



Supply Chain Hot Trends

Q3 and Q4 2016



Introduction

The end of 2016 saw a flurry of activity in supply chain headlines. From technology to politics, the second half of 2016 really set-up a future of change for the industry. In this edition of the hot trends report, we explore blockchain, warehouse automation, talent and labor shortages, customer-centrism and anti-globalization. Each of the 5 areas of analysis were selected because of the immediate or potential impact they might have on the industry moving forward. For example blockchain is really still in its infant stages of impact on supply chain where anti-globalization could have significant impact in 2017. In addition, other areas like labor, automation and customer-centricity are going to be ongoing challenges for the industry for years to come.

Blockchain: p. 4

- 24% of respondents are not familiar with the technology
- 48% of companies familiar with blockchain are actively exploring its potential
- 75% of companies looking at blockchain are also investing in it

Talent: p. 8

- 65% of supply chains facing some difficulties filling talent
- 40% of those facing difficulties are in technology-related roles
- Just over 25% of companies are facing difficulties in operations with a further 19% in leadership roles

Labor: p. 9

- Only 31% of respondents are having difficulties finding enough labor
- Warehousing is far and away the biggest shortage area with 29% seeing shortages
- Drivers continue to also be a problem with 18% falling short

Warehouse automation: p. 10

- 43% of respondents have automated their warehouses to some degree
- 45% of those with automation were using it in a picking capacity
- 30% of respondents without automation said there were no barriers to them automating

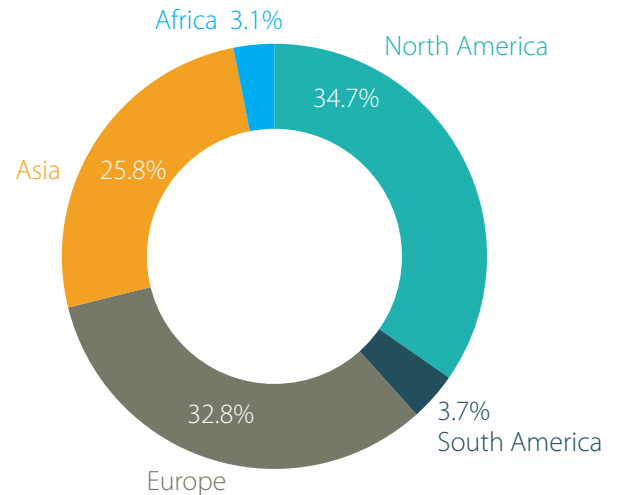
Customer-centricism: p. 12

- Around 75% of companies define themselves as customer-centric
- The key here is a good understanding of the customer's business

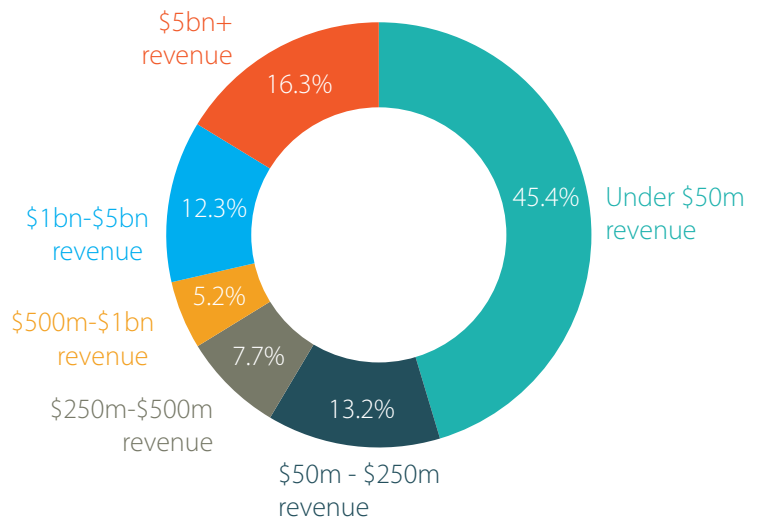
Anti-globalization: p. 13

- 51% think there is an anti-globalization movement
- For those that disagree, they believe global trade is slowing due to economic instability or an increase in protectionist attitudes
- Those that believe there is an anti-globalization movement see more barriers to trade as imminent
- Either way trade looks like it will become less free and open

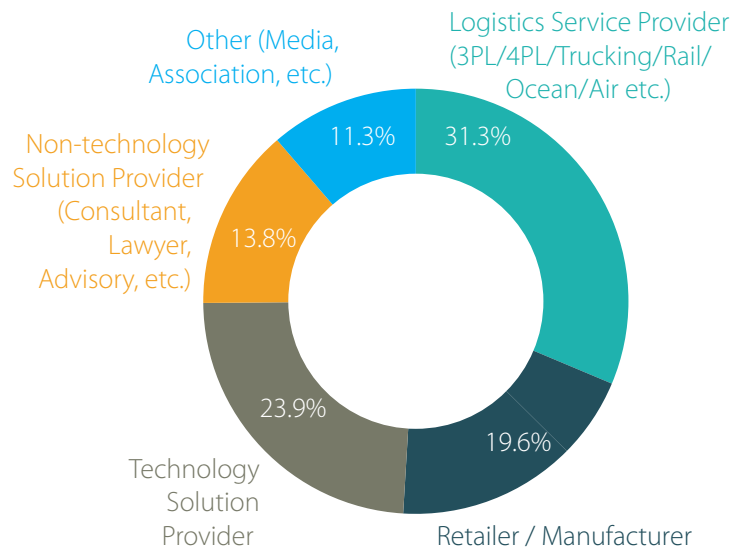
In which region is your role based?



How big is the company you work for?



What type of company do you work for?



What is block chain?

Blockchain is a technology that allows all users to know who owns what, when. It is the same technology behind Bitcoin, which has helped propel it into headlines today. At its most basic level, it works off of a digitized ledger that every party in the chain has a copy of. Given this transparency, it means that there is an immense amount of collective security. The bigger the user group, the more the security.

It's important to note that there are two types of blockchain – public networks and private ones. The difference is quite simple really, but important. Public blockchains are like bitcoin: available to anyone. Private blockchains are closed – ie. A group of organizations using a blockchain between them to exchange a certain type of information. At present, bitcoin is the major public blockchain. Most companies working with blockchain are currently doing so using closed platforms to understand the ins and outs of the technology.

What's the status of blockchain in supply chain? According to eft

Huge number of major corporations are exploring the usage of blockchain and even implementing the technology. This has been especially prevalent in fintech and banking where applications are clear-cut. That being said, with trust, data interchange, millions of moving parts, blockchain's application to supply chain seems like a natural second step. It seems that the technology is truly in its most basic state right now when it comes to supply chain. There are a number of start-ups and incumbents looking to leverage the technology to solve critical challenges in the industry from improving payment systems to transferring and verifying shipping documentation.

Here are a selection of the latest developments:

4 possible applications:

- Smart contracts can automate key processes – Smart contracts are contracts that can be executed automatically based on the fulfillment of certain conditions. Given the amount of complex paperwork in supply chain, there is the potential for creating smart contracts in many areas for speed, trust and security to name a few.
- Increase trust and security - Blockchain has the potential for adding trust and security to the transfer of assets in the supply chain (documents, physical assets, currency etc.) Can be hugely beneficial especially with – for example, helping SMEs with speeding up payment processes (credit checks, payment terms, shorten the order to cash cycle etc.)
- Change data exchange methods - Blockchain could also fundamentally change how data is exchanged in supply chain – for example replacing the documentation between parties during shipments through some carefully executed blockchains and smart contracts could eliminate major steps in shipping or moving goods: bill of lading, customs papers, etc. It also can eliminate a number of third parties involved in many transactions.
- CSR, quality control and maintenance reporting are other areas blockchain could be used effectively in the supply chain leveraging the trust, security and automation aspects of the technology.

4 possible barriers:

- Convincing all parties to join – it's been difficult enough getting most supply chain partners to agree on current data exchange standards, what's going to change with regards to blockchain?
- Tech barriers: the difficulties of scaling blockchain – a blockchain is inherently inefficient because it involves the continuous updating of the ledger. If a system is to be widely adopted, can technology cope?
- Bridging trust between what the block says vs. physical reality – Blockchain might help guarantee that transactions have happened and when, but they don't guarantee anything if anything physical is associated with the transaction. I.e. Blockchain can't verify a product's authenticity or if two parties are colluding on something.
- Blockchain doesn't prevent parties from colluding. While the blockchain is visible to all, anything that happens outside of the ledger is anyone's guess. There are workarounds to this such as using IoT to automatically fulfil smart contracts and avoid any type of tampering, but these are all in their very early days.

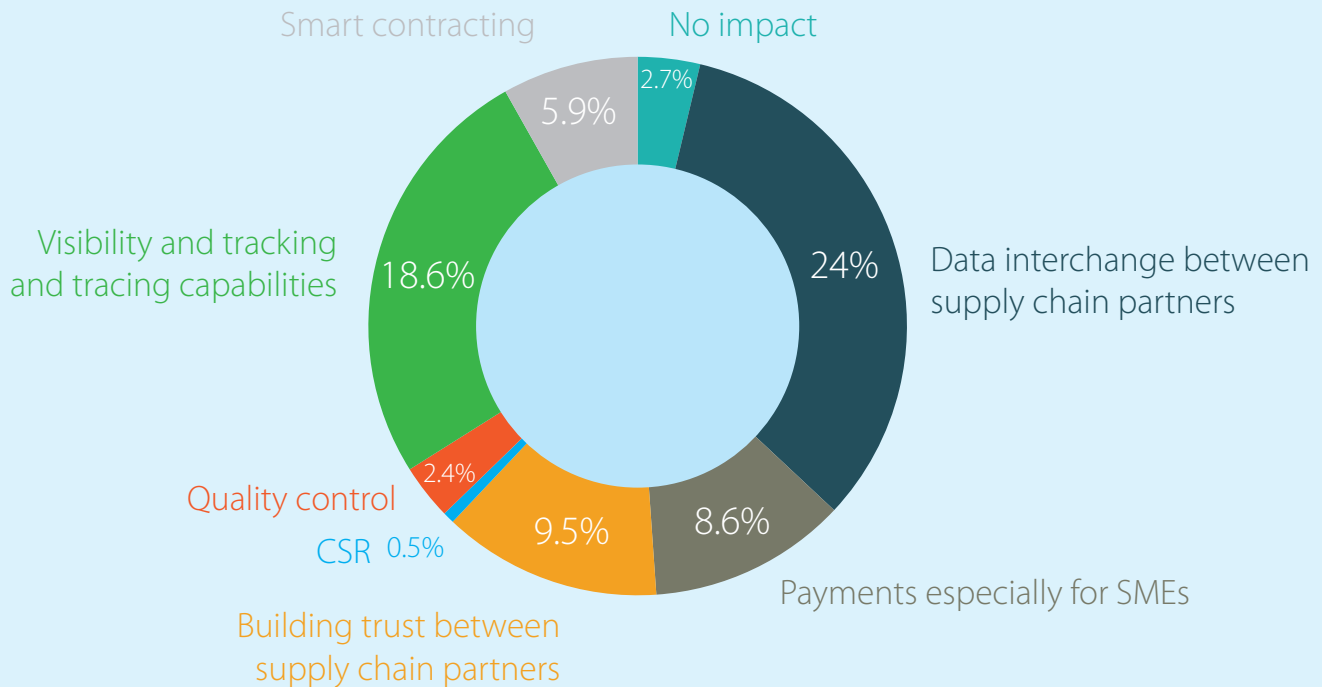
Yet, how is the industry actually approaching the technology?

Block chain's impact on the supply chain – according to the industry

Despite many of the signs that blockchain is still under the radar of many in supply chain, only 24% of respondents stated that they weren't familiar with the technology. Of those in the know, data interchange was identified as the area that might have the biggest impact on supply chain. Visibility and tracking/tracing also received significant amount of support. These are interesting results considering the amount of focus on the trust element in the fundamentals of blockchain.

Block Chain in Supply Chain

Where do you think blockchain might have the biggest impact on supply chain?

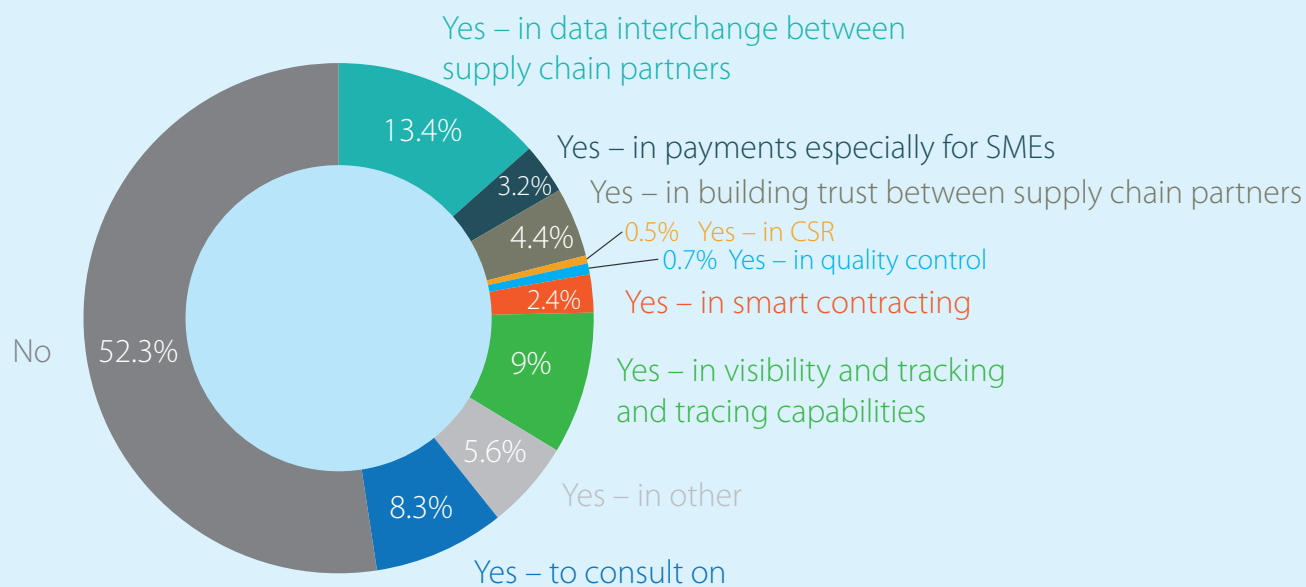


Familiarity doesn't necessarily translate into action by supply chain businesses into supply chain. Just over half of respondents were not looking at the technology in any capacity. 24% were looking at the technology in terms of data interchange with a further 18.6% at visibility, tracking and tracing capabilities. Again only about 9.5% of respondents were actually looking at the tech in terms of facilitating trust between partners.

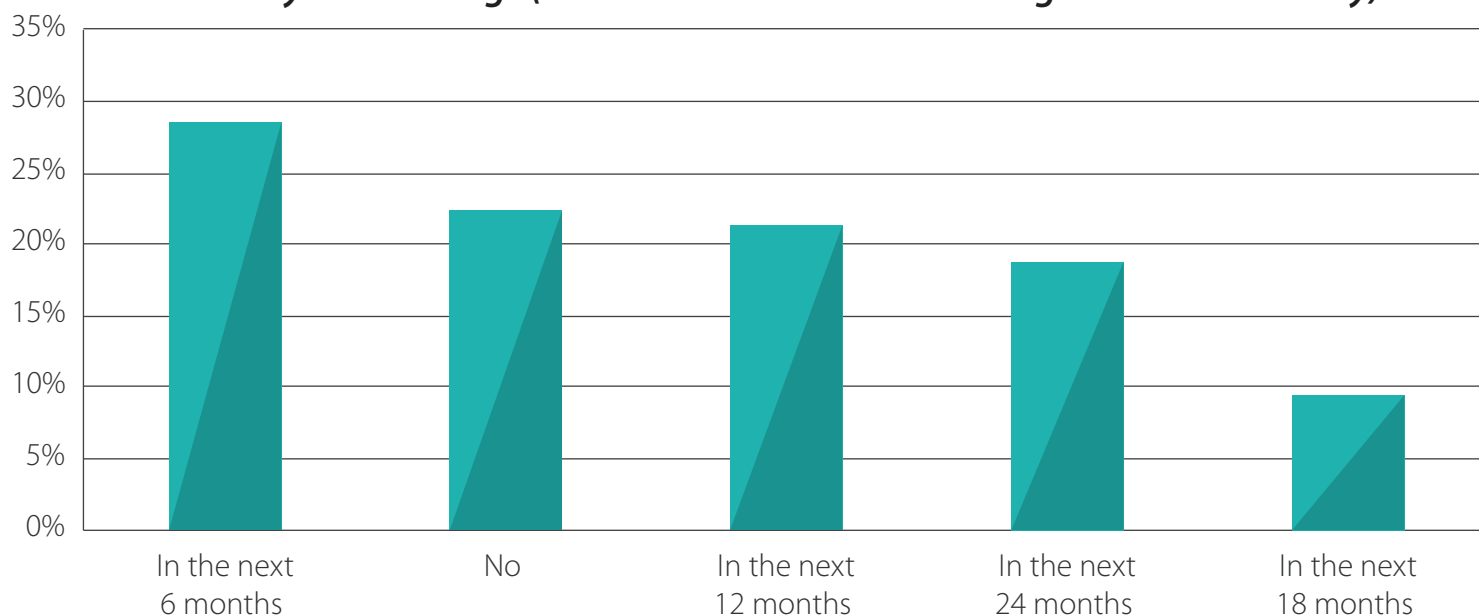
Of those who were looking at the technology, 78% were investing with most in the near-term.

Block Chain in Supply Chain

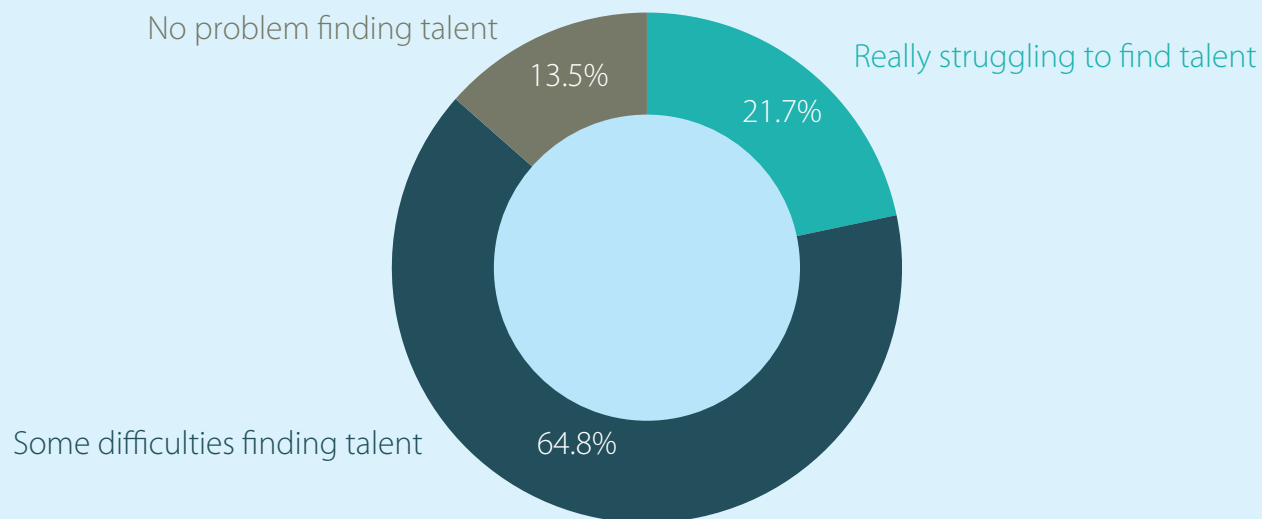
Is your organization looking at the application of blockchain in any capacity?



When are you investing? (Asked of those that are looking at blockchain only)



What is your organization's take on the talent pool?

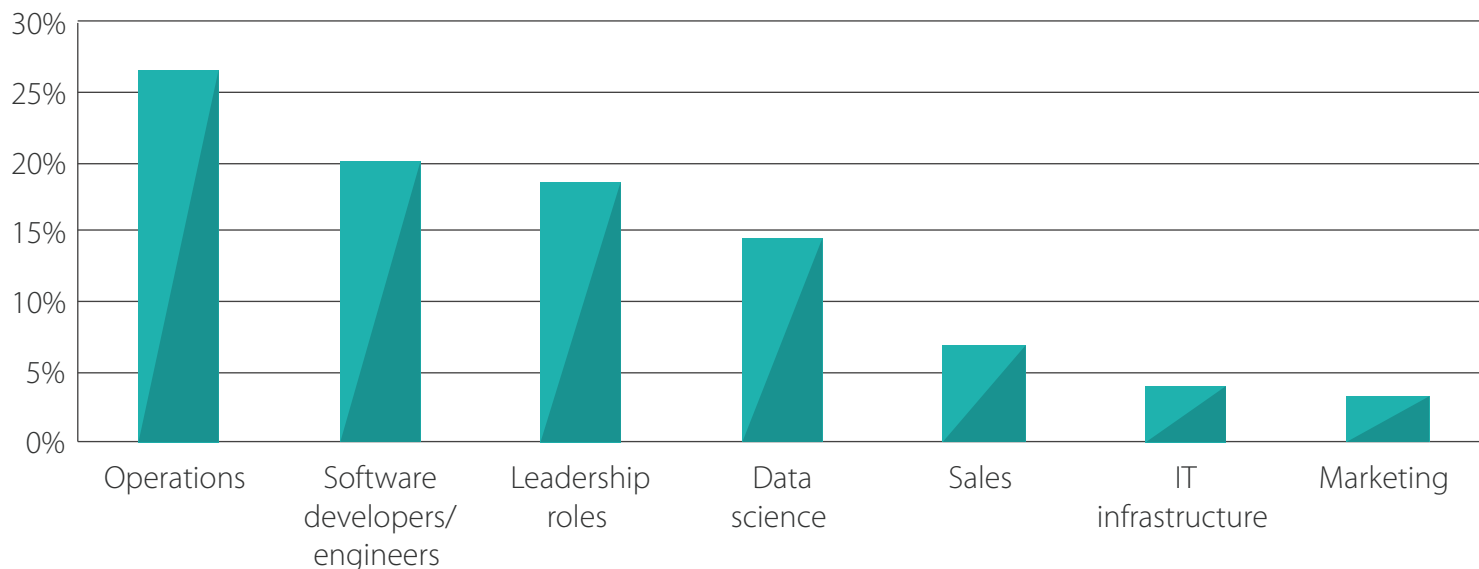


Talent

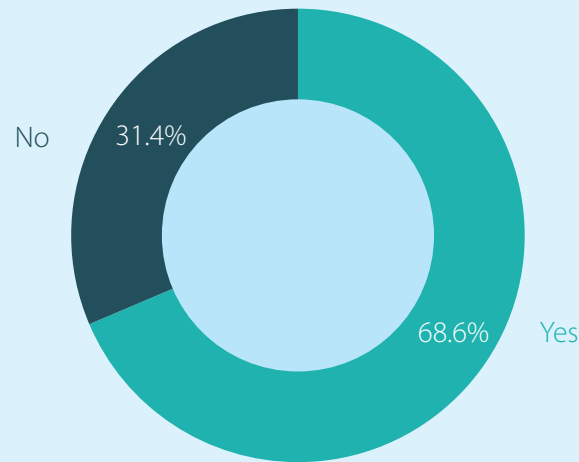
One of technology's many impacts on supply chain has been how it has transformed the required workforces at many organizations. This has not only change the composition of organizations but how these organizations source new talent to fill these new roles. The majority of respondents were consequently facing at least some difficulties in finding talent with only 13.5% reporting no difficulties.

Operations was the leading area organizations were finding difficulties fulfilling. However, if you bulk together technology roles such as software developers, data scientists and IT infrastructure, the graph shifts to just about 40% looking to fulfil technology roles. Also interestingly a significant percentage of companies are looking for leadership roles (19%). With the technological transformation of the industry, this shortfall might be representative of a new type of leadership necessary.

In which areas are you struggling or facing difficulties finding talent?



Is your organization finding enough labor?

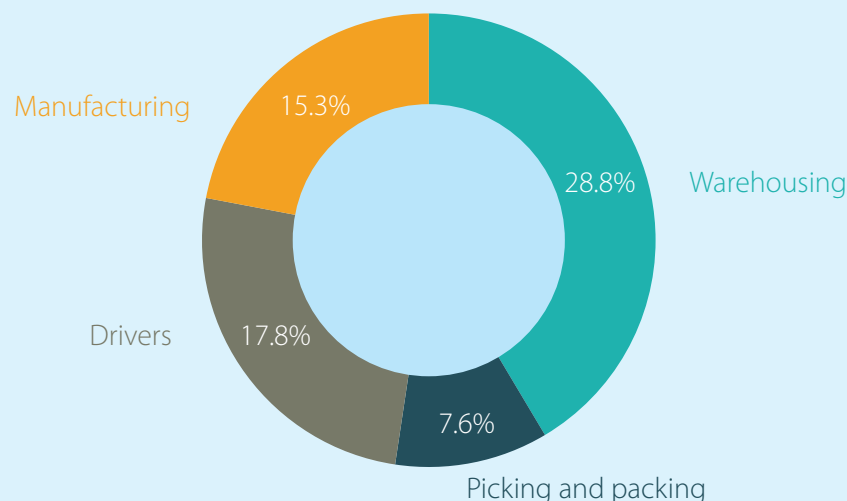


In contrast to talent, most organizations are finding enough labor with only around 31% seeing shortfalls. Of those seeing shortfalls, the primary area was warehousing. This aligns with the huge boom in warehousing taking place at the moment due to eCommerce. A premium in available space and the associated need to fill this is certainly going to further exacerbate this need. Automation is one area that could disrupt this demand though. However, given the expenses and complexities associated with this process, many warehouse owners or operators have

no current plans for automation and instead rely on temporary workers and other similar solutions. (scroll to warehouse automation for more)

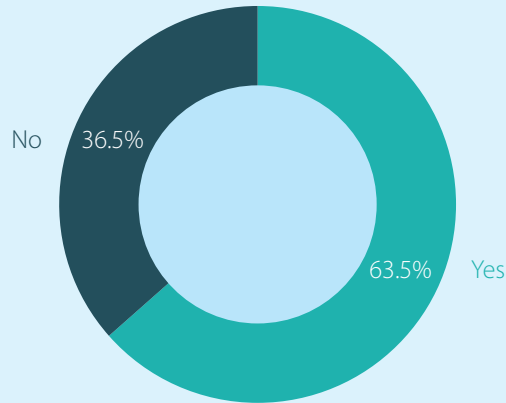
Drivers continue to be in short supply. This is a problem that has persisted for years with no real immediate viable solution. Automation is perhaps the only viable solution here, though is likely still at least a decade away given technological and regulatory hurdles that need to be overcome.

Where are you short on labour?



Warehouse Automation

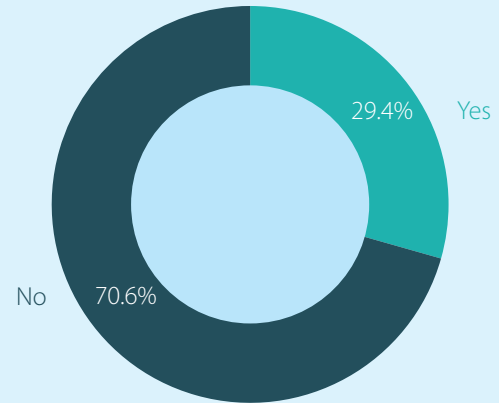
Are your warehouses automated at least to some degree?



Of respondents with or using warehouses, only 36.5% have no automation of any degree. Picking is the most common form of automation followed by packing. The number of things that can be automated were also highlighted through 'other' with options including sorting automation, voice-enabled picking, automated stacking etc.

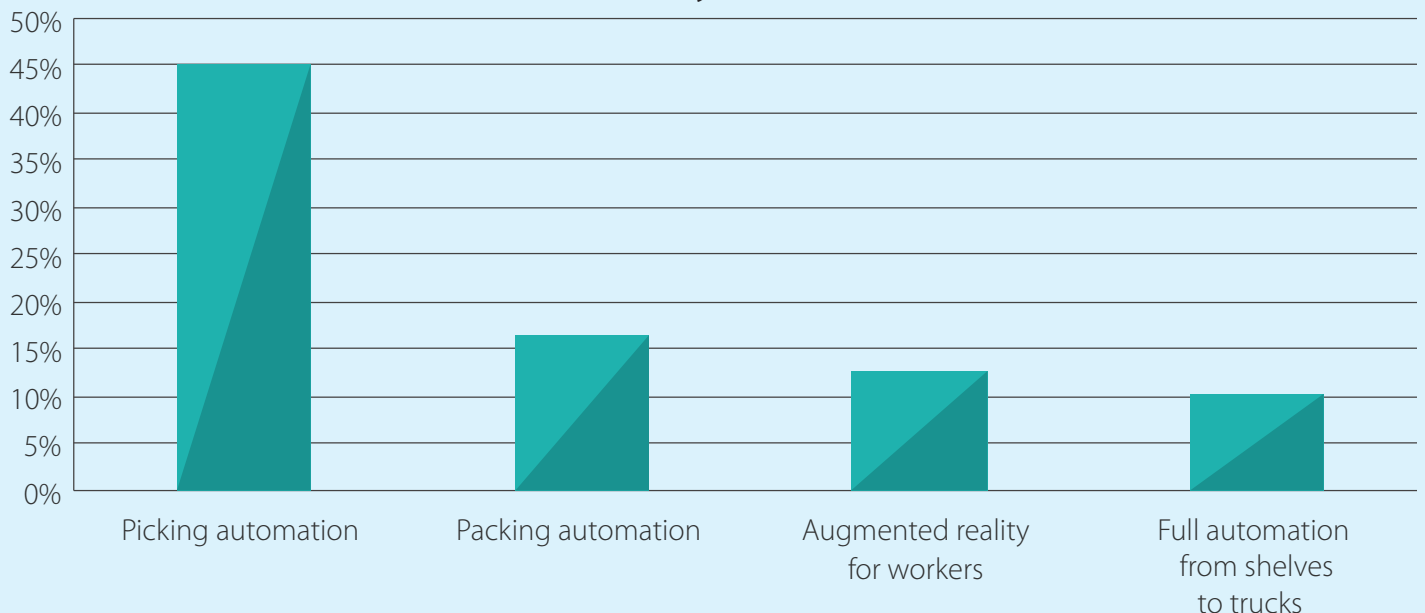
Of those that hadn't yet automated their warehouses, only 30% planned to do-so. This is a surprising number given the difficulties businesses are facing

Do you plan on automating your warehouses?



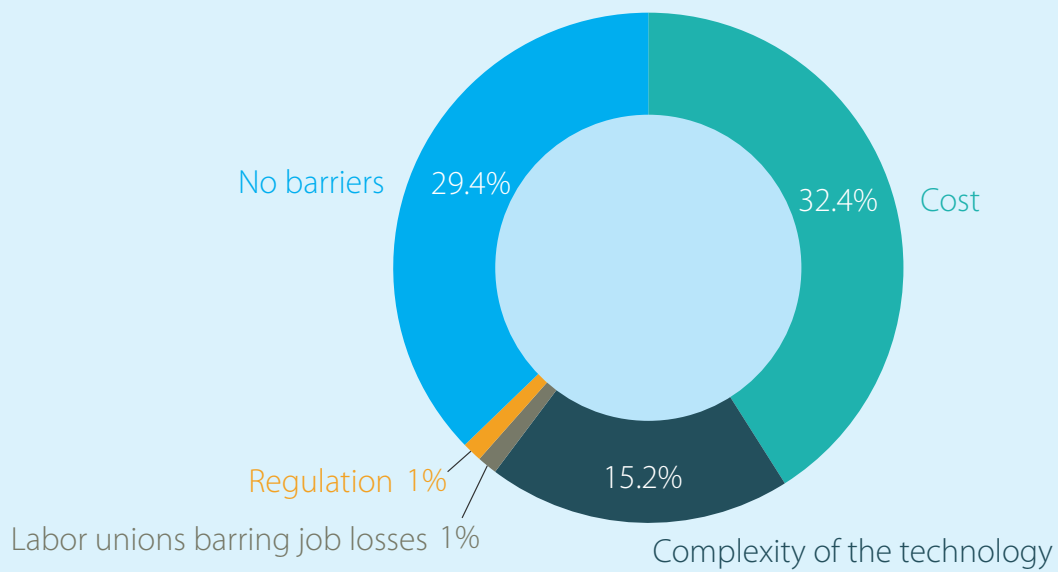
staffing their warehouses. The dominant reasons for not automating warehouses were the costs involved. One of the most interesting statistics to come out of the report though was the 29.4% of respondents that said there weren't any barriers at all to automation. Some of the reasons driving this might include: good current warehouse operations without automation, specialized warehousing for which there aren't any automation solutions, or low-throughput warehousing that doesn't require a lot of labor.

How are they automated?



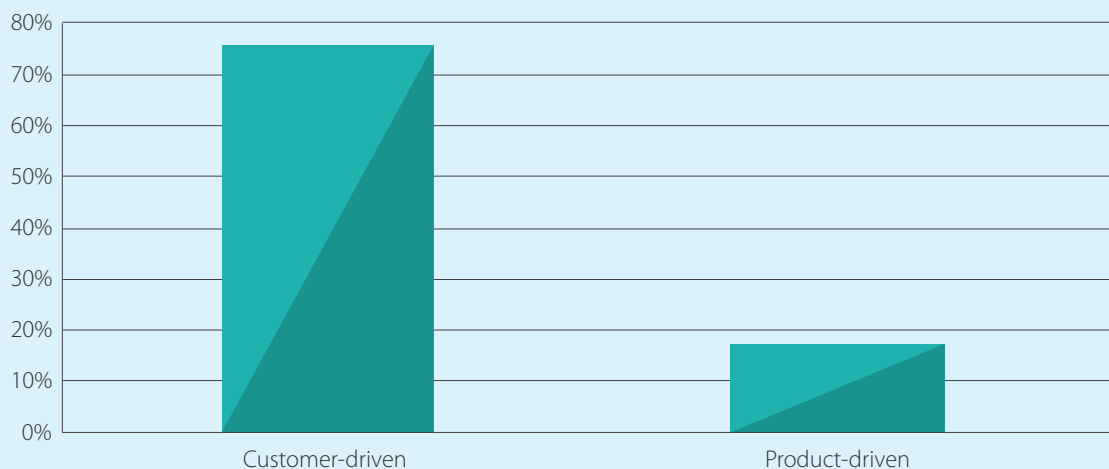
Warehouse Automation

What are the biggest barriers to automating your warehouses?



Customer centrisism

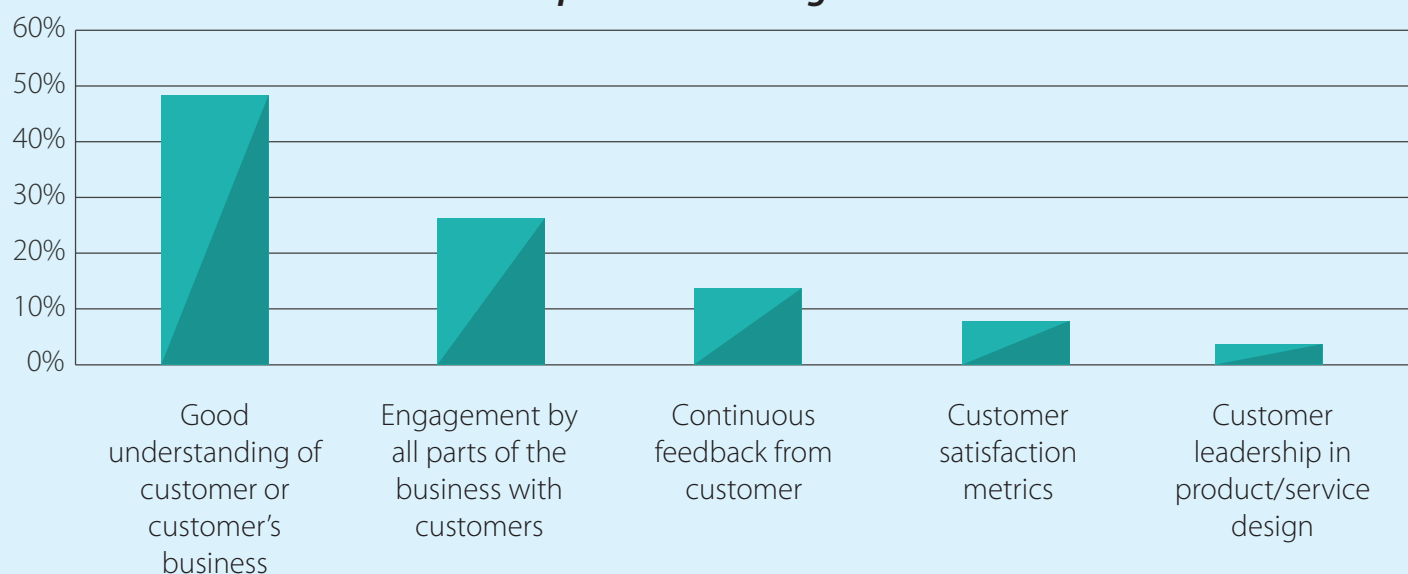
How would you define your business?



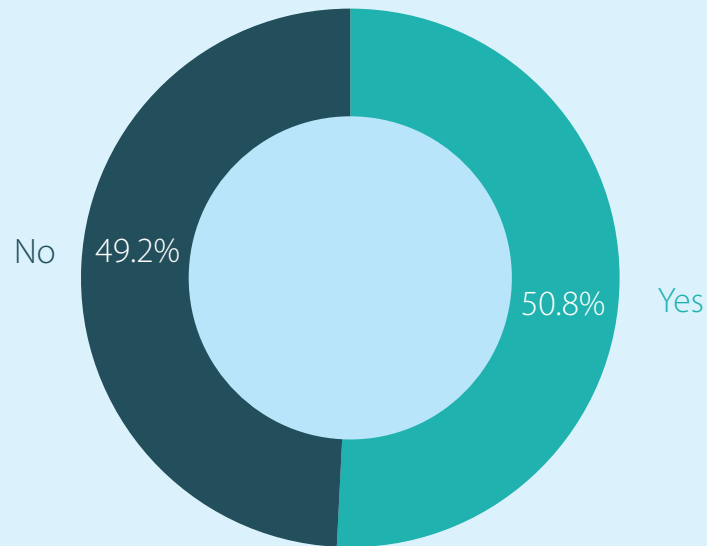
Customer-centrism has been on the rise for many of the same reasons consumer-centrism has: given modern mobile technology, customers are seeking more information than ever before from their providers. In addition, the strategic nature of having strong partnerships with partners throughout the supply chain has also driven a customer-centric mentality in the industry. Given the above, it is of no surprise that over 75% of respondents see their businesses as customer-centric.

In terms of successfully executing a customer-centric strategy, the key is understanding the business of the customer. Effectively: What are their business goals? Respondents also felt that engagement by all parts of the business with customers was important. Arguably, this is a key mechanism for an organization to understand its customers' business through and through. We expect to see this trend only increase as supply chain partners become more intertwined through technology and increasingly rely on each other to achieve more and more ambitious strategies.

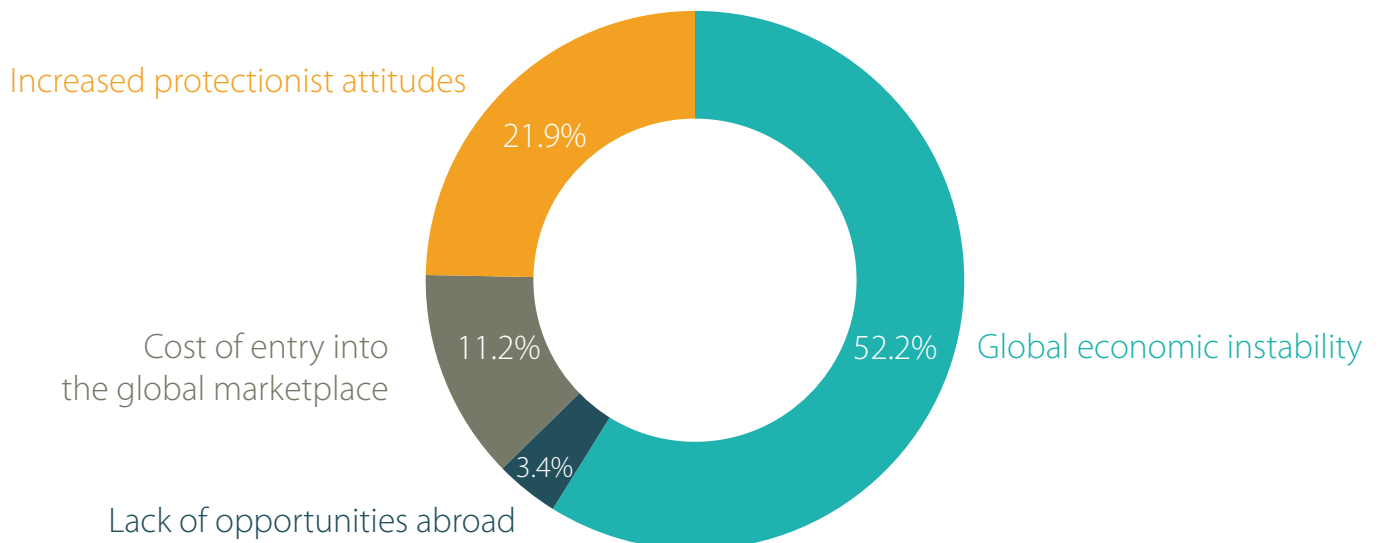
What's most important in being customer centric?



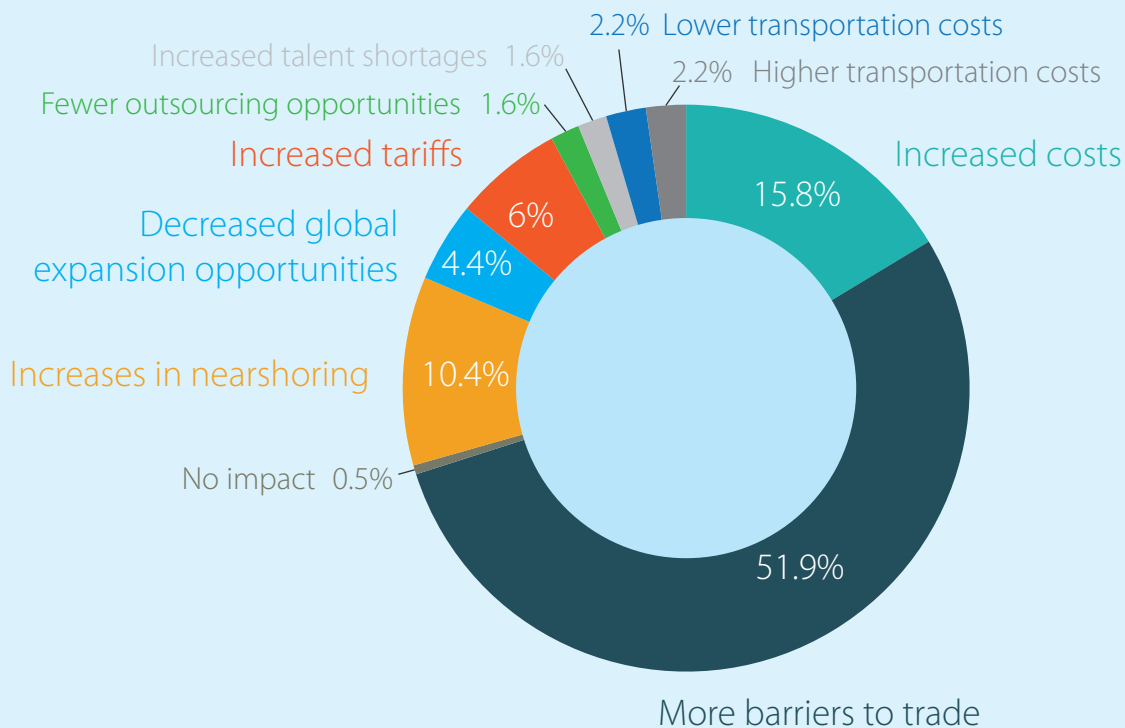
Do you think there's currently a global anti-globalization movement?



Why is global trade slowing?



What impact will/would the anti-globalization movement have on global supply chains?



2016 was highlighted by major backlash against established global frameworks (Brexit, TPP, etc.). To better gauge how this might affect global supply chains, we wanted to see how executives might be reacting to some of these changes. 51.9% of respondents thought there was an anti-globalization movement shaping. 2016 was the year that some very clear signs became evident that globalization's pace might be slowing. The biggest impact that this is likely to bring is an increase in barriers to trade according to respondents. This could result in a few different outcomes including:

- Increases in costs for manufacturers and retailers
- Increases in costs transferred to customers and consumers
- Increases in lead-times to account for increased barriers
- Shifts in production and sourcing based on changing barriers
- Shifting demand based on protectionist attitudes
- More opportunities for domestic manufacturers and retailers
- More opportunities for cross-border expertise

Conclusion

2017 is going to prove fascinating for supply chains based on many of the developments that took place in 2016. Nascent technologies like blockchain provide a glimpse at their potential transformative power on supply chain while other technologies like driverless vehicles (covered in Hot Trends Q1 and Q2) seem to be just a matter of time before they completely change the industry. Customer-centricity and labor challenges all continue to plague aspects of the business and are likely to do-so as each organization finds its own happy medium between the necessary technologies, processes and people needed to achieve their goals. Increasing trade barriers at the hands of more protectionist attitudes around the globe though could have the biggest impact on the industry in the near-term.

Want to learn more?

Join us at the 3PL and Supply Chain Summit: Chicago (June 14-16)

As the focus on customer centricity and product individualization increases within supply chains other industry trends including blockchain, anti-globalization, increased automation and the continued labour shortage can't be forgotten. Each of these areas are likely to have an either an immediate or potential impact on the industry.

All the above themes will be covered in more depth at the Supply Chain Summit: Chicago where industry experts deep dive into the challenges and opportunities which they will bring and share their take on industry innovation, evolution and technological change.

Some of the star speakers you'll hear from

- ▶ Anthony Levandowski, Co-Founder, **Otto**
- ▶ Ed Feitzinger, VP Global Logistics, **Amazon**
- ▶ Mehran Ravanpay - VP, Global Supply Chain Logistics, **Schneider Electric**
- ▶ Joanne Wright, VP IBM Supply Chain, **IBM**
- ▶ Mike Buseman, Chief Global Logistics & Operations Officer, **Avnet**
- ▶ Ryan Miller, VP Global Ecommerce Strategy, **Rakuten**
- ▶ Darrell Edwards, Senior Vice President and Chief Supply Chain Officer, **La-Z-Boy**
- ▶ Kim Aaltonen, Head of Delivery Operations, **Nokia**
- ▶ Jill Marcotte, CSCO, **Dealer Tire**
- ▶ Paul Nugent, Logistics Director, **Kholer**
- ▶ **+ More!**

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