IS YOUR DIGITAL TWIN A DIGITAL IMPOSTOR?
Many Digital Twins are fragmented or incomplete. They’re Digital Impostors that limit value, inhibit scale and hinder transformation.

The good news? There’s a better way.
Companies across all industries understand all too well the pressure to embrace the new. Full-scale disruption has arrived and it’s not only impacting how companies operate today but also causing a shift in product value creation. In the coming decades, 90% of a product’s value will be generated by software and digital components, including AI, Machine Learning, and IoT, unlocking $100 trillion of economic value. In response, companies will need to look to reinvent their products and businesses by establishing comprehensive Digital Twins that are supported by seamlessly connected processes, digital innovation and product operations capabilities (Digital Thread). The result will be the ability to create new services and hyper-personalized experiences while driving improvements in efficiency as well as reduced time to market.

The journey to realizing the full value of digitalization will have impacts across the enterprise. However, if not careful, companies could be inadvertently creating Digital Impostors that require significant investment, effort and disruption without providing the long-term benefits of a true Digital Twin.
While most businesses are broadly familiar with the concept and promised benefits of the Digital Twin, few have realized its full potential.

There are many reasons for this, but the most dangerous of all is the Digital Impostor. Digital Twins and the capabilities they enable (IoT telemetry, analytics, AI, etc.) are only as powerful as the underlying data made available by a Digital Thread of business processes, capabilities and policies. If a company’s digital journey does not have a complete vision or cross-functional sponsorship, they risk ending up with a patchwork of partial or fragmented Digital Impostors that will have limited ability to adapt or scale with the ever-changing technology landscape and market trends.

Under pressure to respond to digital disruption, companies are inclined to rapidly deploy digital technologies without fully considering the business objective or organizational backbone and technology infrastructure required to be successful. They may introduce a digitally-driven experience quickly and achieve an incremental improvement, but that improvement won’t meet either company or customer expectations—or justify the investment.

Falling into the Digital Impostor trap is a very real threat to realizing value from digital investments. Accenture surveyed 1,350 global senior executives at a range of companies with annual sales exceeding $1 billion. We found that most struggle to realize value, and some are left completely disappointed: their returns on digital investments are below the industry’s overall return on capital and more than 50% of their digital proof of concepts (PoCs) fail to scale. Not only are companies disappointed about operational efficiency improvements along their digital journey, those who shift to generating new value for customers are struggling even more. 78% of the companies in our survey did not reach the expected earnings from over $100 billion investment in scaling digital innovations.

**DIGITAL THREAD:**

The interconnected network of process and digital capabilities that create, communicate and transact product information throughout the product lifecycle.

**DIGITAL TWIN:**

A real time virtual representation of a product, platform or ecosystem that is used to model, visualize, predict and provide feedback on properties and performance (and is based on the underlying Digital Thread).
Diving a bit deeper into the pitfalls inherent in Digital Impostors will make it clear why it is critical that companies avoid creating them.

Digital Impostors will exacerbate technology challenges and misalignments that prevent companies from reinventing their products and services to drive innovation. Fragmented or partial Digital Twins will make it hard to effectively orchestrate product or engineering changes, data integrity issues will grow and processes across product development, new product introduction and operations will become increasingly fragmented. Sustaining products will require more and more resources, at the expense of innovation. And companies will suffer from a lack of agility in their ability to respond to fast changing markets and customer demands.

To illustrate this, take generative design—one of the most promising Digital Twin use cases. If it’s implemented in isolation, without understanding how it will connect to up/downstream data and processes, the solution won’t be able to scale. A Digital Impostor for generative design will offer engineers only limited scenarios and design parameters. In contrast, the wide range of product information provided by a true Digital Twin will allow the engineer to consider downstream constraints in real-time and optimize product designs holistically to support strategic objectives (e.g. optimize for weight, cost, time-to-market, manufacturing method, launch region, serviceability, etc.).

Spot the Impostor

So how can companies detect whether what they’re developing is a true Digital Twin or its Impostor? There are some critical warning signs:

**FEELING**

stuck in an endless ‘pilot mode’ with digital technology

**REALIZING**

disappointing returns on digital investments that are not meeting stakeholder expectations

**IN-FIGHTING**

between business functions on a frequent basis
And getting back on track from working with a Digital Impostor will require additional investment—potentially the need to restart the initiative from the beginning. That means even more delays, disruption and lost opportunities.

**THE PATH TO SUCCESS**

Companies need to forge their path to reinvention and value creation by understanding where and how they will operate in the new digital-first economy.

A C-Suite driven vision must guide design and architecture decisions to form a scalable foundation for realizing future capabilities and achieving long-term business objectives. Successfully navigating that journey depends on having a unified product model for the Digital Twin sewn across an end-to-end Digital Thread and a multi-disciplinary approach to transforming innovation.
Is Your Digital Twin a Digital Impostor?

Even with an established future-state strategy and key stakeholder alignment, the threat of the Digital Impostor is ever-present.

A carefully architected Digital Twin can fall victim to short-sighted technology decisions or isolated projects. Every initiative that impacts a Digital Thread process, technology or data element must be reviewed and aligned to the cross-functional vision of the future state. And that vision must also evolve. Rapidly changing market realities and technology require it to be continually reviewed and updated.

Doing these three things—maintaining a unified product model for a comprehensive Digital Twin, connecting innovation, supply chain, manufacturing and aftersales capabilities seamlessly in a Digital Thread and forming a multi-disciplinary coalition—will bar a Digital Impostor from crashing the digital transformation journey.
About Accenture

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References

1 Eric Schaeffer and David Sovie (2019), Reinventing the Product: How to transform your business and create value in the digital age, Kogan Page Publishing  


3 Rethink, reinvent, realize—how to successfully scale digital innovation to drive growth  
https://www.accenture.com/us-en/insights/industry-x-0/scaling-digital

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