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How to Improve Manufacturing Outcomes with Analytic Investments

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During the recent supply chain crisis, 58 percent [of survey respondents] reported good supply-chain-planning performance over the past year.[1]

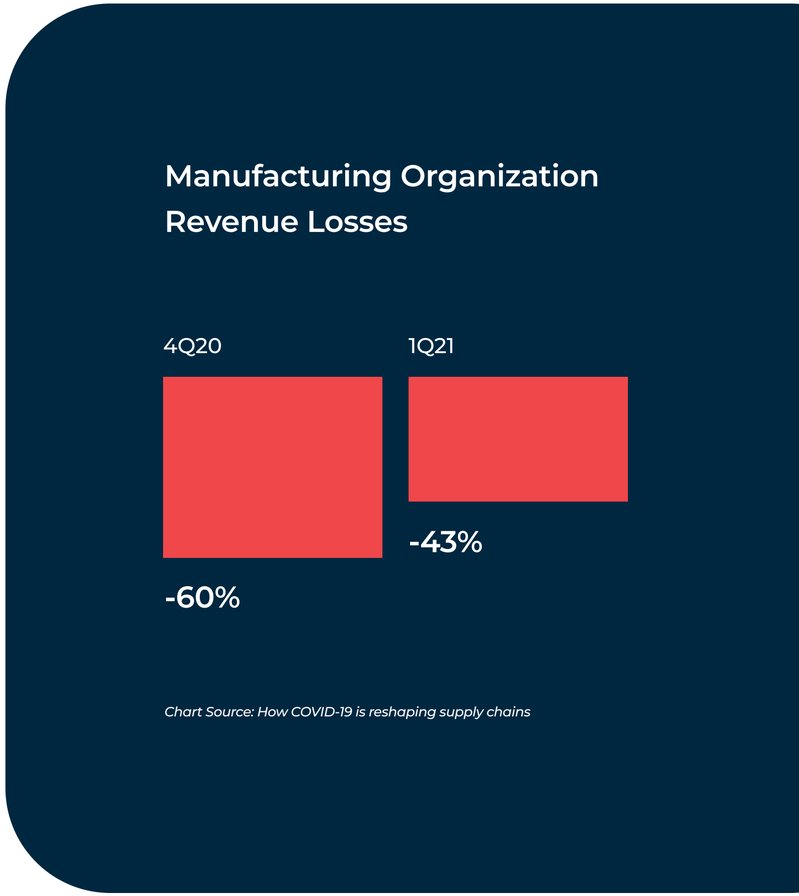
And “successful companies were ***2.5 times more likely*** to report they had preexisting advanced-analytics capabilities.” Alternatively, those who lost, lost big.

McKinsey found that “the success of an organization’s planning was ***strongly linked to its use of modern digital tools,*** especially advanced analytics.”

If you’re going to improve your manufacturing outcomes, you need to invest in advanced analytics. It’s as simple as that.

How you do that is up to you, but automating analytics is one good way to start.

[1] Dresner Advisory Services, The State of BI, Data, and Analytics in Manufacturing in 2021



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Start Investing in Analytics Automation

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During the pandemic, many manufacturers cut spending and avoided taking on risk with new analytical investments.

One study found that *“only 4 percent of manufacturers are the first to try”* new forms of analytics.

But that might not have been the best strategy. Those that *invested in new analytics technology were more likely to succeed.*

Their investments helped them gain visibility and transparency into their supply chains. Not only that, but they looked outside “BI and analytics capabilities from ERP vendors” to avoid limiting their analytics flexibility.[2]

By investing in cloud analytics, machine learning, and data storytelling solutions, they were able to improve their business outcomes, deliver higher revenue, and adapt to changes.

[2] Dresner Advisory Services, Consider BI and Analytics From ERP Vendors for the Right Use Cases

Use Advanced Analytics, Not Spreadsheets, to Drive Decisions

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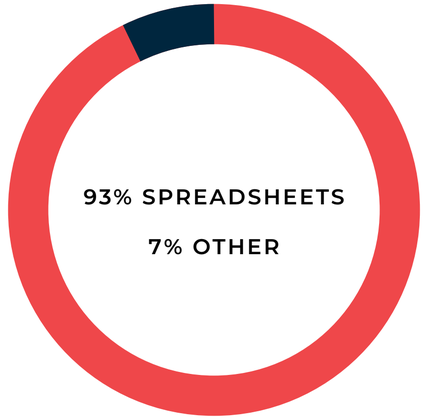
Spreadsheets are trustworthy. So trustworthy that those in supply chains use them to make ***93 percent of all decisions.***

But spreadsheets are also slow, can only handle so much data, and lack features for fast reporting, modeling variability, and cross-functional trade-offs.

The first investment would be to automate the analytic processes currently being processed in spreadsheets. Many companies see immediate ROI from investing in analytics automation technology. They see faster reporting, increased modeling variability, and improved cross-functional trade-offs.

What do you use to make decisions in your supply chain?



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Gather Data from Industrial IoT (IIoT)

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New analytics investments also include technologies that help you collect data.

Manufacturers that leverage IIoT data can more quickly react and adapt to market shifts.

The data from sensors and other IIoT devices provide information throughout a product's entire production lifecycle. You can use it to streamline operations, produce high-quality products, adjust production processes, increase efficiency, and reduce costs, even for remote operations.

Of course, this information will ultimately sit unused in a data lake or data warehouse if you don't invest in advanced analytics platforms to support it. Real-time data needs real-time processing.

Analytics automation can remove repetitive processes and send information to reporting software and digital management tools.

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Leverage Digital Twins

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Digital twins are digital representations of machines, products, and more.

You can use digital twins to simulate how new implementations, designs, and features might affect their real-life counterparts.

But this requires data.

You can use data from IIoT sensors on machines, production equipment, and products to inform potential enhancements, upgrades, and maintenance.

Digital twins help you fine-tune changes before implementation, reducing production time, increasing efficiency, and cutting costs.

Even if you froze analytical investment spending during the pandemic, you can now capitalize on upcoming trends by increasing analytical investments, including digital twins.

Experts predict the ***digital twin market will grow to $35.8 billion by 2025*** — nearly 10x from its 2019 market value of $3.8 billion.

As we said before, companies that saw success during disruption were "***2.5 times more likely*** to report they had preexisting advanced-analytics capabilities."

Increase Access to Data

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Even if you don’t have a need for IIoT data or digital twins, almost everyone has a need to invest in their people.

Data doesn’t do anything on its own. To get something from it, you will always need people. But software, like spreadsheets, can limit what people can do with data.

Analytics automation speeds up and eliminates repetitive tasks. It can provide suggestions for machine learning models. It can even dive into your data and provide answers to questions that haven’t been asked yet.

And, unlike spreadsheets, analytics automation platforms can handle a range of data types.

They can also handle data management, data governance, and data access, ensuring governance and compliance.

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3 Companies that Improved Outcomes with Analytics Automation

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As we mentioned before, only 4 percent of companies will be the first to adopt new technologies.

The goal is often to reduce risk but waiting to invest often increases risk.

We also know that talk is cheap. Anyone can say that a specific technology or a strategy can improve business outcomes, streamline processes, and make manufacturing more efficient.

So why not look at three examples of analytics automation investments paying off for organizations?

Cut millions of dollars in safety stock across 325 locations while meeting customer demand targets

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Amway

$70M

Inventory value accounted for

1.4M

Safety Stock predictions every month

325

Number of physical locations modeled for demand

CHALLENGE

Using Alteryx to buffer against supply and demand variability to achieve service level in stock targets and reduce cost.

A data scientist was faced with time consuming and complex data preparation as part of a supply chain forecasting application model project. High volume data sources from many different systems were involved.

SOLUTION

Reduced safety stock inventory costs while improving in stock service levels by automating complex supply chain forecasting application data preparation workflows.

Headquarters	Industry	Departments	Tech Stack
Ada, Michigan	Health, Beauty, Home Care	Supply Chain	Alteryx Designer Alteryx Server

At the end of the day, we have better service, less inventory, not to mention less expediting and fewer fires to put out.

CASEY KOOPMANS
SENIOR DATA SCIENTIST

Saved 5,000 hours by automating complex data and analytic workflows to resolve long range planning timing gaps in procurement decisions, leading to sourcing more in-sync with demand forecasts.

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Kraft Heinz

$165K

Analyst labor costs saved

5,500

Hours saved

Priceless

Optimizing raw material supplier costs while meeting customer demand

CHALLENGE

Plants could not close out their actuals in the appropriate fiscal week, resulting in supply/demand planners receiving incorrect forecasting inputs and causing delays in production and delivery to customers. The Head of US Operations was challenged to explain the discrepancy to the CEO.

SOLUTION

A workflow automated all data integration tasks (complex conversions from multiple SAP environments) across internal plants and contract manufacturers. Accurate and timely Tableau dashboards automatically publish for planners and executives to ensure customer demand is met at the optimal cost.

Headquarters	Industry	Departments	Tech Stack
Chicago, Illinois	Food and Beverage	Supply Chain	Alteryx Designer Alteryx Server

We now have a single source of truth for Production Pacing data for all facets of internal plants and external manufacturers.

MELISSA TORRES
BUSINESS INTELLIGENCE ENGINEER

Improved by 75 percent the time to predict maintenance events for salt production facilities machines by automating manual analytical processes.

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Cargill™

75%

Improved in time to maintenance predictions

15%

Improvement in Asset Health

19

Number of production facilities accounted for

CHALLENGE

Maintenance managers could not identify machines requiring service within their facilities consistently, resulting in downtime leading to lost production and sales. Individual facilities were required to collect, report and share outputs manually for a poorly performing predictive maintenance model.

SOLUTION

Predictive model performance improved 75 percent by decomposing a complex model into components and automating the process. Issues needing resolution now are proactively addressed before downtime events, thus avoiding production delays and lost sales. Added benefits include work scheduling and prioritization, and maintenance management and staff able to focus on preventive measures.

Headquarters	Industry	Departments	Tech Stack
Minneapolis, Minnesota	Conglomerate	Supply Chain	Alteryx Designer Alteryx Server

In December of 2019 Average Asset Health was 59.4%. It has steadily increased since and we ended February 2021 at 74.3%.

DAVID TEECE
DIGITAL SOLUTIONS ARCHITECT

Ready to begin but don’t know where to start?

That’s all right. We have two resources to help.

The first is a Democratization of Analytics Maturity Assessment that helps you see where your organization or department falls on the analytical maturity model. After you take it, you’ll receive a personalized report with a list of the next steps you can take to increase your maturity.

Take The Assessment

The second is an Analytics Business Use Case Discovery Guide you can use to identify the easiest area of your supply chain to start — and deliver value.

Get The Guide

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ABOUT ALTERYX

Alteryx, the Analytics Automation company, is focused on enabling every person to transform data into a breakthrough. Alteryx unifies analytics, data science and business process automation in one, end-to-end platform to accelerate digital transformation and shape the future of analytics automation. Organizations of all sizes, all over the world, rely on Alteryx to deliver high-impact business outcomes and the rapid upskilling of their modern workforce. For more information visit www.alteryx.com.