Agillitics

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AND THE SOLUTION TO TOO MUCH DATA FROM TOO MANY SOURCES

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Data is a powerful asset, at least theoretically. Data is merely information – facts and figures to mine for insight that can help you make decisions.

But like all assets, data is only as valuable as your ability to make use of it. That's why more data is not always better.

With more data, a person can get so loaded down with facts and figures that they can't process it and think straight. Likewise, an enterprise can find itself wrestling with the management of data rather than learning from it and deploying it effectively.

This is ironic. More information should be a good thing. The better informed you are about what's happening within your enterprise, the better equipped you should be to act wisely moving forward.

So why doesn't it always work that way?

The answer lies in the relationship between data and technology.

A Trip Through Time

Let's consider a very modern warehouse in 1973 with technology called a telephone. The warehouse has a conveyor that's used to move items from place to place. A guy named Gus is in charge of putting the boxes on the conveyor, and a guy named Harry is in charge of operating the conveyor.

When Gus is getting ready to load the conveyor, he needs to make sure it's up and running. So he picks up the phone, hits an internal extension, and hopes that Harry is available to answer. Hopefully Harry confirms that the conveyor is working correctly, and the boxes are transported to their destination.

In the event the conveyor is not working correctly, Harry had better pick up the phone and call Gus to let him know or a bunch of boxes are going to be stuck in limbo – possibly without anyone knowing about it.

Harry and Gus have good communication going between them, so there are rarely if ever any problems like that. That telephone technology may not seem very advanced from our 2023 perspective, but in 1973, Harry and Gus think it's fantastic. And they're using it effectively to get the job done.

Let's move forward 20 years to 1993. Enterprise Resource Planning (ERP) software is the latest thing in industry, and most companies in the supply chain/logistics industries are investing in it.

ERP systems were not invented in the 1990s. They were invented in the 1940s. And by the 1970s, many of the largest corporations in America were using some variation of them.

But it was in the 1990s that ERP systems became both affordable enough and comprehensive enough for most companies to invest in. For the first time, ERP systems automated many of the functions that Harry and Gus used to perform manually.

ERP handles all the basics – including engineering, human resources, finance, accounting and project management. And while it could be argued that the automated performance in any one of these areas is fairly basic by 2023 standards, ERP was revolutionary back then.

Best of all, because the same software was handling all these various functions within the company, there was only one set of data and it was the single source of the truth.

In the 1990s and the early 2000s, all the data was stored on-premises, which led to some real security concerns. Data backup facilities – which would store your data off-site in the event of a catastrophe – became an important part of the digital ecosystem in those days.

But in 2005, something new emerged, as explained by a company called Versa Cloud:

> After 2005 or so, the trend has turned towards cloud software systems and moved away from traditional client server-based models. Cloud ERP systems provided comparable functionalities to on-premise ERP at a much lower cost, especially those using the public cloud model. This was because the costs could be divided among multi-tenant users, and server-based software was now affordable to most. No IT infrastructure apart from computers and internet connectivity was required. They were attractive especially for small and mid-sized businesses.
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> There was initial concern about data security but the cloud has now been able to achieve levels of data security comparable or better than on-premise-based ERP solutions sans the cost, uptime issues, access on the go, ease of use issues, coding needs, and upgrade burdens.
>
> They now have remote, web-based access via advanced apps that run even on mobile devices. Today's Cloud ERP systems cover every necessary aspect of a business.

Whether supply chain operational systems are unified or piecemeal, many are moving rapidly as a whole to the Cloud. The simplicity of Cloud data storage is making it easy to cost-effectively bring up many systems at a rapid rate.

In a recent report on the emergence and impact of Cloud technology, Accenture reported on Pfizer's experience:

After over 25 acquisitions in two decades, Pfizer needed to re-engineer its complex supply chain to enable greater agility and responsiveness to unexpected events, while providing the company and its partners with a "single version of the truth."

To achieve these objectives, Pfizer set about transforming its supply chain to "device independence", by moving to one common cloud-based platform for management of the supply chain network. As part of this process, the company required its 500 suppliers to implement a Cloud-computing-based, common-information-exchange framework on which each supplier was represented as a node on a virtual supply chain. Although the shape and scope of the network may change over time, the "cloud layer" isolates Pfizer from any underlying physical changes and allows supply chain network participants to be added or removed rapidly. Pfizer's vice president of supply network services, Jim Cafone, traced the progress over a year and a half–from "'zero shipment traceability' to a device-independent platform that has already handled more than 40,000 shipments." This new visibility is essential to expanding global markets. Cafone pointed out that the virtualized infrastructure has made it possible for Pfizer "to land products into portions of the world where before we and the rest of the industry were flying blind. For example, we know when a product lands in Kenya or anywhere else in the world, because we have that traceability."

As Pfizer clearly realized, one result of the Cloud was that operations software didn't have to be able to store all the data on-site. That was a real benefit.

But it also gave rise to a new phenomenon that complicated the ability of companies to simply and effectively manage their data.

Best of Breed, Worst of Confusion

This phenomenon is called Best of Breed. The idea is that you'll get the best operating software if the finance system is created by finance experts, and the transportation system is made by transportation experts, and the warehouse management system is made by warehouse experts. And so on. You get the idea.

And in a vacuum, it's phenomenal. Transportation management systems (TMS) are better than ever. So are financial software products. So are warehouse management systems (WMS). So are engineering platforms. They're all amazing.

But there's a problem. In 2023, you might have a warehouse with five or more different material handling systems. Or you might have a WMS, a TMS, a WCS and an accounting system that were all made by different software companies on different technologies with different databases.

With so many different systems, they don't have a natural way of talking to each other, or of sharing data with each other. Sometimes four different systems will refer to the same thing using four different terms. The user may be able to understand them all but the systems can't understand each other.

Systems have come a long way since 1993, but simplicity of overall operations is not one of the benefits.

The 1993 warehouse probably had only one material handling system, and might have had only one WMS that managed material handling and everything else. True, it wasn't as advanced as each of the individual, specialized systems of today. But it was unified and self-contained, and all the data it provided you was in harmony.

Since software companies started becoming more specialized on particular functions like invoicing, dispatch, transportation and warehousing, there are now a wide array of systems that produce great results in isolation but don't know how to talk to each other.

You have 10 different systems with 10 different databases. Each one focuses exclusively on its own donut-making function. How do I ship this pallet? Can I contact this driver?

But consider: The TMS needs to know what happens when dispatch contacts a driver. It will almost surely impact the production of an eventual invoice. By the same token, the WMS system needs to know what the material handling system is doing because it has to deploy people to respond to the movement of the materials. (Or at least it needs to know if such deployment was necessary or not, and ideally why.)

Disparate systems are very bad at looking past their own immediate needs of the moment. They don't consider what's happening in the rest of the enterprise. And they don't give much thought to what might happen tomorrow because they're solely focused on today.

Imagine watching this cacophony from a level up. It wouldn't look much like a unified system at all. It would look like chaos. And so would the data that emerges from these various, specialized sources.

Order Out of Chaos

George Petri, managing director at SymVolli Limited, wrote on LinkedIn in 2020 about the problems associated with data emerging from so many different sources within a company's own operation.

One danger is slow response times:

> *Say you are fulfilling an order for a customer. You need to find their file on your system so that you can check what they have bought, along with clarify some information about their needs. To do this you need to log into one system to access their purchase record, another system to find the conversation records from the sales people, and another to start completing their order. Each system takes a few minutes to log into, around 10 minutes to search through to find the right client, and another 5 minutes to find the files you need. That's over 20 minutes of time lost on a very simple task – working out what a customer has ordered. It might not sound like a lot, but if you need to do that process 30 times a day, it really adds up, and eats into the amount of work you can actually do.*
>
> *In the instant-satisfaction world we live in, slow response times can kill a business stone dead. If a client can't get hold of you, find what they need or get their solution in place quickly, they will often just move on to the next supplier, rather than wait for you to catch up. Lengthy project timelines (caused by that low productivity we talked about earlier), IT project backlogs or just a lack of easy-to-access information all cause slow response times, and all of them can be traced back to disparate systems keeping data separate or refusing to work together in harmony. Once you remove that issue, you will see your response times shoot up.*

Response time is a big issue with disparate data. And other inefficiencies also come into play.

Consider the person who's trying to follow the lifecycle of an outbound order. The complications start with an issue as simple as language. The employee is told by the various databases that there is a shipment. Also that there is an order. Also that there is an LPN. Three different things, right?

No. It's all one thing. Three different systems have three different terms for the same thing. And while the user may understand that all the terms have the same meaning, he or she now has to spend time making all the systems agree with the other.

It gets worse.

Let's say you have an outboard order for markers and erasers. It initially goes through ERP, and the employee who has the inventory decides to source it out to a distribution center in Chicago. The warehouse management system notes that the order is for markers and an eraser.

But the markers are in one material handling system. The erasers are in another. Each system only tracks the package that is being fulfilled by that system.

The package is about to be picked up by a robot. But guess what. The WMS doesn't know that, though, because the material handling system is separate and not communicating in real time.

Now there's some real confusion between the WMS and the robots.

It's 2 p.m. and there are 10 robots available. The WMS, which has no idea how many robots are available, declares that the packages have to ship by 3 p.m.

The response of the robots? "Does not compute!" The robotic system says the package had to be ready by 1 p.m. in order to shipped by 3 p.m.

Now this package is not going anywhere because the various systems are in a cyber-standoff. Once this finally gets ironed out, the inventory is placed on a truck but the cost of shipping has gone through the roof because the truck is only half full. Why? Because the TMS didn't know what the WMS was doing.

Enough

All of these problems could have been avoided if the systems had been harmonized in the first place. That's what we do here at Agillitics, through our turnkey platform called AgiSight.

AgiSight tracks your orders through each of the various systems, all the way to the customer's door. With everything brought together and harmonized on our database, the entire process is visible in real time. AgiSight knows what everything means – even if there are different terms. It knows where everything is – even if it's on different systems. It knows what's going to happen next, what resources need to be deployed and which available options will produce the best results.

AgiSight doesn't care if a customer is using two systems or 10 systems. It makes all the data work together in a single source of the truth.

And here's why that's important.

These Best-of-Breed systems really are good. They represent a significant advancement from the basic SAP-based ERPs of the 1990s and early 2000s. Companies who can't use the Best-of-Breed systems are truly at a disadvantage.

But you can't use them if you're limited in resources, and if the way they treat data creates more work for you than it actually handles. For small companies that can't afford multiple people who sit around all day long organizing and sifting data, the Best-of-Breed systems are simply more trouble than they're worth.

AgiSight solves the problem. AgiSight harmonizes the data and makes it exceedingly simple for you to see it, understand it and use it to make good decisions. We replace the old myriad of Excel spreadsheets with a comprehensive but simple-to-use dashboard that double-checks the data and is actionable.

This is the way forward for supply chain companies who are sitting on a gold mine of data but can't figure out how to harmonize it, unify it or get it to talk to each other. AgiSight makes it happen.

Just the Right Mix of Old and New

The lines of communication in the supply chain industry were simple when they were literal phone lines, and Gus and Harry used them to keep tabs on what was happening in each other's areas of responsibility.

If Gus and Harry are still around, we suppose they find some of that newfangled computer stuff as infuriating as we sometimes find it. But they might be impressed to know that AgiSight has a way for these systems to communicate and understand each other almost as well as they did back in 1973.

It's just the right mix of old-style communication and new-age digital innovation. And it comes at just the right time because the supply chain industry needs every advantage at its disposal.

AgiSight's time is now.

Contact Details:

Reed Stepleman
VP, Solutions

📞 (843) 781-2985

✉ rstepleman@agillitics.com

Tim Judge
CEO

📞 (678) 469-1460

✉ tjudge@agillitics.com