automation Isn't Delivering The Power-Up Businesses Expect

One of the core challenges businesses face in realizing automation ROI is the inability to tap into automation ideas across Lines of Businesses (LOBs). It's like having a ton of ideas for a Netflix binge but getting stuck with the wrong recommendation engine. The result? Departments operate in silos, with a myopic view of automation, missing out on the broader spectrum of possibilities.

Another stumbling block is the **lack of automation maturity**. Businesses find themselves on the starting line, struggling to understand where to begin, how to prioritize, and what to automate. It's like planning a road trip with no map, no GPS, and multiple destinations. The journey becomes riddled with detours, missed turns, inefficient routes, spiraling costs, and expanding timelines.

Then there's the issue of **automating sub-optimal**, **broken**, **and complex processes**. It's like slapping a high-tech band-aid on a broken leg – it doesn't solve the problem and often makes it worse. Task-level automations create more siloes and insights locked away in unstructured and complex documents and processes result in disjointed workflows leading to automation failures and fallouts. Adding to the complexity, businesses must deal with **linearly increasing infrastructure and workforce costs and cumbersome management** of sub-optimally working automation, infrastructure, and bots. This leads to poor coverage and hinders the scale of automation programs. A less visible but equally debilitating issue is the **limited visibility into hybrid workforce productivity**. Without clear visibility into employee operations, companies are hard-pressed to empower them with the right insights and productivity tools.

#### Hitting The Automation Jackpot With STP

To maximize straight through processing across their operations, businesses must embrace a mature strategy that overcomes the challenges to scale, scope, and augmentation.

#### 1. Increasing the scale of automation:

An automation scaling strategy begins with process intelligence for process discovery, prioritization, optimization, and automation. Simply put, it's about finding out the 'who,' 'what,' 'where,' and 'how' before sending in the automation troops. And then, it's about automating your automation journey. Yes, you heard that right. Automate everything from process discovery to bot scaling, creation, migration, validation, deployment, self-healing, and central monitoring. Automated bot scaling, planning, and management will help superfast expansion while reducing the total cost of ownership. In addition, reducing infra overheads, leveraging flexible deployment and one-click migration, and SaaS-based models can help you scale economically. And finally, and most importantly, connect the dots to achieve straight through processing. Move away from task-level automation to look at the entire process to see how you can cohesively streamline and digitize it. Process orchestration and LCNC platforms are essential to achieve highly automated processes with minimal (and augmented) human intervention.

#### 2. Increasing the scope of automation:

The same process may have hundreds of tiny variations across the enterprise depending on how the people perform the required tasks. Manually understanding all these variations is expensive, time-consuming, and often inaccurate. Your automation strategy should include a provision for automated process analysis to get multi-dimensional insights from across the business and create optimal process maps. This also helps reduce the automation footprint, expand automation coverage with cross-functional bots, and improve the effectiveness of processes, bots, and machines.

#### 3. Augmenting human capabilities

Automation's objective should be to augment human capabilities. Planning for smooth workflow integration creates synergies between digital bots and human workers that aid decision-making and performance. In addition, discovering work insights with task mining can highlight productivity gaps that can be plugged with automation, intelligent guided support with generative A.I. models, and workforce training. Finally, empower users to automate personal bots with minimal setup, democratizing automation. It's like offering everyone their personal A.I. assistant, a real-life Jarvis, if you will, running independently on their machines

The time for a piecemeal approach to automation has passed. An era of warp-speed digitalization requires an approach to automation that can keep up with the new business demands. Companies that are able to embrace a connected approach to automation will reap significant benefits in the coming years.

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### From Siloed Operations to Profitable Network Orchestration

A Journey Through Supply Chain Maturity Stages



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#### Summary

As supply chain visibility increases, businesses are seeing the value of streamlining their delivery and logistics procedures to maintain their competitiveness. There are five stages of logistics maturity, with stage five being the most advanced, according to Gartner's maturity curve, when logistics and the rest of the supply chain collaborate to take advantage of untapped commercial opportunities. However, due to difficulties connecting participants across the value chain and gaining access to decision-grade data, many businesses are still mired in earlier stages. These issues can be resolved by switching from an app-to-app architecture to an open platform architecture, which enables companies to make quick, profitable decisions, carry them out smoothly, and learn from them.

Supply chains are becoming more complicated as the globe gets more interconnected, with several parties taking part in the creation, delivery, and distribution of goods and services. Businesses must improve their delivery and logistics procedures to be competitive, which calls for increased transparency, teamwork, and integration throughout the whole value chain. However, many organizations are struggling to optimize their supply chain due to a lack of integration, standardization, and visibility.

This paper discusses the five stages of logistics maturity as per Gartner's maturity curve and highlights the challenges organizations face in attaining stages four and five.

The paper proposes a solution to these challenges, which is to move from an app-to-app architecture to an open platform architecture. The open platform architecture will enable businesses to make better decisions, build alignment within and outside the company, and act quickly and profitably in the right direction.



#### The Key Stages Of Logistics Maturity

The Five Stages of Logistics Maturity: Gartner's Logistics Maturity Curve outlines the five stages of logistics maturity that businesses go through as they develop their logistics capabilities. These stages are:

- 1. **React -** Siloed Autonomous Operations
- 2. Anticipate Functional Scale and Efficiency
- 3. Integrate Integrate the Supply Chain functions
- 4. **Collaborate** Work jointly with others in the Value Chain
- 5. Orchestrate Network Orchestrator of Profitable Customer Value

At the React stage, businesses have autonomous departments driving logistics priorities via manual processes and disconnected systems, leading to little coordination and cross-department standardization. At the Anticipate stage, centralization of the logistics function improves efficiency and productivity, with a focus on creating standardized processes and methods to benefit from economies of scale. The Integrate stage sees a focus on integrating the logistics function into the overall supply chain, considering how logistics will affect customer service, procurement, and manufacturing. At the Collaborate stage, logistics is an integrated part of a shared supply chain management vision, with collaboration and visibility with suppliers and customers. The Orchestrate stage sees logistics and the rest of the supply chain facilitating processes across an ecosystem of partners to capitalize on unexploited business opportunities, enabling broader visibility and timely, fact-based decisions.

#### **But There Are Challenges In Attaining Maturity**

The ability to acquire decision-grade data is one of the main obstacles to achieving stages four and five. Fundamental issues with the data are its accuracy, harmonization, and correlation. The legacy "point-to-point" architecture's data is segregated, latent, unconnected, and out of harmony. Each link in the value chain has a unique system or application, which increases complexity. People think they must alter all the apps from a technology/IT standpoint, making change slower and connecting players throughout the value chain even more difficult.

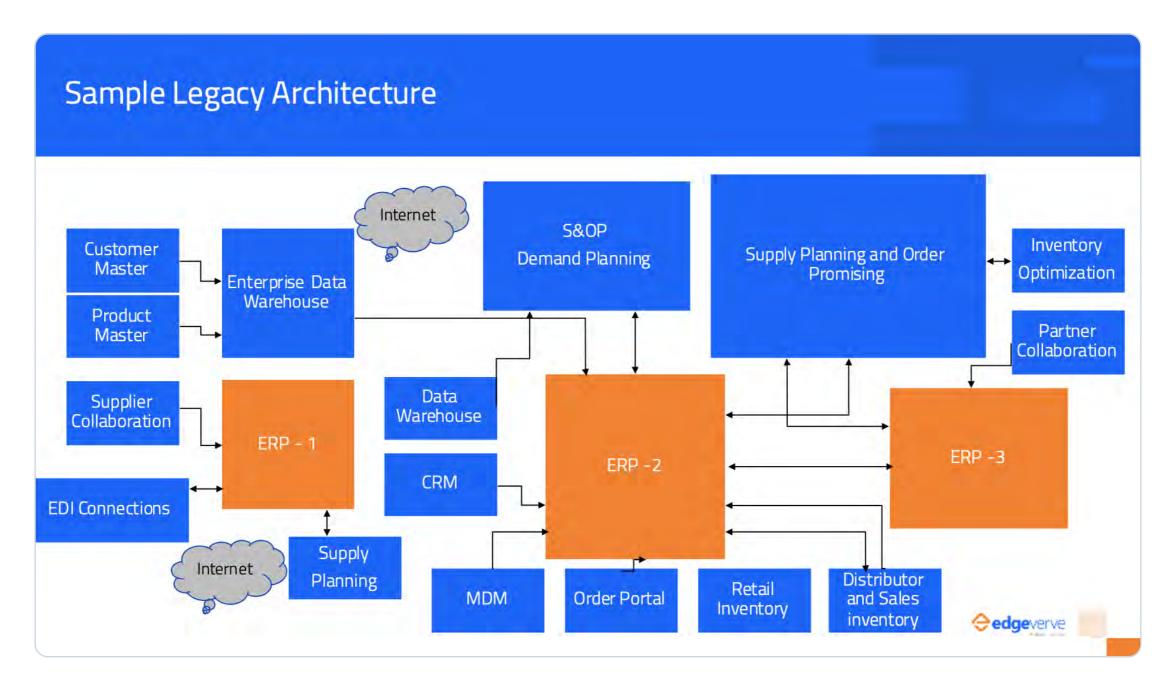


Figure 1: Representative Legacy Architecture for Supply Chain Systems

#### **The Real Solution**

By switching from an app-to-app architecture to an open platform architecture, this problem can be solved. Businesses will be able to make decisions quickly, create alignment both within and outside the organization, and act quickly and profitably in the right direction as a result.

The open platform architecture refers to a framework that facilitates seamless integration, collaboration, and data sharing among various stakeholders and technologies engaged in the supply chain. It encourages the interoperability and connectivity of various systems, including ERP, CRM, WMS, TMS, and third-party solutions, enabling them to communicate and share data in real time.

An open platform architecture improves visibility, decision-making, and collaboration across the supply chain ecosystem by eliminating data silos and enabling bidirectional data flow. It gives organizations the freedom to scale up and customize their systems, promotes innovation through outside collaborations, and equips them with the tools they need to run more effectively, respond to change, and improve supply chain efficiency. Businesses should concentrate on visibility, correlation, and execution, three vital areas, to do this, as each is essential to gaining the advantages of an open platform design.

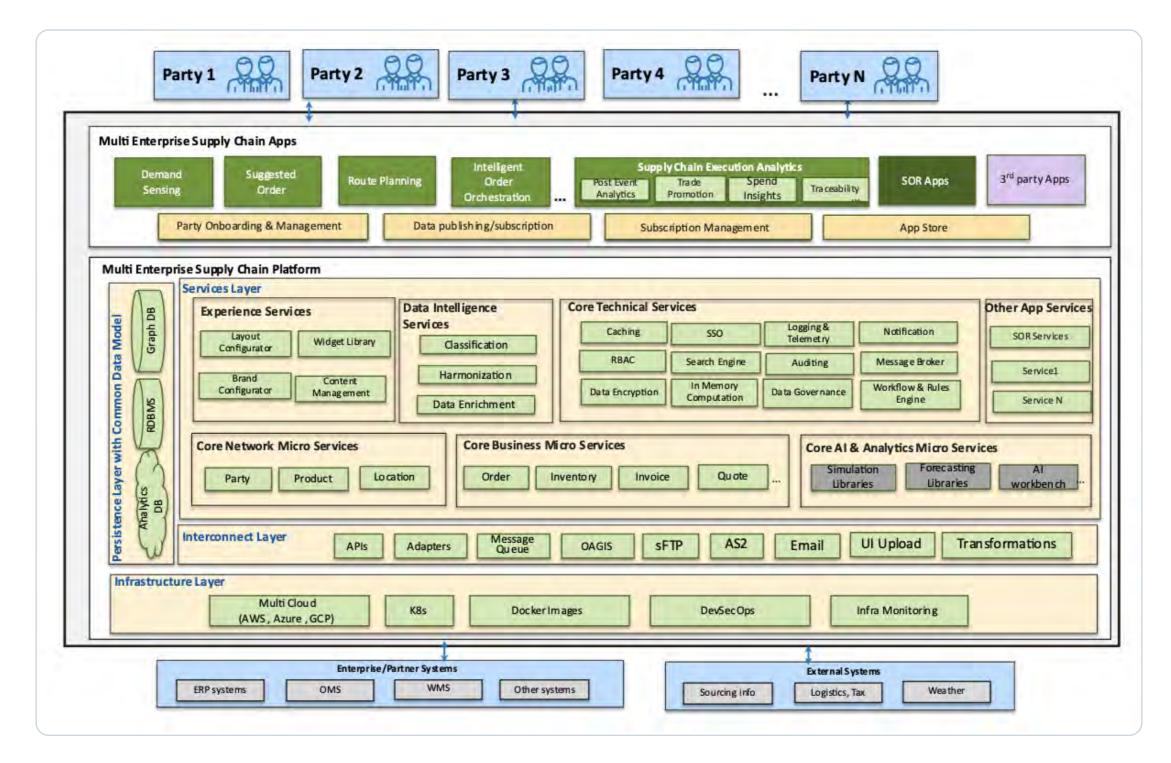


Figure 2: TradeEdge Open platform Architecture

#### 1. Visibility

An open platform design allows for more visibility across the ecosystem, reaching various players including contract manufacturers, suppliers, logistics service providers, and buyers and sellers via many channels. Clarity within the data involves being able to distinguish between important insights and noise. Data must be accessible across the ecosystem, bidirectional, and without any lag. To ensure that participants may access and contribute to the data at their respective points in the supply chain, open platforms use extremely flexible through adaptable connectivity options. Techniques for transforming data also reduce the need for significant changes to participants' underlying systems, allowing for seamless integration. Effective data visualization at the right granularity and frequency levels increases visibility and facilitates decision-making.

#### 2. Correlation

Correlating various data sources is a crucial aspect of an open platform architecture. Businesses may analyze and comprehend the cause-and-effect correlations between multiple data points by utilizing the ecosystem's interconnectedness. For instance, comparing sales data to inventory levels and manufacturing plans can reveal how choices affect business operations. Using analytics tools, these connections may be visualized, enabling companies to spot trends, bottlenecks, and chances for improvement. An open platform architecture makes it possible to integrate and correlate data from many systems, giving rise to a comprehensive picture of the dynamics of the supply chain.

3. Execution

Achieving successful execution requires not just understanding the data but also successfully using it. The idea of network apps, which run over-the-top (OTT) on a shared data model, is provided by open platform designs. These applications serve as mediators, permitting multi-party transactions without bias and guaranteeing execution that is both fair and effective. Businesses may execute tasks, make decisions, and learn from the results in a collaborative way by utilizing network apps. This strategy encourages the ecosystem to be agile, adaptable, and innovative because network apps can be created by outside partners by utilizing their knowledge and solutions.

In summary, an open platform design helps firms overcome obstacles in the supply chain environment by enhancing visibility, enabling data correlation, and empowering efficient execution. By providing highly flexible and adaptable connectivity options, facilitating seamless data transformation, and supplying data visualization capabilities, this architecture incorporates participants in a non-intrusive way. Network apps that use a common data model (CDM) which improves performance by serving as impartial brokers for multi-party transactions. Businesses may unleash the full potential of their supply chain ecosystem and get better results by embracing the principles of openness.

A strong tool like TradeEdge Network can assist companies in achieving these objectives. TradeEdge Network can provide companies with the tools and resources they need to improve their supply chain.

#### The Key Business Outcomes Delivered

Adopting an open platform architecture will enable businesses to take decisions quickly, build alignment within and outside the company, and act quickly and profitably in the right direction. This will lead to the following business outcomes:

- 1. Enhanced effectiveness and output
- 2. Better client service and encounter
- 3. Cost savings and increased profitability
- 4. Improved risk mitigation and management
- 5. Increased collaboration and supply chain visibility
- 6. Greater market share and expansion possibilities

To maintain a competitive edge, it is crucial to optimize the logistics and delivery procedures as supply chains get more intricate. However, a lack of connection, standardization, and visibility makes it difficult for many organizations to optimize their supply chain. Businesses may be able to make choices rapidly, create alignment both inside and outside the organization, and respond quickly and profitably by moving towards an open platform design.

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