APIs: An Emerging Player in Supply Chain

In recent years, business technology has emerged in a series of waves. From SMAC (social, mobile, analytics and cloud) to optimization through the digital enterprise, a new wave of digital operations has begun. Automation, integration, and artificial intelligence is revolutionizing the way we do business (1). Firms that don't adapt face dire consequences. Since 2000, 52% of Fortune 500 companies have merged, gone bankrupt, been acquired, or fallen off the list, many unable to keep pace with digital change (2). The supply chain industry is no different. Disruption is a matter of when, not if. Today, an estimated 90% of global supply chain relies on legacy EDI (Electronic Data Interchange) systems, cumbersome technology made over 40 years ago to aid communication between firms and their supply chain partners (3).

Better, Faster, Stronger

APIs (application program interfaces) are poised to completely replace EDIs. APIs enable fast, efficient, and data-driven supply chains by addings a layer of connectivity, allowing data to be transmitted from one system to another. This creates a seamless way to view data from a central location and helps procurement officers make informed business decisions (3). APIs have been quickly adopted by consumer technology. Today, nearly 24% of all web and 15% of all mobile applications utilize APIs. These figures are expected to jump to a staggering 80% by the end of 2018 (4). For many firms, APIs have become a vital tool for business operations and problem solving.

Benefits Outweigh the Costs

Despite the benefits of APIs, the supply chain industry has been sluggish in response. Many firms are concerned with the time and money they need to invest. Others have a general feeling of distrust for new technology, or simply don't want to be the first to change (3). These fears are largely unfounded. Implementing an API is less costly and complex than implementing an EDI, with a turnaround of days rather than months. APIs are easy-to-deploy web solutions that merely define a set of rules for programs to communicate with each other, thus do not require the high-cost maintenance and troubleshooting that EDIs do. Additionally, the introduction of on-demand delivery and omni channel buying puts pressure on supply chains to streamline, going beyond the capabilities of EDIs. In this environment, supply chains will be driven to make changes just to keep up with demand (3).

Lowering the Barrier to Entry

Perhaps the biggest value-add APIs provide is the ability for business users with non-technical backgrounds to access data and assets. Users don't need to understand how back-end systems function, or even how they communicate with the interface. They can simply self-serve according to their data needs. Beneath the surface, APIs allow diverse software to talk with each other using standard protocols, specifying which components can interact and what data can be shared (5). This way firms can open their backend data and functionality to be reused in new programs, without alienating users from non-technical backgrounds. This strategy eliminates information silos and human gatekeepers, increasing the efficiency of a firm's operations. A broader audience now has access to data that is helpful for analytics. IT departments are incentivized to build reusable self-service infrastructure. This culture shift, from viewing IT as a technology provider to a strategic business enabler, is crucial for firms looking to compete in today's world (6).

Microsoft: A Case Study

Technology giant Microsoft highlights a case study on the benefits of using APIs in supply chain. Microsoft partners with suppliers around the world. Its former supply chain solution required 200 on-premise servers that handled over 3 million transactions per day. Onboarding new partners was slow and expensive. The system was costly to maintain, not scalable, and did not provide adequate end-to-end supply chain visibility. To address these problems, Microsoft broke down their large, siloed architecture into modular components, called microservices, and was able to pull out these components using REST-based API (an industry trusted protocol). This streamlined the integration process and ultimately created shorter development cycles, better scalability, and reduced cost. Microsoft's new "plug and play" model reduces the time spent on vendor onboarding from weeks to minutes, and provides a scalable, agile solution with end-to-end supply chain control (7).

Begin Implementing APIs

To meet the growing expectations of speed, agility, and visibility, firms must leverage modern web services in their supply chains, along with the integrative features they offer. It's recommended that firms buy or subscribe to SaaS-based integration platforms, as it's often the most scalable, cost-effective, and easy solution to manage.

Third party solutions limit the capital expense required and allow IT departments to focus on internal resources and projects, increasing the firm's flexibility and responsiveness (3). Although APIs have very clear advantages in supply chain, it's crucial to stay focused on specific objectives and business problems (7). Users should avoid becoming enamored with all the technological innovation available today. By using API systems wisely and fostering a healthy sense of skepticism and common sense, firms can maximize their business value and remain a competitive player in today's market.

At ConnXus, we support your supply chain needs with robust and integrative vendor management tools. With industry-trusted RESTful API, we plan to further tighten security requirements and embed real-time updates of alerts and information from other programs while you monitor your ConnXus dashboards. ConnXus strives to continue innovating and improving our product solutions to better serve your organization in the future.

References:

1. https://www.weforum.org/agenda/2016/01/digital-disruption-has-only-just-begun/
2. https://www.constellationr.com/blog-news/research-summary-sneak-peeks-constellations-futurist-framework-and-2014-outlook-digital
3. https://www.sdcexec.com/software-technology/blog/12274886/apis-versus-edi-what-you-need-to-know-about-the-future-of-supply-chain-technology
4. https://www.supplychain247.com/paper/10_best_practices_for_thriving_in_the_api_world
5. http://www.apiacademy.co/resources/api-strategy-lesson-101-what-is-an-api/
6. https://techcrunch.com/2016/07/13/a-modern-day-renaissance-apis-fuel-a-cultural-shift-in-businesses/
7. http://spendmatters.com/2017/08/01/apis-opening-machine-learning-markets/