

Ship Angel eBook

The Next Wave: Embracing SaaS for Supply Chain Efficiency



Introduction

The global supply chain industry is in the midst of a profound transformation. While other industries have rapidly embraced digital solutions, supply chain management (SCM) has been slower to pivot. However, the tide is turning. The COVID-19 pandemic has accelerated digital adoption, pushing companies to rethink their reliance on traditional tools like Excel in favor of more dynamic, scalable, and collaborative SaaS solutions.

The Evolution of Supply Chain Management

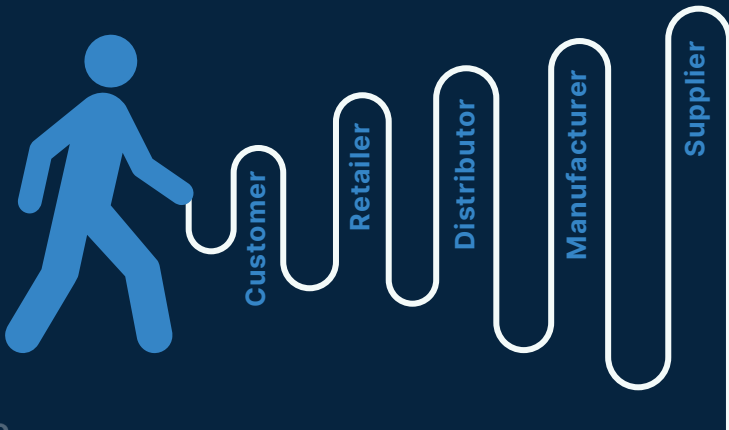
The Evolution of SCM can be traced through several key phases, each marked by technological advancements and changing business needs:

1. Early Concepts (1950s-1970s):

The foundations of modern SCM were laid during this period. In 1958, Jay Forrester introduced the concept of demand amplification in supply chains, now known as the "bullwhip effect." This phenomenon highlighted the need for better coordination across the supply chain.

According to Martin Christopher in his book "[Logistics and Supply Chain Management](#)" (2016): "The term 'supply chain management' was first used in its current context in the early 1980s. Prior to that time, businesses used terms such as 'logistics' and 'operations management' to describe aspects of what we now call supply chain management."

The Bullwhip Effect



The Evolution of Supply Chain Management

2. Emergence of SCM as a Discipline (1980s-1990s):

During this period, SCM began to be recognized as a distinct field. The Council of Supply Chain Management Professionals (CSCMP) was founded in 1963 (then called the National Council of Physical Distribution Management).

A seminal paper by Keith Oliver in the Financial Times in 1982 (cited in: [Supply Chain Management: A Descriptive Conception by Dr Katherine Berthold](#)) is often credited with coining the term "supply chain management." Oliver defined it as: "... the process of planning, implementing, and controlling the operations of the supply chain with the purpose to satisfy customer requirements as efficiently as possible."

3. Globalization and Technology Integration (1990s-2000s):

This era saw rapid globalization and the integration of information technology into SCM practices. Enterprise Resource Planning (ERP) systems became widespread.

According to a study by [Bowersox et al. \(2000\)](#) published in the Journal of Business Logistics: "By the late 1990s, more than 60% of Fortune 1000 companies had implemented or were in the process of implementing ERP systems to integrate their supply chain operations."

The Evolution of Supply Chain Management

4. E-commerce and Digital Transformation (2000s-2010s):

The rise of e-commerce led to new challenges and opportunities in SCM. Amazon's success highlighted the importance of efficient and responsive supply chains.

A report by [Gartner \(2016\)](#) stated: "By 2020, 50% of large global companies will be using advanced analytics, artificial intelligence and Internet of Things (IoT) in supply chain operations."



5. Industry 4.0 and Smart Supply Chains (2010s-Present):

The current phase of SCM evolution is characterized by the integration of advanced technologies like AI, IoT, and blockchain.

According to a [McKinsey report \(2021\)](#): "Companies that aggressively digitize their supply chains can expect to boost annual growth of earnings before interest and taxes by 3.2 percent—**the largest increase from digitizing any business area**—and annual revenue growth by 2.3 percent."

The Evolution of Supply Chain Management

Sustainability and Resilience (Present and Future):

Recent global events like the COVID-19 pandemic have highlighted the need for resilient and sustainable supply chains.

The World Economic Forum's "Future of Jobs Report 2020" noted: "85% of companies are accelerating the digitization of work processes, indicating a trend toward remote work, automation, and new technologies in supply chain management."

Supply chain management is increasingly recognized as a key strategic differentiator for companies across industries. This evolution reflects the growing complexity and strategic importance of supply chain management.

As supply chains grow more complex—encompassing global networks, just-in-time logistics, and diverse regulatory environments—traditional tools fall short. This evolution demands systems that can handle vast amounts of data, offer real-time insights, and support collaboration across geographies and functions.



SaaS Solutions: The Future of Supply Chain Management

1. Scalability and Complexity Management

Challenges With Traditional Tools:

Traditional tools like Excel, while still widely used, face significant limitations when dealing with the scale and complexity of modern supply chains:

Data Volume Limitations: Excel has a maximum of 1,048,576 rows per worksheet. For large enterprises dealing with millions of SKUs, transactions, or data points, this limitation can be crippling.



Real-time Collaboration Issues: Sharing and simultaneously editing Excel files can lead to version control problems and data inconsistencies, especially when dealing with global teams.



Limited Integration Capabilities: Excel struggles to integrate seamlessly with other business systems like ERP, CRM, or IoT devices, which are crucial for a holistic view of the supply chain.



Computation Power: Complex calculations and large data manipulations can slow down Excel significantly, impacting productivity and decision-making speed.



Lack of Advanced Analytics: While Excel offers basic analytical tools, it falls short in providing advanced predictive analytics, machine learning capabilities, or real-time optimization that modern supply chains require.



Security Concerns: Spreadsheets are often shared via email or unsecured channels, posing significant data security risks.



SaaS Solutions: The Future of Supply Chain Management

SaaS Advantage:

SaaS platforms offer several key advantages in managing the scalability and complexity of modern supply chains:

Infinite Scalability: Cloud-based SaaS solutions can handle virtually unlimited amounts of data. They can easily scale up or down based on business needs without requiring significant infrastructure investments.



Advanced Analytics and AI Integration: Many SaaS platforms incorporate advanced analytics, machine learning, and AI capabilities.



Real-time Collaboration: SaaS platforms enable real-time collaboration across global teams.



Industry-Specific Solutions: SaaS providers often offer industry-specific solutions that address their unique supply chain challenges.



Integration Capabilities: SaaS platforms typically offer robust APIs and pre-built connectors to integrate with various business systems.



SaaS Solutions: The Future of Supply Chain Management

SaaS Advantage:

Automatic Updates and Maintenance: SaaS solutions are continuously updated, ensuring users always have access to the latest features and security patches without the need for manual upgrades.



Global Accessibility: Cloud-based SaaS platforms can be accessed from anywhere with an internet connection, facilitating global operations and remote work scenarios.



Cost-Effectiveness: SaaS solutions often operate on a subscription model, reducing upfront costs and allowing businesses to pay for what they use. This can be beneficial for small to medium-sized enterprises.



Customization and Flexibility: Many SaaS platforms offer customization options to fit specific business needs.



Disaster Recovery and Business Continuity: SaaS providers typically offer robust backup and recovery solutions, ensuring business continuity even in the face of local disasters.



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2. Real-Time Collaboration and Communication

Challenges With Traditional Tools:

Version Control Issues: When using tools like Excel, multiple versions of the same file often circulate, leading to confusion about which version is the most current and accurate. This can result in decisions being made based on outdated information.



Data Discrepancies: Without real-time updates, different team members may be working with inconsistent data sets. This can lead to conflicting decisions and inefficiencies in the supply chain.



Time Lag in Information Sharing: Traditional tools often rely on manual updates and sharing, causing delays in information dissemination. In fast-moving supply chains, even small delays can have significant impacts.



Limited Accessibility: Excel files are typically stored locally or on internal servers, making it difficult for team members in different locations or time zones to access the most up-to-date information.



Lack of Audit Trails: Traditional tools often lack robust tracking of who made what changes and when, making it difficult to trace the source of errors or understand the reasoning behind certain decisions.



Communication Silos: Without integrated communication tools, discussions about supply chain data often happen in separate channels (e.g., email, phone calls), leading to fragmented communication and potential misunderstandings.



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SaaS Advantage:

SaaS platforms on the other hand, offer numerous advantages in facilitating real-time collaboration and communication:

Single Source of Truth: SaaS solutions provide a centralized platform where all users can access up-to-date information. This eliminates version control issues, allowing everyone to work with the same data.



Real-Time Updates: Changes made by any user are instantly reflected for all other users.



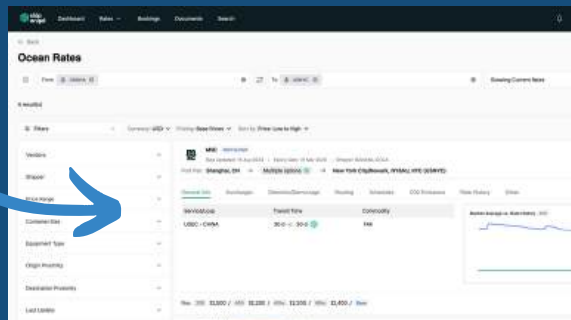
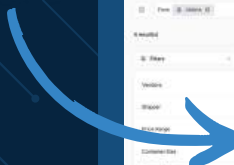
Global Accessibility: Cloud-based SaaS platforms can be accessed from anywhere with an internet connection. This is particularly crucial for global supply chains spanning multiple time zones and geographies.



Collaborative Forecasting and Planning: SaaS solutions enable multiple stakeholders to participate in forecasting and planning processes simultaneously.



Real-time rate updates in
the Ship Angel platform



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SaaS Advantage:

Role-Based Access Control: SaaS platforms typically offer granular control over who can view and edit different types of data. This ensures that team members have access while maintaining data security.



Audit Trails and Change Logs: Most SaaS solutions maintain detailed logs of all changes, including who made them and when. This is crucial for maintaining accountability and tracing the evolution of decisions.



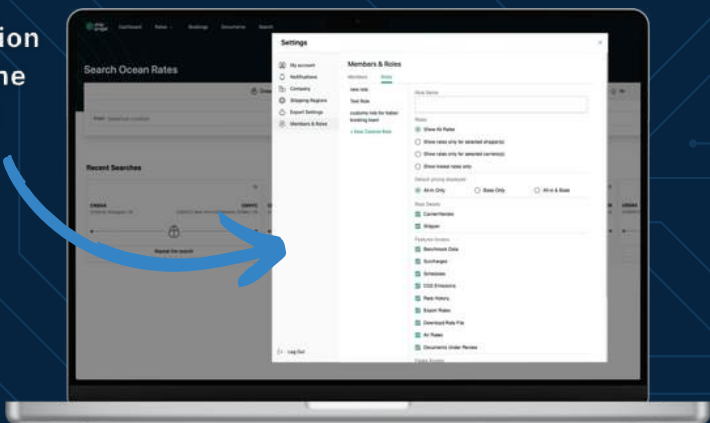
Real-Time Analytics and Reporting: SaaS platforms can generate up-to-the-minute reports and analytics, allowing teams to make decisions based on the most current data available.



Mobile Accessibility: SaaS platforms often come with mobile apps or responsive web interfaces, allowing team members to stay connected and make decisions on the go.



User permission
settings in the
Ship Angel
platform



SaaS Solutions: The Future of Supply Chain Management

The advantages of SaaS in real-time collaboration and communication are particularly evident in complex, global supply chains. For example, what would happen if a shipper using SaaS gets notified that a natural disaster has affected a key supplier? In the case of a shipper using manual or Excel-based processes this could result in a disaster for the shipper at worst, and at best a whole lot of stress. However the scenario and how that plays out would look quite different for a shipper utilizing SaaS:

- 1. The local team at the affected site can immediately update the status in the SaaS platform.**
- 2. This update triggers automatic notifications to relevant stakeholders across the globe.**
- 3. The procurement team can instantly see the impact on inventory levels and initiate conversations with alternative suppliers.**
- 4. The sales team can access real-time information about potential delays and communicate proactively with customers.**
- 5. Management can use real-time analytics to assess the overall impact and make strategic decisions.**

This level of rapid, coordinated response is simply not possible with traditional tools like Excel. The real-time collaboration enabled by SaaS solutions can significantly improve a company's ability to navigate complex supply chain challenges and maintain competitive advantage in a fast-paced global market.

SaaS Solutions: The Future of Supply Chain Management

3. Enhanced Data Security and Compliance

Challenges With Traditional Tools:

Lack of Robust Access Controls: Excel files can be easily shared, copied, or accessed without proper authorization. This makes it difficult to maintain control over who has access to sensitive supply chain data.



Vulnerable to Physical Theft: When data is stored locally on devices, physical theft of those devices can lead to data breaches. This is particularly risky for employees who travel or work remotely.



Inadequate Encryption: Excel's built-in encryption capabilities are limited and can be bypassed by determined attackers. This leaves sensitive data vulnerable to interception and unauthorized access.



Difficulty in Tracking Data Movement: It's challenging to track how Excel files are shared, copied, or modified, making it hard to maintain an audit trail for compliance purposes.



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Challenges With Traditional Tools:

Inconsistent Backup Practices: Relying on individual users to back up their Excel files can lead to data loss if proper backup procedures aren't followed consistently.



Limited Compliance Features: Excel lacks built-in features to ensure compliance with complex regulations like GDPR, HIPAA, or industry-specific standards.



Vulnerability to Malware: Excel files can be vectors for malware, especially when shared via email or unsecured networks.



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SaaS platforms offer numerous advantages in enhancing data security and ensuring compliance:

Advanced Encryption: SaaS providers typically use state-of-the-art encryption methods both for data in transit and at rest.



Robust Access Controls: SaaS platforms offer granular role-based access controls. This allows organizations to precisely define who can view, edit, or share specific types of data.



Regular Security Updates: SaaS providers continuously update security measures to address new threats. This ensures that the platform is always protected without requiring action from the end-user.



Compliance with Global Regulations: Many SaaS providers build compliance features directly into their platforms.



SaaS Solutions: The Future of Supply Chain Management

SaaS platforms offer numerous advantages in enhancing data security and ensuring compliance:

Audit Trails and Logging: SaaS platforms typically maintain detailed logs of all data access and modifications. This is crucial for both security monitoring and regulatory compliance.



Data Backup and Disaster Recovery: SaaS providers implement robust backup and disaster recovery procedures.



Single Sign-On (SSO) and Multi-Factor Authentication (MFA): These features enhance security by centralizing access control and adding extra layers of authentication.



API Security: SaaS platforms often provide secure APIs for integration with other systems, ensuring that data remains protected even when shared between applications. Coupa, a leading procurement platform, offers secure API integration capabilities.



Ship Angel Single Sign-On

Sign In to Your Account

Email
email@example.com

Password
8+ characters

☐ Remember me ☐ Forgot password?

Sign in with Google

Sign in with Microsoft

Sign in with LinkedIn

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4. Advanced Analytics and Predictive Insights

Challenges With Traditional Tools:

Limited Data Processing Capacity: As previously mentioned, Excel's maximum of 1,048,576 rows per sheet, can be insufficient for large-scale supply chain data analysis.



Lack of Real-time Analysis: Traditional tools often rely on static data, making it difficult to perform real-time analysis crucial for dynamic supply chain environments.



Limited Integration Capabilities: Excel struggles to integrate seamlessly with multiple data sources, hindering a holistic view of the supply chain.



Complex Model Building: Creating advanced predictive models in Excel can be time-consuming and error-prone, requiring extensive manual work.



Visualization Limitations: While Excel offers basic charting, it lacks advanced visualization capabilities needed for complex supply chain data representation.



Absence of Machine Learning Capabilities: Traditional tools typically don't have built-in machine learning algorithms essential for predictive analytics.



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SaaS platforms offer numerous advantages in providing advanced analytics and predictive insights:

Big Data Processing: SaaS solutions can handle vast amounts of data from various sources.



Real-time Analytics: Many SaaS platforms offer real-time data processing and analysis.



Network Optimization: SaaS solutions can analyze and optimize entire supply chain networks.



Advanced Visualization: SaaS platforms often include sophisticated data visualization tools.



Scenario Planning: Many SaaS solutions can assist with scenario modeling and planning.



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5. Seamless Integration with Other Systems

Challenges with Traditional Tools:

Traditional tools like Microsoft Excel have been staples in business operations for decades, primarily due to their simplicity and familiarity. However, when it comes to integrating with other critical systems, Excel falls significantly short. Displaying many of the same challenges identified within the and predictive analytics section, Excel functions largely as a standalone tool, making it difficult to integrate with other critical systems like ERP, CRM, and warehouse management systems.

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Other key challenges include:

Isolation of Data:

- **Data Silos:** Excel operates as a standalone application, which often leads to data being trapped in silos. Different departments may maintain separate spreadsheets, making it difficult to achieve a unified view of the supply chain.
- **Limited Collaboration:** Real-time collaboration is challenging. Multiple versions of the same file can exist, leading to confusion and inconsistencies.

Manual Processes:

- **Error-Prone Data Entry:** Relying on manual input increases the risk of errors, which can have cascading effects throughout the supply chain.
- **Time-Consuming Updates:** Keeping data up-to-date requires significant manual effort, delaying critical decision-making processes.

Lack of Real-Time Data:

- **Delayed Insights:** Without real-time data synchronization, companies cannot react promptly to changes in demand, supply disruptions, or inventory levels.
- **Inaccurate Forecasting:** Outdated information can lead to poor forecasting and planning, resulting in overstocking or stockouts.

Integration Limitations:

- **Compatibility Issues:** Excel does not natively integrate with ERP, CRM, or WMS platforms, requiring additional tools or custom scripts to facilitate data exchange.
- **Security Risks:** Sharing spreadsheets via email or other unsecured methods can expose sensitive data to unauthorized access.

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SaaS Advantage

Modern SaaS platforms are designed to integrate seamlessly with other enterprise systems via APIs. This interconnectedness ensures that supply chain data flows effortlessly across the organization, enabling more holistic decision-making and streamlined operations.

SaaS platforms are inherently designed for integration and scalability, with many advantages over traditional tools, including:

1. API-Driven Connectivity:

- **Seamless Integration:** SaaS platforms use APIs to connect with ERP, CRM, WMS, and other enterprise systems, allowing for automatic data exchange.
- **Plug-and-Play Modules:** Many SaaS solutions offer modular integrations that can be easily configured without extensive custom development.

2. Real-Time Data Synchronization:

- **Instant Updates:** Changes made in one system are immediately reflected across all connected platforms, ensuring everyone has access to the latest information.
- **Enhanced Visibility:** Real-time data provides a holistic view of the supply chain, enabling proactive management and quick response to issues.

SaaS Solutions: The Future of Supply Chain Management

3. Improved Collaboration:

- **Centralized Data Repositories:** Teams can work from a single source of truth, reducing discrepancies and enhancing coordination.
- **Access Control and Security:** SaaS platforms offer robust security features, including user authentication and permissions, to protect sensitive data.

4. Automation and Efficiency:

- **Elimination of Manual Tasks:** Automating data entry and routine processes reduces errors and frees up staff to focus on strategic activities.
- **Scalable Solutions:** SaaS platforms can easily scale with business growth, accommodating increased data volumes and additional users without significant infrastructure changes.

5. Advanced Analytics and Reporting:

- **Integrated Business Intelligence:** SaaS platforms often include analytics tools that draw from multiple data sources, providing deeper insights.
- **Customizable Dashboards:** Users can tailor dashboards to display key performance indicators relevant to their roles.

The Future of Supply Chain Management

The digitization of supply chain management is not just a trend; it's a necessity. As the world becomes more interconnected and supply chains more complex, the need for flexible, scalable, and intelligent systems will only grow. SaaS platforms are not just replacing Excel; they are redefining how supply chains operate, enabling companies to be more responsive, resilient, and competitive in a rapidly changing global market.

Conclusion

The unbundling of Excel is well underway, and the supply chain industry stands to gain the most. For supply chain professionals, the time to act is now. Embracing SaaS solutions can unlock unprecedented efficiency, agility, and insight, driving competitive advantage in a world where supply chain excellence is no longer optional—it's critical to survival and success.

About Ship Angel

Ship Angel is a cutting-edge rate management platform designed to streamline logistics operations for BCO shippers. Focused on solving complex supply chain challenges, Ship Angel provides innovative solutions for rate management, amendment guard, invoice auditing, and sustainability reporting. At the heart of Ship Angel is its AI-driven technology, which empowers shippers to manage rates more efficiently, ensure contract accuracy, and optimize cost savings. With a commitment to transparency and efficiency, Ship Angel's platform helps companies avoid costly delays and disruptions, making it an invaluable tool for managing the modern supply chain. Driven by a vision to revolutionize logistics, Ship Angel works closely with clients across various industries. By offering personalized support and advanced tools, Ship Angel helps companies stay ahead in an ever-evolving global trade environment.

For more information, visit shipangel.com

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