TATA CONSULTANCY SERVICES

Doing Digital Right: Re-Engineering KPIs for CPE Success

Abstract

The computer platform and electronics (CPE) industry has always been at the forefront of technology adoption, which is driven by digital transformation (DX). This change has not only paved the path for innovation in electronics, but is also a transformative catalyst for other industries. High tech companies are two times more likely to identify themselves as digital-first and be digital leaders as compared to companies in other industries, given how digital and tech are intertwined.[1]

However, the high tech marketplace is intensely competitive with new products and services causing market fragmentation and established high tech vendors adding disruptive technologies to their portfolios in rapid succession. Thus, today's high tech companies are increasingly operating under slim margins, incurring high capital expenditure, and facing intense pressure to compress product lifecycles and manage a global supply chain.

In such a dynamic environment, continuous DX is helping high tech companies shift their mindset from 'selling products' to 'selling solutions'. This change also correlates with customer expectations as consumers now demand compelling experiences, besides products.

This paper explores how CPE companies use data-driven insights to develop their key performance metrics in the new digital era.

Data Insights: The Driver Behind Evolving KPIs

Analytics-driven insights and foresights are crucial for the digital transformation of any product or service. The success of DX initiatives, whether they are deployed to enhance operational efficiencies or reimagine supply chain, customer experience, and factory operations, depends largely on the effective use of analytics and predictive insights.

DX, which seamlessly binds together the physical and the virtual worlds, has allowed high tech companies to get closer to their customers. It has enabled them to glean meaningful and actionable insights into digital KPIs that serve as a compass, steering them in the right direction.

CPE companies are using digital to derive deeper data insights in four key areas:

Customer experience (CX): Modern CPE companies are overhauling their product development processes with 'customer intimacy' at the core. CX is no longer limited to providing friendly, hassle-free service to customers. It now encompasses customer-centric design, functionality, and service. For instance, consider an app that delivers digital services seamlessly to customers with notifications at every stage of the order or a website, or another app that displays curated product suggestions within the first few clicks. A British retail giant adapted itself to the needs of the ultra-busy South Korean customer who has no time to shop at a traditional grocery store.[2] It created 'virtual stores' by displaying products on the walls of metro stations and bus stops. Commuters could scan the QR codes of the products on display with their smartphones and place their orders, thereby converting wait-time to shopping-time.

CPE companies are increasingly moving from CX to digital customer experience (DCX) to reach customers faster by rolling out smarter, connected, and cross-compatible products. They are also embracing artificial intelligence (AI)-enabled electronics manufacturing to woo customers.

Supply chain (SC): Globally connected, digitized supply chains are becoming the new norm, enabling CPE companies to accelerate time to market, while building efficiencies along the way. In fact, the CPE industry is leading the way in digital supply chains with market leaders moving away from the traditional linear supply chain model and embracing a network-based collaboration model where partners are not links in a sequential chain, but nodes in a network. In such a model, in-use information is accessible to all partners, enabling them to plan and optimize continually. Digital supply chains help companies better anticipate trends, respond to disruption, and automate shared processes for greater efficiency and reduced costs. For instance, in the high tech industry, a leading software and hardware manufacturer uses 43 different factors, combinations of scenarios, and tools to arrive at a supply chain forecast.[3]

Finance: Digital helps real-time SC and CX transactions flow into finance, enabling it to morph from being a cost center to a strategic enabler of business success. Earlier, metrics such as 'purchase price variance' were calculated only at the end of the month - usually too late to impact decision making. With digital technologies such as blockchain, AI, and predictive analytics, finance can provide insights to operational staff in real time to drive more autonomous and profitable decisions.

Human resources (HR): HR is the most impacted by DX and it's easy to see why. Successful DX begins with people transformation, not processes or technologies. With digital technologies such as automation, robotic process automation, AI, and predictive analytics redefining the way HR policies and operations play out, high tech companies are moving beyond the 'be digital' mandate to embracing the 'doing digital' concept. To illustrate, recently, in an interview with a leading business magazine[4], the co-founder and co-chief executive officer of an order fulfillment firm said that the organization's bookings rose six times in 2018 than in 2017; it tripled its deployed systems; and its staff rose by 150%. He attributed this exponential growth to the company's adoption of the autonomous mobile robot (AMR) in the pick optimization segment.

Tracking the KPI Evolution: From 'Monitoring' to 'Enabling' Performance

In the past, organizations have used frameworks such as the BCG Advantage Matrix, DuPont Analysis, value chain analysis, and so on to measure how effectively a company can achieve key business objectives. Common across these frameworks are the KPIs organizations have used to monitor and assess performance. Succeeding in the digital world requires organizations to embrace a new set of digital KPIs. These new metrics enable different operating units of a company to align with common goals while also accelerating the development of digital capabilities across an enterprise, as illustrated in Figure 1.

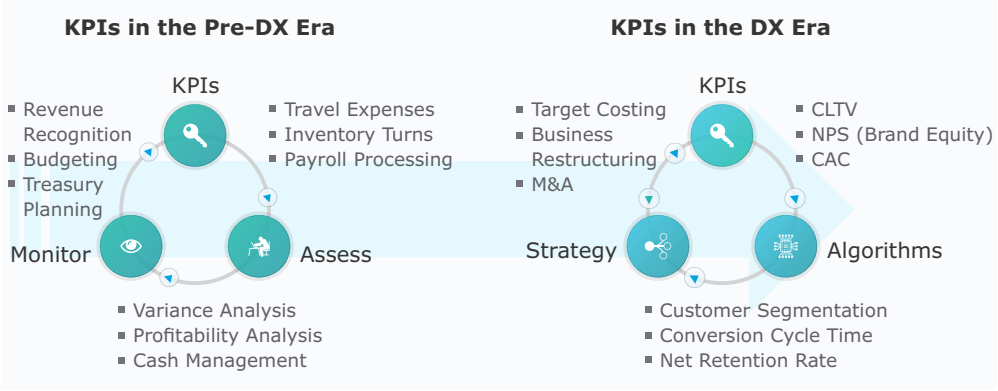
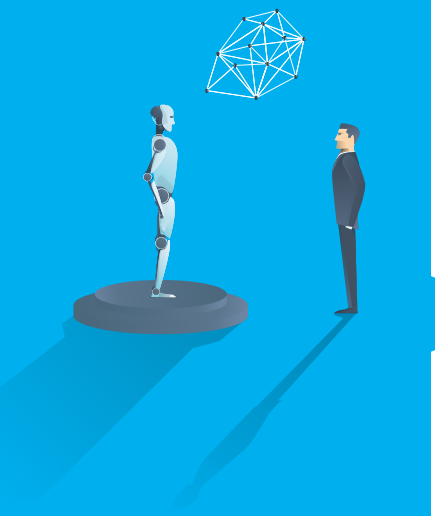


Figure 1: The evolution of KPIs from the pre-digital to today's post-digital world

To better understand how KPIs have changed in the digital era, consider an enterprise like APIServices.com that uses IT-level metrics such as the number of APIs produced, the number of developers using APIs, or the number of apps using APIs to set its business targets. It does not take into account whether existing web services were simplified or optimized for consumption or even secured adequately before passing through the API platform player. This could seriously risk adoption and usage of the API platform and the business could end up wasting effort, time, and money.

While there is little consensus on the best practices regarding digital KPIs, the bottom line is that enterprises must adapt modern KPIs to be more compatible with digital opportunities in order to more effectively measure business success in the digital era. Companies that link non-financial measures and value creation stand a better chance of improving results.



KPIs as Inputs to Machine Learning Algorithms

To better align their needs with those of the customer, businesses can use KPIs as inputs for machine learning (ML) algorithms. Their ability to improve performance based on previous results allows these algorithms to offer forward-looking predictive and prescriptive indicators – a huge leap over the traditional KPIs that monitored historical data. Going forward, traditional KPIs such as campaign effectiveness or click-through conversions will give way to more CX and advocacy-oriented metrics. These new KPIs will then fuel business strategy and enable course corrections in real-time to help businesses take advantage of market fluctuations, changes in demand, supply chain collaborations, and more.

Data-driven companies that restructure their KPIs for the digital era will need to focus on five key aspects:

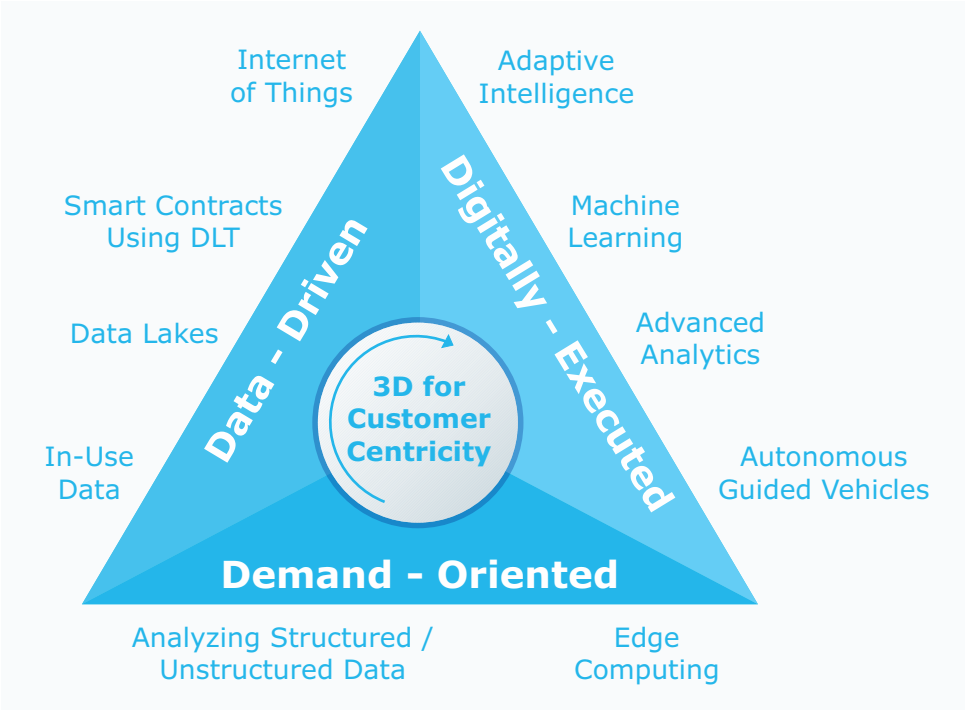
1. **Leverage KPIs to lead and manage the business:** KPIs are not just checkboxes for compliance but are tools of transformation to align people and processes.
2. **Use KPIs as data sets for ML algorithms:** KPIs are no longer simply analytic outputs for business performance review. Their data can be used to teach ML algorithms to improve and optimize business performance.
3. **Drill down into KPI components:** Segmenting KPIs by customers, channels, or products will help firms understand the basis of high and low performance and uncover hidden insights.
4. **Foster cross-functional collaboration through shared KPIs:** Transparent, shareable KPIs create new opportunities by enabling different business units to view their effect on each other as well as their overall performance.
5. **Track only the digital KPIs that matter:** Firms must focus on only the 'key' performance indicators that are vital and valuable, not a medley of KPIs that are neither effective nor manageable.

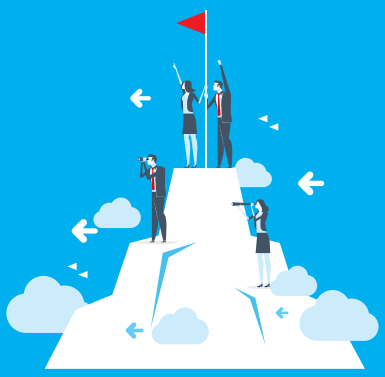
Pitney Bowes is an apt example of a firm that has been re-engineering its KPIs and targeting digital commerce as its new core competence.[5] The Pitney Bowes Commerce Cloud is designed to increase interoperability across the company's partner ecosystem to provide greater value for customers.

Apple too has been leveraging digital KPIs and real-time product feedback to optimize its marketing strategy. When it launched the iPhone X, analysts predicted that it will cannibalize sales of the iPhone 8.[6] However, it turned out to be profitable for the company, as sales of the iPhone 8 series were not impacted. Last year, there was speculation that the iPhone XR will cannibalize sales of other premium models but Apple was not worried.[7] The lesson? The company's data revealed that there are different types of buyers and launching different versions simultaneously allows Apple to have a product for each type of buyer and maximize profits for each type.

Using the 3D Value Chain as the North Star

As the consumerization of technology and personalization peak, the high tech CPE industry will need to develop a new business model for the Business 4.0™ era – one that is agile, intelligent, automated, and on the cloud. Digital KPIs will play a crucial role in such a model, as a strategic tool for goal setting and performance measurement, coupled with a data-driven culture to engage customers beyond the sales funnel. High tech companies that successfully leverage digital by building data lakes, analyzing structured and unstructured data, and harnessing technologies such as AI, ML, Internet of Things, and analytics will eventually create a 3D value chain – one that is demand-oriented, data-driven, and digitally executed. The result: exceptional customer-centricity for sustained success.





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