

AIRBUS

Transforming Supply Chain Management with C3 Generative AI

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Introduction

Human expertise, intuition, and spreadsheets have long dominated project management. However, the rise of generative artificial intelligence (AI) is rapidly transforming this landscape, injecting a new wave of automation, optimisation, and predictive power into the project realm. This proposal delves into evaluating and comparing the capabilities and weaknesses of C3 Gen AI, Pactum, and OpenAI within the context of applications in artificial intelligence and business solutions. Our next section involves selecting the best generative AI from the benchmarked tools to explore a solution proposal and demonstrate the implementation of the proposed solution in a few selected case studies. The ideal future of project management lies in a synergistic collaboration between humans and AI, where human intuition and strategic thinking guide the overall direction. At the same time, AI handles the heavy lifting of data analysis, optimisation, and task execution.

Analysis: Benchmarking OpenAI, C3 Generative AI, and Pactum for Effective Project Management

The potential added value of three AI-powered project management tools, OpenAI, C3 Gen AI, and Pactum, is examined through a comparative benchmark; we aim to identify the tool with the most significant benefits for managing projects successfully.

Evaluation Criteria: We assessed each tool based on the following criteria:

- Project Planning and Scheduling: Ability to assist with creating project plans, setting milestones, and allocating resources.
- Risk Management: Capability to identify potential risks, assess their impact, and suggest mitigation strategies.
- Team Collaboration and Communication: Features for facilitating communication, task assignment, and team progress tracking.
- Data Analysis and Reporting: Tools for providing insights into project performance, identifying trends, and generating reports.
- Budget Management and Cost Control: Features for monitoring expenses, forecasting costs, and optimising resource allocation.
- User Interface and Usability: Ease of use, intuitiveness, and overall user experience.
- Data Collection: Information was gathered through product brochures, online reviews, case studies, and direct interaction with the tools through free trials or demos.

Observations:

Tool: OpenAI

Strengths: Highly advanced natural language processing capabilities, ability to learn and adapt over time, potential for automating routine tasks.

Weaknesses: Limited project management-specific features, requires significant technical expertise, and high cost.

Tool: C3 Gen AI:

Strengths: Strong focus on risk management and mitigation, integrated AI-powered forecasting tools, comprehensive project dashboard with a customisable feature on request.

Weaknesses: The user interface can overwhelm beginners, and the pricing structure is unclear.

Tool: Pactum

Strengths: Excellent team collaboration and communication features, intuitive interface, built-in budget tracking and reporting tools.

Weaknesses: Risk management and analytics capabilities are less advanced than C3 Gen AI, with limited integrations with external tools.

Solution Proposal:

Building a resilient, predictive and efficient supply chain increases the success rate of any project while reducing costs and risks of failure. In a growing project management industry, efficient supply chain management is crucial for companies and their projects to preserve their competitive edge. Traditional approaches, however, have limits in managing the extensive web of suppliers, logistics, production and maintenance procedures. Optimised supply chain management brings life to any undertaken project where there is the need for the right parts or systems to assemble or produce a competitive product or deliver a service. It ensures necessary maintenance to improve the shelf life of a product or service and provides the timely delivery of highly demanded quality products and services.

C3 Gen AI is proposed as the base model of our revolutionary AI solution for any project's supply chain management, unleashing unparalleled levels of visibility, agility, and resilience.

Challenges: Project Execution Challenges with Supply Chain Shortfalls.

Supply chain shortfalls can pose significant challenges to project execution, causing delays, cost overruns, and even project failure. Here are some key areas where these shortfalls can create problems:

1. Material Shortages:

- *Delayed Project Timelines:* When essential materials are unavailable as needed, construction or production processes come to a standstill, causing significant delays in project timelines.
- *Increased Costs:* Scarcity often results in inflated prices, leading to higher procurement expenses and impacting overall project budgets.
- *Quality Compromises:* In critical situations, project managers may have to accept subpar materials or substitute alternatives, potentially compromising the quality and performance of the project.

2. Logistics Bottlenecks:

- *Delivery Delays:* Transportation delays, port congestion, or limited shipping capacity can hinder the timely arrival of materials at the project site, causing disruptions and necessitating rework.
- *Storage and Handling Issues:* Insufficient storage space or inadequate handling facilities can result in material damage, leading to waste and additional costs.
- *Increased Reliance on Unreliable Partners:* Project teams may opt for less established logistics providers to navigate bottlenecks, introducing uncertainty and risk to the supply chain.

- 3. Limited Visibility and Collaboration:

- *Poor Communication:* Inaccuracies or delays in information sharing among suppliers, manufacturers, and project teams can lead to misinterpretations and missed deadlines.
- *Lack of Real-time Data:* The absence of real-time data on inventory levels, transportation movements, and potential disruptions makes proactive decision-making challenging.
- *Fragmented Supply Chain:* Complex supply chains with numerous stakeholders can make tracking material flows challenging and identify bottlenecks or issues early in the process.

C3 Gen AI for Airbus Supply Chain Management:

a. Identify the Generative AI

C3 Gen AI SC can be a game-changer in addressing the challenges caused by supply chain shortfalls in project execution. Its suite of AI-powered solutions directly tackles many of the aforementioned issues, helping project teams gain visibility, adaptability, and resilience in the face of uncertainty. C3 AI SC uses thousands of pre-built conceptual models that can be easily modified or extended to enable computing resources and services (database, stream processing, storage, etc.), business objects (customer, order, contract, etc.), and others that an application requires to operate.

C3 AI SC can be modified to enable Inventory Optimisation to dynamically optimise inventory levels across all levels of any project's supply chain network. As a cloud platform, it can have a database to be accessed by both authorised internal and external users in the supply chain network. For example, Company A has a chain of 500 suppliers but struggles to efficiently optimise its supply chain to execute a project due to the high number of suppliers and Company A's limited resources to interact with its suppliers efficiently. The C3 Gen AI would have a shared data database from Company A and the 500 suppliers. This will enable easy access to managing information and interaction with these suppliers with just a prompt and a response.

Using this model-driven approach, the C3 AI Generative AI Supply Chain Suite will be able to rapidly load data, identify data issues, and resolve those issues through quick iterations. The platform can develop an algorithm that dynamically optimises reorder parameter levels (e.g., safety level, safety time) while avoiding parts out of stock.

Using predictive models that learn and adjust continuously by monitoring real-time manufacturing, inventory, and supplier data from internal and external sources increases the probability of accurate, predictive results to enhance supply chain optimisation for both Company A and the 500 suppliers, resulting in enhanced organisational efficiency, improved customer satisfaction, and increased operating performance.

b. Setting up the C3 GEN AI Supply Chain Suite Database

C3 GEN AI Supply Chain Suite can be chosen to be a virtual replica and a real-time parallel version of an organisation's supply chain network's physical supply chain containing thousands of assets at their inventory warehouses and logistics centres. By deploying a supply chain database, an organisation and their supply chain network

gain unprecedented visibility, and therefore predictability and control, into its distributed and interconnected supply chain networks.

The primary purpose of setting up this supply chain database is to leverage the capabilities of AI, particularly those provided by the C3 GEN AI Supply Chain Suite platform.

C3, when integrated with the supply chain database, will be capable of responding to prompts or queries related to the supply chain. This could involve answering questions, providing insights, or offering predictions based on the data within the supply chain database.

This integration is also expected to assist in features such as predictive analytics, real-time insights, and decision support to enhance the efficiency and effectiveness of project management processes organisations and their supply chain network.

c. Sign up authorised users on C3 GEN AI Supply Chain Suite.

Only designated users are created to access a database within an organisation and their supply chain network. For example, when Company A would have selected persons with clarified access to the database to ensure strict security of access data. A supplier would also have designated users to access the inventory data of company A and would not be able to access other suppliers' inventory databases from the platform.

d. Prompt features for C3 GEN AI Supply Chain Suite.

Six critical capabilities differentiate C3 GEN AI Supply Chain Suite, making it the only generative AI solution businesses and their users can rely on to get consistent, trusted, and secure answers to all their business questions.

1. Consistent Answers

C3 Generative AI SC for supply chain management accesses an organisation's entire supply chain database sourced from sensors, IoT devices, CAD models, and other sources to simulate, monitor, analyse, and predict the behaviour and performance of their physical stocks in their warehouses.

To produce deterministic, traceable, accurate answers, C3 Generative AI SC doesn't rely on the Large Language Model (LLM) to come up with the answer. Instead, the LLM delivers the query to a different system (a retrieval model connected to a vector store) to understand which data sources are the most

relevant. With this method, the answers generated always come from the best sources in the system at that given moment, ensuring answers that an enterprise user can trust.

2. Full Traceability

C3 GEN AI Supply Chain Suite would be able to track and provide information about the datasets they're relying on to generate answers. They are designed to do so, making it possible to check any claim's veracity.

It is a level-zero requirement that any generative AI solution for the enterprise always indicates where its answers come from. It would synthesise an answer and provide a chat interface so the user can dive deeper with follow-up questions — and the dashboard needs to provide instant traceability.

3. Full Access Controls

C3 GEN AI Supply Chain Suite enterprise solution would provide rigorous access controls to ensure each user gets fast and accurate answers while maintaining security and data confidentiality for an entire organisation and their supply chain network. C3 Generative AI SC manages access via a comprehensive role-and-policy-based framework built into the underlying C3 AI SC Platform.

4. Protection From LLM-Caused Leakage of Proprietary Information

With the C3 GEN AI Supply Chain Suite solution, the deep learning models that derive answers do so on the other side of a firewall built into the C3 AI SC Platform. As such, all queries—along with all processing and data analysis—happen within your enterprise systems without connection to the internet. The result is zero risk of IP or data exfiltration by the LLM.

5. Free of Hallucination

C3 GEN AI Supply Chain Suite system for an organisation and their supply chain network would tell a user when it doesn't know an answer instead of generating an answer strictly because that's what it's trained to do. C3 Generative AI SC only provides an answer when it's certain the answer is correct. If it can't find an answer, it tells you so—deterministic answers. No hallucination.

6. LLM Agnostic

Importantly, the C3 GEN AI Supply Chain Suite is LLM agnostic. That means C3 AI can use whichever LLM is best suited for a particular customer or industry, and we can take advantage of the rapid innovation in LLM development. C3 AI supports Azure GPT-3.5, Google PaLM 2, AWS Bedrock Claude 2, AWS Bedrock Titan, C3 AI Fine Tuned Falcon-40B, C3 AI Fine Tuned Llama 2, and C3 AI Fine Tuned FLAN T5.

Benefits for Project Management:

C3 GEN AI Supply Chain Suite capabilities in artificial intelligence (AI) can offer several benefits to project management. Here are some ways in which C3.ai can contribute to enhancing the supply chain project management process:

1. Enhanced Visibility and collaboration:

- Unified Knowledge Graph: Integrates data from various sources, including suppliers, logistics providers, and project management tools, creating a single, holistic view of the supply chain. This enables real-time tracking of materials, shipments, and potential disruptions.
- Predictive Analytics: Analyses historical data and external factors to anticipate material shortages, delays, and other risks, allowing proactive intervention and mitigation strategies.
- Break down information silos: C3 GEN AI SC shatters communication barriers with AI-powered dashboards and reports. Project and supply chain stakeholders have instant access to critical data, fostering collaboration and agile decision-making.

2. Material Shortages:

- Say goodbye to blind spots: C3 GEN AI Supply Chain Suite's predictive analytics anticipate potential shortages before they materialise. Imagine being alerted to dwindling stockpiles of crucial materials weeks in advance, allowing you to proactively secure alternatives or negotiate with suppliers.
- Embrace the power of "what-if": C3 GEN AI Supply Chain Suite's generative capabilities go beyond mere prediction. Explore virtual scenarios, such as substituting materials or adjusting designs, to identify the most impactful and cost-effective solutions before a shortage hits.

3. Logistics Bottlenecks:

- Transform data into actionable insights: C3 GEN AI Supply Chain Suite's unified knowledge graph weaves together logistics data from every corner of your network. With real-time visibility into transportation movements, storage capacities, and potential disruptions, you can optimise routes, avoid bottlenecks, and ensure smoother material flow.
- Automate and streamline: Let C3 GEN AI Supply Chain Suite handle the legwork. Automate routine tasks like shipment booking, warehouse management, and route optimisation, allowing your team to focus on strategic decisions and proactive risk mitigation.

Conclusion

Optimising project management through a resilient, efficient, and predictive supply chain is paramount in today's competitive landscape. A company can easily consolidate its supply chain needs with a single prompt and for a shorter lead time to input supply requests on demand. Suppliers can be better positioned with predictive insights to prospective demand for inputs to deliver in a timely manner. This is where C3 GEN AI Supply Chain Suite, a revolutionary AI solution, emerges as a game-changer. This proposal lays the groundwork for implementing the C3 GEN AI Supply Chain Suite within an organisation's supply chain network.

By unlocking unprecedented visibility, adaptability, and resilience, the C3 GEN AI Supply Chain Suite empowers project managers to overcome supply chain shortfalls and achieve unparalleled success. Its comprehensive capabilities address critical challenges like material shortages, logistics bottlenecks, and limited collaboration, offering tangible benefits.

More than just a powerful tool, the C3 GEN AI Supply Chain Suite represents a paradigm shift in project management. Integrating seamlessly with internal and external data sources, including your vast supplier network and IoT warehouse sensors, creates a dynamic hub for continuous learning and improvement. C3 GEN AI Supply Chain Suite's commitment to security, data privacy, and LLM agnosticism ensures your information remains secure and your choices are unconstrained.

Investing in a C3 GEN AI Supply Chain Suite solution is an investment in your future. It's a commitment to exceeding project expectations, fostering stronger supplier relationships, and achieving operational excellence. Building a future-proof supply chain is not a single step but a journey.

Problem Identified

Based on current news articles and the annual reports by Airbus, we have realised that supply chain inefficiencies have been identified. This has caused a large number of backlogs and increased downtimes due to parts not being readily available for maintenance, potentially causing businesses to be affected.

Case Studies

Multiple case studies state the current issues with the supply chain.

Firstly, according to the 2022 Airbus Annual Report for Investors, it has stated that there is a backlog of 7,239 aircraft (which will roughly take 9.2 years to clear at the 2019 Pre-Pandemic Level). Also, in 2019, Airbus had a record-breaking 863 shipments. However, in the first seven months of 2023, Airbus only delivered 381 aircraft. It has been stated that it will take up to 2025 to get the delivery numbers up to 2019 levels. This clearly says they are lagging behind deliveries due to current supply chain issues. Airbus also mentioned that there will be supply chain issues which will potentially hamper them till the end of 2023 in products such as components, labour, semiconductors and even seats—coupled with a lack of skilled labourers and sanctions applied due to current geopolitical situations such as the Ukraine-Russia War which are hampering efforts to get raw materials such as titanium.

Airbus has also been setting ambitious targets to increase aircraft production of their different products to reduce the backlog of numbers and create quicker delivery times for their customers (airlines). It was stated in their 2022 Airbus Annual Report that Airbus wanted to increase the production capacity of the A350s to 9 by 2025 to 6 currently. For this increase to happen, an efficient supply chain network will ensure no backlog in the parts needed when the aircraft is being produced.

Another example is Airbus Helicopters, which stated that they had to purchase past aircraft to look for parts that are needed for maintenance for out-of-production helicopter models. This says that there is a scramble for parts for maintenance crews to figure out how to increase production, and they had to individually source for suppliers for critical parts to restore normalcy as soon as possible.

Related to maintenance, Pratt & Whitney had to recently announced they would have to pull out up to 600 aircrafts between 2023-2026 for lengthy engine inspections. This is due to a problematic piece of powder metal, which has caused significant issues for airlines. This will result in potential downtime for many of the A320neo aircraft, which are affected by the engine issues. This will also potentially be an issue for supply chain management because there will be a need for replacement parts for engines

already out there on top of new manufactured orders. This will cause a backlog for the specific part needed and may result in longer maintenance and production backlogs.

All these articles clearly show that the supply chain has been severely hampering production and maintenance, significantly increasing downtime for airlines, which is harmful to their business. Thus, to counter these issues, we propose a generative AI tool which will help transform supply chain management for Airbus and their suppliers to ease the management of projects.

Implementation Strategy of the proposed solution to Airbus Case Studies:

a. Adopt the C3 GEN AI for Airbus and their suppliers

C3 Gen AI SC is a game-changer in addressing the challenges caused by supply chain shortfalls in project execution. Its suite of AI-powered solutions can help Airbus and their suppliers' supply chain project teams gain visibility, adaptability, and resilience in managing the delivery of 7 239 aircraft backlog.

C3 Gen AI Supply Chain Suite can enable Inventory Optimization for Airbus and their suppliers to meet the high demand for aircraft by automating some aspects of their supply chain management with C3 generative AI. Signed up on a cloud platform, Airbus and its suppliers can have a database to be accessed by both authorised internal and external users in the supply chain network. For example, Airbus and their 7,700 suppliers would have a shared database of their inventory levels picked up with installed IOT sensors in their warehouses. This will enable easy access to managing information and interaction with these suppliers with just a prompt and a response.

Using this model-driven approach, the C3 AI Supply Chain Suite will be able to rapidly load inventory-level data with parts specifications, identify data issues, and resolve those issues through quick iterations. The platform can develop an algorithm that dynamically optimises reorder parameter levels (e.g., safety level, safety time) and simultaneously avoids aircraft parts being out of stock or having a long lead time to restock.

Using predictive models that learn and adjust continuously by monitoring real-time manufacturing and inventory of Airbus data from internal sources and their suppliers' external sources increases the probability of accurate, predictive results to enhance supply chain optimisation for both Airbus and their 7,700 suppliers, resulting in enhanced organisational efficiency, improved customer satisfaction, and increased operating performance.

b. Setting up the C3 GEN AI Supply Chain Suite Database

A supply chain network database is chosen as a virtual replica and a real-time parallel [1] version of the Airbus supply chain network's physical supply chain containing thousands of aircraft parts at their inventory warehouses and logistics centres. By deploying a supply chain database, Airbus and its supply chain network gain unprecedented visibility, and therefore predictability and control, into its distributed and interconnected supply chain networks.

The primary purpose of setting up this supply chain database is to leverage the capabilities of AI, particularly those provided by the C3 GEN AI Supply chain suite platform.

C3, when integrated with Airbus and its suppliers' supply chain database, will be capable of responding to prompts or queries related to the supply chain. This could involve answering questions, providing insights, or offering predictions based on the data within the supply chain database.

This integration is also expected to assist in features such as predictive analytics, real-time insights, and decision support to enhance the efficiency and effectiveness of project management processes for Airbus and its supply chain network.

c. Sign up authorised users on C3 GEN AI Supply Chain Suite.

Only designated users are created to access a database within Airbus and their supply chain network. For example, Airbus would have selected persons with clarified access to the database to ensure strict security of accessed data. A supplier would also have designated users to access Airbus's inventory data and could not access other suppliers' inventory databases from the platform. Airbus can also reserve the right to approve an enquiry to access data from the C3 Generative AI Supply Chain suite.

d. Prompt features for C3 GEN AI Supply Chain Suite.

Six critical capabilities of C3 Generative AI Supply chain suite for Airbus and their suppliers

1. Consistent Answers

C3 Generative AI Supply chain suite for supply chain management accesses Airbus' and their suppliers' entire supply chain database sourced from sensors, IoT devices, CAD models, and other sources to simulate, monitor, analyse, and predict the behaviour and performance of their physical stocks in their warehouses.

To produce deterministic, traceable, accurate answers, C3 Generative AI SC doesn't rely on the Large Language Model (LLM) to come up with the answer. Instead, the LLM delivers the query to a different system (a retrieval model connected to a vector store) to understand which data sources are the most relevant and the data owners, whether Airbus or the supplier, reserve the right to release a data response on prompt with approval. With this method, the answers generated always come from the best and verified sources in the system at that given moment, ensuring answers that an enterprise user can trust.

2. Full Traceability

The C3 Generative AI Supply chain suite can track and provide information about the datasets and authorisers they rely on to generate answers. They are designed to do so, making it possible to check any claim's veracity as a level zero requirement.

3. Full Access Controls

C3 generative AI Supply chain suite provides rigorous access controls to ensure each user gets fast and accurate answers while maintaining security and data confidentiality for an entire Airbus and their supply chain network. C3 Generative AI SC manages access via a comprehensive role-and-policy-based framework built into the underlying C3 AI SC Platform.

4. Protection From LLM-Caused Leakage of Proprietary Information

With C3 AI SC's solution, the deep learning models that derive answers do so on the other side of a firewall built into the C3 AI SC Platform. As such, all queries—along with all processing and data analysis—happen within Airbus and their suppliers' enterprise systems without connection to the internet. The result is zero risk of IP or data exfiltration by the LLM.

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What are the benefits for Airbus and their suppliers' use of Generative AI in Project Management?

C3.Generative AI Supply Chain Suite capabilities in artificial intelligence (AI) can offer several benefits to project management. Here are some ways in which C3.ai can contribute to enhancing the supply chain project management process for Airbus:

1. Enhanced Visibility and collaboration:

- Unified Knowledge Graph: Integrates data from Airbus' supply chain network, including suppliers, logistics providers, and project management tools, creating a single, holistic view of the supply chain. This enables real-time tracking of materials, shipments, and potential disruptions.
- Predictive Analytics: Analyses historical data and external factors to anticipate material shortages, delays, and other risks, allowing proactive intervention and mitigation strategies.
- Break down information silos: C3 Gen AI SC shatters communication barriers with AI-powered dashboards and reports. Project and supply chain stakeholders have instant access to critical data, fostering collaboration and agile decision-making.

2. Material Shortages:

- Say goodbye to blind spots: C3 Gen AI SC's predictive analytics anticipate potential shortages of aircraft parts for both Airbus and their suppliers' before they materialise. Imagine being alerted to dwindling stockpiles of crucial materials weeks in advance, allowing you to proactively secure alternatives or negotiate with suppliers.
- Embrace the power of "what-if": C3 Gen AI Supply Chain Suite generative capabilities go beyond mere prediction. Explore virtual scenarios, such as substituting materials or adjusting designs, to identify the most impactful and cost-effective solutions before a shortage hits.

3. Logistics Bottlenecks:

- Transform data into actionable insights: C3 Gen AI Supply Chain Suite's unified knowledge graph weaves logistics data from every corner of Airbus' supply chain network. With real-time visibility into parts pre-processing, transportation movements, storage capacities, and potential disruptions, you can optimise routes, avoid bottlenecks, and ensure smoother material flow.

- Automate and streamline: Let C3 Gen AI SC handle the legwork. Automate routine tasks like aircraft parts pre-processing, shipment booking, warehouse management, and route optimisation, freeing up Airbus' supply chain network to focus on strategic decisions and proactive risk mitigation.

Overall Risks for using Generative AI

However, with generative AI still being developed, there are still multiple risks involved in the usage of generative AI to solve supply chain inefficiencies.

1. Data Quality and Integration:

Success with generative AI depends on the quality of input data. Ensuring data accuracy, completeness, and integration from various sources can be challenging.

In modern supply chain management, the integration of generative artificial intelligence (AI) has the potential to revolutionise how businesses operate. By utilising generative AI, companies can automate supply chain processes, predict future trends, and improve decision-making. However, the use of generative AI also poses a significant risk to the quality and integration of data.

Generative AI involves the creation of new data based on existing datasets. While this can improve efficiency and accuracy, it can also result in inconsistencies and errors if not correctly validated and integrated. For instance, generative AI can create false patterns and correlations, leading to biased and incorrect predictions. Furthermore, using multiple AI models and algorithms in the supply chain can result in data fragmentation and duplication, making it difficult to ensure a single source of truth.

Understanding the risks and benefits of using generative AI in supply chain management and implementing robust data quality and integration processes to mitigate potential risks is essential. By doing so, businesses can leverage AI's power without compromising the quality and integrity of their data.

2. Algorithmic Bias

Numerous AI systems now offer algorithmic recommendations for suppliers. However, these systems, trained on historical data and past decisions, may inadvertently incorporate biases, including those against marginalised suppliers. Failing to address these biases in the data adequately can result in AI perpetuating or intensifying them, potentially causing unjust outcomes and posing a risk of legal liability. The biased suggestions from the AI system can potentially disadvantage specific suppliers based on factors unrelated to their capabilities or qualifications, contributing to unfair or discriminatory outcomes.

3. Implementation Costs:

Initial implementation of C3 Gen AI involves significant upfront costs, encompassing expenditures on technology infrastructure, comprehensive training programs, and seamless integration into existing

systems. These upfront costs are crucial to unlock the full potential of the AI platform and ensure a smooth transition towards enhanced operational efficiency and data-driven decision-making.

4. Change Management:

Introducing AI-driven processes necessitates a strategic approach to change management, as it often involves organisational shifts and cultural adjustments. Successfully navigating these changes requires effective communication, stakeholder engagement, and proactive measures to address potential resistance, ensuring a smooth integration of AI technologies into existing workflows and fostering a culture that embraces innovation.

5. Ethical and Regulatory Considerations:

There are multiple ethical and regulatory considerations which need to be taken into account. The first would be data privacy. The effective use of generative AI is best when large amounts of data can potentially include sensitive data such as supplier details and financial records. This can be an issue if there is an unauthorised data breach from either external parties (hackers) or malicious insiders, and the leak of information could be detrimental to both parties. This breach of information can be used for purposes beyond the original intent, potentially infringing on individual privacy rights.

Secondly, generative AI must comply with the General Data Protection Regulation (GDPR) to ensure fairness, transparency, and accountability in collecting data from consumers. With some of the strictest privacy laws worldwide, ensuring that the data is well secured and only the required is collected to ensure compliance with the GDPR law will be essential.

Lastly, cyber security risks will be the key to look out for. Companies must watch out for data tampering, model vulnerabilities and adversarial attacks. Data tampering is when the data is manipulated, which causes the model to produce skewed results or incorrect decisions. Model vulnerabilities happen when the AI is vulnerable to hackers, which can cause incorrect functions and skewed results. The adversarial attacks purposefully input skewed information, which can lead to incorrect supply chain decisions being made.