

HOW DATA-DRIVEN DECISIONS OUTPERFORM GUT FEEL



THE EFFICIENCY EDGE

The arrival of Industry 4.0 has allowed organisations to collect - and analyse - more data than ever before. However, many people fail to understand the mindset shift required and how to start using data to make the best decisions for their organisation.

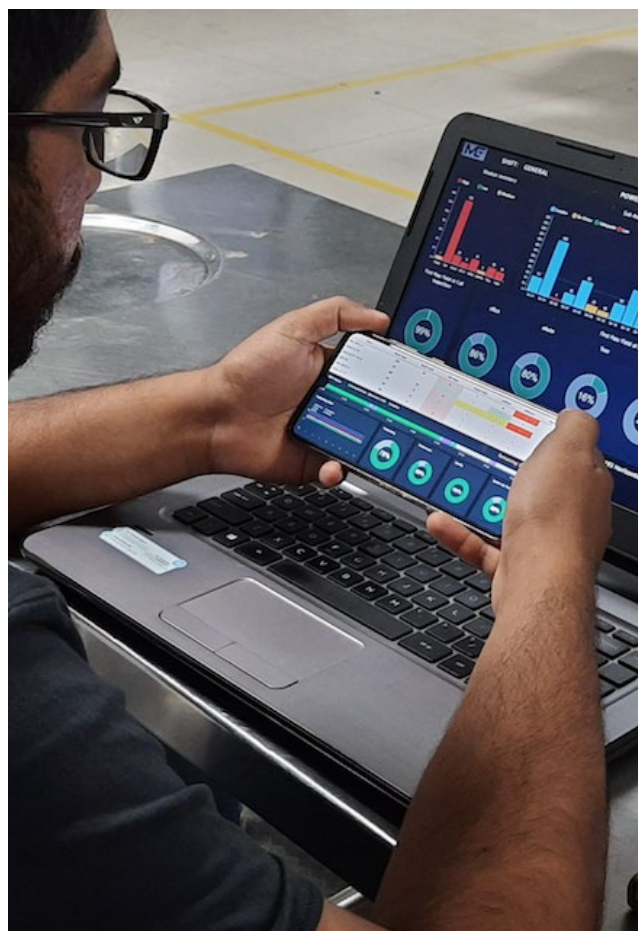
Essentially, data is the gold in the bedrock of your organisation. But if you haven't put the systems in place to extract it, process it, and use it to drive decision-making, you will never enjoy its riches. In this article, we explore the key to unlocking the true potential of Industry 4.0.

Gut feel as the go-to option

While companies have been collecting data on clipboards, whiteboards and spreadsheets for decades, it often ends up in a dusty filing cabinet or desktop folder, with decisions made primarily on the basis of a manager's 'gut feel'.

In fact, a 2019 Gartner study revealed that more than 60% of leaders still make major decisions solely on this basis.

You could argue that gut-feel decisions are usually grounded in some form of 'internalised data', collected sub-consciously through their years of experience. However, Industry 4.0 tech allows us to collect a lot more useful, granular data to support effective decision-making that also enables teams to be faster, more agile and flexible in their response to changing conditions.

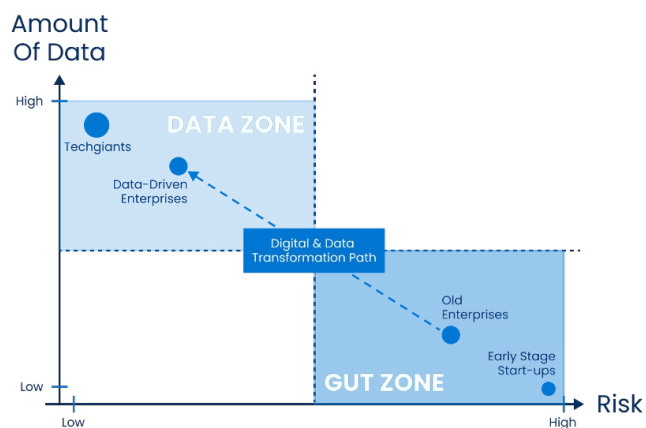


The value of data in decision-making

Experience plus data gives you a much more well-rounded scenario to work with. While going with gut feel can be valuable when it comes to solving problems, it does not help to prevent them. Good data, on the other hand, not only explains why a machine broke yesterday, it can also be used predictively to explain why it could break tomorrow.

Clear supporting data can eliminate the guesswork and remove the risk involved in the leap required to make the decision and take appropriate action.

This chart, taken from a Forbes article on 'How Leaders Blend Data and Intuition to Make Better Decisions', clearly illustrates the correlation between the volume of data and the level of decision-making risk. Industry 4.0's goal is to provide more relevant data to improve and support the process of making decisions.



Metrics vs granular data

In the manufacturing environment, there are traditional metrics like Overall Equipment Effectiveness (OEE), which are widely used to evaluate the efficiency and effectiveness of processes.

However, the underlying data often lacks clarity, once again leading to a reliance on gut feel rather than empirical evidence.

OEE is a metric of its time, created because the technology to be able to provide the granular data that accurately captures the performance a production line simply didn't exist.

Today, Industry 4.0 technologies enable the collection, processing and presentation of detailed data from both machines and human behaviour.

By shifting away from a reliance on superficial metrics, we can make decisions based on accurate, real-world evidence.

Smarter manufacturing solutions

Smart manufacturing leverages modern technologies to improve efficiency, productivity and flexibility within production processes. The data at the heart of this digital manufacturing environment allows leaders to merge intuitive insights with confirming figures, providing a clearer path to problem-solving and a proactive approach to predicting and preventing future problems.

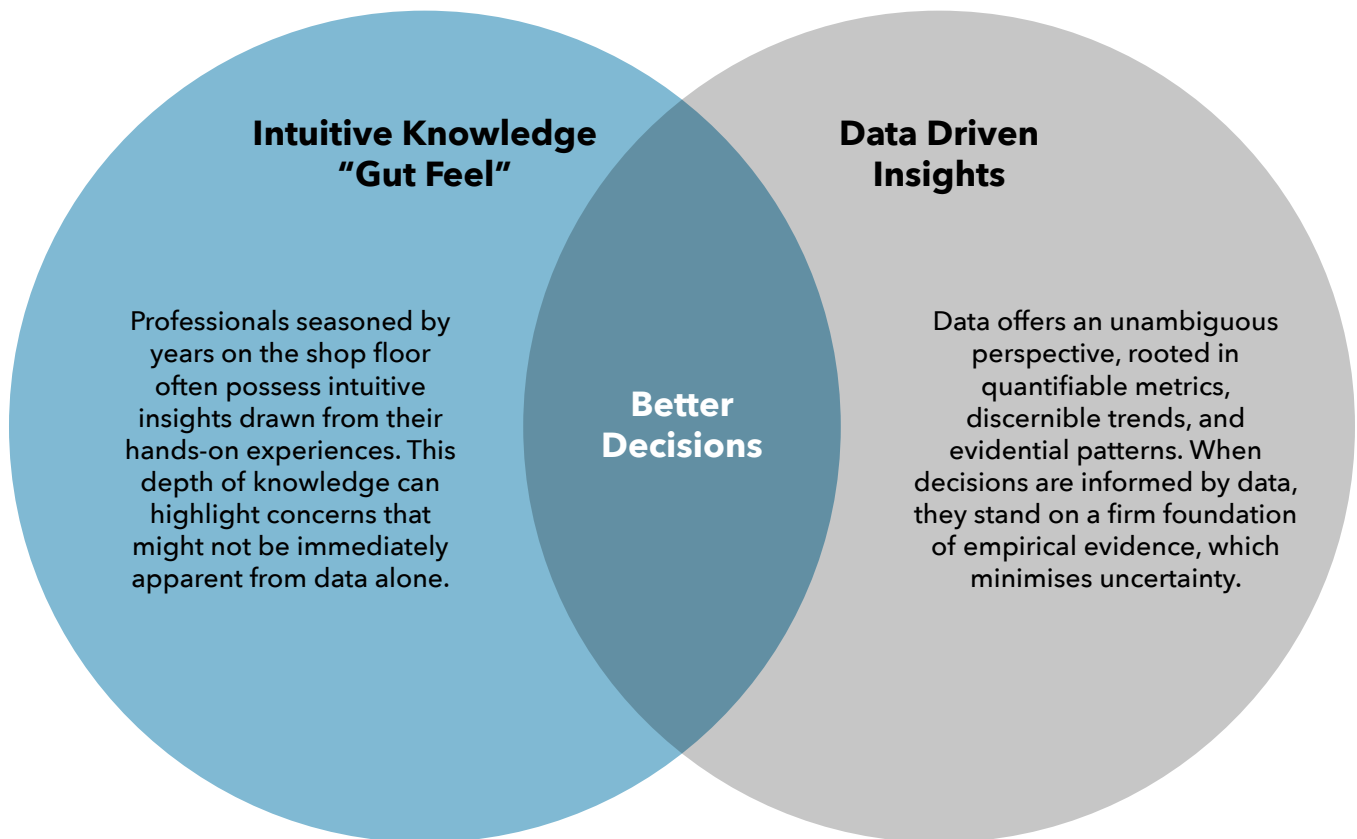
Let's consider a real-world example. In this scenario, a particular production line constantly faces quality control issues during the night shift.

- **Gut-Feel's Perspective:** The experienced floor manager, relying on years of observation, is convinced that the night shift's underperformance is due to poor discipline. With fewer supervisory staff around, the perception is that the night crew may not adhere to stringent operational protocols.
- **Data's Insight:** A different story emerged when IIoT (Industrial Internet of Things) sensors were introduced to monitor the machines' performance in real-time. The data highlighted that the decline in product quality was directly correlated with a noticeable drop in ambient temperature, a phenomenon most prevalent during the night shift.
- **The Augmented Solution:** By synthesising these perspectives, the management were able to implement a targeted solution – introducing heaters specifically designed to regulate the machine's temperature, offsetting the ambient temperature variations. This ensured that the machinery operated at an optimal temperature irrespective of the time of day, leading to more consistent product quality.



Best of both

When it comes to gut-feel versus data, it is not an either-or scenario and this Venn diagram perhaps sums it up best:



As Industry 4.0 continues to unfold its potential, the harmony of seasoned human intuition with precise, data-driven insights presents a powerful toolset for modern manufacturers. Such a blend allows for pinpointing issues and crafting custom solutions that

address the root cause, thereby heralding a new age of efficiency and quality within the manufacturing space. With the rise of AI, will machines be able to make these kinds of decisions in the future? Our gut feel says, with enough data, they just might!

For more on Gut Feel vs Data-Driven Insights, watch the video.

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