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"Enhancing Stock Management and Order Prioritization for Effective Project Execution at Schneider Electric"

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I. Introduction:

Before I start introducing this thesis, I would like to thank Louis Barbey, Aymeric Roquier, Benoit Murith, Rémi Montreau, Eleonore Achard, Tatiane Souza and Xue Jing for making a lifeful environment where I liked working with and learn a lot. I would also thank the other interns and trainees at Schneider that I met who also showed me different views of the company's department.

A. Schneider Electric in a nutshell

Schneider Electric is a multinational corporation specializing in energy management and automation solutions. With a global presence and a history dating back over 180 years, Schneider Electric has established itself as a leader in its industry. The company operates in various sectors, including energy, buildings, data centers, infrastructure, and industrial processes. Part of the French stock exchange CAC40, Schneider count more than 130 000 employees around the globe within 280 factories, warehouses and offices. The company is divided between different zones and conveniently among the different continents. Here we would focus on the Europe zone where is separated between few zones: BENEDACH (Belgium, Netherlands, Germany, Austria, Switzerland), France, Iberia (Portugal and Spain), Italy, CEE (Central and Eastern Europe countries), Nordics (Sweden, Norway and Finland) and UK & Ireland. Since the war with Ukraine, Schneider cut itself with the Russian office and no longer work with.

At its core, Schneider Electric aims to transform the way people and organizations manage and consume energy. The company offers a wide range of innovative products, solutions, and services designed to optimize energy efficiency, sustainability, and operational performance. From electrical distribution and automation to smart grid technologies and renewable energy solutions, Schneider Electric strives to empower its customers to make the most of their energy resources. More than 1 billion euros are spend each year in Research & Development in order to ensure efficient electric transition.

Schneider Electric's commitment to sustainability is a driving force behind its operations. The company recognizes the urgent need to address climate change and environmental challenges and has incorporated sustainability into its business strategy. Schneider Electric actively promotes the

adoption of clean energy solutions, energy conservation, and carbon reduction initiatives across industries.

With a strong focus on digital transformation, Schneider Electric leverages cutting-edge technologies and data-driven insights to enable smarter and more connected energy management systems. The company embraces the concepts of the Internet of Things (IoT) in the system called EcoStruXure, artificial intelligence, and advanced analytics to optimize energy consumption, enhance operational efficiency, and enable intelligent decision-making.

As a customer-centric organization, Schneider Electric places great emphasis on understanding and meeting the unique needs of its clients. Through collaboration and partnerships, the company works closely with its customers to co-create tailored solutions that drive sustainable growth, improve productivity, and ensure reliable and resilient operations.

Furthermore, Schneider Electric prides itself on its inclusive and diverse culture. With employees from diverse backgrounds and expertise, the company fosters an environment of innovation, collaboration, and empowerment. Schneider Electric values sustainability, ethics, and social responsibility, striving to create a positive impact on the communities in which it operates.

In summary, Schneider Electric is a global leader in energy management and automation, offering innovative solutions to optimize energy consumption, drive sustainability, and enhance operational efficiency. With its focus on digital transformation, customer-centric approach, and commitment to sustainability, Schneider Electric continues to shape the future of energy management, empowering individuals, businesses, and industries to make a meaningful difference in a rapidly changing world.

B. Research objectives and significance

Graduating in 2023 for a master's in production engineering management, my previous professional experiences in global companies tended to work around the Supply Chain. Indeed, I've for example done an internship in Order Management (OM)at Philips for 6 months before coming at Schneider. As I was looking for my graduating internship, I wanted to explore another part of the Supply Chain in a company that have values coinciding with mine. This is the main reasons that pushed me to come in Demand & Supply Planning (DSP) at Rueil-Malmaison, the head-office of Schneider.

DSP was an interesting topic as it focuses more globally and strategically than OM which was more an operation focused work. On the supply chain system, DSP in companies involves the strategic coordination of demand forecasting and supply management activities to ensure the availability of

products or services to meet customer demand. It encompasses forecasting customer demand, optimizing inventory levels, coordinating production, and aligning supply with demand to achieve efficient operations and customer satisfaction.

I chose the topic of stock management and prioritization in company's project because it directly involved my work, but also underline in the company's boundaries between the different departments as we have sometimes different goals. It is interesting to see the range of arbitrary choice in the process of certain projects.

As my missions were explained, I took interest about generalizing the way of the work on this project to see the advantages and limitations of these ways of working in companies of that scale.

C. Scope and limitations

My scope was to monitor the Sales Order (SO) directly related to one the Schneider's project: Grand Paris. This project is aiming to prioritize orders that directly involve urbanization projects that happens in the environment of "Grand Paris" or the Olympic games of 2024. As I took care of monitoring the project, I was making weekly calls where I lead different topics to accentuate and secure the projects. Obviously different departments were involved like Order Management or the SIOP (Sales, Inventory and Operation Planning). The rest of the time was aiming to contact different departments when I needed to investigate the status of different SOs in order to keep track of it. But I still had some limitations of the actions I could take for the demands.

The limitations that I had on my scope is that I can't take direct actions on the arbitration of the resources allocated nor production prioritization. My role was to nudge the teams and synthetize the data altogether but some of my tasks resulted sometimes in "Wait & See". To be precise, products on allocations weren't in the grasp of our team and usually the epicenter of the issues was behind production. Indeed, supplying and transportation since the Covid crisis is sensible and some factories need some years to go back to normal production rate. Escalations were then usually problem solvers and those are points that will be developed later in this thesis. I hadn't also the upper hand on allocations processes nor the Order Management. Indeed, my role was to be the control tower of it. The limitations were mostly influenced of the effectiveness of the main delegations that were discussed in the weekly calls.

II. Literature Review:

A. Overview of demand and supply planning in project-based environments:

As we start the literature review of the concept, here are the base definitions of the principle of **allocation, sales orders, demand & supply, Order management, ERP and MRP**:

Allocation refers to the process of distributing or assigning resources, items, funds, or tasks among different entities, projects, or categories based on specific criteria or rules. The goal of allocation is to ensure fair distribution, efficient utilization, and effective management of the available resources to meet desired objectives or requirements.

In various contexts, allocation can take on different meanings:

Resource Allocation: In project management or operations, resource allocation involves assigning personnel, equipment, time, and budget to different tasks or projects based on priorities and needs. It aims to optimize resource utilization and achieve project goals within constraints.

Asset Allocation: In finance, asset allocation refers to the distribution of investment funds across different asset classes (such as stocks, bonds, real estate, etc.) to achieve a desired risk-return profile that aligns with an investor's goals and risk tolerance.

Cost Allocation: Cost allocation involves distributing shared costs or expenses among different departments, products, or projects based on usage or benefits received. This helps determine the true cost of each activity and supports informed decision-making.

Revenue Allocation: In revenue-sharing agreements or partnerships, revenue allocation defines how generated revenues are distributed among involved parties, considering factors like contribution, investment, or agreed-upon terms.

Tax Allocation: Tax allocation involves dividing taxes among different tax jurisdictions or entities, often applicable to multinational corporations that operate in multiple countries.

Allocation of Goods: In supply chain management, allocation refers to distributing available inventory or goods among different locations, customers, or channels to fulfill demand and optimize distribution.

Memory Allocation: In computer science, memory allocation is the process of assigning portions of a computer's memory to various software applications, processes, or data structures to manage memory usage efficiently.

The concept of allocation is fundamental in decision-making across various domains, as it helps ensure equitable distribution, effective resource management, and the achievement of specific goals or objectives.

Here, the allocation word is used for the concept of “allocated goods” where we are going to talk about the effectiveness of the volumes of products allocated.

About the Sales Orders or SO, the principle of backlog and back orders need to be defined as well:

A "sales order" is a document generated by a business or company that outlines the specific details of a customer's purchase request for products or services. It serves as an official record of the transaction and includes essential information related to the sale, such as the type and quantity of items ordered, pricing, terms of payment, delivery instructions, and any other relevant terms and conditions.

Key components typically found in a sales order include:

Customer Information: This includes the name, contact details, and shipping address of the customer placing the order.

Order Details: The sales order lists the products or services being ordered, along with their respective quantities, descriptions, and any unique identifiers such as SKU numbers.

Pricing and Payment Terms: The sales order specifies the unit prices of the products or services, any applicable discounts, taxes, and the total amount due. It also outlines the agreed-upon payment terms, such as due date and accepted payment methods.

Delivery Information: Details regarding the method of shipment, delivery date, and shipping instructions are provided in the sales order. This section ensures that both the seller and the customer are on the same page regarding delivery expectations.

Terms and Conditions: The sales order may include specific terms and conditions that apply to the transaction, such as warranties, return policies, liability limitations, and other contractual aspects.

Reference Numbers: The sales order is often assigned a unique identification number for tracking purposes. It might also reference other relevant documents, such as purchase orders or quotes.

Authorized Signatures: Depending on the organization's processes, the sales order may require signatures from both the customer and a representative of the selling company to confirm agreement on the terms.

The sales order serves as a formal agreement between the customer and the seller. Once accepted and confirmed by both parties, it initiates the process of fulfilling the order, which may involve activities such as picking, packing, invoicing, and shipping. The sales order is a critical document in sales and order management, ensuring accurate execution of customer requests and providing a foundation for record-keeping and customer communication.

Back Order: A "back order" refers to an order for goods or products that cannot be fulfilled immediately due to insufficient stock or inventory. When a customer places an order for an item that is temporarily out of stock, the order is recorded as a back order. It indicates that the product is currently unavailable but will be shipped to the customer as soon as new stock becomes available.

Key points about back orders:

Temporary Unavailability: Back orders occur when there is a temporary shortage of inventory to fulfill customer orders promptly.

Customer Communication: Businesses typically inform customers about back orders, providing estimated shipment dates or alternatives if available.

Priority Fulfillment: Back orders are usually fulfilled on a priority basis once the products are restocked.

Inventory Management: Managing back orders effectively is crucial for maintaining customer satisfaction while optimizing inventory levels.

Backlog: A "backlog" refers to a buildup of unfinished work or pending tasks within a specific process, project, or operational context. It represents work that has been initiated but not yet completed within the expected timeframe.

Key points about backlogs:

Unfinished Work: A backlog represents tasks, projects, or orders that have not been fulfilled or completed within the expected timeframe.

Various Contexts: Backlogs can occur in different contexts, such as software development (software backlog), project management (project backlog), or even in manufacturing (production backlog).

Prioritization: Items within a backlog often need to be prioritized based on factors such as urgency, importance, or customer demand.

Continuous Management: Effective management of backlogs involves regular review, re-prioritization, and efficient allocation of resources to clear the backlog over time.

Both back orders and backlogs reflect situations where work or orders are not progressing as expected due to limitations, whether related to inventory availability, resource constraints, or other factors. Effective management and communication are essential to minimize disruptions and maintain customer satisfaction.

Demand and supply planning in project-based environments is a critical aspect of effective project management. In complex supply chains, the coordination and alignment of demand and supply are crucial to meet project requirements and ensure project success. Pfohl and Buse (2015) emphasize the significance of integrating demand and supply planning processes, highlighting the need to balance supply capabilities with demand patterns. They discuss various factors that impact demand and supply planning, such as product complexity, lead times, and uncertainties in project schedules. The authors emphasize the importance of accurate forecasting, collaborative information sharing, and agile supply chain practices in project-based environments where agile stands for:

Iterative and Incremental Approach: Agile processes emphasize breaking down work into smaller iterations or increments, allowing for continuous improvement and feedback. This iterative approach enables teams to deliver value early and frequently, facilitating adaptability and flexibility in response to changing project requirements.

Cross-functional Collaboration: Agile processes promote collaboration and communication across different roles and functions within a project team. Cross-functional collaboration encourages shared ownership, knowledge sharing, and collective decision-making. This collaborative approach helps to ensure that diverse perspectives are considered, leading to more effective problem-solving and innovative solutions.

Customer Involvement: Agile processes prioritize customer involvement throughout the project lifecycle. This includes engaging customers in requirements gathering, validating deliverables, and incorporating feedback. By involving customers directly, agile teams can gain a better understanding of customer needs, preferences, and priorities, resulting in products or solutions that better align with customer expectations.

Adaptive Planning: Agile processes emphasize adaptive planning rather than detailed upfront planning. They acknowledge that project requirements and circumstances can change, and therefore focus on creating plans that are flexible and responsive to those changes. Adaptive planning allows teams to adjust priorities, allocate resources, and make decisions based on current project realities.

Continuous Integration and Testing: Agile processes emphasize continuous integration of work and ongoing testing. Development activities are frequently integrated and tested to identify and address

issues early in the process. This approach helps ensure that defects are caught and resolved quickly, improving the overall quality of deliverables.

Self-Organizing Teams: Agile processes empower self-organizing teams to make decisions and manage their work. Team members have the autonomy and responsibility to determine how best to accomplish their goals within the project's framework. This autonomy fosters a sense of ownership, accountability, and motivation within the team, promoting efficiency and collaboration.

Regular Reflection and Improvement: Agile processes encourage regular reflection and improvement through techniques like retrospectives. Team members reflect on their performance, identify areas for improvement, and implement changes to enhance future iterations. Continuous improvement is a core principle of agile, enabling teams to learn from their experiences and optimize their processes over time.

Here are some notions of the **Order Management** in companies:

Order management is a set of activities and procedures that encompass the entire order lifecycle within a company. It involves the coordination and execution of tasks related to receiving, processing, tracking, and fulfilling customer orders for products or services. The primary goals of order management are to enhance customer satisfaction, streamline operations, and optimize the order-to-cash cycle.

Key components of order management include:

Order Entry: The process begins when a customer places an order, either through various sales channels, such as online stores, phone, or email. Order entry involves capturing the order details accurately.

Order Processing: Once an order is received, it needs to be processed efficiently. This step includes verifying product availability, pricing, discounts, and ensuring that the order complies with company policies and customer requirements.

Inventory Management: Managing inventory is crucial to ensure that products are available for order fulfillment. The OMS should keep real-time inventory records and trigger restocking when necessary.

Order Tracking: Providing customers with real-time order status updates and tracking information is a vital part of order management. This enhances transparency and customer experience.

Payment Processing: Secure and efficient payment processing is essential to collect payments from customers. Order management systems often integrate with payment gateways to handle transactions.

Shipping and Fulfillment: Determining the most suitable shipping method, packaging orders, and preparing them for shipment is a critical aspect of order management.

Returns and Exchanges: Handling returns and exchanges, including issuing refunds or replacements, is part of order management, as it contributes to customer satisfaction.

Customer Communication: Effective communication with customers regarding order confirmations, updates, and support is important for a positive customer experience.

Data Analysis: Order management systems often collect data that can be analyzed to identify trends, optimize inventory levels, and improve overall operations.

Reporting and Analytics: Generating reports and analytics on order performance, customer behavior, and sales trends helps the company make informed decisions.

Integration: OMS systems are often integrated with other business systems, such as customer relationship management (CRM) and enterprise resource planning (ERP) systems, to ensure seamless information flow.

Order management aims to improve order accuracy, reduce errors, enhance operational efficiency, and ultimately, meet customer expectations. It is especially important for businesses with a significant volume of customer orders and those that operate across multiple sales channels.

Project-based firms face unique challenges in delivering complex products and systems. Goffin and New (2011) shed light on the innovation and project management aspects of such organizations. They highlight the critical role of demand and supply planning in managing the intricacies of projects, including the synchronization of activities, resource allocation, and timeline management. The authors emphasize the need for efficient demand and supply planning practices that consider project-specific requirements, customer expectations, and stakeholder coordination.

Managing supply chain disruptions is a significant concern in project-based environments. Sodhi and Tang (2009) discuss strategies for mitigating risks and maintaining supply continuity. They explore dual sourcing and flexibility as potential approaches to manage supply chain disruptions effectively. The authors highlight the importance of robust demand and supply planning frameworks that integrate risk assessment, mitigation strategies, and agile response mechanisms. By proactively

considering potential disruptions and implementing suitable strategies, project-based organizations can enhance their ability to deliver projects on time and within budget.

At last, here are the main definitions of MRP and ERP:

Enterprise Resource Planning (ERP):

Enterprise Resource Planning, commonly known as ERP, is a comprehensive and integrated software solution designed to support and optimize various core business processes within an organization. It offers a centralized system that allows different departments and functions to communicate and share data in real-time, providing a holistic view of the company's operations. ERP systems typically cover a wide range of functions, including finance, human resources, supply chain management, inventory control, manufacturing, customer relationship management (CRM), and more. The primary objectives of ERP are to streamline business operations, improve data accuracy, enhance decision-making, and facilitate overall efficiency.

Key components and features of ERP systems include:

Centralized Data: ERP systems consolidate data from various departments into a central database, ensuring data consistency and reducing duplication.

Modules: ERP software includes modules or applications for different functions, such as accounting, procurement, inventory management, production planning, and sales.

Real-Time Information: Users have access to real-time data, enabling informed decision-making and timely responses to changes in the business environment.

Automation: ERP systems automate routine processes, reducing manual tasks and errors.

Reporting and Analytics: ERP systems offer reporting and analytics tools to provide insights into various aspects of the business.

Integration: Integration with various business systems and external applications allows seamless data flow.

Scalability: ERP solutions are often scalable to accommodate the growth and changing needs of an organization.

Customization: ERP systems can be customized to fit the specific requirements and workflows of a business.

Material Requirements Planning (MRP):

Material Requirements Planning (MRP) is a system for production planning and inventory control used by manufacturing companies. MRP software helps manufacturers manage their production process by ensuring that the right materials and components are available when needed for production. It calculates the quantities of raw materials and parts required to fulfill production orders and maintain desired inventory levels while considering lead times and demand forecasts.

Key components and features of MRP systems include:

Bill of Materials (BOM): MRP relies on a BOM that lists the components and materials required to produce each product.

Master Production Schedule (MPS): The MPS specifies the production schedule and the quantities to be produced over a given period.

Inventory Management: MRP helps maintain optimal inventory levels by calculating reorder points and safety stock levels.

Lead Time Considerations: It considers lead times for ordering and receiving materials, ensuring that materials are available when needed.

Demand Forecasting: MRP can include demand forecasts to better align production with expected sales.

Automatic Ordering: MRP systems can automatically generate purchase orders and production orders based on calculations.

Resource Optimization: MRP aims to optimize resource utilization and reduce waste.

Tracking and Reporting: MRP systems allow tracking the status of production orders and provide reports on materials usage and availability.

In summary, ERP is a broad, all-encompassing software solution that integrates and streamlines various business functions, while MRP is a specific tool used in manufacturing to manage materials and production planning. Some ERP systems include MRP as a component within their suite of applications. At Schneider Electric, the ERP used is SAP.

B. Stock management strategies and best practices:

Effective stock management strategies are essential for project-based organizations to optimize resources, minimize costs, and ensure timely project execution. Chen, Paulraj, and Lado (2004)

underscore the strategic importance of purchasing and supply management in achieving overall organizational performance. They highlight the need for integrating stock management practices into broader supply chain strategies, considering factors such as demand variability, lead times, and supplier relationships. The authors emphasize the significance of supplier selection, negotiation, and collaboration to establish effective stock management practices.

Logistics and supply chain management play a critical role in stock management. Christopher (2016) provides an overview of best practices in inventory control, warehousing, and demand forecasting. He emphasizes the importance of accurate demand forecasting to optimize stock levels and minimize holding costs. The author discusses strategies such as economic order quantity (EOQ), just-in-time (JIT), and vendor-managed inventory (VMI) as effective approaches to stock management. He also highlights the use of technology, such as inventory management systems and automated replenishment processes, to improve stock visibility and control. In order to comprehend these notions, here are the definitions of them:

Economic Order Quantity (EOQ): Economic Order Quantity (EOQ) is a mathematical formula used in inventory management to determine the optimal order quantity that minimizes total inventory costs. EOQ considers the trade-off between ordering costs and holding (or carrying) costs. The objective of EOQ is to find the order quantity that balances the costs of ordering too frequently (resulting in higher ordering costs) and ordering in large quantities (leading to higher holding costs). By calculating the EOQ, organizations can optimize their inventory levels, minimize costs, and maintain an efficient balance between demand and supply.

Just-in-Time (JIT): Just-in-Time (JIT) is a production and inventory management approach that focuses on producing and delivering items at the precise time they are needed in the production process or by the customer. The key principle of JIT is to eliminate waste and reduce inventory levels by synchronizing production and supply with customer demand. JIT aims to achieve smooth and continuous flow throughout the supply chain, reducing lead times, inventory holding costs, and production inefficiencies. By adopting JIT principles, organizations can improve efficiency, quality, and responsiveness to customer demand.

Vendor-Managed Inventory (VMI): Vendor-Managed Inventory (VMI) is a collaborative inventory management approach where the supplier takes responsibility for managing and replenishing the inventory at the customer's location. In VMI, the supplier monitors inventory levels, receives demand information, and proactively restocks the customer's inventory based on predefined agreements or inventory triggers. By shifting the inventory management burden to the supplier, VMI aims to improve supply chain efficiency, reduce stockouts, and enhance order fulfillment rates. VMI requires

close collaboration, information sharing, and trust between the supplier and the customer to ensure accurate demand forecasting and timely replenishment.

Simchi-Levi, Kaminsky, and Simchi-Levi (2008) delve into the design and management of supply chains, providing insights into optimizing stock levels, order quantities, and replenishment strategies. They discuss approaches such as the bullwhip effect*, safety stock management, and continuous replenishment to address challenges associated with stock fluctuations, demand uncertainties, and lead time variability. The authors emphasize the integration of information systems, collaborative relationships with suppliers, and effective communication to enable efficient stock management practices.

*The bullwhip effect, also known as the Forrester effect, refers to the phenomenon where small fluctuations in customer demand can result in increasingly significant variations in inventory levels and orders upstream in the supply chain. It is named after the way a small motion at the handle of a bullwhip causes the whip's lash to move dramatically.

The bullwhip effect is characterized by the following key aspects:

Demand Variability: Even if customer demand remains relatively stable, the orders placed by retailers or distributors to suppliers tend to exhibit greater variability. This variability increases as one moves further upstream in the supply chain.

Order Amplification: The variability in orders becomes magnified as it moves upstream. Small changes in customer demand can lead to larger fluctuations in orders, making it difficult for suppliers and manufacturers to predict and plan accurately.

Inventory Fluctuations: The amplified demand variability leads to fluctuations in inventory levels throughout the supply chain. As each entity in the supply chain tries to account for uncertain demand, they tend to hold more safety stock or buffer inventory, resulting in increased inventory carrying costs.

Supply Chain Inefficiencies: The bullwhip effect can lead to inefficient allocation of resources, increased costs, and reduced overall supply chain performance. Suppliers may face challenges in meeting volatile demand, while manufacturers may experience underutilized capacity or capacity constraints due to sudden spikes or dips in orders.

Several factors contribute to the occurrence of the bullwhip effect, including:

Demand Forecasting Inaccuracies: Forecasts that are not sufficiently accurate or timely can lead to overestimation or underestimation of demand, contributing to the amplification of fluctuations.

Order Batching: When orders are placed infrequently or in large batches, it can amplify the demand variability as suppliers receive irregular and uneven order patterns.

Price Fluctuations and Promotions: Price discounts, promotions, or other incentives can lead to demand spikes that are not reflective of the underlying consumer demand patterns, further contributing to the bullwhip effect.

Lack of Information Sharing: Insufficient sharing of information among supply chain partners can result in limited visibility into actual demand patterns and lead to suboptimal decision-making at each stage of the supply chain.

Mitigating the bullwhip effect involves improving demand forecasting accuracy, reducing order batching, enhancing information sharing and collaboration, and adopting practices such as lean inventory management, vendor-managed inventory (VMI), and collaborative planning, forecasting, and replenishment (CPFR). By addressing the bullwhip effect, supply chain partners can improve operational efficiency, reduce costs, and enhance overall supply chain performance.

C. Order prioritization techniques and their impact on project execution

Order prioritization techniques have a significant impact on project execution, customer satisfaction, and overall project performance. Rabinovich and Evers (2014) focus on the scheduling of orders and its implications for project lead times. They highlight the importance of efficient order prioritization to minimize project delays and meet customer expectations. The authors discuss techniques such as critical chain scheduling, priority rules, and capacity management to optimize order sequencing and resource allocation. They emphasize the need for aligning order prioritization decisions with project objectives, resource availability, and customer requirements.

Order prioritization is the process of determining the sequence or ranking of customer orders based on predefined criteria. It involves assigning priority levels or determining the order in which orders should be fulfilled, considering various factors such as customer requirements, order urgency, resource availability, and strategic considerations.

Effective order prioritization is essential for efficient and timely order fulfillment, optimal resource allocation, and customer satisfaction. It helps organizations manage limited resources, make

informed decisions, and align their operations with strategic goals. Here are some key aspects and considerations related to order prioritization:

Customer Requirements: Order prioritization should consider the specific requirements and expectations of customers. Different customers may have different levels of urgency, service-level agreements (SLAs), or special needs that should be taken into account when determining the priority of their orders.

Order Urgency: Urgency refers to the time sensitivity of an order. Orders with tight deadlines or critical delivery requirements may need to be prioritized higher to ensure they are fulfilled on time. Prioritizing based on order urgency helps prevent delays, minimize stockouts, and meet customer expectations.

Available Inventory: Order prioritization should consider the availability of inventory. When inventory is limited, prioritizing orders based on product availability ensures that customers with the highest priority receive products that are currently in stock.

Resource Constraints: Resource availability, including production capacity, labor, and transportation, should be considered when prioritizing orders. Orders that require fewer resources or can be processed more efficiently may be prioritized higher to optimize resource utilization and minimize bottlenecks.

Strategic Considerations: Order prioritization can also be influenced by strategic considerations such as profitability, customer value, and long-term business goals. Strategic prioritization may involve giving priority to high-value customers, orders with higher profit margins, or orders that align with the organization's strategic objectives.

Communication and Transparency: Clear communication with customers regarding order prioritization and expected delivery dates is essential for managing customer expectations and maintaining trust. Transparency in the prioritization process helps customers understand how their orders are being handled and reduces misunderstandings or dissatisfaction.

Continuous Evaluation and Adjustment: Order prioritization is not a static process. It should be continuously evaluated, monitored, and adjusted based on changing customer demands, resource availability, and business priorities. Regular review and refinement of the prioritization criteria ensure that the organization's approach remains effective and aligned with evolving needs.

Organizations can employ various methods and techniques to facilitate order prioritization, including software systems, algorithms, and decision-support tools. These tools can help automate the process, improve accuracy, and provide real-time insights for efficient order management.

Overall, effective order prioritization enables organizations to optimize their operations, improve customer satisfaction, and maximize the use of available resources, leading to enhanced efficiency and profitability.

Silver, Pyke, and Peterson (1998) provide comprehensive insights into inventory management and production planning, discussing techniques for order prioritization and balancing conflicting objectives. They explore the trade-offs between order fulfillment rates, order sizes, and inventory costs. The authors emphasize the importance of adopting flexible order prioritization approaches that consider factors such as order urgency, product importance, and customer value. They highlight the role of effective communication channels, cross-functional coordination, and robust decision-making processes in achieving optimal order prioritization outcomes.

Tang and Tomlin (2008) explore the power of flexibility in mitigating supply chain risks and enhancing order prioritization. They highlight the need for agile and adaptive order prioritization approaches that can respond to dynamic market conditions, changing customer demands, and supply disruptions. The authors discuss strategies such as postponement, product customization, and real-time information sharing to enable effective order prioritization. They emphasize the importance of leveraging technology, data analytics, and collaboration to enhance order prioritization decision-making and improve project execution.

D. Relevant frameworks, models, and approaches in the field

Various frameworks, models, and approaches contribute to the understanding and improvement of demand and supply planning in project-based environments. Mason-Jones and Towill (1999) propose the concept of total cycle time compression and the agile supply chain, emphasizing the importance of reducing lead times and enhancing responsiveness. Cachon and Fisher (2000) focus on the value of shared information in supply chain inventory management, highlighting the benefits of collaboration and information sharing in decision-making processes. Mentzer et al. (2001) define supply chain management, presenting a holistic framework that covers the integration of key supply chain activities and functions.

The concept of total cycle time compression is often associated with Lean principles and continuous improvement methodologies. The goal is to eliminate non-value-added activities, optimize workflow, and improve the efficiency and effectiveness of the process. By reducing cycle time, organizations can achieve benefits such as faster time-to-market, improved customer responsiveness, increased throughput, and cost savings.

Total cycle time compression involves several key aspects:

Identification of Bottlenecks: The first step is to identify bottlenecks or areas where the process experiences delays, inefficiencies, or constraints. These bottlenecks can be caused by various factors such as long wait times, excessive handoffs, unnecessary approvals, or lack of resources.

Streamlining Process Steps: Once bottlenecks are identified, the focus is on streamlining process steps to eliminate or reduce non-value-added activities. This can involve eliminating unnecessary process steps, automating manual tasks, simplifying decision-making processes, and optimizing resource allocation.

Reducing Waste: Waste reduction is a crucial component of cycle time compression. This includes minimizing activities that do not add value to the final output, such as excessive paperwork, rework, unnecessary movement, waiting times, and overproduction. By reducing waste, the process becomes more efficient and cycle time is shortened.

Parallel Processing: Total cycle time compression can be achieved by introducing parallel processing or overlapping activities. Instead of waiting for one task to be completed before starting the next, certain activities can be performed simultaneously or in parallel. This approach reduces idle time and optimizes resource utilization, resulting in faster overall process completion.

Standardization and Simplification: Standardizing processes and simplifying procedures can significantly reduce cycle time. By establishing clear and standardized methods, eliminating unnecessary complexity, and providing clear guidelines, organizations can accelerate the pace of the process and reduce variation.

Continuous Improvement: Total cycle time compression is an ongoing effort that involves continuous improvement and monitoring. It requires organizations to regularly evaluate the process, gather feedback, and identify further opportunities for enhancement. By fostering a culture of continuous improvement, organizations can sustain and build upon the achieved cycle time reductions.

By compressing the total cycle time, organizations can enhance their competitive advantage, improve customer satisfaction, and respond more quickly to market demands. However, it's important to note that total cycle time compression should be approached strategically and carefully, considering the impact on quality, resource allocation, and overall process stability.

III. Methodology:

A. Research design and approach

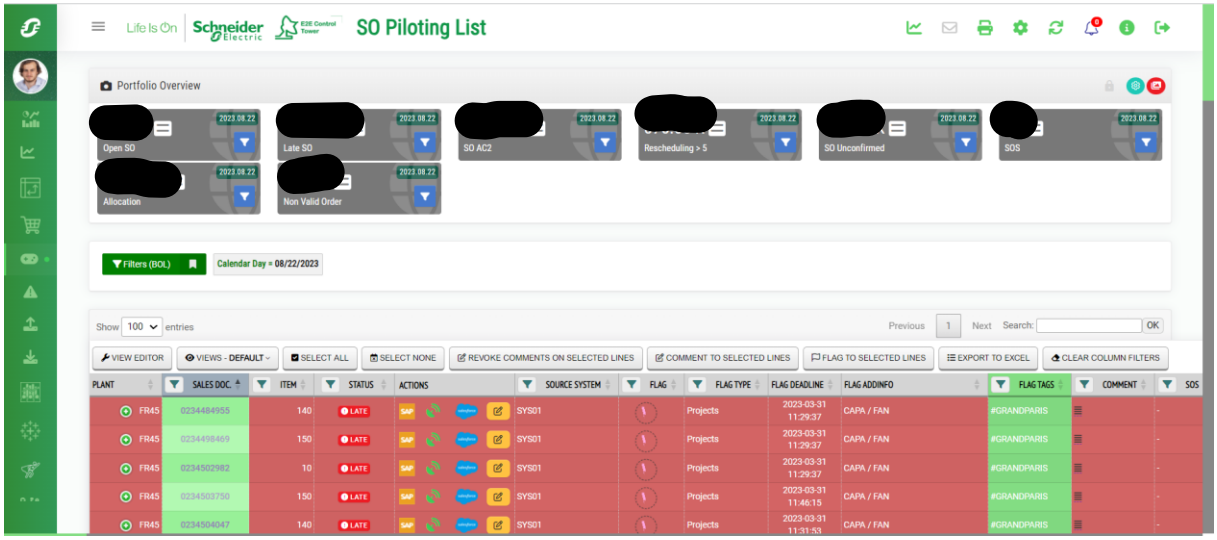
For the project I was involved in Schneider, 3 tools where mainly used: Excel for all the complete analysis, E2E (data retriever for the company's ERP SAP), SAP for case-by-case tracing and stock and OneMM for the main stock view of all the products in distribution centers. Then after the compilation in the excel, analyze the possible actions to do via automation calculus and delegated tasks via weekly meetings. The results would then be given to the upper management on SteerCos once every 2 months in order to see the global advance. Also, punctual meetings could happen if small modifications to the process would be needed or if some crisis happened. A weekly call was also needed to the definition of potential new buckets in the system that we'll discuss later.

B. Data collection methods:

As it was said from the first part the data was retrieved from the End-to-End control tower (E2E) and OneMM. One of the uses of E2E is to gather all the open Sales Order of the company from all the different SAP servers. Fortunately, the Sales Orders concerned in the project are flagged in the system. A filter can then be applied in the data and only the Sales Orders flagged "Grand Paris" can be retrieved. The process of flagging the SOs were taken care of the Order Management team. OneMM collects on the other side all the stock available for each product in all the distribution centers. With both these tools the point is to make a cross-sectioned data between stock availability and open Sales Orders in order to understand the possible actions. On the stock side, only two distribution centers were used for the project. Obviously only the French distribution centers were used in the project by ensuring a good control and an avoidance of unnecessary European logistics that would cost too much and pollute more. The DCs were at Evreux and Lyon. By just looking at the stock availability from these two DCs we also could reduce the area of research.

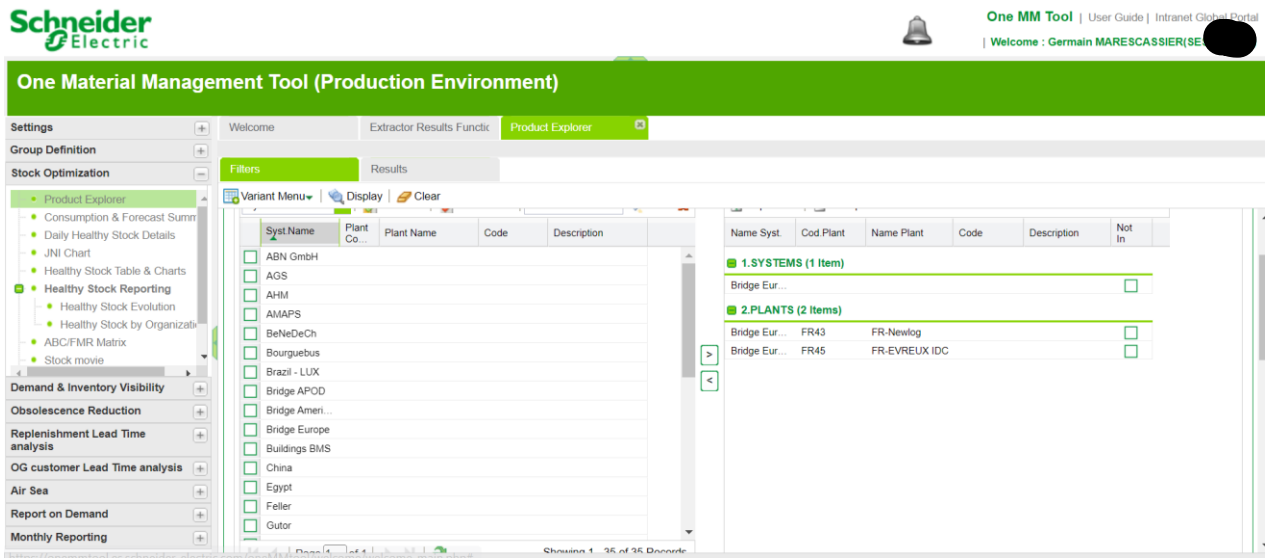
Brief look at the different tools used:

E2E:



The columns here represent the Plant code (for example Evreux is FR45), the sales document, the item (one of the line in the sales order since multiple products can be ordered in the same time), the status (On time, At risk or Late), the Actions (a legend code not yet standardized then not really used), the source system (the server data origin), the flag (is it flagged or not ?), the flag type (project flag or else), the flag deadline (not really relevant), the flag information (for example the client name) and the flag tags (the filter we use for Grand Paris). Of course, there are way more columns that take care of defining the content of each Sales Orders. But the analysis would be made on the excel later.

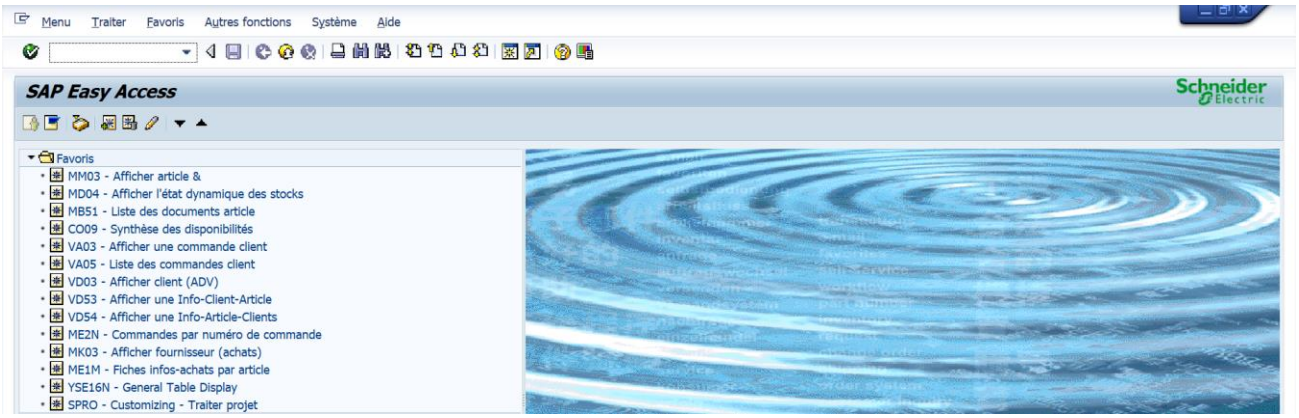
OneMM:



As we see the first filter applied is the “System” on the top right, because our two distribution centers are in France, they both share the same SAP server. The second filter is then the DCs codes. Evreux is FR45 and Lyon (Newlog) is FR43. A last filter would then be applied to the product references list that we gathered from the E2E extract that would look like this :

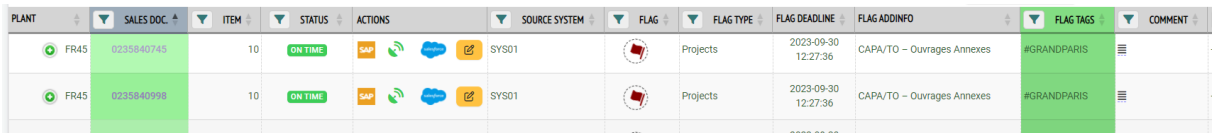
Étiquettes de lignes
BMXCPS4022S
BMEH582040K
LVS01225
C1042D040
LVS04477
LVS04491
A9F74302CA
C1032D040
C1042D100
LV431543
C2532D250
C2542D250
LV429289

SAP:



Even if the software here is in French, the transactions in SAP are universal. 3 main transactions were used. First is VA03 which takes care of the total track of Sales Orders. MD04 takes care of the dynamic track of stock of a both given product and DC. The Last is MB51 where product entries and exits are tracked in real time in the distribution centers.

More images on the data view of the Open Sales Orders (E2E) :



PLANT LOGISTIC TERRITORY	DC	CUST. TRANSP. CH. REQ.	CALENDAR DAY	SHIP TO COUNTRY	DISTRCH	SOLD TO	SOLD TO NAME	MATERIAL	PRODUCT LINE	MRP CONTROLLE
France	FR_DC_Hub_Evreux		2023/08/22	FR	OG	CFR04850	Schneider Electric France	BMENUA0100	IDPAC	580
France	FR_DC_Hub_Evreux		2023/08/22	FR	OG	CFR04850	Schneider Electric France	BMENUA0100	IDPAC	580

C. Data analysis techniques.

Different KPIs were used in order to check the evolution of the project. First for the quantitative measures, our main measure was to compare the advancement of the delivered orders with the value and volume forecast of the project. For Example, if by the half-year we managed to deliver more than 50% of the forecasted orders, then the quantity requirements are kind of met.

But for our project, the qualitative KPIs were the most important. The company possesses an automated status on the Sales Orders saying if the open Order is “On Time” or “Late”. By calculating the percentage of late and on time open SOs, we can then already check the volume and value of orders late or not. If the percentage is low, it signifies that we are managing quite well the stocks and delivers in order to avoid too many delays. The second KPI somewhat directly related is the measurement of the On-Time Delivery:

"On-time delivery" is a key performance indicator (KPI) used to measure the punctuality and reliability of delivering products, services, or orders to customers within the specified timeframe. It reflects the percentage of orders or deliveries that are completed on or before the agreed-upon delivery date or deadline.

The formula for calculating on-time delivery is:

On-Time Delivery (%) = (Number of Orders Delivered On Time / Total Number of Orders) * 100

Where:

"Number of Orders Delivered On Time" refers to the count of orders that were successfully delivered within the specified timeframe.

"Total Number of Orders" refers to the total count of orders considered in the calculation.

A high on-time delivery percentage indicates that the organization is consistently meeting or exceeding customer expectations regarding timely delivery. It demonstrates operational efficiency, effective planning, and a strong supply chain management process. Conversely, a lower on-time delivery percentage suggests potential issues with production, logistics, or demand forecasting that might need attention to improve customer satisfaction and operational performance.

"On-time delivery" is a crucial KPI for our project where meeting delivery commitments is critical. Although the limit of the measurement come with the fact that orders delivered sooner are also considered to be not “On Time”.

The last KPI that was included but more as a later consequence is the customer satisfaction that was feedbacked from the Sales department.

D. Description of the Schneider Electric context and project environment

The project that I focused for Schneider was the Grand Paris urbanization project where different infrastructures are involved with mainly the metro lines and stations. More than the monetary value of the project was notable, it was the political view that was critical. Indeed, 1 year before the Olympic Games, any urbanization project linked to Paris are essential and heavily watched over. Schneider electric as a CAC40 company is obviously looked upon the good development on the Grand Paris project. We can then Generalize that politically speaking for the company that this project encompasses a lot both on image and value. That long-term project is spreading on 10 years of commitment and the task force team ensuring it is on the pilot stage. Started now more than 9 months ago, the project will leave its pilot status by the end of the Olympics in Paris to see if after 2 years the system works. If the ways of working are in the end efficient, this process could be standardized on other long projects of that scale. It is then very interesting to both observe and work on the possible premises of the work process in this company.

Within the task force are composed of different employees from the Order Management, Sales, DSP (as me and my manager), and Allocation.

IV. Analysis of Current Stock Management Practices:

A. Assessment of existing stock management processes at Schneider Electric

At Schneider, depending on the product and the situation, almost all the type of stock management processes were involved. But of all the different types of processes, the ones below were the most frequently used:

-**FIFO**: FIFO (First-In, First-Out) prioritizes the sale or use of older stock to minimize obsolescence.

-**Cross-Docking:** Cross-docking involves transferring products directly from incoming shipments to outbound transportation, bypassing the need for storage. It minimizes inventory holding time, reduces handling costs, and speeds up order fulfillment.

-ABC Analysis: ABC analysis categorizes inventory items based on their value and importance. It helps prioritize stock management efforts by classifying items into groups, such as A (high-value items that require closer monitoring), B (moderate-value items), and C (low-value items with less criticality).

-Economic Order Quantity (EOQ): EOQ is a method used to calculate the optimal order quantity that minimizes total inventory costs. It considers factors such as ordering costs, holding costs, and demand patterns to determine the most cost-effective quantity to order.

As schneider possess almost 500 000 different product references, it is evident that the theory is sometimes different than the practices where rules may vary from time to time.

B. Identification of challenges and limitations in stock management

In order to go further, we must add to our knowledge few production processes that are required to understand the issues encountered. As we said earlier, Schneider uses ABC approach in order to classify its products. When classified, the production take account of it and here are some of the systems used:

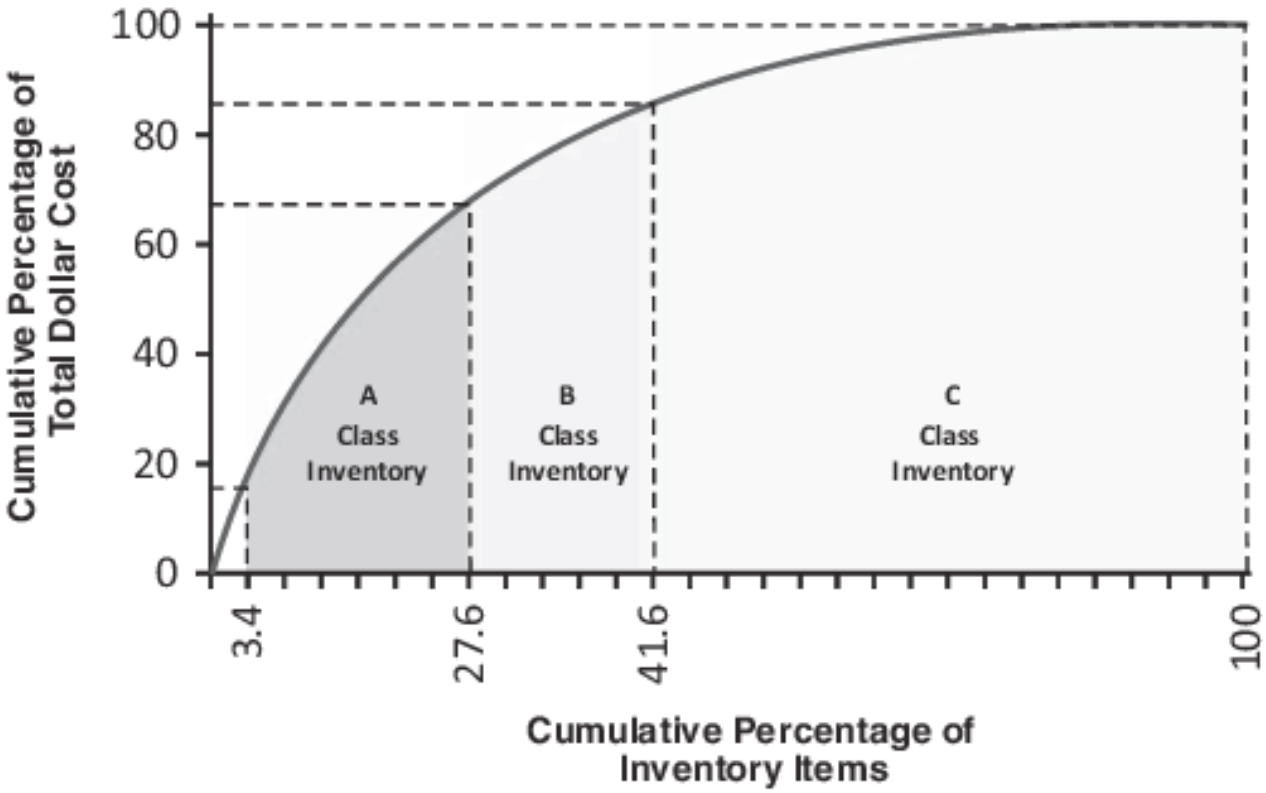
-**Make to Stock (MTS):** In the MTS process, products are manufactured based on anticipated demand forecasts. Goods are produced and stocked in advance, and customer orders are fulfilled from existing inventory. This approach is suitable for products with stable and predictable demand patterns.

-**Make to Order (MTO**): In the MTO process, products are manufactured only after receiving customer orders. Production begins once an order is received, and the product is customized or configured to meet the specific requirements of each customer. This approach allows for greater customization but may have longer lead times.

-**Engineer to Order (ETO):** In the ETO process, products are designed and engineered based on unique customer specifications. Each product is typically unique, and production begins only after the customer's order and design requirements are finalized. This process often involves extensive collaboration with customers to develop tailored solutions.

-**Configure to Order (CTO):** The CTO process involves offering a range of standardized components or modules that customers can select and configure to create a customized product. The manufacturing process involves assembling the pre-defined components based on the customer's chosen configuration.

MTO and MTS are the most used cases since it is easier to standardize the processes with ERP or dedicated teams.



Indeed, by looking at the ABC classification graph, we can assume of a relation between the production processes used by Schneider and the products.

A class: MTS/MTO

B class: MTO

C class: ETO/CTO

The problem is that it is not really the case, and it depends heavily on the health status of the factories. And as Schneider possess 183 plants, it hard trying to generalize it. And as we are talking to apply actions on projects, all the processes mix altogether because products can come from way different business units as we are going further in the project. Two main group of products are taken care in our project. One side is Industry Automation (IA) composed of very heterogeneous products and the other one is Power Products & Home Distribution (PP/HD). PP/HD products are mainly used in the Grand Paris project to be assembled in TGBT, low-tension General Electric tables that are used for example in the subway lines. The PP/HD products were then mostly ordered by batches to create TGBT for Grand Paris. It was then one our biggest focus on both customer satisfaction and value.

C. Evaluation of the impact of stock management on project execution

Stock management is one of the key points in project execution. Indeed, because as the role of supplier for our customer, volumes are demanded, and the forecast could fluctuate from its origin. That's why roles like Demand & Supply planner are important in order to accommodate the stocks necessary in order to ensure the adequate volumes for the project. Of course, not the entire volume of products is at hand for projects as the company will usually tend to keep a safety stock for some of their main products due to high demand. Then comes the question whether the products asked are allocated or not. If it's allocated, then another layer added because of the arbitrary position of all the projects in the company. At this scale it is then impossible to put on a same level all the projects, and one of the best option to resolve it is to create a prioritization process.

V. Analysis of Order Prioritization Strategies:

A. Examination of current order prioritization methods used at Schneider Electric

For the Order prioritization, Schneider created prioritization scale supposed to allocate the stock depending on the degree of the priority. From P2 to P0, P0 sales orders were the first orders that had to have its stock allocated. In almost all cases, Grand Paris orders of the current quarterly were always put on P0 because as it was said on the Part III, the project is one of the most important one for the company.

B. Analysis of the effectiveness and efficiency of order prioritization

As this system explained, the issue usually flawing the system is the number of orders put in P0. Indeed, if too many orders are put in P0 because everyone's point of view is biased to reach their KPI, then P0 doesn't mean anything in the end. Consequently, the goodwill of the employees must be trusted by not abusing the system for every project on the table. Normally the way to avoid that is that there are agreements on the projects needed to be on hyper care. P1 orders were orders that were expected for the upcoming quarterly then P2 products were further in the future. One of the goal of the Steering Committee meeting is to ensure that the use of the P0s are healthy.

C. Identification of factors influencing order prioritization decisions

Following the earlier subject, prioritization decisions were mostly based on the importance of the project, the quantity of product availability, the degree of lateness of the orders or even the monetary value of it. As one the biggest key performance indicators in multinational companies, the backlog is a main value to reduce in supply chain that consequently tend to manage the teams to first reduce the number of late shipments before taking care of the future ones. It is efficient by trying to

avoid penalties and reduce the virtual stock value but on the other hand it could heavily influence the customer satisfaction on the future orders. Because most of the B2B customers of Schneider are long-term, the question isn't really pertinent for the future SOs but taking the whole On-Time delivery on the project.

VI. Proposed Framework for Enhanced Stock Management and Order Prioritization:

A. Development of a framework incorporating best practices for stock management

Following what was said about crossing data from open sales orders and the available stock, the idea is to go further in the data:

- Is the SO late/On Time?

- Is the product reference on allocation?

- Is there available stock?

- What type of flow is the SO (MTS, MTO…)?

- What level of priority has the SO?

-Which factory and distribution center?

-What quantity and what value?

The idea behind is that when all these data are compiled, we can make an excel sheet able to help us take actions depending on the different variables as kind of implemented algorithm.

The order then, depending of the given priority, would have an action decided by excel-made formulas. Buckets are also created to help giving priority in whole group of sales orders.

B. Design of an improved order prioritization strategy tailored to Schneider Electric's needs

Even if it usually praised in companies, the excel file created isn't based on macro formulas as it involves usually a general problem in big companies: if the one who creates the macro leaves the company, no one would be able to take care of the excel if any problem happens. And as the tasks used for our excel aren't that hard to automate, we'll stay in the classic formulas. Formulas as "VLOOKUP, XLOOKUP, IF.ENS, INDIRECT…" were mainly used at the task.

Next was the creation of “Buckets”. Buckets are Sales Orders that would be defined by a family of products, a quarterly of demanded delivery and the client.

About the type of client, Schneider has its own self as client regarding the fact that the Factory can “sell” the products to the distribution center. Even though there’s no real monetary transaction, this action is still considered as a Sales Order in the system. Obviously if in-group Sales Orders are considered in the system the same way as the ones for the end customers, the data would be unreadable. That is why the Sales Orders are divided between two categories, Intra Group Sales Orders (IG) and Outside Group Sales Orders (OG). IG Sales Orders are the transactions within the company. For example, a sale of IA products from the factory to the distribution center are considered IG. Sales to direct clients are considered OG.

Now that we defined the complexity of defining clients in the system we can go back to the bucket definition.

In the bucket creation, OG Sales orders are called “direct” and the IG ones are divided into the construction projects they are involved.

	YEAR	QUARTER				
Bucket 1a - IA - 2022 remaining needs	2022	2022	IA	OG	Capa	Other
Bucket 2 - IA - Capa - Q1-23	2023	Q1-2023	IA	OG	Capa	Other
Bucket 3 - PP/HD - L15S/L16/L17 - Q1-23	2023	Q1-2023	PP/HD	OG	Not defined	Other
Bucket 4 - IA - Capa - Q2-23	2023	Q2-2023	IA	OG	Capa	Other
Bucket 5 - PP/HD - L15S/L16/L17 - Q2-23	2023	Q2-2023	PP/HD	OG	Not defined	Other
Bucket 6 - IA - Capa - Q3-23	2023	Q3-2023	IA	OG	Capa	Other
Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	2023	Q3-2023	PP/HD	OG	Not defined	Other
Bucket 8 - IA - Capa - Q4-23	2023	Q4-2023	IA	OG	Capa	Other
Bucket 9 - PP/HD - L15S/L16/L17 - Q4-23	2023	Q4-2023	PP/HD	OG	Not defined	Other
Bucket 1b - PP - 2022 remaining needs	2022	2022	PP/HD	OG	Not defined	Other
Bucket 10 - IA - Direct - Q1-23	2023	Q1-2023	IA	OG	Not defined	Other
Bucket 2 - IA - Capa - Q1-23	2022	Q1-2023	IA	OG	Capa	Other
Bucket 4 - IA - Capa - Q2-23	2022	Q2-2023	IA	OG	Capa	Other
Bucket 8 - IA - Capa - Q4-23	2022	Q4-2023	IA	OG	Capa	Other
Bucket 3 - PP/HD - L15S/L16/L17 - Q1-23	2023	Q1-2023	PS	OG	Not defined	Other
Bucket 3 - PP/HD - L15S/L16/L17 - Q1-23	2022	Q1-2023	PP/HD	OG	Not defined	Other
Bucket 10 - IA - Direct - Q1-23	2022	Q1-2023	IA	OG	Not defined	Other
Bucket 1a - IA - 2022 remaining needs	2022	2022	IA	OG	Not defined	Other

As we can see in the excel sheet, the naming of the bucket work as:

Bucket number-Product family-Client type-Quaterly-year

From what was explained if I create a 14th bucket for direct customers in 2023 for the 4th quarterly that involves PP/HD products, the bucket name would be: **Bucket 14-PP/HD-Direct-Q4-23**

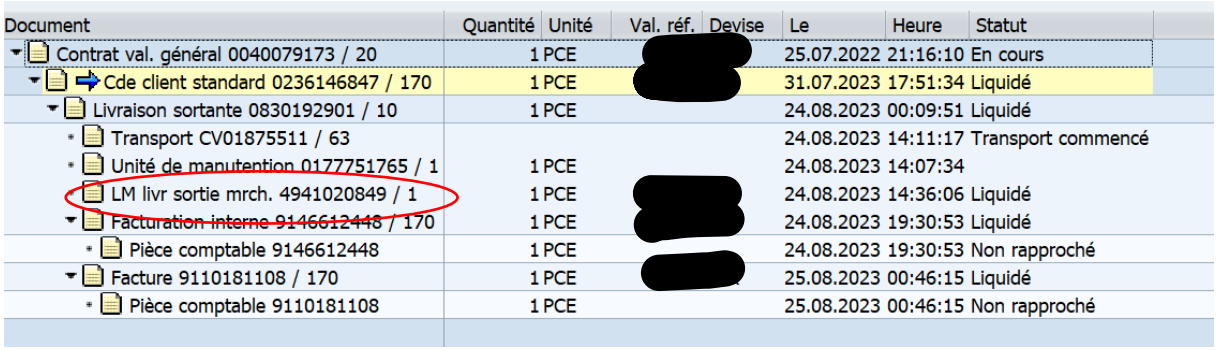
As the excel is made, main actions are defined: request production (MTS); Deliver from stock MTS; Allocation-change to P0; Produce MTO.

- “Deliver From Stock” signifies that stock is already available without harming the Security Stock and we can already push the Orders in shipments.

- “Request Production (MTS)” signifies that we need a view from the factory about the next production of the needed goods. If there’s no estimated date, then we would request production prioritization for the project.
- “Allocation-change to P0” signifies that the product is allocated, and we can ask to change the priority to P0, other than that action on the DSP side are quite out of hand
- “Produce MTO” signifies that we can ask the factory to prioritize these orders. Because MTO is a pulled flow, production request can be more made on the go.

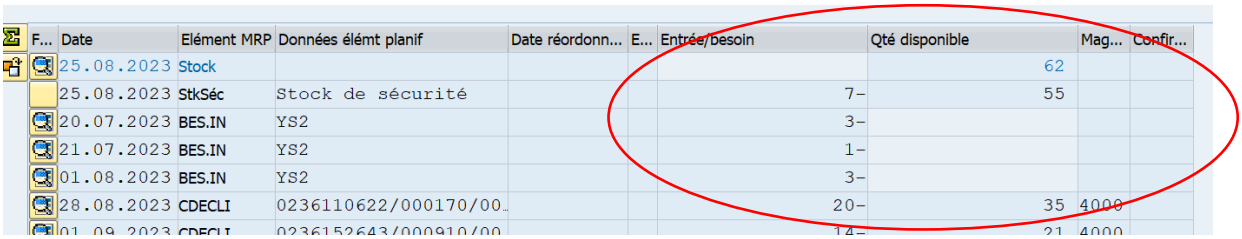
Sales Doc	Sales Item	Bucket Decided	Offer Decided	Delivery status	Risk status	Priority Decided (Original)	Priority Actual	Priority Action	P0 - Stock status	P0 - Order type & Delivery Action	Factory DD Last confirmed
0236129771	170	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	LATE	P0	P0	-	Stock OK	Deliver from stock MTS	in delivery
0236022772	10	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	P2	Change to P0	-	Produce (MTO)	in delivery
0236177146	100	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	LATE	P0	P0	-	Stock alert	Request production (MTS)	available 05/09
0236177146	180	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	-	Change to P0	Stock OK	Allocation - Change to P0	
0236177146	20	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	LATE	P0	P0	-	Stock alert	Request production (MTS)	In transit
0236177146	70	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	LATE	P0	P0	-	Stock alert	Request production (MTS)	Prio OK
0236177146	80	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	LATE	P0	P0	-	Stock alert	Request production (MTS)	
0236146847	10	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	LATE	P0	P1	Change to P0	Stock alert	Request production (MTS) + Request for Bridge Prio1 (to CGIL)	29/08 restock
0236146847	170	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	P1	Change to P0	Stock OK	Deliver from stock MTS	in delivery
0236146847	180	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	P1	Change to P0	Stock OK	Deliver from stock MTS	in delivery
0236146847	370	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	AT RISK	P0	P1	Change to P0	Stock alert	Request production (MTS) + Request for Bridge Prio1 (to CGIL)	in delivery
0236249777	10	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	P1	Change to P0	-	Produce (MTO)	
0236253374	10	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	P1	Change to P0	-	Produce (MTO)	
0236253776	10	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	-	Change to P0	-	Allocation - Change to P0	
0236254254	10	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	-	Change to P0	-	Allocation - Change to P0	
0236254405	10	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	P1	Change to P0	-	Produce (MTO)	
0236255463	10	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	P1	Change to P0	-	Produce (MTO)	
0236262197	10	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	-	Change to P0	-	Allocation - Change to P0	
0236262197	290	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	P1	Change to P0	-	Produce (MTO)	
0236262197	490	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	-	Change to P0	-	Allocation - Change to P0	
0236262197	710	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	-	Change to P0	-	Allocation - Change to P0	
0236262197	860	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	P1	Change to P0	-	Produce (MTO)	
0236262259	10	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	-	Change to P0	-	Allocation - Change to P0	
0236262259	290	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	P1	Change to P0	-	Produce (MTO)	
0236262259	490	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	-	Change to P0	-	Allocation - Change to P0	
0236262259	710	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	-	Change to P0	-	Allocation - Change to P0	
0236262259	860	Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	PP/HD	Open	ON TIME	P0	P1	Change to P0	-	Produce (MTO)	

Because there is a large quantity of SOs, obviously the actions formulated by the excel is just a gross delimitation. When further info is needed, an investigation must be made. The SAP tool is one of the best software that can give us answers. Here are few examples of the use of SAP for the investigation below:



Document	Quantité	Unité	Val. réf.	Devise	Le	Heure	Statut
Contrat val. général 0040079173 / 20	1	PCE	[redacted]		25.07.2022	21:16:10	En cours
Cde client standard 0236146847 / 170	1	PCE	[redacted]		31.07.2023	17:51:34	Liquidé
Livraison sortante 0830192901 / 10	1	PCE			24.08.2023	00:09:51	Liquidé
Transport CV01875511 / 63					24.08.2023	14:11:17	Transport commencé
Unité de manutention 0177751765 / 1	1	PCE			24.08.2023	14:07:34	
LM livr sortie mrch. 4941020849 / 1	1	PCE	[redacted]		24.08.2023	14:36:06	Liquidé
Facturation interne 9146612448 / 170	1	PCE	[redacted]		24.08.2023	19:30:53	Liquidé
Pièce comptable 9146612448	1	PCE			24.08.2023	19:30:53	Non rapproché
Facture 9110181108 / 170	1	PCE	[redacted]		25.08.2023	00:46:15	Liquidé
Pièce comptable 9110181108	1	PCE			25.08.2023	00:46:15	Non rapproché

- This view from VA03 helps us to know if the SO went out of the storage:



F...	Date	Elément MRP	Données élémt planif	Date réordonn...	E...	Entrée/besoin	Qté disponible	Mag...	Confir...
	25.08.2023	Stock					62		
	25.08.2023	StkSéc	Stock de sécurité			7-	55		
	20.07.2023	BES.IN	YS2			3-			
	21.07.2023	BES.IN	YS2			1-			
	01.08.2023	BES.IN	YS2			3-			
	28.08.2023	CDECLI	0236110622/000170/00			20-	35	4000	
	01.09.2023	CDECLI	0236152643/000910/00			14-	21	4000	

This view from MD04 helps us to know when a requested product would be restocked (in blue the actual quantity): available quantity is on the right side where the consumption is on the left side.

What is added is also the forecast of production arrival that will add itself on the right column depending on the dates.

VII. Implementation and Evaluation:

A. Implementation plan for the enhanced stock management and order prioritization framework

The project framework has been created at the beginning of January 2023 where the task force has been created with the different members of the departments. A RACI matrix (Responsible, Accountable, Consulted, Informed) is made in order to give an assessment of the actions of everyone and their limitations (see the annex). The order prioritization is discussed on every steerco and week when some product family would encounter an issue and their priority would happen to be negotiated again.

For example, if I have multiple late Sales Orders on the Industry Automation products that are spanning on both the quarterly 1 and 2, all these Sales Orders would be in priority P0. But if the reason behind this latency is due to production, the allocation department can't see the difference in lateness between all Sales Orders. This is where our role of control tower, with our tools, makes us able to make discernment between the Sales Orders for the allocation team. The solution that can be provided then is to put in the end the priority P0 to only the very late IA products from the 1st quarterly and put the others on P1. When the first late batch of Sales Orders is finally delivered, the demand & supply planning team can then reassign the P0 on the rest of the late IA products.

This situation shows that processes oriented on big projects in this scale of business has to keep a certain level of flexibility. Indeed, if all the late IA products were keeping their P0 status, the allocation team would have maybe not made the differences between the Sales Orders and penalties could have been paid.

B. Measurement of key performance indicators (KPIs) to evaluate the effectiveness of the proposed approach

As we discussed in the precedent paragraphs, On-Time Deliveries measurement and the ratio of open Sales Orders are the most important ways of measuring the efficiency of the project. With the used tools in the project, keeping track of the OTD and late SOs is easy to assess. The End-to-End Control Tower is the main tool where we can find our flagged Sales Orders daily and their status whether they are late or not. The data is then extracted on excel.

Sales Doc	Sales Item	Bucket *Decided*	Offer *Decided*	Delivery status	Risk status	Material
0234521179	30	Bucket 8 - IA - Capa - Q4-23	IA	Open	LATE	BMX CPS4022S
0235346202	30	Bucket 4 - IA - Capa - Q2-23	IA	Open	LATE	BMX CPS4022S

The SAP software help us also with the date of delivery of each SOs, making us able to easily calculate the OTD rate and the open sales orders ratio. The found numbers are then reported on excel on the final analysis sheet.

		Forecast IA	No forecast IA	Forecast PP/HD	No forecast PP/HD
	FORECAST	[redacted]	-	[redacted]	-
67%	LATE	10,796	20	56,657	-
20%	AT RISK	3,139	-	28,188	-
13%	ON TIME	2,144	1,480	456,713	-
	DELIVERED	2,329,900	480,048	2,098,093	90,888
	ORDERS	[redacted]	[redacted]	[redacted]	[redacted]

What we can see here is that even if the late rate is high here, it is only about the value of 10 000€ among 2 329 900€ delivered (for the IA). It means that almost everything at that stage was delivered but some products on both families have issues. What can be read here and concluded with the help of the control tower excel is that there are issues on the production side on some products and allocations maneuvers are maybe needed.

C. Assessment of the impact of the framework on project execution

From what we saw in the first sections of this part, the framework has a good accuracy that is recalculated daily or weekly that can provide instant feedback and enough flexibility to ensure better help from the other departments. Indeed, DSP is maybe the control tower and the escalator on the project, the DSP team still needs to provide flexibility to the other members of the task force. The

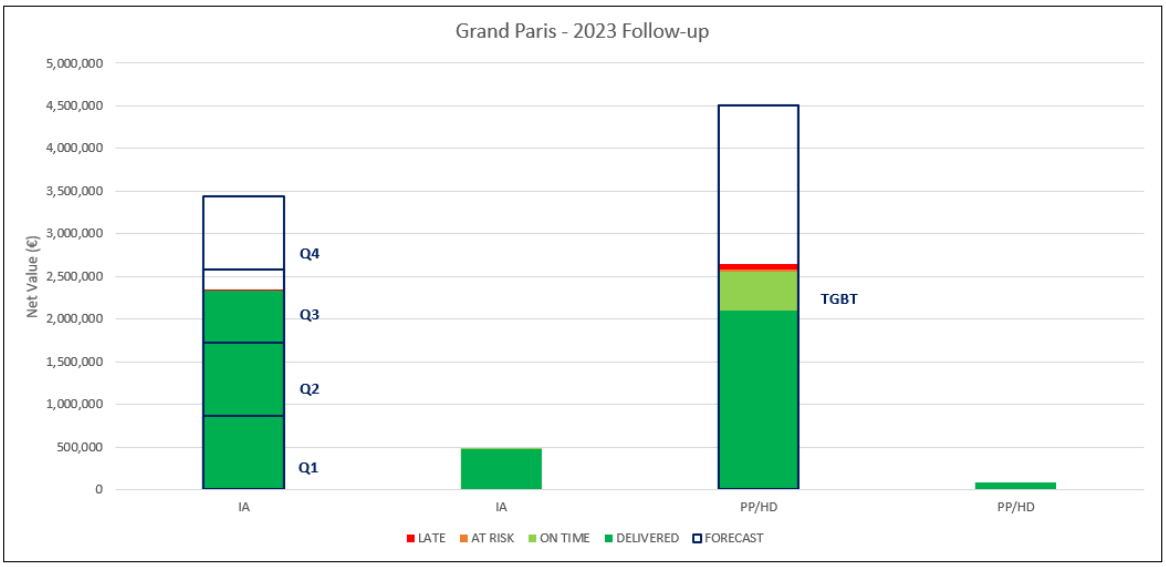
deadlines aren't too tight and give enough space of improvement propositions. Because the task force is still "on launch" status, the boundaries of the process are still malleable.

VIII. Discussion and Findings:

A. Analysis and interpretation of the results

After 6 months of work within the project, here are the results of the current project:

By the end of August, the Key performance indicators were mostly on the green. Indeed, more than 75% of the two families of products (IA and PP/HD) were already delivered according to the 2023 forecast, only a small percentage was late but was usually corresponding on the ongoing deliveries or factory shortage. Among the 600 open Sales Orders, only 50 were late. There will maybe a change in the forecast in the next months in order to verify the numbers, but the measured values are quite accurate.



Even though there's not a definite customer satisfaction KPI yet, the Sale's department feedback was positive of an improving customer experience.

B. Comparison of findings with existing literature

From the explained literature content that we discussed in part II, the scale of Schneider's actions tends to keep the tendencies and actions aligned with the macro views of the Supply Chain. But as an enormous number of sales groups coexist within the company, lot of exceptions were to emerge and multi-layered the system. In an economy where products are being more and more tailored for each customer, exceptional and unique sales group are obviously being created in companies of that

width, but it creates difficulties for the company as many try to standardize their processes. And the description of the sales groups consequently creates the same issues on the supply and allocations side. Back to the topic where the situation of the P0s where hard to pinpoint the final efficiency, it results also in a way from the wide variations of Schneider's activities. From what we defined in the type of productions and the results of the project, having the upper-hand in Make-to-stock products is harder to assess because of the multiple demand behind it. Indeed a MTS production is a batch processing that aims to fulfill various demands. The priority system is the found solution for that. On the other hand, Make-to-order products are easy to track and handle since the Sales Order is tailored for the client and we can directly work with the factory on the subject.

C. Addressing limitations and challenges encountered during the research

Few limitations were in the matter of my research as most of the workers in the company (on the Supply Chain side) are method engineers who tend to keep a written process of their actions. Very communicative in general, it wasn't hard to find most of my answers. The main issue would have been availability, whereas everyone's schedule could happen to be busy but in the end it's still easily manageable. More to the abstract side of the subject the challenge was also to try understanding the complex webbing of a 130 000 people company, indeed multiple sales group, departments and similar actions were at the beginning quite confusing and sometimes still make me wonder the real line between some worker's responsibilities.

IX. Conclusion and Recommendations:

A. Summary of key findings and contributions

By the end of August, the Key performance indicators were mostly on the green. Indeed, more than 75% of the two families of products (IA and PP/HD) were already delivered according to the 2023 forecast, only a small percentage was late but was usually corresponding on the ongoing deliveries or factory shortage. Among the 600 open Sales Orders, only 50 were late. Customer satisfaction was good and improving. Unfortunately, I couldn't have qualitative proof on that matter as I lean solely on the feedback of colleagues representing the sales department on this project. Although from personal feedback, the upper management of the company was pleased of the performance.

The current construction weren't delayed by Schneider's deliveries within the last 6 months nor penalties were payed to the customers. About the upper management of the firm, the result were good for them and for now the launch of this project process is effective. Although in the upcoming year, forecasts tell us that the volume of sales involved in the project could double. This fact implies

that the challenge of 2024 will be more than sensible from both the monetary value and the Olympic games.

My personal opinion is that if the control process is still improving as it was, there won't be a problem on that side. The only main problem that could occur is a possible production issue that could confront allocation politics on the project. But given the fact that 2024 is the Olympic's year for Paris, the Grand Paris Project would be the project number one.

There is maybe a way of improving the production issues by slowly make all the Sales Orders involved in the Grand Paris projects MTO Sales Orders. Indeed, if all the Sales Orders for Grand Paris are Make-To-Order, the prioritization sytem is no longer needed and would require less process work in order to keep the track of everything.

B. Practical implications for Schneider Electric and project-based organizations

What is interesting to see for the future of project organization at Schneider is if it will continue to create "tasks force" teams that aim to develop further the main projects. The Grand Paris case was exceptional, but it isn't always the same system for every project. From my point of view and the results that have been gathered after these 6 months, I could assume that the evolution was efficient. More than the measured KPIs, what I could notice is the creation of this team helped endorse people who could grasp together the evolution of the project more than just wait for the results. We could anticipate and face more easily the ongoing issues that could for example happen on the production side. In the end, I can gladly say that the project was well encompassed by the team I've been working on. The Grand Paris project as working as pilot aims to also standardize task force management on big projects. And if the quality continues this way, it should make sense that this is indeed a quite good way to handle projects in this kind of company. It would then imply that the entire working department would be reassigned or reorganized on different projects, or maybe more employees would be needed. In the end, it shows an improvement of customer experience at the very end of the chain and that is always in the modern economy the focus.

To conclude this thesis, I was glad to take part of the project and this pilot process was very rich of information and experience that is maybe a good way for multinational companies to handle projects.

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Whole list of different buckets:

Bucket	Creation *YEAR*	MIN(CRD, 1st) *QUARTER*	Business Unit(s)	IG-OG	Channel	Customer
Bucket 1a - IA - 2022 remaining needs	2022	2022	IA	OG	Capa	Other
Bucket 2 - IA - Capa - Q1-23	2023	Q1-2023	IA	OG	Capa	Other
Bucket 3 - PP/HD - L15S/L16/L17 - Q1-23	2023	Q1-2023	PP/HD	OG	Not defined	Other
Bucket 4 - IA - Capa - Q2-23	2023	Q2-2023	IA	OG	Capa	Other
Bucket 5 - PP/HD - L15S/L16/L17 - Q2-23	2023	Q2-2023	PP/HD	OG	Not defined	Other
Bucket 6 - IA - Capa - Q3-23	2023	Q3-2023	IA	OG	Capa	Other
Bucket 7 - PP/HD - L15S/L16/L17 - Q3-23	2023	Q3-2023	PP/HD	OG	Not defined	Other
Bucket 8 - IA - Capa - Q4-23	2023	Q4-2023	IA	OG	Capa	Other
Bucket 9 - PP/HD - L15S/L16/L17 - Q4-23	2023	Q4-2023	PP/HD	OG	Not defined	Other
Bucket 1b - PP - 2022 remaining needs	2022	2022	PP/HD	OG	Not defined	Other
Bucket 10 - IA - Direct - Q1-23	2023	Q1-2023	IA	OG	Not defined	Other
Bucket 2 - IA - Capa - Q1-23	2022	Q1-2023	IA	OG	Capa	Other
Bucket 4 - IA - Capa - Q2-23	2022	Q2-2023	IA	OG	Capa	Other
Bucket 8 - IA - Capa - Q4-23	2022	Q4-2023	IA	OG	Capa	Other
Bucket 3 - PP/HD - L15S/L16/L17 - Q1-23	2023	Q1-2023	PS	OG	Not defined	Other
Bucket 3 - PP/HD - L15S/L16/L17 - Q1-23	2022	Q1-2023	PP/HD	OG	Not defined	Other
Bucket 10 - IA - Direct - Q1-23	2022	Q1-2023	IA	OG	Not defined	Other
Bucket 1a - IA - 2022 remaining needs	2022	2022	IA	OG	Not defined	Other
Bucket 11 - PP/HD - Direct - L15S/L16/L17 - Q1-2023						
Bucket 12 - PP/HD - Direct - L15S/L16/L17 - Q2-2023						
Bucket 13 - PP/HD - Direct - L15S/L16/L17 - Q3-2023						
Bucket 14 - PP/HD - Direct - L15S/L16/L17 - Q4-2023						
Others						
Bucket 15 - IA - Direct - Q2-23	2023	Q2-2023	IA	OG	Not defined	Other
Bucket 16 - IA - Capa/FS Stocks - Q2-23	2023	Q2-2023	IA	OG	Capa	Capa / Field Service stocks
Bucket 17 - IA - Direct - Q3-2023	2023	Q3-2023	IA	OG	Not defined	Other
Bucket 18 - IA - Direct - Q4-2023	2023	Q4-2023	IA	OG	Not defined	Other

OneMM extract:

					80%									
Concatenation	P0	P1	P2	-	P0 - Stock Status	System	Plant Code	Plant Name	Commercial Ref.	Logistic Ref.	MRP Contr.	Stocking Policy	False MTS	C
29356-FR43	8	-	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	29356	29356	Q72	MTS	No	
29450-B-FR43	234	136	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	29450	29450-B	X09	MTS	No	
33642-FR43	22	-	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	33642	33642	D78	MTS	No	
33643-FR43	1	-	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	33643	33643	D78	MTS	No	
33644-FR43	12	-	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	33644	33644	D78	MTS	No	
33914-FR43	1	-	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	33914	33914	C36	MTO	No	
54655-FR43	4	-	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	54655	54655	G20	MTS	No	
A9A15306-FR43	8	4	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	A9A15306	A9A15306	C30	MTO	Yes	
A9F74204CA-FR43	14	4	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	A9F74204	A9F74204CA	C30	MTS	No	
BMEH582040K-FR43	-	-	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	BMEH582040K	BMEH582040K	PCK	MTS	No	
BMENUA0100-FR43	8	-	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	BMENUA0100	BMENUA0100	580	MTS	No	
BMEP581020-FR43	-	5	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	BMEP581020	BMEP581020	580	MTS	No	
BMEXBP0800-FR43	2	-	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	BMEXBP0800	BMEXBP0800	BKP	MTS	No	
BMXCPS4022S-FR43	35	-	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	BMXCPS4022S	BMXCPS4022S	SAH	MTS	No	
C1032D040-FR43	4	4	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C1032D040	C1032D040	Q75	MTS	No	
C1032D100-FR43	2	2	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C1032D100	C1032D100	Q75	MTS	No	
C1032D100-A-FR43	-	-	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	C1032D100	C1032D100-A	ANJ	MTO	Yes	
C103MA025-FR43	-	1	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C103MA025	C103MA025	L44	MTS	No	
C1042D040-FR43	119	17	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C1042D040	C1042D040	Q75	MTS	No	
C1042D100-FR43	40	5	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C1042D100	C1042D100	Q75	MTS	No	
C1042D100-A-FR43	-	-	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	C1042D100	C1042D100-A	ANJ	MTO	Yes	
C106MA100-FR43	-	4	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C106MA100	C106MA100	L44	MTS	No	
C10B3-FR43	-	6	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C10B3	C10B3	L68	MTS	No	
C10B3-A-FR43	-	-	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	C10B3	C10B3-A	SAH	MTO	Yes	
C10B4-FR43	-	8	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C10B4	C10B4	L69	MTS	No	
C10F3-FR43	6	-	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C10F3	C10F3	L68	MTS	No	
C10F3-A-FR43	-	-	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C10F3	C10F3-A	ANN	MTS	No	
C10F4-FR43	28	-	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C10F4	C10F4	L69	MTS	No	
C10F4-A-FR43	-	-	-	-	Stock alert	Bridge Europe	FR43	FR-Newlog	C10F4	C10F4-A	SAH	MTO	Yes	
C10N3-FR43	-	2	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C10N3	C10N3	L68	MTS	No	
C10N3-A-FR43	-	-	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C10N3	C10N3-A	ANN	MTS	No	
C10N4-FR43	65	18	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C10N4	C10N4	L69	MTS	No	
C124160LS-FR43	4	-	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C124160LS	C124160LS	L10	MTS	No	
C1642D160-FR43	2	8	-	-	Stock OK	Bridge Europe	FR43	FR-Newlog	C1642D160	C1642D160	Q75	MTS	No	

RACI matrix of main actions on the project:

Type	Activity	By bucket	GSC SPOC	Logistics SPOC	SIOP Leader PP	SIOP Leader IDPAC+IDHMI	Allocation SPOC PP	Allocation SPOC IA	BU PP SPOC	BU IA SPOC	FRANCE DPS SPOC	CCC SPOC	Rexel SPOC	Caps SPOC
Forecast	Agree on follow-up scope (bucket/tranche)	SPOT	A								A		R	R
Forecast	Gather forecast (ref / qty / month)	SPOT									A	C	R	R
Forecast	Include forecast in standard tool (Kinaxis)	SPOT	R		C	C								
Forecast	Provide theoretical SC commit	SPOT	A		R	R								
Forecast	(If negative commit from SC) Review plan	SPOT	C		R	R					C	C	R	R
Forecast	Review forecast & commit if changes announced	MAINTAIN	R		R	R					R	R	R	R
Anticipate	Propose anticipation (ref / qty / location)	SPOT	R		C	C			C	C	R		C	C
Anticipate	Get anticipation decision	SPOT	A		R	R					A			
Anticipate	Place anticipation orders	SPOT	A		R	R					A	R		
Anticipate	Add anticipation orders to follow-up list & tools	SPOT	R		C	C					A	C		
Get firm orders	Tag orders as "Grand Paris"	SPOT									A	R	C	C
Get firm orders	Add orders to follow-up list & tools	SPOT	R								A	C		
Prioritize	Get prioritization decision	SPOT	A		C	C	C	C	R	R	A		C	C
Prioritize	Prioritize orders	MAINTAIN	A		C	C	R	R			A	R	C	C
Prioritize	Confirm prioritization E2E visibility	MAINTAIN	A		R	R					A			
Deliver	Define target delivery date (by order item)	SPOT	A	C	R	R	C	C						
Deliver	Follow-up node-by-node delivery	MAINTAIN	R	C	C	C	C	C						
Deliver	Identify minor delivery road-block + action	MAINTAIN	R	C	C	C	C	C			C	C	C	C
Deliver	Identify major delays + escalation + action	MAINTAIN	R	C	C	C	C	C			R	C	C	C
Deliver	Confirm customer delivery	SPOT	A	C							A	R	R	R

A	Accountable
R	Responsible (People having to deliver the activty)
C	Contribute

Quick summary of actions on the control tower excel:

General rules :

Blue filled cells = **formulas** ! Do not put straight values in it !

Be sure to check the purple added comments on some of the columns

Archive the previous weekly extract **ALWAYS** before any modifications

If a tool, formula or else need to be added. Make sure that it is greenlit by the others before

SOPL GP part :

Extract SO Piloting List with the flag tag filter "GRANDPARIS", for the format use the GMR-GP view before the extraction

Copy/Paste the extract on the SOPL Sheet starting the O Column. Ensure that the categories are aligned and the previous data was well deleted. Then apply the formulas on

Sanity check the column F in order to avoid null lines. Then apply the filter "add to the list" on the N colum

OneMM part :

In "Data & Lists" sheet, change the data from the pivot table column W to the new SO list

Then copy the new product list and do the research on OneMM with the appriopriate filters

Extract the new grid then Copy/Paste it to the "OneMM" sheet and apply the formulas

GP Orders :

Copy/Paste the SO doc and Item columns of the data filtered previously on the SOPL

Clean the priority and comment columns for the delivered SOs

Clean the priority from the open SOs

Apply the formulas on the new lines (blue columns)

On the white columns H-I, Copy/Paste the F-G colums as values if the buckets are correct (that first need to be discussed in the bucket meeting Tuesday afternoon)

On the white columns P-Q, Copy/Paste the N-O colums as values

Priority part :

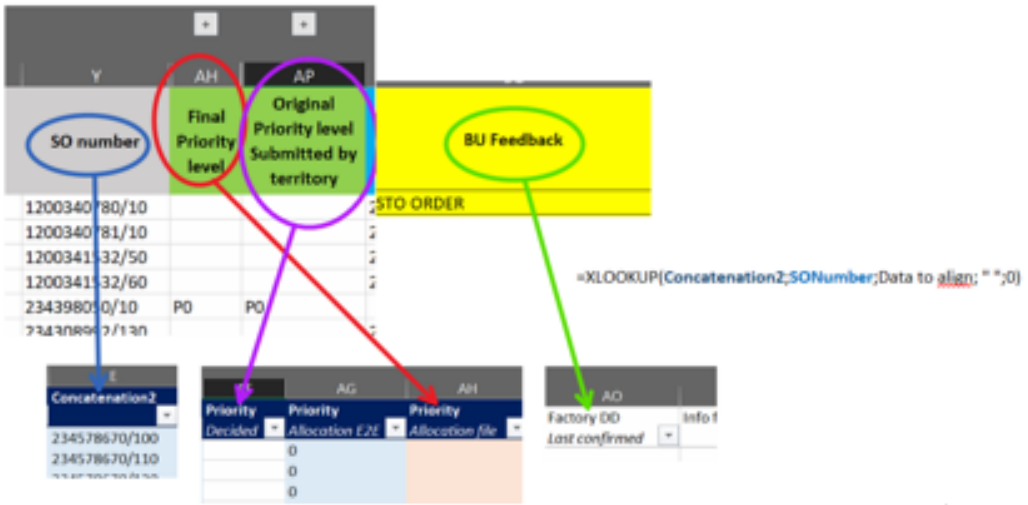
P0 = "Late due" + "Due current quarter" + "Identified anticipation" --> OK to deliver to customers as soon as possible

P1 + P2 = Deliver according to standard scheduling

OK for PP (in advance delivery only with customer agreement)

IA Products : IDPAC and IDHMI use the allocation feedback weekly files from both different excels for the LT3 cases.

With XLOOKUP, align respectively the data highlighted using the "concatenation2" column



Priority request CGIL Part :

Check if all the Open Sos are repertoried in the template, if not extend the formulas down.

Filter by action : "Request production (MTS) + Request for Bridge Prio1 (to CGIL)"

Check that the formulas are applied on the lines then paste the delimited part to the CGIL excel