

# The Daily Dispatch

## Weekly Special Feature

October 15, 2021

### *The 4 Tiers of Digital Transformation*

By: Mohan Subramaniam – Harvard Business Review (*Published on September 21, 2021*)



It's easy to acknowledge the game-changing role digital technologies are playing in the modern economy. The challenge, to which most companies have yet to rise, is figuring out how to fully capture the different kinds of value that these technologies offer. Developing a strategy for digital transformation that fully leverages this value is also not easy. Without a comprehensive assessment of what digital technologies can offer, firms tend to assume that any application of modern digital technologies will lead to a digital transformation. Consequently, many of them make ad-hoc business decisions about the use of digital technologies and end up struggling even to maintain competitive parity, despite substantial investments.

To get an indication of the full range of value that digital technologies can offer, consider the following four examples, each of which highlights the strategic advantages available at a different tier of digital transformation.

**Tier One: Operational efficiencies.** Ford adopts new automated vision-based inspection of paint jobs in its plants through augmented and virtual reality, the Internet of Things (IoT), and AI. Using these technologies, the company improves blemish detection and reduces defects in its cars. In this case, data is generated by new technologies from factory assets, and AI uses this data to detect and prevent manufacturing defects in real time.

**Tier Two: Advanced operational efficiencies.** Caterpillar installs sensors on its construction equipment products to track how each of them is used at a construction site. It finds, for instance, that customers use their motor graders to level lighter gravel more often than to level heavier dirt. Utilizing this insight, the company introduces a cost-efficient motor grader primarily designed to level gravel rather than dirt.

Like Ford in the previous example, Caterpillar here benefits from operational efficiency gains by improving product-development productivity. The difference, however, is that the company's sensor data comes from customers using their products, not from manufacturing plant assets. That customer dimension, of course, poses additional challenges. The efficiency gains in this tier also extend beyond asset utilization.

**Tier Three: Data-driven services from value chains.** GE tracks product-sensor data from their jet engines, analyzes it using AI, and offers real-time guidance for pilots to fly in ways that optimize fuel efficiencies. GE then appropriates a part of their customers' cost savings through new annuities from "outcome-based" revenues. Their customers, in other words, pay GE a part of what they save from fuel efficiencies, in addition to what they pay for the product.

Here the initiative entails changing the prevailing business model from one that's designed to produce and sell products to one that provides data-driven services to digital customers. GE's R&D, product development, sales, and after-sales service units are all digitally connected to receive, analyze, generate, share, and react to sensor and IoT data from thousands of discrete products in real time. Because this drives new revenue streams, it does more than just enhance operational efficiency.

**Tier Four: Data-driven services from digital platforms.** Peloton uses product-sensor data from its exercise equipment to create a community of users and to match

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individual users with suitable trainers. Peloton's products generate user-interaction data, which the company then uses to facilitate exchanges between its digital customers and various third-party entities outside the realm of its value chains. AI algorithms match specific users to suitable trainers analyzing product-user interaction data, very much like how Uber matches riders with drivers using data from their apps.

Like GE in the previous example, Peloton here is generating new revenues from its data-driven services — but by extending its products into digital platforms. This tier of digital transformation is the most challenging for industrial-era legacy firms, and for firms operating with value-chain-driven business models and little experience with digital platforms.

## Drivers of Digital Value

To think properly about these four tiers of transformation, the first step is to recognize that modern digital technologies have two notable value drivers: data in its new expansive role, and emergent digital ecosystems. Let's explore them briefly in turn.

Data used to be episodic (generated by discrete events such as the shipment of a component from a supplier), but increasingly it is becoming interactive (generated continuously by sensors and the IoT to track information). This continuous tracking of assets and their operational parameters can boost productivity. If you use sensors to track and maintain temperature levels while super-heating molten steel, you can improve your quality and yield. If you embed sensors within certain products, you can revolutionize the user experience. Think of how smart mattresses track users' heart rates, breathing patterns, and body movements, and then adapt their shape in real time to improve users' sleep. Or how sensors embedded in cars can provide feedback that helps people drive more carefully.

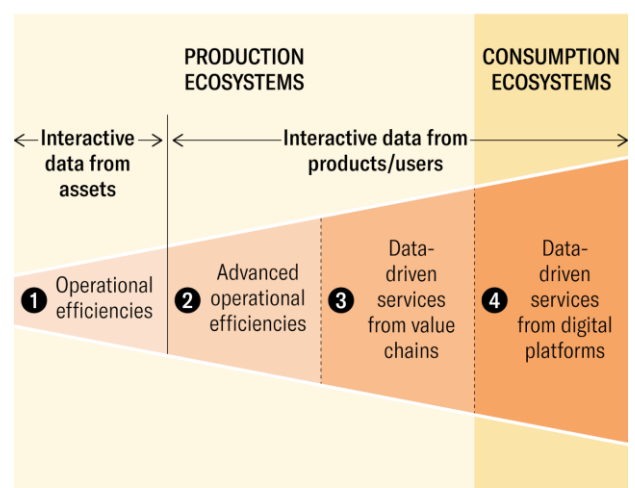
More fundamentally, this interactivity reverses the roles of products and data. Data has traditionally supported products, but, increasingly, products are now supporting data. Products no longer just deliver functionality, help build a brand, or generate revenue; they now also serve as conduits for interactive data and wellsprings for new customer experiences.

To leverage interactive data's new expansive role, firms also need networks of data generators and recipients. Such networks can emanate from sensor and IoT-enabled connectivity that amount to digital ecosystems.

Two main kinds of digital ecosystems have emerged, neither of which existed before modern advances in data and digital connectivity. One kind is the production ecosystem, which encompasses digital linkages within value chains. By linking sensor and IoT data from cars to spare-part suppliers, warehouses, and service dealers, for example, car companies can offer predictive maintenance services. The other kind is the consumption ecosystem, which involves networks outside of a firm's value chain. Consider smart light bulbs on street lamps that are designed to sense gun shots: Their consumption ecosystems include a network of camera feeds, 911 operators, and ambulances, all of which together help to improve street safety.

Both production and consumption ecosystems, fueled by interactive data, drive new value. As the figure below shows, this holds across the four tiers of digital transformation discussed above. The first three tiers rely on production ecosystems, and the fourth on consumption ecosystems.

## The Four Tiers of Digital Transformation



HBR

## What Are the Right Tiers for Your Company?

To determine your optimal digital-transformation strategy,

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assess your need to engage at each of the four tiers in the figure above and then focus on investments that will help you harness the benefits of interactive data and digital ecosystems.

**Tier one** is a must, as most firms can benefit from operational efficiencies. The vast majority of digital-transformation initiatives take place in this tier, which is especially important if operational efficiencies are a big part of a firm's strategic thrust. Oil and gas businesses, for instance, run oil wells, pipelines, and refineries that require investments worth billions. If these firms decide to use IoT devices and AI to find reserves, and to maintain pipelines and refinery assets, they can save up to 60% of their operational costs. Key challenges in this tier include installing widespread interactive data generation in asset utilization and breaking silos around data sharing.

**Tier two** is imperative for companies selling products that have the potential to access interactive data from users, which can be leveraged for strategic advantage beyond what is available at tier one. Tier two becomes the final stop if available product-user interactive data is not amenable for revenue-generating services. Many consumer-packaged goods fall into this category. The primary use of interactive data in such businesses is to improve advertising or product-development efficiencies.

**Tier Three** is for companies who recognize that they can generate data-driven services from products and value chains. Such firms must enrich their production ecosystems to broaden their strategic advantage from operational efficiencies to new data-driven services.

In this tier, firms cross an important barrier: Instead of using data just for operational efficiencies, they use it for revenue generation. If your company doesn't have access to a consumption ecosystem, tier three is the final stop for you. Sensor and AI-equipped dishwashers can anticipate component failures to offer predictive services, for example, but they're hard to connect digitally to complementary objects and to extend into digital platforms. That said, many firms miss opportunities in this tier. They overlook their product's consumption ecosystems or consider it too risky to extend their products into digital platforms. Many of the rivals of Peloton and Nordic Track

have fallen into this trap.

Finally, **Tier Four** is strategically important for any firm whose products have emerging consumption ecosystems. Firms that stay within their production ecosystems in such scenarios risk being commoditized. Extending products into digital platforms is their key challenge.

Of course, not every firm will want or be able to engage in transformations on all of the four tiers discussed in this article. Some may opt to focus on just one or a few — but every firm must nonetheless remain aware of the expanding universe of new possibilities. Opportunities abound, and a thoughtful digital-transformation strategy, based on the framework presented here, will help companies remain relevant in the modern world.

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Source: Mohan Subramaniam(2021) 'The 4 Tiers of Digital Transformation.' *Harvard Business Review*. Available at <https://hbr-org.cdn.ampproject.org/c/s/hbr.org/amp/2021/09/the-4-tiers-of-digital-transformation> (Accessed on October 13, 2021)

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TODAY'S TOP NEWS

## PayMaya to sell micro-insurance with Bolttech

FINANCIAL technology player PayMaya Philippines Inc. announced it has partnered with the Singapore-based Bolttech Group to sell micro-insurance to Filipinos through its mobile platform. The company, which is a unit of a PLDT Inc. subsidiary, said it housed insurance products under a sub-portal in the PayMaya app.

## Jollibee lists 12 million preferred shares

Fast-food chain operator Jollibee Foods Corp. (JFC) on Thursday listed its first-ever preferred shares on the Philippine Stock Exchange (PSE). The offering of 12 million preferred shares is the fifth security issued by Jollibee for investment by the public.

## SPC Power ventures into renewable energy

Listed SPC Power Corp. fortified its plans to venture into renewable energy by amending its articles of incorporation to include RE development. The company also included selling, brokering, marketing or aggregating of electricity to end-users in its primary purpose.

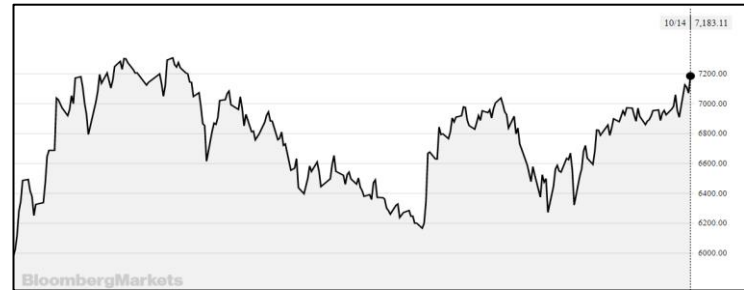
## BSP gov. eyeing switch to long-term recovery efforts

Central banks need to switch focus from short-term crisis management to long-term efforts aimed at resuming sustainable and inclusive growth and preventing future crises, Bangko Sentral ng Pilipinas Governor Benjamin Diokno said Thursday.

## Rice stock inventory drops 26.9%

The country's rice stocks inventory fell by 26.9 percent to 1.332 million metric tons (MT) as of the start of September as compared to 1.823 million MT posted in the same period a year ago, the Philippine Statistics Authority (PSA) said.

## Philippine Stock Market Update



**Previous Close:**

7,183.11

**1 Yr Return:**

23.52%

**Open:**

7,194.99

**YTD Return:**

1.17%

**52-Week Range:**

5,898.47 - 7,432.40

**Source:**

Bloomberg

## Foreign Exchange

As of Oct. 14, 2021

US Dollar	Philippine Peso
1	50.61

## BVAL Reference Rates

As of Oct. 14, 2021

Tenor	Rate
1Y	1.616
3Y	2.726
5Y	3.667
7Y	4.386
10Y	4.872
20Y	5.009

## Daily Quote

“If you want to lift yourself up,  
lift up someone else.”

-- Booker T. Washington

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## MORE LOCAL NEWS

### Hyundai posts 38% rise in vehicle sales

Hyundai Asia Resources, Inc. (HARI) posted a 38.3% month-on-month sales growth in September as health restrictions were eased in the National Capital Region and lifted consumer confidence, the official distributor of Hyundai vehicles in the Philippines said on Thursday.

### Space agency site to rise in New Clark City

The Philippine Space Agency (PhilSA) has started seeking interested consultants for the formulation of a master development plan for its official site in the New Clark City. “The PhilSA now calls for the submission of eligibility documents of interested consultants,” the national space agency said.

### Smart claims lead in 5G network rollout

Smart Communications, Inc. is expecting to deliver a triple-digit increase in fifth-generation (5G) users “in the next few years,” citing its lead in the 5G space by providing the fastest speeds and the widest network coverage in the Philippines.

### Person-to-merchant payments launched

The Central Bank has launched person-to-merchant (P2M) payments under the QR PH, which is expected to help in making the country a cash-lite economy. Merchant payments made up 70% of monthly retail transactions in the Philippines. This shows that the P2M can boost the use of digital payments in the country.

### House realigns P65B in 2022 budget

The House of Representatives has realigned P65.5 billion of the proposed 2022 national budget to fund the procurement of coronavirus disease 2019 (COVID-19) vaccine booster shots, assistance for displaced workers and the downpayment for C-130 aircraft for the military.

### Government urged to maintain corn tariffs

House Resolution 2289 filed by Deputy Speaker Rufus Rodriguez wants the Department of Agriculture (DA), the National Economic and Development Authority (NEDA) and the Tariff Commission (TC) to defer the lowering of tariff on corn imports and maintain the current tariffs for the commodity.

### Philippine foreign debt rises 18% to \$98.5 billion

The country’s external debt swelled nearly 18 percent to \$98.48 billion last year, the second fastest growth among Southeast Asian economies, the World Bank said. The Philippines hiked its foreign debt from \$83.61 billion in 2019 due to a double-digit rise in long-term obligations.

### NEDA probes delay in P187 billion PGN bridge

The National Economic and Development Authority (NEDA) will review the P187-billion Panay-Guimaras-Negros (PGN) bridge after lawmakers expressed dismay over the government’s lack of attention to a project it promised to complete before the end of President Duterte’s term.

### PSEi scales fresh nine-month high on easing curbs

Share prices yesterday bounced back to a fresh nine-month high as investor sentiment improved following government’s announcement of more relaxed restrictions starting Oct. 16. The PSEi leaped by 114.19 points or 1.62 percent to close at 7,183.11 while the broader All Shares index added 40.69 points or 0.92 percent to end at 4,443.95.

### RLC unveils new building with green features

Robinsons Land Corp., the listed property developer of the Gokongwei Group, is developing a new office building with green features. To be developed by RLC’s Bridgetowne Destination Estate along C-5, GBF Towers 1 & 2 aim to get the LEED GOLD certifications when they are completed.



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## TODAY'S TOP ASIAN NEWS

### ESR-Reit, ARA Logos propose \$1.4 billion merger

The managers of ESR-Reit and ARA Logos Logistics Trust (ARA Logos) have proposed a \$1.4 billion merger, where ESR-Reit will acquire all of ARA Logos' units in exchange for a combination of cash and new units.

### iSwitch Energy quits market, pressure on others

One of Singapore's largest independent electricity retailers has exited the market and according to company sources at least three others have stopped accepting new clients amid rocketing wholesale energy prices.

### China economy showing strain

China's economy is being hit from all sides - a property slump, energy crisis, weak consumer sentiment and soaring raw material costs - and government data on Monday (Oct 18) will show just how bad things are looking.

### Delivery startup Pickupp secures US\$20m funding

HONG Kong on-demand delivery startup Pickupp has secured US\$20 million in total for its Series A and A+ funding. This includes investment from Reefknot, a joint venture of Temasek Holdings and Swiss logistics player, Kuehne + Nagel.

### M1, Keppel DC Reit finalise network asset deal

M1 is set to unlock value from S\$580 million worth of its network assets, while Keppel DC Reit will invest a total of S\$89.7 million into bonds and preference shares of the telco's newly incorporated unit, M1 Network (NetCo).

## TODAY'S TOP GLOBAL NEWS

### Apple supplier TSMC announces new plant in Japan

Taiwan chip giant TSMC announced on Thursday (Oct 14) plans to build a new factory in Japan to meet long-term appetite for chips and said that near-term, tight supplies will likely continue into 2022 amid booming demand during the Covid-19 pandemic.

### Britain's 20-year binge on cheap food is over

Britain's 20-year binge on cheap food is coming to an end and food price inflation could hit double digits due to a tidal wave of soaring costs that are crashing through the supply chain, Britain's biggest chicken producer said.

### Indian fintech firm Pine Labs eyes IPO in 12 months

[NEW DELHI] Indian fintech firm Pine Labs is considering an initial public offering (IPO) in as little as a year, its chief executive said on Thursday (Oct 14), as the company made a foray into the online payments space that it sees as a multi-billion dollar opportunity.

### GitLab valued at US\$14.9b in strong Nasdaq debut

[NEW YORK] GitLab shares jumped about 35 per cent above their offer price in their Nasdaq debut on Thursday, giving the software development platform a market capitalisation of US\$14.9 billion, showing strong investor appetite for fast-growing software companies.

### Microsoft shuts LinkedIn in China

[NEW YORK] Microsoft's LinkedIn is shuttering a localised version of its professional networking platform in China, becoming the last major US social media provider to pull out of the country.