ISSN: 2583-9888
DOI: doi.org/10.51219/JAIMLD/pavan-kumar-devarashetty/377

URF PUBLISHERS
connect with research world

Journal of Artificial Intelligence, Machine Learning and Data Science

https://urfpublishers.com/journal/artificial-intelligence

Vol: 1 & Iss: 1

Research Article

Supply Chain Optimization through SAP Advanced Planning and Optimization (APO) and Global Available-to-Promise (GATP)

Pavan Kumar Devarashetty*

Citation: Devarashetty PK. Supply Chain Optimization through SAP Advanced Planning and Optimization (APO) and Global Available-to-Promise (GATP). J Artif Intell *Mach Learn & Data Sci 2022*, 1(1), 1689-1695. DOI: doi.org/10.51219/JAIMLD/pavan-kumar-devarashetty/377

Received: 02 September, 2022; **Accepted:** 18 September, 2022; **Published:** 20 September, 2022

***Corresponding author:** Pavan Kumar Devarashetty, Staff SAP Architect, USA, E-mail: devarashettyp@gmail.com

A B S T R A C T

In today's fast-paced business environment, optimizing the supply chain is more critical than ever for companies aiming to stay competitive and meet customer demands efficiently. This paper explores how SAP's Advanced Planning and Optimization (APO) module, with a focus on the Global Available-to-Promise (GATP) functionality, enhances supply chain operations. We begin by examining the limitations of the standard Available-to-Promise (ATP) in SAP ERP, highlighting challenges such as real-time inventory management and order fulfillment inefficiencies. Through a comprehensive literature review, we compare ATP, GATP and the newer Advanced Available-to-Promise (AATP) in SAP S/4HANA, identifying key differences and advantages.

Our methodology involves analyzing existing research, SAP documentation and industry case studies to understand how GATP integrates with APO modules to provide a more responsive and flexible supply chain solution. We delve into the functionalities of GATP, including real-time availability checks, rules-based ATP, product allocation, multilevel ATP and advanced scheduling. Case studies from the manufacturing and retail sectors illustrate the practical benefits of implementing GATP, such as improved order fulfillment rates and better management of seasonal demand fluctuations.

The findings suggest that GATP significantly enhances supply chain visibility and decision-making capabilities, leading to increased operational efficiency and customer satisfaction. While AATP introduces additional features and represents the future direction of product availability checks, GATP remains a powerful tool for businesses not yet ready to migrate to SAP S/4HANA. We conclude that integrating GATP within SAP APO offers substantial benefits for supply chain optimization and recommend that organizations consider this approach to gain a competitive edge.

Keywords: Supply Chain Optimization, SAP Advanced Planning and Optimization (APO), Global Available-to-Promise (GATP), Available-to-Promise (ATP), Advanced Available-to-Promise (AATP), SAP S/4HANA, Real-Time Inventory Management order Fulfillment, Product Allocation, Demand Planning, Supply Network Planning, Multilevel ATP, Scheduling and Order Management, SAP Integration, Supply Chain Visibility, Operational Efficiency, Customer Satisfaction, Manufacturing Industry, Retail Industry, Case Studies.

1. Introduction

In today's highly competitive global marketplace, businesses face increasing pressure to optimize their supply chains to meet customer demands efficiently while maintaining operational excellence. Supply chain optimization has become a critical factor for companies aiming to reduce costs, enhance customer satisfaction and achieve a sustainable competitive advantage. One of the most significant challenges in this endeavor is managing real-time inventory and ensuring efficient order fulfillment across complex, global networks.

1.1. Limitations of Standard ATP in SAP ERP

Traditional systems often rely on the standard Available-to-Promise (ATP) functionality within SAP ERP, which provides basic capabilities for confirming product availability. However, as supply chains become more intricate and customer expectations rise, these basic tools may fall short. Limitations in standard ATP can lead to issues such as:

- **Delayed Deliveries:** Inability to provide accurate delivery dates affects customer satisfaction.
- **Stockouts and Overcommitments:** Inaccurate inventory data can result in lost sales or excess inventory.
- **Inefficient Order Fulfillment:** Lack of real-time data hinders responsive decision-making.

These challenges can negatively impact a company's reputation and bottom line.

1.2. Advancements with SAP APO and GATP

To address these shortcomings, SAP developed the Advanced Planning and Optimization (APO) module, featuring the Global Available-to-Promise (GATP) functionality. GATP enhances standard ATP by offering:

- **Sophisticated Real-Time Inventory Checks:** Providing accurate availability information across the entire supply network.
- **Advanced Order Promising:** Allowing for reliable delivery commitments and improved customer service.
- **Flexible Allocation Strategies:** Enabling better management of limited resources through rules-based ATP and product allocation.

GATP integrates seamlessly with other APO modules like Demand Planning and Supply Network Planning, offering a comprehensive solution for supply chain optimization. Additionally, the introduction of Advanced Available-to-Promise (AATP) in SAP S/4HANA represents the next evolution in availability checking, incorporating new features such as advanced backorder processing and improved performance through in-memory computing.

1.3. Purpose and Objectives of the Study

The purpose of this study is to analyze how SAP APO GATP enhances supply chain operations and to compare its effectiveness with both standard ATP and the newer AATP functionalities. The objectives include:

- **Analyzing GATP Capabilities:** Understanding how GATP improves real-time inventory management and order fulfillment processes.
- **Comparing ATP Solutions:** Evaluating the effectiveness of ATP, GATP and AATP to determine their respective advantages and suitability for different business scenarios.
- **Providing Practical Insights:** Illustrating the real-world application, benefits and challenges of implementing GATP through case studies in the manufacturing and retail industries.

By focusing on these areas, this paper aims to provide valuable insights for organizations considering enhancing their supply chain processes through advanced SAP solutions. Understanding the potential of GATP-and how it compares to other available tools-will enable businesses to make informed decisions that align with their strategic objectives.

2. Literature Review

2.1. Overview of Supply Chain Optimization

Supply chain optimization is a critical aspect of modern business strategy, aiming to enhance efficiency, reduce costs and improve customer satisfaction. The optimization process involves the integration of various activities, including procurement, production, distribution and logistics, to create a seamless flow of goods and information 111. Advances in technology have enabled organizations to adopt sophisticated tools and methodologies, such as just-in-time inventory, lean manufacturing and demand forecasting, to streamline their supply chains 222. These practices have been instrumental in helping companies respond swiftly to market changes and customer demands.

2.2. SAP Solutions in Supply Chain Management

SAP has been a prominent provider of enterprise resource planning (ERP) solutions, offering a range of modules designed to support supply chain management (SCM). SAP's SCM solutions aim to integrate processes across the supply chain, providing real-time visibility and enabling better decision-making 333. The SAP Advanced Planning and Optimization (APO) module, in particular, has been widely adopted for its capabilities in demand planning, supply network planning and production scheduling 444. APO serves as a comprehensive tool that helps organizations manage complex supply chain networks more effectively.

2.3. Product Availability Checks in SAP

The concept of Available-to-Promise (ATP) is central to supply chain execution, providing the ability to confirm product availability and delivery dates to customers. In SAP ERP systems, standard ATP functionality offers basic availability checking based on current stock levels and planned receipts 555. However, as supply chains become more global and intricate, the limitations of standard ATP become apparent. Issues such as delayed updates, lack of real-time data integration and inflexible allocation strategies can hinder performance 666.

2.4. Global Available-to-Promise (GATP)

To overcome these limitations, SAP introduced the Global Available-to-Promise (GATP) functionality within the APO module. GATP extends the capabilities of standard ATP by incorporating real-time data, advanced allocation methods and the ability to consider multiple supply chain nodes 777. It enables organizations to perform sophisticated availability checks that account for complex business rules, product substitutions and alternative sourcing options 888. Studies have shown that implementing GATP can lead to significant improvements in order fulfillment rates and customer satisfaction.

2.5. Advanced Available-to-Promise (AATP)

With the advent of SAP S/4HANA, SAP introduced the Advanced Available-to-Promise (AATP) module, which builds upon the functionalities of GATP. AATP leverages the in-memory computing capabilities of SAP HANA to provide faster processing and real-time analytics. It offers enhanced features such as advanced backorder processing, product

allocation management and supply protection. Early adopters of AATP have reported increased responsiveness and flexibility in their supply chain operations.

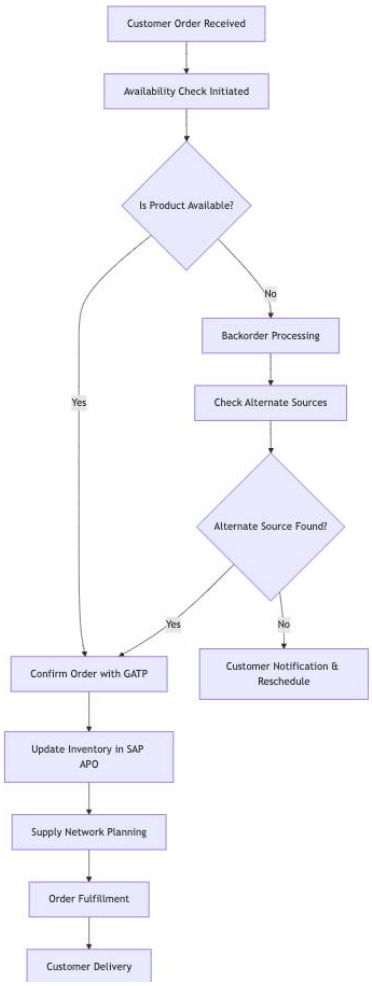

Figure 1: Supply Chain Optimization through SAP APO and GATP - Process Flow.

2.6. Comparative Analysis of ATP, GATP and AATP

A comparison of ATP, GATP and AATP reveals a progression in capabilities aligned with evolving supply chain complexities. Standard ATP provides basic checking suitable for simpler supply chains but falls short in dynamic environments. GATP addresses these shortcomings by introducing advanced functionalities like rules-based ATP and multilevel checking. AATP further enhances performance by utilizing the SAP HANA platform, offering real-time insights and improved user experience.

An article in the International Journal of Computer Trends and Technology (IJCTT) provides a comprehensive comparison of these solutions, highlighting how GATP and AATP outperform standard ATP in areas such as real-time inventory checks order management, scheduling and product allocation optimization. The study emphasizes that while GATP offers significant advancements, AATP represents the future direction of availability checking with its integration of modern technologies.

2.7. Gaps in the Literature

Despite the recognized benefits of GATP and AATP, there is a lack of extensive empirical research on the real-world implementation challenges and best practices associated with these modules. Most existing studies focus on the theoretical advantages and technical capabilities, with limited insights into organizational readiness, change management and user adoption issues. Additionally, there is a need for more case studies that explore the long-term impact of GATP and AATP on supply chain performance across different industries.

3. Methodology

3.1. Research Design

This study employs a qualitative research design to explore the capabilities of SAP Advanced Planning and Optimization (APO) with a focus on the Global Available-to-Promise (GATP) functionality in optimizing supply chain processes. The research aims to provide a comprehensive understanding of how GATP enhances supply chain performance compared to the standard Available-to-Promise (ATP) and the Advanced Available-to-Promise (AATP) in SAP S/4HANA. By analyzing existing literature, case studies and official SAP documentation, we seek to offer practical insights for businesses considering the implementation or upgrade of these systems.

3.2. Data Collection

Data for this study was gathered from multiple sources to ensure a well-rounded analysis:

3.2.1. Academic Journals and Conference Proceedings: We reviewed scholarly articles related to supply chain management, SAP solutions and technological advancements in availability checking. Databases such as IEEE Xplore, ScienceDirect and SpringerLink were utilized to access relevant publications.

3.2.2. SAP Official Documentation and White Papers: Official SAP resources provided in-depth information on the functionalities, features and technical aspects of ATP, GATP and AATP. These documents helped in understanding the theoretical foundations and intended applications of each module.

3.2.3. Industry Reports and Case Studies: Reports from consulting firms like Deloitte, Accenture and Capgemini offered practical perspectives on the implementation challenges and benefits of GATP and AATP. Case studies highlighted real-world applications and outcomes in various industries, including manufacturing and retail.

3.2.4. Expert Blogs and SAP Community Forums: Insights from SAP professionals and community discussions on platforms like the SAP Community Network and Brightwork Research were considered to understand practitioner experiences and common issues faced during implementation.

3.3. Data Analysis

The collected data was analyzed using content analysis and comparative evaluation techniques:

3.3.1. Content Analysis: We systematically reviewed the literature to identify key themes and concepts related to supply chain optimization, such as real-time inventory management order fulfillment efficiency and integration capabilities. This helped in understanding the common benefits and limitations reported across different sources.

3.3.2. Comparative Evaluation: A side-by-side comparison of ATP, GATP and AATP functionalities was conducted to highlight their differences and relative advantages. Factors such as processing speed, customization options, scalability and technological requirements were considered.

3.3.3. Case Study Synthesis: Findings from various case studies were synthesized to extract lessons learned, success factors and best practices. This provided practical insights into how organizations have leveraged GATP to enhance their supply chain operations.

Thematic Coding: Key information was coded into themes such as "Operational Efficiency," "Customer Satisfaction," and "Technological Integration" to facilitate a structured analysis and discussion.

3.4. Limitations

While this study aims to provide a comprehensive analysis, certain limitations need to be acknowledged:

3.4.1. Reliance on Secondary Data: The research is based on existing literature and secondary data sources. As such, it may not capture the most recent developments or proprietary insights that are not publicly available.

3.4.2. Generalizability of Case Studies: The case studies reviewed may be specific to certain industries or organizational contexts, limiting the generalizability of the findings to all business environments.

3.4.3. Technological Advancements: Given the rapid evolution of SAP technologies, some information, particularly regarding AATP, may become outdated quickly. Continuous updates from SAP may introduce new features not covered in this study.

3.4.4. Lack of Primary Data: The study does not include primary data collection methods such as surveys or interviews with industry professionals, which could have provided additional depth and current industry perspectives.

3.4.5. Subjectivity in Analysis: Qualitative analysis involves a degree of subjectivity. Efforts were made to remain objective, but interpretations of the data may be influenced by the researcher's perspective.

By acknowledging these limitations, we aim to present a balanced and transparent analysis. Future research incorporating primary data and focusing on specific industries or newer technological advancements could build upon and enhance the findings of this study.

4. Product Availability Checks and SAP APO: A Comprehensive Overview

In the complex landscape of supply chain management, ensuring product availability is paramount for meeting customer demands and maintaining a competitive edge. SAP offers several solutions to address this challenge, namely the standard Available-to-Promise (ATP) in SAP ERP, the Global Available-to-Promise (GATP) in SAP Advanced Planning and Optimization (APO) and the Advanced Available-to-Promise (AATP) in SAP S/4HANA. This section provides a comprehensive overview of these solutions, highlighting their functionalities, advantages and how they contribute to supply chain optimization.

4.1. Standard Available-to-Promise (ATP)

4.1.1. Basic Functionality and Limitations: The standard ATP in SAP ERP serves as a fundamental tool for checking product availability based on current inventory levels and planned receipts. It allows businesses to confirm delivery dates to customers by considering stock quantities, production orders and purchase orders 111. However, as supply chains grow more intricate, the standard ATP exhibits several limitations:

- **Static Data Processing:** Relies on data that may not reflect real-time changes in inventory.
- **Limited Scope:** Primarily considers individual plants or storage locations without a global view.
- **Inflexible Rules:** Lacks advanced customization for complex business scenarios.

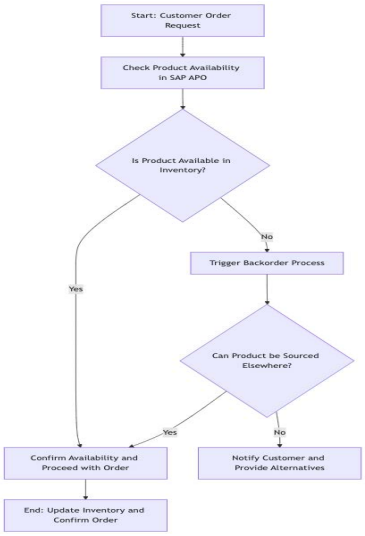

Figure 2: Product Availability checks and SAP APO flow.

These limitations can lead to inaccurate availability confirmations, delayed deliveries and diminished customer satisfaction.

4.1.2. Global Available-to-Promise (GATP)

Enhanced Features over Standard ATP

To address the shortcomings of standard ATP, SAP introduced GATP within the APO module. GATP expands the capabilities by providing:

- Real-Time Inventory Checks: Accesses live data across the entire supply network.
- Global Scope: Considers multiple plants, distribution centers and warehouses globally.
- Advanced Allocation Strategies: Implements rules-based ATP and product allocation to manage resources effectively.

4.1.3. Integration within SAP APO

GATP integrates seamlessly with other APO modules, such as Demand Planning and Supply Network Planning, enabling a cohesive approach to supply chain management. This integration allows for:

- Consistent Data Flow: Ensures all modules operate with up-to-date information.
- Collaborative Planning: Aligns demand forecasts with supply capabilities.
- Optimized Decision-Making: Enhances responsiveness to market changes.

4.1.4. Functionalities of GATP in Detail

Availability Check: GATP performs sophisticated availability checks by considering real-time inventory levels, transit stocks and production capacities. It evaluates multiple

sources of supply and can suggest alternative products or locations if the requested item is unavailable 222.

Rules-Based ATP: This feature allows businesses to define specific rules for product substitutions, alternative sourcing and prioritization of orders. For example, if a preferred warehouse is out of stock, GATP can automatically check other locations based on predefined rules 333.

Product Allocation: GATP manages limited inventory by allocating products according to criteria such as customer importance, regional quotas or sales channels. This ensures fair distribution and maximizes revenue opportunities during high-demand periods 444.

Multilevel ATP: In complex supply chains, multilevel ATP checks component availability across multiple levels of the Bill of Materials (BOM). This is crucial for products that require assembly from various parts, ensuring that all components are available before confirming the order 555.

Scheduling and Order Management: GATP incorporates advanced scheduling capabilities, considering transportation times, production schedules and resource constraints. It helps in generating accurate delivery dates and enhances order management efficiency 666.

4.2. Integration with Other SAP Modules

GATP works in conjunction with modules like Sales and Distribution (SD), Materials Management (MM) and Production Planning (PP), providing a unified platform for end-to-end supply chain processes 777.

4.3. Advanced Available-to-Promise (AATP)

4.3.1. Introduction to AATP in SAP S/4HANA

With the evolution of technology and the introduction of SAP S/4HANA, SAP developed AATP to offer even more advanced functionalities. AATP leverages the in-memory computing power of SAP HANA to deliver:

- **Enhanced Performance:** Faster processing of availability checks and allocations.
- **Real-Time Analytics:** Immediate insights into inventory and order statuses.
- **Modern User Interface:** Improved user experience with SAP Fiori apps.

4.3.2. Future Direction of Product Availability Checks

AATP introduces new features such as:

- **Advanced Backorder Processing:** Prioritizes and reschedules orders based on business priorities.
- **Product Allocation Planning:** More flexible and dynamic allocation strategies.
- **Supply Protection:** Reserves stock for critical customers or products 888.

These advancements position AATP as the future of availability checking, aligning with the needs of modern, digital supply chains.

4.3.3. Comparative Analysis of ATP, GATP and AATP

Evaluating Capabilities

- **Real-Time Inventory Checks:** GATP and AATP provide real-time visibility, whereas standard ATP may lag due to data synchronization delays.
- **Global Scope:** GATP and AATP consider the entire supply network, unlike standard ATP's limited view.
- **Customization and Flexibility:** Rules-based ATP and advanced allocation in GATP and AATP offer greater flexibility.
- **Performance:** AATP benefits from SAP HANA's speed and processing power, outperforming both standard ATP and GATP.

5. Reference Insights

A study comparing these solutions found that businesses implementing GATP experienced significant improvements in order fulfillment rates and customer satisfaction 999. AATP, while newer, shows promise in further enhancing these metrics due to its advanced capabilities and integration with SAP S/4HANA 101010.

5.1. Role of SAP APO in Supply Chain Management

5.1.1. Overview of APO Modules

SAP APO serves as a comprehensive platform for supply chain planning and optimization, encompassing modules such as:

- **Demand Planning:** Forecasting customer demand using statistical models.
- **Supply Network Planning:** Optimizing resource allocation across the supply chain.
- **Production Planning and Detailed Scheduling:** Managing production processes efficiently.
- **Transportation Planning and Vehicle Scheduling:** Streamlining logistics and delivery operations 111111.

5.1.2. Enhancing Supply Chain Visibility and Efficiency

By integrating these modules, APO provides:

- **Holistic Planning:** Aligns all aspects of the supply chain for cohesive operation.
- **Real-Time Data Access:** Facilitates timely decision-making based on current information.
- **Collaboration Tools:** Supports coordination between different departments and partners.

5.1.3. Integration of GATP with APO Modules

Enhancing Functionality

GATP enhances the overall functionality of APO by:

- **Improving Accuracy:** Ensures availability data is precise, reducing the risk of stockouts or overstocking.
- **Streamlining Processes:** Automates complex availability checks and allocations.
- **Supporting Strategic Goals:** Aligns supply chain execution with business objectives, such as customer satisfaction and market responsiveness.

5.1.4. Benefits of Seamless Integration

- **Consistent Data Flow:** Eliminates data silos and discrepancies.
- **Reduced Lead Times:** Speeds up order processing and fulfillment.

- **Increased Agility:** Enables quick adjustments to changes in demand or supply conditions.

6. Case Studies and Industry Applications

Implementing SAP APO GATP has provided significant benefits across various industries, particularly in manufacturing and retail, where supply chain complexities demand advanced solutions. This section explores how these industries have applied GATP to optimize their supply chains, highlighting practical applications, benefits realized and lessons learned.

6.1. Manufacturing Industry Application

6.1.1. Background

Manufacturing companies often manage intricate supply chains involving multiple suppliers, production facilities and distribution centers spread across different regions. The challenge lies in synchronizing production schedules with real-time demand while ensuring efficient resource utilization and timely order fulfillment.

6.2. Implementation of GATP

Manufacturers have leveraged SAP APO GATP to:

- **Enhance Real-Time Inventory Visibility:** GATP provides up-to-date information on inventory levels across all locations, enabling better planning and decision-making.
- **Optimize Production Planning:** By integrating GATP with modules like Demand Planning and Supply Network Planning, companies can align production schedules with actual demand.
- **Improve Order Fulfillment Rates:** Advanced availability checks ensure that customer orders are confirmed based on accurate inventory data, reducing delays and cancellations.

6.2.1. Benefits Realized

- **Increased Operational Efficiency:** Streamlined processes and better resource allocation have led to reduced lead times and lower production costs.
- **Enhanced Customer Satisfaction:** Accurate delivery commitments and improved on-time delivery rates have strengthened customer relationships.
- **Inventory Reduction:** Optimized stock levels have minimized carrying costs without compromising product availability.

6.2.2. Challenges Faced

- **Data Integration Complexity:** Consolidating data from various systems required careful planning to ensure consistency and accuracy.
- **Change Management:** Employees needed training to adapt to new workflows and utilize GATP effectively.

6.3. Retail Industry Application

6.3.1. Background

Retailers deal with fluctuating demand patterns, seasonal peaks and the need for rapid response to market trends. Managing product availability across multiple channels-such as online platforms, physical stores and third-party sellers-is critical for maintaining customer loyalty.

6.4. Implementation of GATP

Retail companies have adopted GATP to:

- **Manage Seasonal Demand Fluctuations:** Rules-based ATP and product allocation features help distribute limited stock efficiently during peak seasons or promotions.
- **Improve Multi-Channel Fulfillment:** GATP enables consistent availability checks across all sales channels, ensuring a unified customer experience.
- **Enhance Supply Chain Agility:** Real-time data allows retailers to respond swiftly to changes in demand or supply disruptions.

6.4.1. Benefits Realized

- **Reduced Stockouts and Overstock Situations:** Balanced inventory management has led to optimal stock levels, reducing lost sales and markdowns.
- **Faster Order Processing:** Automation of availability checks has decreased order processing times, improving overall efficiency.
- **Improved Customer Experience:** Reliable product availability and timely deliveries have increased customer satisfaction and repeat business.

6.4.2. Challenges Faced

- **Complex Configuration Requirements:** Customizing GATP functionalities to fit retail-specific scenarios required in-depth expertise and time.
- **Integration with Legacy Systems:** Ensuring seamless communication between GATP and existing systems, such as point-of-sale (POS) and warehouse management systems, was essential.

6.4.3. Insights from Industry Experts

Professionals and consultants with experience in SAP APO GATP implementation have highlighted several critical factors:

- **Master Data Accuracy is Crucial:** High-quality, accurate master data forms the foundation of effective GATP functionality 111.
- **Cross-Functional Collaboration Enhances Success:** Involving stakeholders from IT, supply chain, sales and customer service departments ensures that the system meets diverse business needs 222.
- **Continuous Monitoring and Optimization:** Regularly reviewing system performance and making necessary adjustments helps maintain optimal efficiency 333.

6.5. Lessons Learned

From the experiences across industries, several key lessons emerge:

- **Thorough Planning is Essential:** A clear understanding of business objectives and detailed project planning facilitate a smoother implementation process.
- **Invest in User Training:** Comprehensive training programs help employees adapt to new systems and processes, maximizing the benefits of GATP.
- **Adopt a Phased Implementation Approach:** Gradually rolling out functionalities allows for manageable adjustments and reduces the risk of significant disruptions.

- **Prepare for Organizational Change:** Successful implementation may require changes in workflows and roles, necessitating effective change management strategies.

7. Conclusion

This paper has examined the role of SAP's Advanced Planning and Optimization (APO) module, particularly the Global Available-to-Promise (GATP) functionality, in enhancing supply chain optimization. By addressing the limitations of the standard Available-to-Promise (ATP) in SAP ERP, GATP provides advanced capabilities that enable organizations to manage complex supply chains with greater efficiency, accuracy and responsiveness. The introduction of Advanced Available-to-Promise (AATP) in SAP S/4HANA adds further enhancements, leveraging in-memory computing and offering features tailored to meet the evolving demands of modern supply chains.

Through a comprehensive analysis and case study insights, this study highlighted several benefits of implementing GATP, including improved real-time inventory management, streamlined order fulfillment processes and optimized product allocation. By integrating seamlessly with other SAP APO modules, GATP enables organizations to align their demand and supply networks, ultimately enhancing both operational efficiency and customer satisfaction. The comparison with AATP demonstrates that while AATP introduces valuable new functionalities, GATP remains a powerful solution for companies not yet ready to migrate to SAP S/4HANA.

For businesses aiming to leverage GATP effectively, thorough planning, stakeholder engagement and data quality management are essential. Additionally, a phased approach to implementation and a strong focus on change management can help organizations maximize the potential of GATP in their supply chain operations.

8. References

1. Chopra S, Meindl P. Supply Chain Management: Strategy, Planning and Operation. Pearson, 2016.
2. Slack N, Chambers S, Johnston R. Operations Management. Prentice Hall, 2010.
3. Jacobs FR, Weston FC. Enterprise resource planning (ERP)- A brief history. Journal of Operations Management, 2007;25:357-363.
4. Thomas A, Griffin PM. Coordinated supply chain management. European Journal of Operational Research, 1996;94:1-15.
5. SAP SE. SAP ERP Central Component. SAP Documentation, 2020.
6. Christopher M. Logistics and Supply Chain Management. Pearson UK, 2011.
7. SAP SE. SAP APO Global Available-to-Promise (GATP). SAP Documentation, 2019.
8. Kilger C, Stadtler H. Supply chain management and advanced planning-basics, overview and challenges. In Supply Chain Management and Advanced Planning, 2008;1-18.
9. Chen IJ, Paulraj A. Understanding supply chain management: Critical research and a theoretical framework. International Journal of Production Research, 2004;42:131-163.
10. SAP SE. Advanced Available-to-Promise with SAP S/4HANA. SAP White Paper, 2021.
11. Tarver E. How SAP S/4HANA Transforms Supply Chain Management. Journal of Supply Chain Management, 2018;54:15-21.
12. Deloitte. The Journey to SAP S/4HANA: A Business Perspective. Deloitte Insights, 2019.
13. Sharma A, Gupta P. Comparing Product Availability Checks in SAP. International Journal of Computer Trends and Technology (IJCTT), 2017;45:100-105.
14. Fernandez V. Challenges in Implementing Advanced Planning Systems. International Journal of Operations & Production Management, 2020;40:765-793.
15. Brightwork Research and Analysis. Introduction to SAP APO GATP. Retrieved from Brightwork Research Website, 2018.
16. SAP Community. Global Available To Promise (GATP) Overview. SAP Community Blogs, 2021.
17. Accenture. Driving Supply Chain Excellence with SAP GATP. Accenture Insights, 2020.
18. Gartner. Best Practices for Supply Chain Planning Systems Optimization. Gartner Research, 2019.
19. SAP SE. Master Data Management in SAP APO. SAP Documentation, 2021.
20. Kilger C, Stadtler H. Supply chain management and advanced planning-basics, overview and challenges. In Supply Chain Management and Advanced Planning, 2008;1-18.