Supply chain is in a constant state of change today. A perfect storm of huge technological advancement coupled with changing consumer habits has meant that all businesses within the industry are having to adapt.

Unlike in previous editions of this report, in Supply Chain Hot Trends, Q1-Q2, 2017, we explore 4 trends that aren’t necessarily breaking news, but after some years in the headlines are perhaps on the cusp of having a much wider impact on the supply chain.

As the initial impact of technological advancements and consumer behaviour subside, organizations in the supply chain will have more opportunity to hone processes and strategies in response. As such, 2017 represents a key year for the success of businesses operating in the supply chain.
Executive Summary

Blockchain – p4
- Data interchange is the area with the greatest potential of disruption
- Over 60% of respondents are engaging with blockchain
- Less than 50% were engaging with it Q4 2016

Chatbots – p6
- Just over 50% of respondents are now looking at chatbots
- Customer service is the primary area of disruption for their use

Digitalization – p7
- 43% average budget increase in response to digitalization
- Agility is the key shift organizations have undergone to adjust to digitalization
- Overarching business strategy was the 3rd top priority for companies in response to digitalization

Automation’s impact on the workforce – p10
- Currently automation is a positive force
- Most have seen no change in workforce because of automation
- Most expect to see job growth because of automation
Blockchain - distributed ledger technology - has been widely discussed for years for its disruptive potential of the supply chain. Data interchange has been widely considered as the area that might be impacted most with the technology. This is important as data interchange is already in the midst of transformation. Real-time data has become a major differentiator for businesses throughout the supply chain. The ability to predict trends and react with agility to disruption or change can mean make or break for an organization. As such, EDI is making way to API as real-time data feeds become the norm. Blockchain has the potential to add an additional layer of automation to data interchange via smart contracts. It also could add additional security measures for data interchange and accentuate trust between partners due to how the ledger system works.

**Biggest impact of blockchain in Supply chain?**

<table>
<thead>
<tr>
<th>Impact</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data interchange</td>
<td>36.25%</td>
</tr>
<tr>
<td>Visibility and tracking</td>
<td>17.50%</td>
</tr>
<tr>
<td>Not familiar</td>
<td>15.63%</td>
</tr>
<tr>
<td>Building trust</td>
<td>8.75%</td>
</tr>
<tr>
<td>Smart contracting</td>
<td>8.13%</td>
</tr>
<tr>
<td>No impact</td>
<td>5.00%</td>
</tr>
<tr>
<td>Payments</td>
<td>5.00%</td>
</tr>
</tbody>
</table>
However, with the exception of a handful of case studies, to date, blockchain in supply chain has not transformed the industry. One of the main reasons for this could be the difference between public and private chains. Many innovations in supply chain with regards to blockchain have been in the realm of private blockchains. That is, using blockchain within the confines of an organization. While there is ongoing debate on whether blockchain’s future resides in the public or private chain, in supply chain, the public chain has significant potential. A public chain, ie. a blockchain open to parties external to an organization, would ease data interchange between supply chain partners. Rather than setting up a brand new private chain every time your organization has a new partner, one public chain could serve the entire ecosystem.

In Q4 of 2016, most organizations were not engaging with blockchain. By Q2 2017 most organizations were engaging blockchain in some way. This could be the critical step towards the technology’s wider adoption: if a majority of organizations are ready to buy-in, the viability of one standardized public chain could be higher.

### Are you engaging with blockchain in any way?

<table>
<thead>
<tr>
<th>Year</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>47.41%</td>
<td>52.59%</td>
</tr>
<tr>
<td>2017</td>
<td>61.25%</td>
<td>38.75%</td>
</tr>
</tbody>
</table>
Consumers are increasingly encountering chatbots in their daily interactions with businesses, especially on the customer-service side of things. Given supply chain’s increasing customer-centrism, chatbots could be a key technology for allowing businesses to effectively manage all customer touchpoints.

We explored this trend back in 2016 when conversations were first emerging about the technology’s usage in supply chain. Fast-forward to today, and it looks like more and more businesses are taking notice. This might not be the year of the chatbot, but we’re certainly a step closer.
Digitalization was far and away the biggest trend we’ve seen to date in 2017.

*Digitalization* [dij-i-tl-uh-zey-shuh n] noun.

The use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business.

*Gartner*

It contrasts with digitization which is the process of turning something analogue into digital.

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**Given current tech advances, how has your strategy shifted?**

- **39.2%** Our strategy has increased its focus on agility
- **18.2%** We’ve had to increase the speed of our strategy
- **19.1%** Our strategy hasn’t shifted
- **10.5%** We’ve increasingly incorporated risk management into our strategy
- **8.6%** Our hiring priorities have changed
- **4.3%** Other
Of the many areas impacted by digitalization, overarching business strategy has been the biggest. Most organizations have shifted their strategy to focus on agility with many others focussing on speed and risk management. In fact, in terms of steps taken in response to digitalization, changing overall strategy was ranked as the 3rd top priority.

**Rank these steps in terms of their importance for driving your digital transformation**

*(1 = most important, 9 = least important)*

<table>
<thead>
<tr>
<th>Step and Description</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changing hiring strategy</td>
<td>6.69</td>
</tr>
<tr>
<td>Updating legacy systems</td>
<td>5.61</td>
</tr>
<tr>
<td>Investing in cutting-edge technology</td>
<td>5.42</td>
</tr>
<tr>
<td>Investing in staff training</td>
<td>5.21</td>
</tr>
<tr>
<td>Incentivizing internal innovation</td>
<td>5.21</td>
</tr>
<tr>
<td>Creating a team focusing on innovation</td>
<td>4.53</td>
</tr>
<tr>
<td>Changing overall strategy</td>
<td>4.46</td>
</tr>
<tr>
<td>Changing company culture</td>
<td>3.94</td>
</tr>
<tr>
<td>Increasing overall technology investments</td>
<td>3.94</td>
</tr>
</tbody>
</table>
Has your budget changed in response to digitization?

Budgets have also responded to digitalization, increasing on average by 43%. A significant portion of this will be technology investments.
Automation has had a hugely transformative effect on supply chain. It has enabled businesses to be more competitive, through agility and speed without eroding margins. It has also increased the quality of products and services without increasing their price. Automation has also changed the nature of the workforce: complex technologies demand different skillsets. This begs the question: as the pace of automation increases, what impact will it have on the workforce?

### Has your workforce increased or decreased due to technology investment?

- **Increased**: 30.9%
- **Decreased**: 20.6%
- **Stayed the same**: 48.5%

### What effects do you anticipate automation having on the workforce?

- **Job opportunities**: 50.0%
- **No major change in the workforce**: 20.6%
- **Job losses**: 29.4%
What responsibility does the supply chain have for mitigating the impact of automation on jobs?

Overall, automation has generally not lead to job losses in the supply chain with only 20% of respondents reporting an impact. Moving forward, most respondents felt that automation would lead to job opportunities in the future.

Ultimately, it’s very difficult to predict the impact that automation will have on workforces throughout the industry: if increased automation will have a work-creating impact by helping businesses expand, or creating new opportunities in areas we haven’t even imagined yet, or if it will lead to the obsolescence of huge numbers of jobs.

Most supply chain respondents did concede that they have some responsibility for mitigating the impact of automation on the workforce.
The evolution of supply chain doesn’t look like it’s set to slow down anytime soon. Many of the technologies that have grabbed headlines over the last few years look to be on the cusp of truly transforming how supply chain functions. No longer are many of these technologies just for early adopters and leaders, many are on the cusp of early majority adoption.

Blockchain and chatbots are two technologies that could begin to have a significant impact on supply chain in the next year or two. On the other hand, digitalization is fully entrenched in how supply chain businesses already operate. Organizations are now looking to hone strategies and adjust budgets to ensure they are aligned with the changes taking place. Finally, automation’s impact on the workforce is only a potential threat to the industry. Currently, it is generally a positive force. However, the industry is conscious that it plays a role in mitigating automation’s possible impact on the workforce. This will largely be dependent on how far and how quickly automation is able to penetrate different job roles throughout the supply chain.
How to redesign your supply chain network for customer centricity

» YOUR SUPPLY CHAIN NETWORK, RE-CONFIGURED: Aligning every part of your network to meet the new demands of the customer

» ENTER A WORLD OF TOTAL AUTOMATION: Discover the latest in robotics, data and machine learning to help transform your supply chain effectiveness

» BUILDING A CUSTOMER-CENTRIC SUPPLY CHAIN: Align your distribution partnerships with your customer goals for increased customer satisfaction

» INCREASE YOUR OMNICHANNEL AGILITY: Explore ways retailers manage their network, operational and delivery challenges to foster customer loyalty and speedy distribution