eBook

THROUGHPUT INC

The 7 Industrial DATA MYTHS preventing your operations from more PROFITABILITY & PRODUCTIVITY

INDEX

EXECUTIVE SUMMARY

Organizational supply chains are evolving into complex data powerhouses. Gone are the days when supply chain operations simply involved moving a product from one place to another. Today's industrial operations involve a considerable amount of movement that needs to be coordinated and tracked. And in this process, several petabytes of data are being generated. In fact, by applying real-time insights from this operational data, supply chain performance, visibility and insight can be drastically enhanced.

Data is not new to industrial operations. Systems like the MES have been generating operational data since decades. However, most operations teams have not been able to completely leverage this data and apply it for digital transformation initiatives. One of the main reasons being that there exist several misconceptions about using data to achieve operational excellence. These myths can prevent organizations from achieving their operational goals.

ThroughPut is on a world mission - one which aims to drive sustainable operations for higher productivity and outputs using existing data. And through this eBook, we want to debunk these common myths that exist about using industrial data to achieve output, growth and productivity.

Your data is powerful, your data is potent- Take the first step toward using your existing data to achieve incredible industrial output.

Introduction

Over the years, ThroughPut has amassed a wealth of experience around creating value from industrial data. Being exposed to operations ranging from those that are chalkboard-driven to those that are fully robot-driven, we have worked with over 25 different types of data systems. The good news is that we are yet to fail in finding opportunities to help operations run leaner, better, faster, smoother, and safer, regardless of the state of technology implementation. But, the not so great news is that there exist several misconceptions about utilising these data systems, which prevent organizations from taking the first steps towards operational excellence.

In this eBook, we will share some of the most common myths about industrial data, and why certain preconceived notions about this data may be simply false. We will also focus on the solutions around the current mindset about operational bottlenecks, to give way to more open-mindedness around leveraging data analytics.

We believe that this will enable more business throughput!


So, here are
our top picks...
Read on!

CHAPTER 01

MYTH #1.
We don't have data.

VS

FACT

Organizations have a lot of data embedded in their day-to-day systems. They may not be aware of it, or don't know how to use it to derive necessary outcomes.

Fact check:

According to Forrester, between 60%- 73% of all data within an enterprise goes unused for analytics.

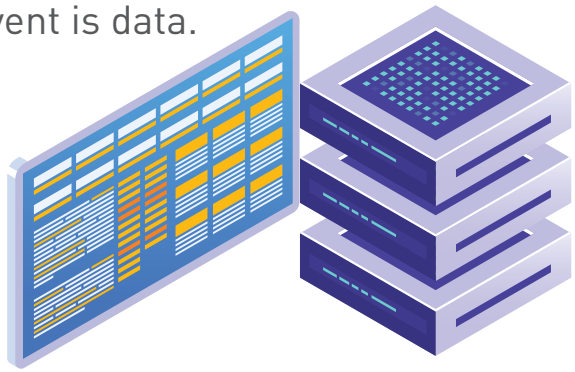
A PWC study predicts that manufacturers will spend around $70 billion by 2020 on technology to meet the demands of big data.

The worldwide Big Data market revenues for software and services are projected to increase from $42B in 2018 to $103B in 2027.

Organizations have data. Perhaps there is no bigger pushback that AI and data analytics companies get from industrial companies than "we don't have data".

This is not the fault of the business as they have never been made aware of **what exactly is industrial operational "data".**

Firstly, let's decode "data" itself. When many organizations think data, they think of real-time data being generated from iPads and edge sensors. While that is 21st century data, but corporations have been generating operational data for centuries. All the accounting systems, worker time logs, payroll slips, inventory ledgers, bank ledgers, anything with a transaction date (a recorded) event is data.



Our take on industrial operational data:

It is impossible to be a business today and not have data. The IRS wouldn't allow it. Regardless of whether organizations are using Excel, SAP, ORACLE, QAD, or a chalkboard measuring quality, data exists and can be leveraged.

It is true that 100% of all companies have data that can be utilized to run better operations.

Operations managers just need to figure out where it exists and how they can begin using it.

Did you know:

Today, many manufacturing companies are using equipment that records vast volumes of sensor data. Unfortunately, these same companies are not putting that data to good use.

MYTH #2.

Our data is too dirty and beyond salvation to do anything meaningful with it.

VS

FACT

Dirty data might exist but the problem is the lack of the tools or the knowledge of insights to address this messy data.

Fact check:

Most organizations do nothing to remedy their data misalignment other than running a periodic clean-up exercise only to find themselves in the same mess a year later.

According to Forbes, more than 70% of active party-data is incorrect, ambiguous, and/or incomplete.

According to IDC "Data monetization" will become a major source of revenue, with 180 zettabytes of data in 2025, up from less than 10 zettabytes in 2015.

There are several tools that have existed for decades to massage, wrangle, and **make data ingestible, instantly.**

This seems to be the **#1 opt-out** reason from digital innovation groups, which can be a big mistake. First, it's time to tackle this dirty data. Let's put things in perspective through an analogy: Crude oil being dirty, didn't stop it from becoming a huge opportunity for the oil industry to commercialize it and take over the global economy. Similarly, nothing stops dirty data from being used by technology to take it to the next level and derive pure insights from it.

The biggest problem is not the dirty data but the lack of initiative to use the correct tools to address it. To begin with, corporations must select the right "DNA" of data that is worth the effort to clean. Compared to data scientists, operations people know what data is relevant, because they understand the core of operations.

There is also another big organizational problem simultaneously at play. Many times, digital innovation leaders fail to involve operational leaders in their road-map to data-driven operations until the implementation.This is because most operational people expose resource realities, quickly take bold ideas, and repurpose them for practical use. Digital innovation groups need months to solve today's problems and operations teams don't have that kind of time to invest in training for this.

Even though they may be a part of the same company, operations and digital innovation groups focus on different time-frame objectives. In other words, they don't share the same pain points.

However, there is a way both of these groups can work together. Operations domain experts can be leveraged to expedite data cleansing. These experts can point out what data matters, saving weeks of analysis time for data and digital teams. These insights can ultimately be used by digital teams for their product innovations.

Our take on raw dirty data:

At ThroughPut, data cleansing is instant as we deploy the best of breed algorithms and **42+ heuristics**, which makes data cleansing easier and seamless. Our team of data analytics experts play a vital role in ensuring this happens consistently.

Therefore, companies should not limit themselves with assumptions on dirty data, rather figure out ways in which the right data analytics tools can be used.

Did you know:

01

Forbes reveals that 95% of businesses strongly need to manage their unstructured data.

02

Forbes also suggests that more than 150 zettabytes or 150 trillion gigabytes of data will need analysis by 2025.

03

A recent survey by NewVantage shows that more than 85% of organizations have started programs to create data-driven cultures, but only 37% report success thus far.

MYTH #3.

The answer to all our industrial data problems is digital transformation.

VS

FACT

Usually, answers to most industrial problems lie in the existing, deep seeded data, processes and knowledge capital.

Fact check:

According to Forbes, Digital Transformation is a **1.3 Trillion-dollar industry.**

Surprisingly, Forbes also found that **84%** of companies fail at being digitally transformed.

If global corporations collectively lose **$1 Trillion** on digital transformation efforts, is the path to data-driven operations more digital transformation?

While it may seem otherwise, the real answers to industrial data problems can be found within the existing data systems and people expertise, which are most often siloed. With the right mix of a data-driven culture and use of relevant data analytics tools, organizations can benefit from this existing data.

Digital transformation makes sense for corporations that already have engineers who have spent decades manually optimizing their operations by pulling data, pushing it through statistical and visualization tools. They now can no longer extract value from dynamic problems using static tools.

And while digital transformation may bring a more holistic access to organizational data, nothing is preventing operational teams from tying together existing disparate data to impact bottom lines, worker training and safety, and output today.

Our take on digital transformation:

Digital transformation is not a prerequisite to extracting value from industrial data. The prerequisite is having a culture around using **existing tools** to solve **existing problems** regardless of what is going on with **existing data.**

Did you know:

01

More than **$100 billion** is wasted each year on digital and analytic business transformations that do not deliver what they promise.

02

McKinsey reports that only **14% of 1,733 business executives polled**, said that their digital transformation efforts have sustained performance improvements, with only **3% reporting complete success** at sustaining change.

MYTH #4.

We need IoT devices at the edge for clean, reliable training data to we can use AI.

VS

FACT

IoT devices are not a prerequisite to solve industrial scale problems- an alignment of mindset is.

Fact check:

This may be news, but industrial operations have had controllers and sensors on their devices for over **75+ years.**

Also, AI has been around for **40+ years.**

IoT does generate cleaner data, but the real question is whether organizations are in a position to solve problems of scale using Machine Learning or AI?

Industrial operations have had embedded sensors for decades, though the devices used earlier were not as advanced as Nest and Alexa to turn switches on and off. The road to IoT starts with the analysis of current data and creating a simple approach to intelligent data collection.
At times, for greater visibility within operations, additional IoT sensors can help, but are not prerequisites.

Technology isn't the problem here. The problem is shifting the mindset of industrial corporations away from the concept of "newer is always necessary"

This is where corporations really need to slow down and ask a few questions.

01 Where do you really stand with leveraging your existing sensor data?

02 Are you ready to leverage true AI at an 80 factory-scale, run AI-powered operations, and is everyone on-board with it?

03 Are you just doing AI, because your competitors are doing AI?

Our take on the real need for IoT:

The real problem lies in not using existing sensor data to model prevailing operational behavior, before investing in IoT.

At ThroughPut, this has been thought through at a much deeper level. Even with the world's leading process management and AI thought experts who are on-board, we often provide the litmus test to organizations to where they actually stand with AI-powered bottleneck elimination from a real operations perspective. The fact is that ML/AI products like ELI can be leveraged today to help organizations in leveraging their sensor data, provided it is backed by the right mindset to do it.

Did you know:

01

Collecting and transmitting data from industrial machines and devices is not a new concept. Since the early 80's, data from industrial assets has been captured, stored, visualized and analyzed to improve key business impacts.

02

According to our research, only 4% of corporations use AI anywhere in their supply chain. Therefore, the actual problem is not IoT and Edge AI.

MYTH #5.

The data needs to be on the cloud.

VS

FACT

The truth is that the data does not have to be on the cloud to generate insights.

Fact check:

To date, 95%+ of ThroughPut's engagements have not required to pull data from the cloud. Whether the data is on-premise, or on-cloud is a corporate preference around storage, not data extraction itself.

The typical technology workforce need to be reskilled or upskilled for the cloud environment as they are well versed in developing business applications in the traditional IT framework.

From ThroughPut's perspective, cloud makes it so much easier to find, track and work on operational data and also saves the service costs associated with physically showing up to a factory to pull data. This is especially true for demanding industries like oil wells where it can be challenging to pull crude oil data physically, but has to be done. So, while it is not mandatory for data to be on the cloud for insights, it is just more effective for automated analytics companies like ThroughPut, to make life easier.

The integrations are faster, the throughput is higher, and data ingestion can be controlled for both long-term strategy planning and real-time root cause resolution.

Our take on data on the cloud:

So, while data being on the cloud can increase output, profitability, and ultimately the earnings-per-share of the company faster, **it is not a prerequisite.** The first step even before that, is to get the right data and treat it appropriately for accurate insights.

Did you know:

01

Many enterprises are stuck with supporting both their inefficient traditional data-center environments and inadequately planned cloud implementations that may not be as easy to manage as they imagined.

02

Today, for many large companies with complex IT architectures, moving applications and data to public-cloud platforms involves working through a formidable set of technology, security, operational, and financial issues.

MYTH #6.

We need to do real-time analytics with our data, otherwise it's not worth it.

VS

FACT

This is not mandatory. Unless your operation is time-critical and has lots of money and lives on the line. Even then, it comes down to your real-time ability to respond to recommendations.

Fact check:

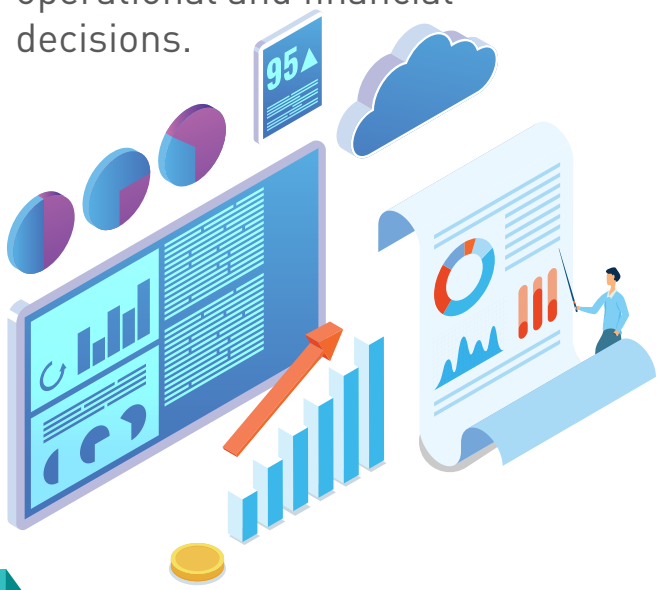
Gartner claims that 87% of corporations have low business intelligence maturity. That means, 87% of the world's industrial companies don't even use basic visualizations available from Tableau, Qlik, Watson, or Excel Power BI plug-ins.

While everyone around you has been asking for real-time analytics for more than 5 years now, there is a 1 out of 10 chance you actually need real-time analytics.

Real-time analytics are a must in some extreme cases with irreversible consequences like the hydraulic plant where fluctuations in the real-time analytics window can change operational dynamics in a matter of a few seconds.

So, depending on if you are running a dynamic operation, where real-time bottleneck elimination and root cause analysis could save the company millions or lives, then it qualifies for real-time analytics. And if not then it could be a good idea to look at the factory data from a historical perspective across locations at scale.

The truth is, most customers need a first exposure to analytics before deploying real-time advanced analytics for their operations. At ThroughPut, we always evaluate the necessity to deploy these real-time analytics to help the client make real-time operational and financial decisions.



Our take on real-time data:

Depending on the stage where the organization is probably at, involves leveraging the existing data to playback the historical time-stamped data to finally understand the history of the organization's operations.

The question every **"real-time analytics"** buyer needs to ask is, "if I lost my real-time analytics screens right now, would it cost me my job, lives, or lots of money?" If the answer is yes, it's time to get procurement involved.

Did you know:

01

Using real-time insights requires a different way of working within your organisation. It relies on receiving information every second. This might need an actual culture shift to become an information- centric organization.

02

Real-time analytics if not implemented properly, could be a disaster. If a business isn't used to handling data at such a rapid rate, it could lead to incorrect analysis, which could cause larger problems for the organization.

MYTH #7.

The technology centric Silicon Valley is where "data" takes precedence, over and above real operational problems that exist in central and the rest of America.

VS

FACT

The perfect solution can only be arrived at when technology meets operations, with data as the common multiplier.

Fact check:

According to Forbes, many forward-thinking manufacturers are orchestrating 80% or more of their supplier network activity using big data and cloud-based technologies to get beyond the constraints of legacy Enterprise Resource Planning (ERP) and Supply Chain Management (SCM) systems.

The same study reveals that 64% of supply chain executives consider big data analytics a disruptive and important technology, setting the foundation for long-term change management in their organizations.

In the typical industrial world, there is a huge debate around whether the Silicon Valley technology troop understands what the Middle of America based operations troop do and what their real problems are.

This is because, most of the time operations and technology teams work in silos. While the operations teams perceive "data" to be a purely technology oriented domain, technology teams often fail to relate to the day-to-day struggles of an operations person.

The fact is that real operations problems on the factory floor will only get resolved when technology teams use "data" to solve operations problems. For this, it is important to come up with a well balanced strategy which involves both technological expertise and operational excellence and which uses data oriented analytics to create sustainable, safer and efficient operations. This will ensure a win-win for both teams.

Did you know:

01

Data plays a strategic role across the operations life cycle- it has an impact on the organizations' reaction time to supply chain issues (41%), increased supply chain efficiency of 10% or greater (36%), and greater integration across the supply chain (36%).

02

Big data analytics embedded operations leads to a 4.25x improvement in order-to-cycle delivery times, and a 2.6x improvement in supply chain efficiency of 10% or greater.

CHAPTER 08

CONCLUSION

Moving beyond the industrial data myths and hype- time to embrace reality as it exists!

So, here were the popular myths around industrial data and our take around them.

Most growing organizations have the existing resources, human capital and data available to create some outstanding results. We all are aware that many of them are already doing it successfully and have some great revenue streams in place.

However these companies are also struggling to overcome the existing challenges in the form of bottlenecks that make a surprise appearance on the factory floor, when least expected. With some external augmentation from operational-centric companies who possess the expertise on how to leverage the right data and data-driven operations, these companies can easily achieve operational excellence.

At ThroughPut, we are helping manufacturing organizations take the first steps. Those which enable existing data, prevalent factory floor processes and the expertise of operational-savvy colleagues to prepare the initial analysis for data-driven operational decisions.

Our mission is to free up the $10 trillion dollars of industrial waste found across industrial operations and their supply chains. The good news is that so far, we have helped many companies become more profitable and productive.

ThroughPut's AI-driven product ELI makes this happen on the factory floor by immediately discovering areas of quality improvement, thus reducing uncertainties along the value chain.

Come and join us in this fascinating journey of converting your existing data into waves of profitability, output and growth !

About

ThroughPut Inc.

ThroughPut Inc. is the Artificial Intelligence (AI) Supply Chain pioneer that enables companies to increase output, quality and profitability through bottleneck elimination. ThroughPut's Supply Chain AI Product, ELI, includes the only Bottleneck Management System (BMS) that utilizes existing enterprise databases, such as ERP, MES, IMS, TMS, WMS, PLC, EAM, POS, CRM, SCADA and other data systems, to solve the bottleneck problem across global supply chains today. ThroughPut's systems are designed by Fortune 500 geo-market logistics leaders and Silicon Valley analytics and domain experts with decades of experience in the space. ELI thinks like an operations manager and automatically provides domain expertise, insights, and recommendations in real-time, which current static Business Intelligence and Analytics tools do not effectively capture. ThroughPut's dynamic insights include real-time resource allocation recommendations, granular root causes, and operational process stability analysis. ELI enables process improvement experts and operations managers to reduce cycle times and operational unpredictability across some of the most advanced process industries, including automotive, manufacturing, oil & gas, transportation & aviation, chemical processing, energy, and others.

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