



Supply Chain Software Trends & Opportunities 2016 Benchmark Study

Trends, Opportunities & New Generation Solutions



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Supply Chain Software Trends & Opportunities - 2016 Benchmark Study

Are We at a Major Inflection Point in Supply Chain Software?

Certainly there are important changes playing out, most notably – in our view – the relentless march towards Cloud-based supply chain software.

This change will have huge ramifications for both supply chain software users and providers, undoubtedly changing the software vendor landscape in the end, and opening up whole new ways in how supply chain software will be delivered and consumed.

For all the discussion about Cloud-based software, following somewhat related concepts such as Software as a Service (SaaS) and “on-demand” software before that, the reality is we are early in the journey towards the coming age of Cloud software.

Currently, Cloud-based software represents a small percentage of total deployments, but that number will change dramatically over the next three to five years, with significant implications.

In 2012, *Supply Chain Digest* predicted that by the end of 2015, Cloud-based deployments would be the

majority of new implementations. That prediction may have been a little off in terms of timing, but not in direction, as Cloud momentum continues to build. Already there is significant traction in areas such as Transportation Management Systems (TMS), Global Trade Management (GTM) solutions, and supply chain visibility, but progressing along nicely in every category of supply chain software as well.

Cloud, however, is not the only trend that will create an inflection point in supply chain software. So too will advanced analytics, and relatedly the concept of “machine learning.”

Advanced analytics, in some but not all cases connected to “big data,” offers new approaches to supply chain decision support, potentially upending, for example, traditional methods used for forecasting, and ushering in a supply chain world where companies will increasingly be able to predict potential problems or opportunities before they occur.

Machine learning is just what it sounds like, the ability of the software to learn from its successes and past

errors – in areas such as forecasting – and improve its approach to drive continuous improvement.

The reality is that in many ways the move towards Cloud will be an enabler of advanced analytics. After many years of steady but somewhat incremental progress in supply chain software capabilities and paradigms, these two trends – Cloud-based solutions and advanced analytics – promise to truly shift the status quo in exciting, if not yet fully understood, ways.

With that backdrop, *SCDigest* – in partnership with Oracle and the consultants at AVATA - recently conducted a survey of supply chain software users to benchmark current practices and trends, with a special focus on their views toward Cloud-based solutions.

The results of this insightful research is summarized in the next sections of this report.

— Benchmark Survey —

The heart of this report is a summary of results from a benchmark survey of *Supply Chain Digest* readers conducted on-line, using emails to promote participation in the May-June 2016 time frame.

In the end, just over 175 valid responses were achieved. As usual with such studies, as the results started coming in for the first few dozen respondents, the summary data did not really change much even as the total responses later passed the 100 mark.

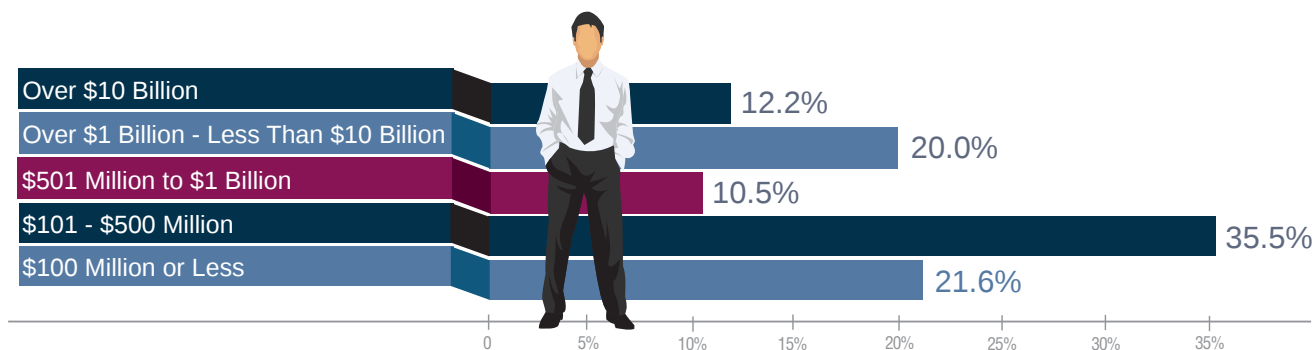
Respondents came from a wide array of industries, with no sector really dominant, though high tech and consumer packaged goods respondents led the diverse pack.

In terms of company size, it was also a diverse mix. As shown in the chart below, a combined 32.2% were large companies of greater than \$1 billion in annual revenue. Another 10.5% have revenues between \$501 million to \$1 billion, 35.5% between \$101 million to \$500 million, and 21.6% \$100 million or under.

However, we will note that 29% of respondents were reporting their perspectives as a division or business unit of a larger corporation, meaning the actual size of companies responding to the survey is somewhat larger than reported here.

Respondents also varied widely by organizational level, from senior supply chain executives to managers.

Respondent Companies by Size



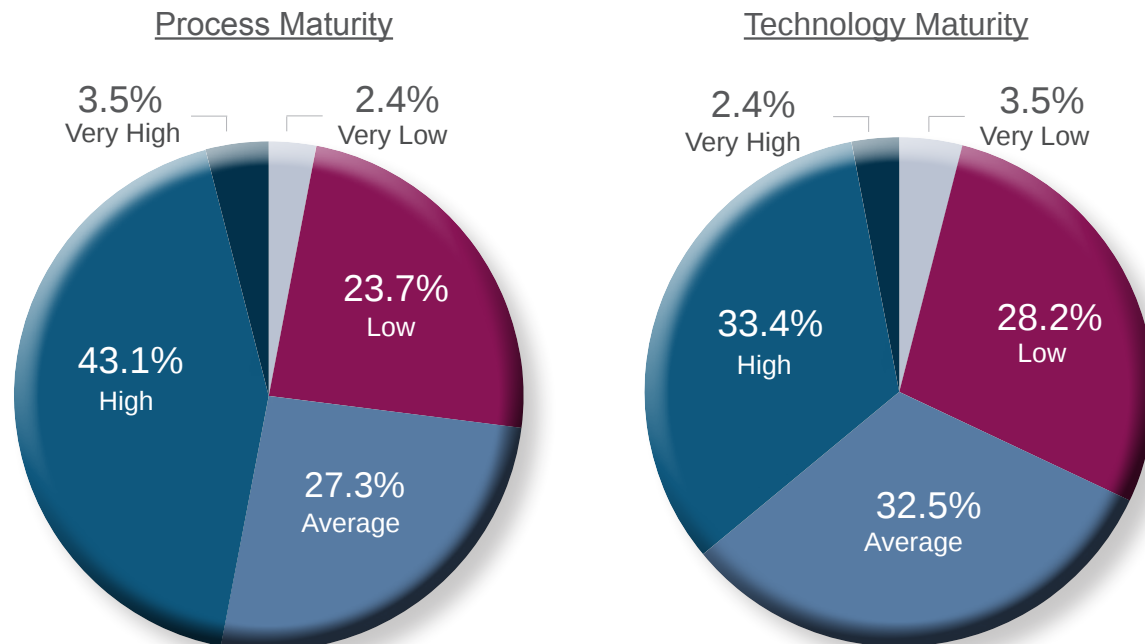
Survey Results

As we often do in these surveys, we started by asking respondents to rate their company's level of maturity in both supply chain processes and technology.

We converted a 1 to 7 scale for both questions, with 1 being the least mature and 7 the most mature, into

categories, with a 1 score converted to "very low," 2-3 low, 4 average, 5-6 high, and 7 very high, with the results as presented below.

Levels of Supply Chain Process & Technology Maturity



There are a couple ways to look at this data. First, as is always the case, respondents ranked their level of supply chain process maturity ahead of how they viewed their supply chain technology capabilities, though not dramatically so. For example, 43.1% rated their process capabilities as high, versus 33.4% who felt this way about their supply chain technology.

Similarly, the average score for process maturity was 4.1, just above the mid-point of 4.0, versus 3.7 – below the mid-point – for technology.

This is understandable, as it arguably is easier to evolve processes than it is to upgrade technology, which happens less frequently.

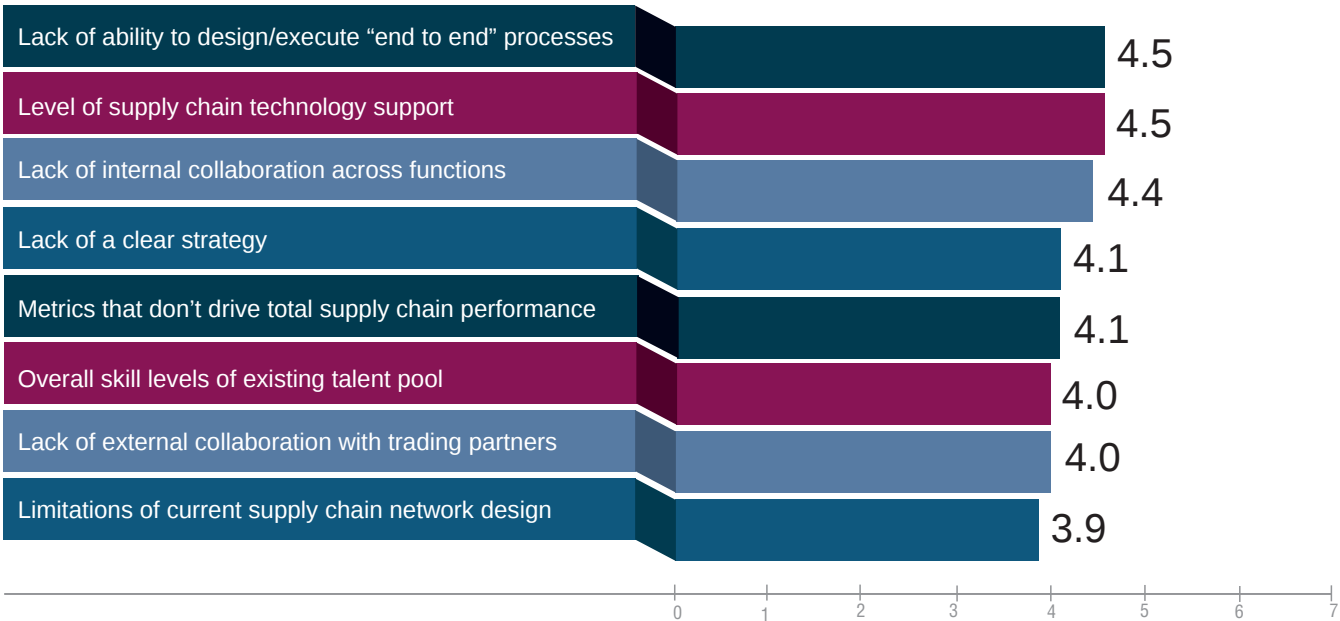
Another view is that 26.1% of respondents rated their process capabilities as low or extremely low, versus 31.7% that placed their technology capabilities in the lower scores.

Next, we asked respondents to rate a list of barriers to supply chain performance, on a similar 1 to 7 scale, with 1 being the least barrier, 7 the most.

As can be seen below, the lack of ability to design/execute end-to-end processes came out on top, with

an average score of 4.5, just ahead of overall level of supply chain technology support. A lack of internal collaboration across functions, a barrier that is in a sense similar to challenges with designing end-to-end processes, came in as the third ranked obstacle, with a score of 4.4.

Top Barriers to Improved Supply Chain Performance



Only "limitations in current supply chain design" fell below the mid-point in our list, and that just barely, with a score of 3.9.

It is interesting to note that respondents saw lack of internal collaboration as a greater barrier to improved performance than they did a lack of external collaboration with trading partners. We were also surprised that "overall skill levels" didn't rank more highly, given all the press of late around a "talent crisis" in supply chain.

Other barriers cited in a comment section included:

- "An appreciation of how supply chain implementation will help the company move forward."
- "Lack of knowledge of supply chain technologies."

- "Lack of funding for supply chain technology investments."
- "Lack of adequate time for change management."

We next asked a series of questions relative to supply chain agility. *SCDigest* believes that there are two levels of such agility:

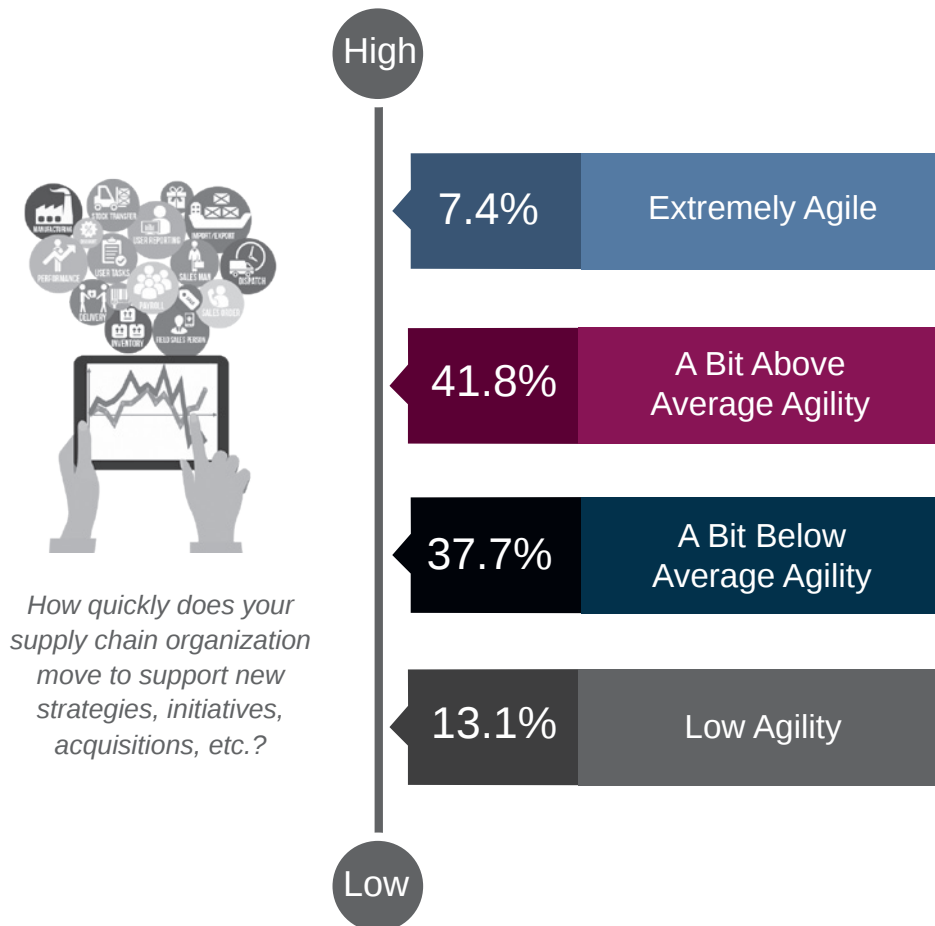
- **"Macro" agility**, which has to do with how quickly a supply chain organization moves to support new strategies, initiatives, acquisitions, etc.
- **"Micro" agility**, which has to do with how fast and well a company's supply chain can respond to short terms disruptions or opportunities, such as forecast error, late shipments, weather problems, etc.

We first queried respondents about macro agility, asking them to rate their capabilities in this area.

As can be seen in the chart below, we received responses in a pretty much classic bell curve distribution, with 41.8% saying they had a bit above

average agility, and a similar 37.7% saying they had a bit below average agility. However, the number saying that they had low agility (13.1%) was about double the percentage saying they had very high agility.

What is Your Level of “Macro” Supply Chain Agility?



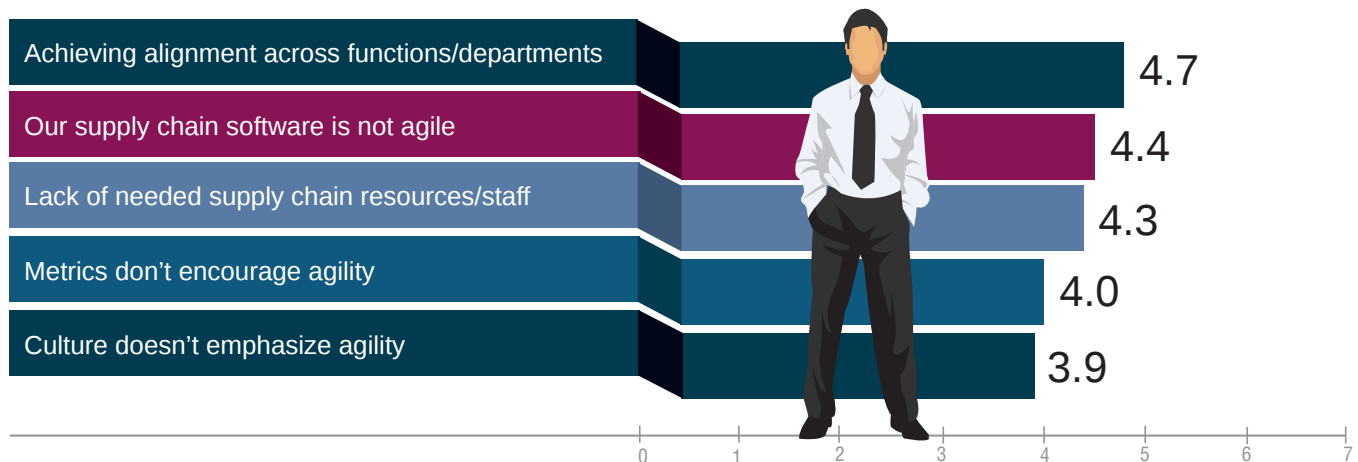
We received some interesting comments relative to this question as well. They included:

- “We are good at adapting our supply network when we have changes in the value proposition to our customers, but the agility happens because of the people and their practices (a little bit of adapting something in Excel) and after a few weeks the whole chain gets synchronized again.”
- “We have no real way to measure agility, which is an issue.”
- “As a fast moving consumer goods company, our supply chain is focused on cost not agility or responsiveness.”
- “Organizational silos prevent us from being agile. Purchasing and supply chain management/ logistics are not well integrated. “
- “The supply chain organization is not proactive.”
- “Our supply chain software is not flexible, so we are slow to make changes.”

We next asked respondents about barriers to macro supply chain agility. In a sense reinforcing the answers we received on barriers to overall supply chain performance improvement, the top choice, with a score well above the mid-point on our 1 to 7 scale of 4.7 was “achieving alignment across functions/departments.”

That was followed by lack of agility in supply chain software (4.4) and lack of enough resources to make adjustments (4.3).

Barriers to Macro Agility



We then asked a similar set of questions around the level of shorter term “micro” agility in the respondents’ supply chains. That started with another self-assessment on their company’s level of micro agility, as shown on the chart on the right.

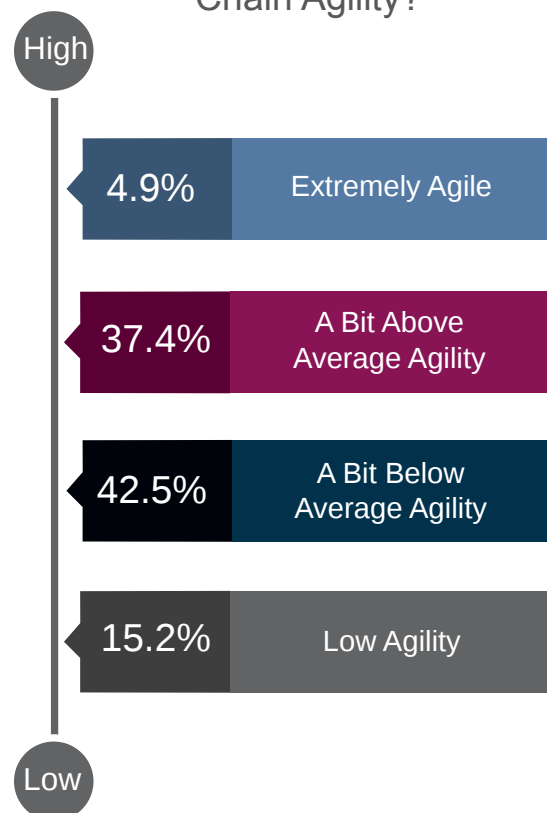
The results were interesting. Different from the question on macro agility, here a higher percentage of respondents said they were a bit below average (42.5%) versus those saying they were above average (37.4%).

And here the percentage saying they had low micro (15.2%) was more than three times the level saying they had very high agility (4.9%).

So why would a significant number of companies rate bigger challenges with short-term micro agility higher than that for longer term macro supply chain agility?

We don’t have a clear answer, but one guess would be that the impacts of reaction to short term changes, disruptions, etc., is simply more visible and in some cases painful than the cause-effect scenario relative to more strategic agility.

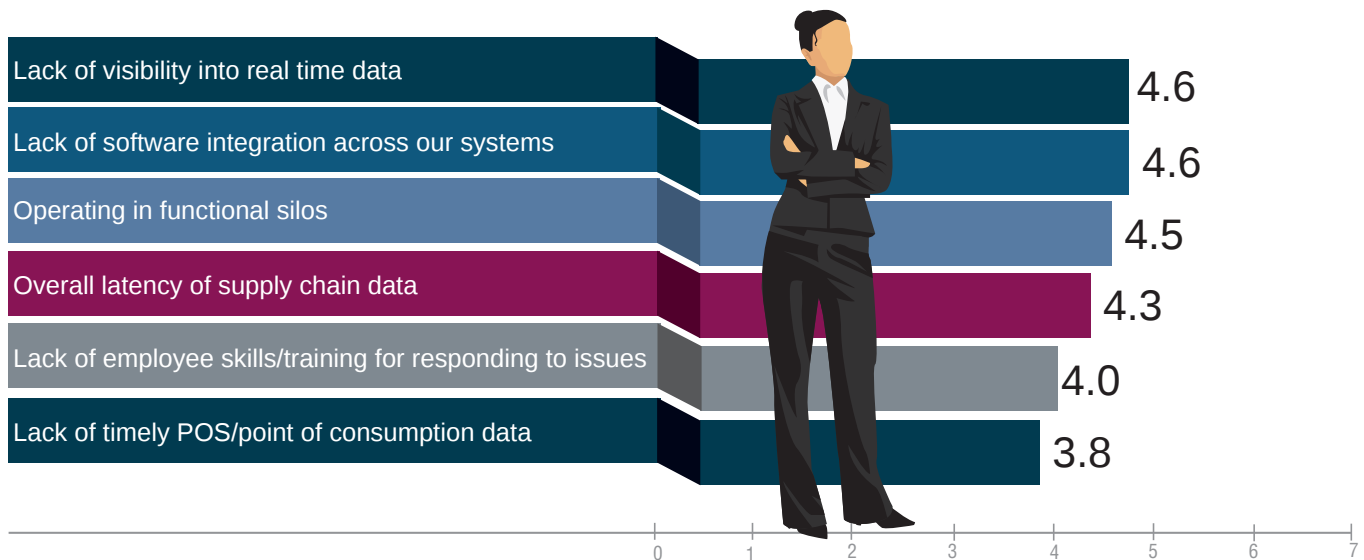
What is Your Level of “Micro” Supply Chain Agility?



Another theory is that perhaps supply chains have little choice but to move more closely in sync with changes in company strategies, direction, etc., which might be highly visible to CEOs and executive peers, whereas those executives likely have little visibility to responsiveness to micro supply chain changes.

We then also asked about barriers to micro agility, but appropriately with a different set of factors to consider. As can be seen in the chart below, lack of supply chain visibility came out as the top barrier, with a score of 4.6, just ahead of a lack of integration across internal supply chain systems.

Barriers to Micro Agility



We were a bit surprised that lack of timely information on POS or point of consumption data came in last, with a score just below the mid-point at 3.8. Of course, such POS information is itself a form of the top ranked barrier of supply chain visibility, but perhaps respondents across other sectors view this as a more consumer goods to retail issue, and/or that many companies are just not mature enough to

take real advantage of this insight yet, and have other barriers to overcome first.

With this insight into how companies are thinking about overall supply chain issues, we next covered a series of questions specifically related to supply chain software.



*“...perhaps supply chains have little choice but to move more closely in sync with changes in company strategies, direction, etc., which might be highly visible to CEOs and executive peers, **whereas those executives likely have little visibility to responsiveness to micro supply chain changes.**”*

That started with a question relative to the areas of supply chain software/technology improvement which most benefit respondents' companies, on our usual scale of 1-7, with 1 the least benefit and 7 the most.

The results are quite interesting. As can be seen in the chart below, the top ranked area for technology improvement in terms of expected benefit was "enhanced analytics capabilities," with a very high average score of 5.3.

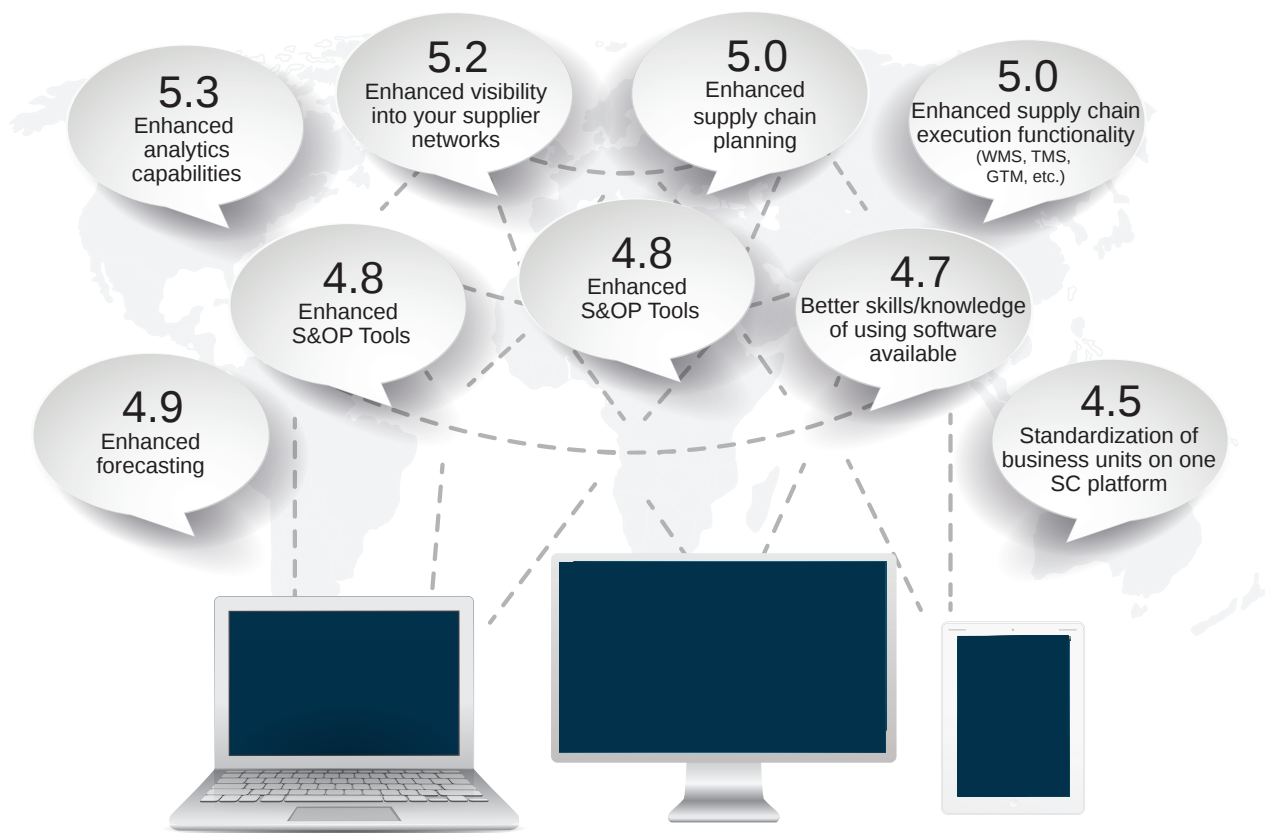
This is indicative of a general awareness, a bit beyond what we would have guessed, on the potential power

of advanced analytics solutions, which will perhaps trigger an inflection point in supply chain software, as we discussed in the first section of this report.

Right behind analytics in terms of impact was "enhanced visibility into supplier networks," with an also strong score of 5.2, and consistent with results from other survey questions that emphasized the need for enhanced supply chain visibility.

Interestingly, improvements in supply chain planning and supply chain execution were both rated high, both scoring 5.0.

Technology Improvement Areas with Largest Impact



In fact, all nine of the technology areas we listed scored well above the 4.0 mid-point. We also view it as a positive that while ranking fairly high, with a score of 4.9, enhanced forecasting capabilities were not at the top of the list, as they have been in other surveys conducted by *SCDigest* and from other sources in the past.

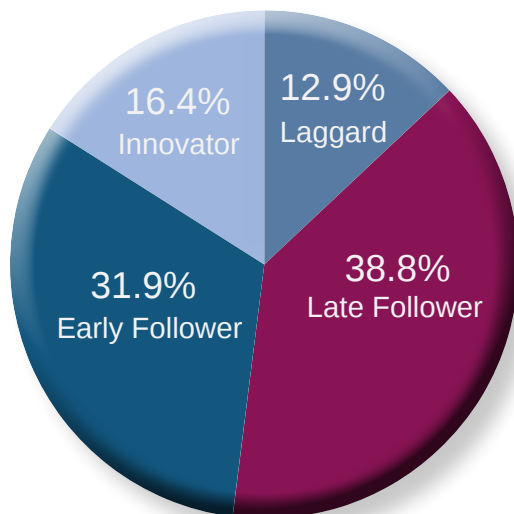
Perhaps companies have accepted the fact that there will always be a level of forecast inaccuracy, and that companies need to be able to plan and execute around that - an important element of micro agility.

The survey next turned to what types of cultures companies have relative to supply chain technology adoption.

Again, a nice near bell curve here, with slightly more respondents saying their companies were

“late followers” in regards to technology adoption (38.8%) than early followers (31.9%). About one in six companies say they are supply chain technology innovators (16.4%), with a slightly lower percentage (12.9%) characterizing their companies as being laggards in terms of technology adoption.

Supply Chain Technology Adoption Profile



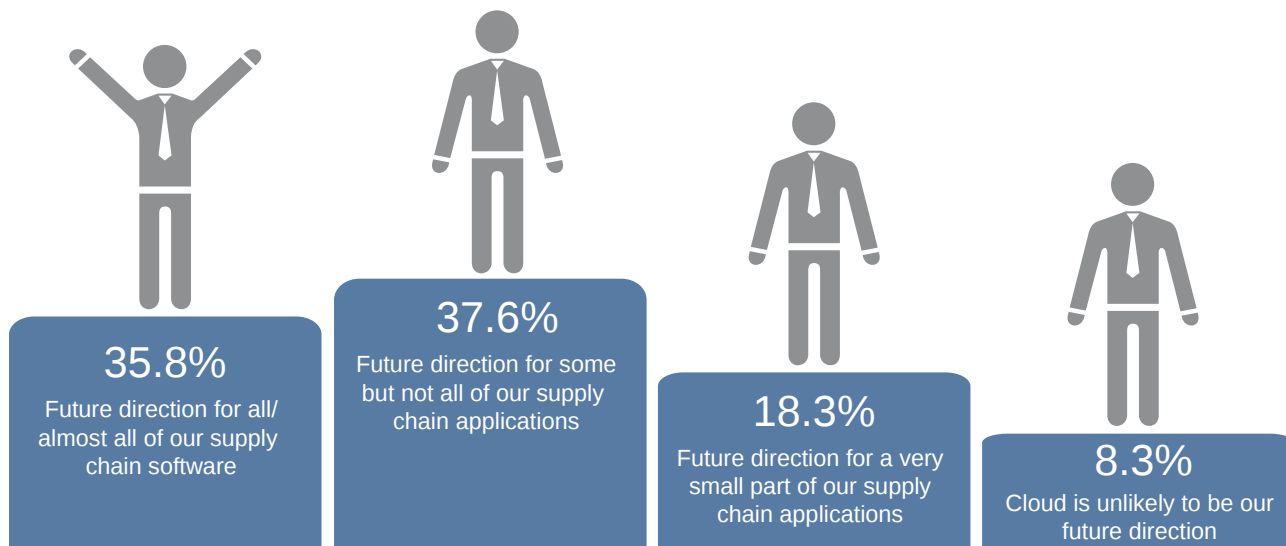
Continuing on the software theme, the survey ended with a question relative to Cloud-based solutions.

First, we asked for each respondents’ general view on deploying supply chain applications in the Cloud. As seen below, more than one-third of respondents said that Cloud will be “the future direction for all/almost all of our supply chain software,” a percentage much higher than we would have seen just two years ago.

What’s more, another 37.6% indicated Cloud would be the “future direction for some but not all of our supply chain applications.”

Just over one quarter of respondents said that Cloud-based software would be adopted for only a small portion of total supply chain applications or not at all.

Perspectives on Future of Supply Chain Software in the Cloud



But deployment of Cloud-based solutions is still in its very early stages. The table below shows how respondents characterized the percent of their supply chain software that is currently running in the Cloud.

So, for example, a little more than one-third of respondents (34.3%) said they have no supply chain software running in the Cloud, whereas 5.6% say more than 90% of their software is Cloud-based.

But as can be seen in the table below, that picture changes dramatically in estimates for 2020.

The percentage expecting to have no Cloud supply chain by 2020 drops to just 2.8%, or close to zero. By contrast, the percentage of respondents that currently say they have 51-90% of current supply chain software in the Cloud (10.2%) jumps to expectations for a 32.7% Cloud share by 2020.

Percent of Supply Chain Applications Currently Running in the Cloud Currently and by 2020

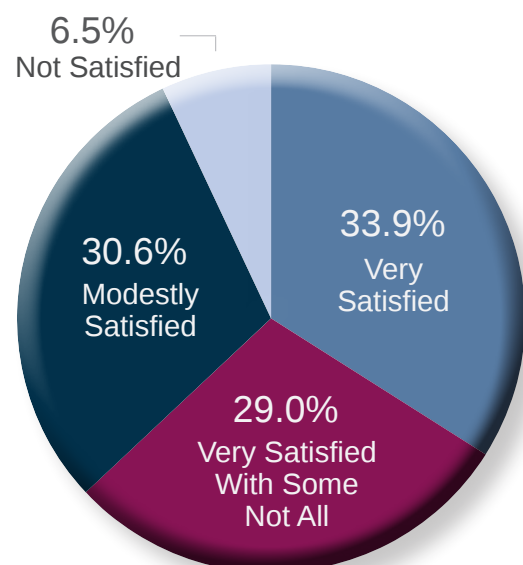
Cloud Share	Currently	2020
0%	34.3%	2.8%
1-10%	19.4%	9.3%
11-25%	23.1%	17.8%
26-50%	7.4%	22.4%
51-90%	10.2%	32.7%
91-100%	5.6%	15.0%

As noted at the start of this report, this data supports the prediction that we are indeed at an inflection point in the direction of supply chain software solutions. Next, we wanted to understand how companies that have already dipped their corporate toes into the Cloud waters have found that experience thus far.

All told, that experience appears positive. As shown in the chart on the right, just about exactly one-third of companies that have Cloud-based supply chain software say they are “very satisfied” with the experience, with another 29.0% saying they are very satisfied with some but not all of their Cloud-based solutions.

Just 6.5% say they are not satisfied with their Cloud-based software thus far.

Experience with Supply Chain Software in the Cloud Thus Far



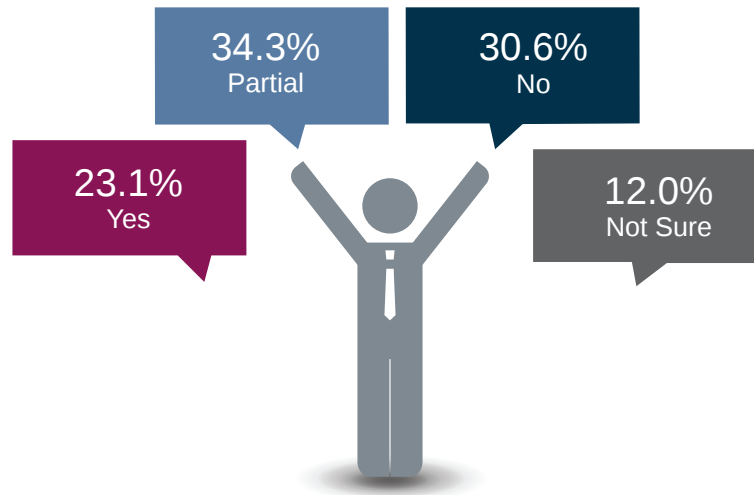
Of course, the move to the Cloud will greatly be influenced by whether a company has a clear strategy or plan to do so. In this regard, there is progress.

As seen in the chart below, just under a quarter of respondents say their companies have a clear

strategy to move toward Cloud-based supply chain applications, with another 34.3% saying they have a “partial” strategy.

30.6% of respondents say their companies have no clear Cloud strategy yet, with another 12.0% unsure.

Does Your Company have a Clear Cloud Strategy for Supply Chain?



We received some interesting comments on this question as well, as shown below.

- “We are not clear yet because of security concerns; however, if security concerns are addressed fully, then we might as well plan for Cloud-based supply chain applications.”
- “Leadership understands the benefits and versatility of the Cloud but lacks funding.”
- “We are finding it difficult to intersperse Cloud thinking with normal operations in developing long-term plans. Executives and line-employees have differing experiences.”

- “Operations would like to move to Cloud but IT is resistant.”

There were also some interesting numbers from a survey question about current and future Cloud deployments by specific application area.

As can be seen in the chart below, respondents across the board expect substantial jumps in the move to the Cloud, with expectations for all but Warehouse Management Systems of well over 50% by 2020.

Current and Future Cloud Deployment by Supply Chain Application Category

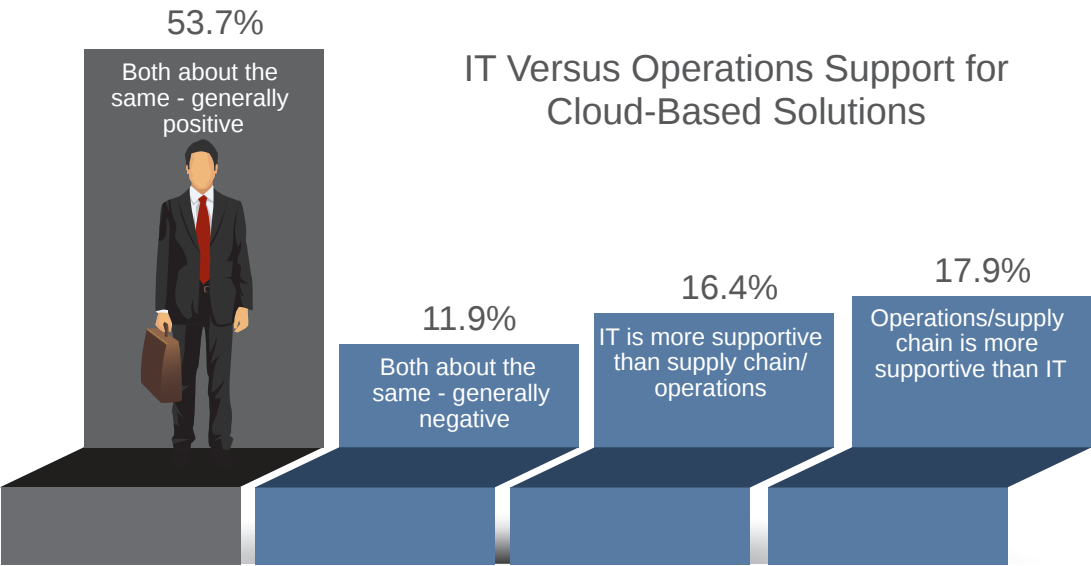
	2016	2020
Demand Planning/DRP	17.2%	70.4%
Supply Planning	22.4%	68.3%
WMS	6.5%	35.4%
TMS	25.9%	75.4%
Global Visibility	42.3%	92.4%
Global Trade Management	38.6%	84.7%
Procurement	16.6%	65.9%

A key factor in the pace of Cloud adoption is the level of support from both operations/supply chain and the IT organization. We next asked about that topic, with real uncertainty as to how the results would play out.

The answer is that respondents said both groups are very supportive of Cloud, with a full 53.7% answering that both IT and operations were generally

supportive of moving to the Cloud, as shown in the chart below.

By contrast, 16.4% said IT was more supportive of Cloud than operations, about the same percentage that said operations was a stronger backer of Cloud than IT (17.9%). Just 11.9% said both IT and operations were negative on Cloud-based solutions.

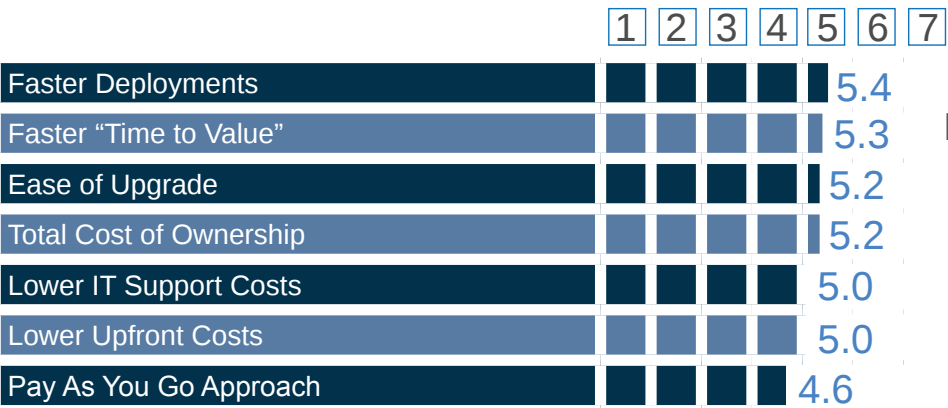


Those providing Cloud-based supply chain software solutions promote many benefits from this approach. We next wanted to see what respondents thought about these potential advantages, rating a series of benefits on our 1 to 7 scale, with 1 the least benefit and 7 the most.

As can be seen in the chart below, faster deployments topped the list, with a very strong average score of 5.4. That was just ahead the directly related benefit of “faster time to value,” with a score of 5.3.

But several other benefits in the list also had strong scores of 5.0 or higher, including ease of upgrades, total cost of ownership, lower IT support costs, and lower upfront costs.

Only offering a “pay as you go” pricing model fell below the 5.0 mark, and even that was still well above the mid-point, with a score of 4.6.



Perceived Benefits of Cloud-Based Supply Chain Software

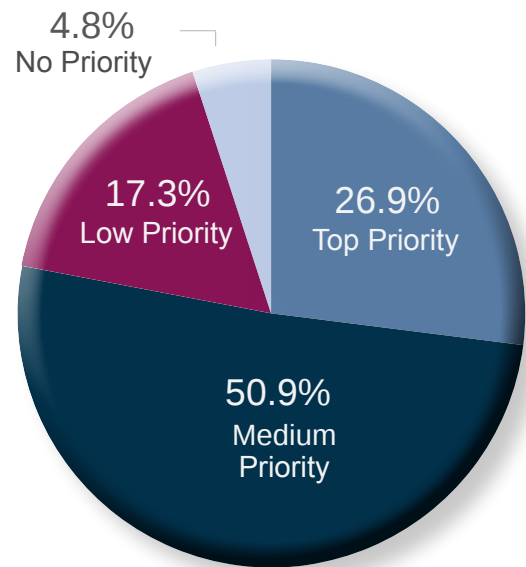
RATING:
7 = highest benefit rating

So given all that, how high a priority should developing a Cloud strategy be for the supply chain?

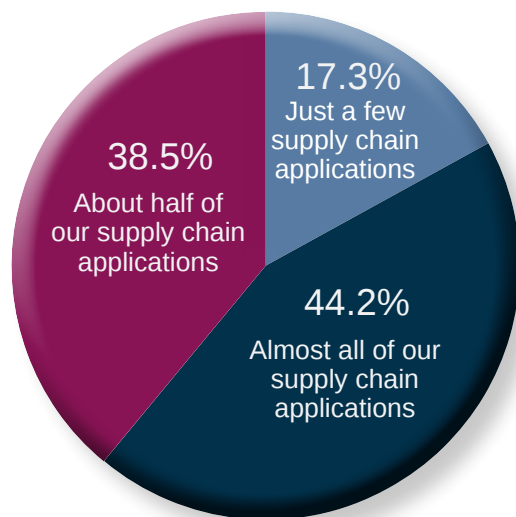
Here, the results were pretty strong, with 26.9% of respondents saying it should be a top priority, and a majority, at 50.9%, saying it should be a medium priority. That means more than three-quarters of respondents believe a plan to move to the Cloud should be a medium or top priority.

Remember that earlier, the survey found that 23.1% of respondents said that their companies had a clear strategy for moving to the Cloud in supply chain.

Priority Levels for Developing Plans to Move to the Cloud



How Pervasive will Cloud Supply Chain Solutions Be?



Finally, taking another angle on a subject asked about previously, we asked a general purpose question on the future of the Cloud in companies.

As can be seen below, a plurality of 44.2% said deployment in the Cloud will “ultimately make sense for almost all of our supply chain applications” – a strong statement indeed.

Another 38.5% said Cloud will make sense for about half of their companies supply chain applications. Just 17.3% of respondents said Cloud would “ultimately make sense for just a few select supply chain applications.”

We cap this section off with some general comments on Cloud-based software solicited in an open-ended question at the end of the survey.

- “Nice to have in the future but must get the most of current supply chain applications.”
- “Cloud supply chain operations should be used where it makes sense. It’s a balance sheet cost transfer from internal payroll to external payment. Can be dangerous when the company is sensitive to intellectual property losses.”
- “Initially it will make sense to go for few supply chain applications to gauge the performance and also its reliability and serviceability. Once these are addressed then we can take this to next level. They promote efficiency and effectiveness.”
- “As software suppliers move to Cloud-based solutions, more and more customers have little more choice than to follow suit. What is of importance to clients though is having the right functionalities not Cloud/non-Cloud.”

- “The biggest challenge is data security.”
- “Most vendors claim to have cloud applications, but they are just hosted legacy apps in a data center. Very few can exploit elastic computer environments.”
- “Cloud-based supply chain applications will become more and more necessary when the control tower approach will be more developed and end-to-end visibility will be required.”
- “The utility of Cloud-based software depends on

the quality of broadband connectivity, and key sectors, such as mining, have remote operations that won’t benefit fully in the short term.”

- “Long-term costs with Cloud will be higher; changing vendors will be difficult.”
- “I think this is just the way it is going to be. Companies should therefore plan appropriately.”
- “Companies that do not see how this will have a dramatic impact on distributing capabilities and data access simply are missing the boat.”

— Summing Up the Data —

The survey data summarized in this report provides an interesting look at how companies think about supply chain technology, with especially noteworthy results relative to Cloud deployment.

As we almost always find in such surveys, companies believe they are more mature in supply chain process than they are in supply chain technology support, with 46.6% saying their companies had high or very high levels of supply chain process excellence, versus 35.6% rating themselves in those categories on the technology side.

And those results were validated in another question, where level of technology support ranked just behind “lack of ability to design/execute “end to end” processes” as the top barrier to improved supply chain performance. Lack of internal collaboration across functions came in third place.

Agility is an increasingly important element of success in a Lean and dynamic supply chain world, and most companies believe there is much room for improvement in their levels of agility. Just 7.4% and 4.9% of survey respondents said their companies were extremely agile on a macro and micro basis, respectively.

Again, “achieving alignment across functions/ departments,” was cited as the top barrier to improved macro agility, and “lack of visibility into real time data” was cited as the top barrier to micro agility.

Improved visibility also came in second in terms of areas of technology improvement that would deliver the most value, just behind improvement in analytics, in a result that was somewhat surprising.

But not surprisingly, most companies are pretty conservative when it comes to technology adoption. Just over 50% of respondents classified their companies as either “laggards” or “late followers” in terms of technology, versus just 16.4% that said they were “innovators.” 31.9% classified themselves as “early followers.”

Overall, there is very strong support for moving supply chain software to the Cloud – and clear intentions to do so over the next four years.

35.8% of respondents said the Cloud will be the future direction for all or almost all of their supply chain software. Another 37.6% indicated that Cloud will be the direction for some but not all supply chain applications.

“ Overall, there is *very strong support* for moving supply chain software to the Cloud – and clear intentions to do so over the next four years. ”

Currently, 34.3% of respondents have no supply chain software in the Cloud, but this is expected to change dramatically by 2020, when just 2.8% of respondents expect to have no Cloud-based supply chain software. In the same way, just 10.2% of companies have 51-90% of their supply chain software in the Cloud currently, a number that jumps to 32.7% in terms of 2020 expectations.

But companies are a little slow when it comes to developing overall Cloud strategies. 23.1% say they have such a Cloud strategy in place, with another 34.3% saying they have a partial strategy.

But respondents see strong benefits from a move to the Cloud. All of the benefits we asked respondents

to rate finished well above the mid-point on our scale, topped by the promise of faster deployments. That was followed by faster “time to value,” ease of upgrades and lower total cost of ownership (TCO).

In the end, 42.2% of respondents said almost all of their supply chain applications will eventually run on the Cloud, and another 38.5% said about half of their companies supply chain applications will become Cloud-based.

So will the move to Cloud really be an inflection point in the supply chain software market? We explore that question in the last main section of this report.

The New Era of Cloud-Based Supply Chain Software

We are undoubtedly at an inflection point in the history of supply chain software. Cloud-based solutions will have profound impact on both users and providers, as Cloud soon comes to dominate supply chain software delivery.

SCDigest first developed the model shown on page 18 for thinking about what a company is trying to accomplish with an on-demand or Software as a Service (SaaS) software deployment more than 15 years ago, but it still has value today.

As can be seen, there are three essential dimensions of such a solution:

- **The deployment model:** is the solution “hosted” in some fashion, or deployed within the four walls of the enterprise?
- **The pricing model:** Will the software be purchased with a traditional upfront license fee, or paid for under some type of subscription and/or transaction pricing model?
- **The management model:** Will the company acquiring the software run/manage the solution

itself or will it be managed by a third party?

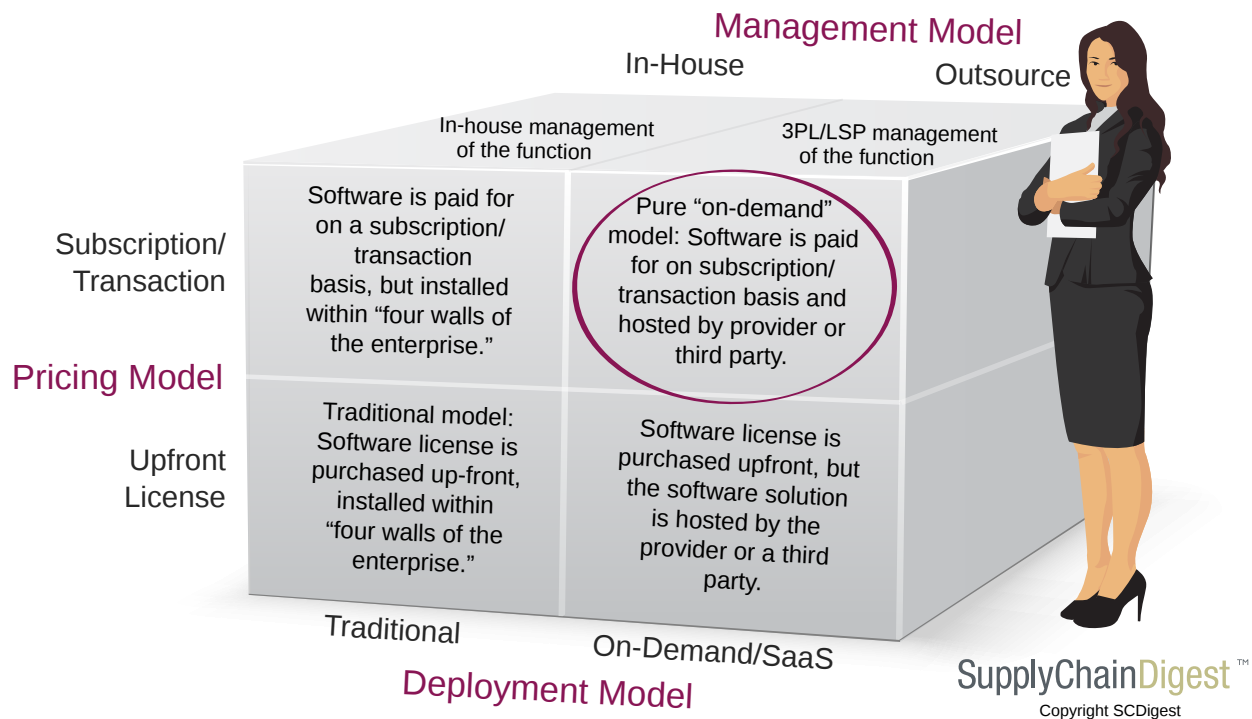
This outsourced management model of course is common in the area of Transportation Management System (TMS) deployment, where a 3PL is often used in such a management capacity, but is being seen in other application categories as well as providers offer “managed services” in new areas.

Of course, the traditional on-demand model involves a hosted deployment and subscription/transaction pricing. However, companies often place more value on one of these attributes, such as the hosted model to reduce IT support needs or the pricing model to avoid a large upfront payment, and are less concerned with the other dimension.

While this *SCDigest* model has proven useful to help companies think through what they are really trying to achieve with an on-demand solution, does it still apply now to software in the Cloud?

Yes and no.

What Are You Really Looking For?



Yes, because in some sense Cloud indeed can be seen as the latest milestone in the progression from hosted solutions to on-demand and then SaaS. Often companies still face the same choices, meaning some vendors will provide software in a "private Cloud" that the customer will host itself. Others will offer a Cloud deployment but with an upfront pricing model if desired.

But the answer is also a partial No. Leading Cloud supply chain software solutions don't serve as a simple extension of the on-demand or SaaS model to run within a Cloud infrastructure. Rather, they have been developed as a new generation of solutions that leverage modern development technologies, with a customer-centric mindset about the user interface, ease of use, mobility, deployment flexibility and more.

They feel more like "apps" than traditional software designs, frankly something millennial supply chain managers will find much more user friendly and intuitive. As a result, leveraging this kind of supply chain technology will prove to be increasingly critical for companies to retain and attract the best talent. Many Cloud-based solutions really do represent

a change of direction in supply chain software development.

Rapid and Continuous Updates

Following from the discussion on supply chain agility earlier in this report, it is important here to emphasize the ability of Cloud-based solutions to access almost instant updates—an often overlooked benefit.

A high percentage of companies get stuck on a given version of supply chain software because of the cost and resources to upgrade traditional on-premise solutions. Those companies can end up several years or more behind the latest solutions and increasingly find themselves at a competitive disadvantage versus others that have more up-to-date software capabilities.

While there is no magic bullet, now software providers can make new versions of their solutions simply available in the Cloud, ready for access, dramatically simplifying the move to the latest versions of software.

While there may be some training and testing required, depending on the scope of the upgrade, that pain and cost will certainly be a fraction of what an upgrade typically entails. Because of that, companies can keep current, going through a series of low-pain upgrades, rather than waiting for years to do a significant - and inevitably challenging - upgrade that will involve substantial changes from the current to new versions of the software.

This ability for continuous and rapid upgrades is another aspect of how Cloud technologies have created an inflection point in supply chain software from.

The Path Forward

As the software industry and supply chain software users migrate to the Cloud, it will become self-

perpetuating, and Cloud-based deployments will become first the most popular method of supply chain software delivery, and ultimately the dominant form.

Indeed, even companies doing their own internal solution development are already starting to gravitate towards Cloud-based systems.

Some companies will move aggressively in this regard, especially to achieve consistent software capabilities across the globe as well as mobile access.

Others will of course be more cautious – remember more than 50% of our survey respondents said their companies were either late followers or laggards when it comes to supply chain IT – and might think they will just wait to look at Cloud solutions until existing on-premise applications need to be refreshed.



A Cloud Software Dictionary

There is no lack of terms out there relative to Cloud software models. The analysts at Gartner recently offered the following terms and definitions, which readers may find useful.

On-Premise: *The traditional way applications have been deployed and operated for the last several decades. The customer buys and runs its own technical infrastructure and then purchases and installs and operates various applications on this infrastructure.*

Hosted: *Basically the same as on-premise but the customer outsources operation and maintenance to a third party that either operates applications on the customer infrastructure or moves these to the hosting providers infrastructure.*

Private Cloud: *A form of Cloud computing with closed access, a style of computing in which scalable and elastic IT-enabled capabilities are delivered as a service to internal customers using internet technologies.*

Public Cloud: *Externally managed computing services that multiple companies access and use. The Cloud service can range from IT infrastructure to business services and has options of dedicated public Cloud, community public Cloud, and network public Cloud.*

Hybrid Cloud: *A not often seen combination of on-premise and public Cloud services. For example some TMS providers operate the market-facing capabilities of their application in the Cloud but allow their customers to run their optimization engines on-premise or in the Cloud.*

Dedicated Cloud: *A vendor operates multiple instances of its application software where each customer has its own instance running on shared Cloud infrastructure.*

Multi-tenant Cloud: *A vendor operates a single instance of its application software for all customers.*



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But is that approach - which may involve waiting years before moving forward with Cloud technology - the winning one?

Perhaps not. SCDigest believes that rolling out Cloud software successfully and with maximum effect will in fact be a competence that will take time to develop. That means companies that wait too long may find they get too far behind to effectively catch up in time to establish competitive advantage.

In this regard, the concept a "hybrid Cloud strategy" has emerged. What does that mean?

In part, it involves looking for opportunities to add new Cloud-based capabilities with solid ROI beyond the current on-premise technology stack. This improves supply chain performance while gaining valuable Cloud experience that will pay dividends as all companies chart an inevitable journey to further entrenchment in the Cloud.

And in fact, taking such an incremental approach, if planned and managed correctly, is likely to accelerate the demand from users for more solutions in the

Cloud. In the end this will likely speed the transition from on-premise to Cloud as users gain experience and see value.

We are truly at the cusp of a new era in supply chain software, as Cloud and analytics change how software is deployed and used. The on-premise model that has dominated the supply chain software industry since its inception is poised to become something of a relic over the next five years.

It will be exciting times, making supply chain software much easier to use, providing increased flexibility and empowering global and mobile users.

It will also create new winners and losers in the supply chain software market, as some adapt well to the new paradigm while others are less successful in the transition.

SCDigest is quite confident it will be a very interesting ride, and we will be in a very different place in five years.

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