



The Great Transition

Shifting from the industrial model to an information economy based on intangible assets, ESG values and hybrid working patterns

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The Great Transition

Shifting from the industrial model to an information economy based on intangible assets, ESG values and hybrid working patterns

Introduction: A Great Transition is underway

A Great Transition is underway. The guiding principles of the economy, derived from the Industrial Revolution, are being overturned:

- First, the principal basis of wealth creation has shifted, from using physical assets to transform natural resources, toward exploiting intangible assets based on information.
- Second, beliefs about the purpose of business are undergoing change, with a shift from *value* to *values*, often labeled environmental, social and governance (ESG).
- Third, a transformation is occurring in the structure of work, with a move away from offices, fixed employment and set working hours to more flexible patterns.

Taken together, these forces form a Great Transition.¹ As yet, we can talk only of a Great Transition, because the precise destination remains unclear. We are transported back to around 1800 – 1850, when features of the new industrial model were apparent but the full picture had yet to crystallize. The evidence for the transition is all around us, but such is the hold of the existing mental paradigm that we fail to recognize the change, even describing it as a Fourth Industrial Revolution, when in many respects it actually represents a decisive move in the opposite direction and a return to earlier models.

Understanding the Great Transition is not a theoretical question; it goes to the heart of why companies exist, how they attract and motivate people and how they create value. So, which parts of the picture can we already see? What are the implications of the new model for enterprises? What does it take to succeed in this new world?

How businesses create value: From a material economy to an information economy based on intangible assets

Before the Industrial Revolution, land was the dominant form of capital. The economy was organic and circular. Then came coal, steam, iron and machinery, which were harnessed to convert physical material into physical products. As a result, the principal form of capital shifted from land to machinery, factories and transport systems.

With the advent of the intangible economy, industry does not go away — but neither did agriculture disappear in the Industrial Revolution. However, it is in the intangible domain that value is increasingly created. Information, once an adjunct to products and services, has now become the most valuable product and service.

Today, a comparable transition is already well underway to a qualitatively different economy where intangible assets predominate. Intangible assets are united by the common thread of information, whether in the form of data, software, intellectual property or brands. Energy is used to create and process information, instead of physical material.

¹ The term *Great Transition* is intended to echo Karl Polanyi's *Great Transformation*, which described the social and economic changes surrounding the Industrial Revolution. Karl Polanyi, *The Great Transformation*, Farrar & Rinehart, 1944.

The dominance of intangible assets

Intangible assets outweigh tangible assets against every significant economic metric:

- **Capital.** At the turn of the 21st century, intangible assets overtook tangible assets in the economy, first in the United States in 1993² and then in the majority of 115 countries by 2010.³
- **Investment.** Intangible assets also outweigh tangible assets when it comes to investment. For example, in the United States in 2010, investment in intangible assets equated to 13.8% of output against 7.8% for tangibles.⁴
- **Returns.** “Intangibles [have] overtaken tangibles to be the largest systematic ... source of growth.”⁵ In a study of the 50 U.S. firms with the largest surplus wealth, “43 of the 50 firms ... belonged to [industries] whose business model was transformed by the IT revolution. Some, to a limited degree by altering products, materials and management methods ... but 36 are central to the IT revolution; many did not even exist in 1974.”⁶
- **Productivity.** A study of U.S. firms found that differences in physical, natural and human capital “explain only between 20 and 43% of the variation in output per worker.”⁷ The remainder is attributable to intellectual capital.
- **Employment.** As early as 1980, in the United States almost 50% of workers were employed in the information sector, compared to less than 25% in the industrial sector.⁸

With the advent of the intangible economy, industry does not go away — but neither did agriculture disappear in the Industrial Revolution. However, it is in the intangible domain that value is increasingly created. Information, once an adjunct to products and services, has now become the most valuable product and service. Take the example of Apple: Yes, the iPad and iPhone are manufactured devices, but they are assembled from commodity components that any firm can buy. The value-add that drives Apple’s outsized returns comes

from Apple’s intangible assets: its user experience and design, its brand, and the ecosystem of partners in its platforms — the App Store and iTunes. Plus, of course, the *raison d’être* of the iPad and iPhone is to access the information economy.

Intangible assets change the rules of the game

Intangible assets have several important characteristics.

1. First, whereas physical assets wear out, intangibles scale without decreasing in value — think Google, with its data and algorithms, and Coca-Cola, with its brand and proprietary formula. When costs do not rise directly in proportion to revenues, the focus of any business naturally shifts to achieving scale and maximizing revenue. If you can create intangible assets that are truly differentiated, revenue from scale will take care of costs.

An intangible economy is inherently more sustainable.

2. A second aspect of intangibles is that much of the value of intangible assets comes through synergies with other intangibles, which create self-reinforcing loops. For instance, with platforms — the **archetypal value creator in the intangible economy** — customers draw in other customers, leading to more data and better algorithms, which in turn allow the platform to be enhanced and made more attractive to new customers and partners.

3. A third feature of an intangible economy is that it is inherently **more sustainable**. Intangible assets do not depend on the depletion of natural resources, while digitization can reduce greenhouse gas (GHG) emissions by replacing a physical process with an information process. For example, testing an aircraft engine through a simulation will have a much smaller environmental footprint than a physical test.

² Jonathan Haskel and Stian Westlake, *Capitalism Without Capital: The Rise of the Intangible Economy*, Princeton University Press, 2017.

³ Susana Ferreira and Kirk Hamilton, “Comprehensive Wealth, Intangible Capital, and Development,” World Bank Policy Research Working Paper 5452, 2010.

⁴ Charles Hulten, “How Much Does Your Company Really Invest in Innovation?” Conference Board, 2013.

⁵ Carol Corrado and Charles Hulten, “How Do You Measure a Technological Revolution?” *American Economic Review* Vol. 100, No. 2, 2010.

⁶ Mordecai Kurz, “On the Formation of Capital and Wealth,” Stanford University, 2017.

⁷ Meghana Ayyagari, Asli Demirgüç-Kunt and Vojislav Maksimovic, “Who Are America’s Star Firms?” World Bank Policy Research Working Paper 8534, 2018.

⁸ James R. Beniger, *The Control Revolution: Technological and Economic Origins of the Information Society*, Harvard University Press, 1986.

Unlike in the Industrial Revolution when capital was relatively scarce and workers interchangeable, today there is a *wall of money* and a *war for talent*.

4. Fourth, the wealth and jobs that now come from the information economy make it economically feasible at a macroeconomic level for there to be a transition away from industry. For example, a significant factor behind the higher returns and lower volatility of sustainable funds is that technology firms (e.g., Google, Apple, Amazon and Microsoft) have shown sustained growth.

5. Finally, as information comes to play an ever-greater role in the economy, the importance increases of the ultimate general-purpose information processor: the human brain. Because intangible assets are conceived, designed and built by people, there is a premium to be paid for highly skilled software engineers, marketers and investment bankers, just as there is a premium from the differentiated intangible assets that they produce. Unlike in the Industrial Revolution when capital was relatively scarce and workers interchangeable, today there is a *wall of money* and a *war for talent*.

Faced with this picture, it's time to test the assumptions that guide your business and to question whether they are fit for purpose:

- Are the most important assets in your business tangible assets or intangible assets?
- Who is responsible for growing and harvesting each of these crucial intangible assets?
- How do intangible assets feature in your strategy, both individually and in terms of synergies between intangibles to create multiplier effects?
- Is recruitment clearly identified as possibly your most important process, given that people, not machines or algorithms, are the creators of the intangible assets that principally drive returns?

The purpose of business: From value to values

We are moving from the belief that the sole purpose of business is to deliver economic value, to the belief that business is also responsible for environmental, social and governance outcomes.

The industrious revolution

At school, the story of the Industrial Revolution was told through the invention of machines on the supply side: Kay's flying shuttle, Watt's steam engine and Stephenson's rocket. Yet demand-side changes were also necessary: Customers had to want to buy mass-produced textiles and manufactured goods, and agricultural laborers had to choose to work in factories and live in towns and cities — they were not all thrown off the land. What happened is the *industrious revolution*.⁹

We are moving back from economic value alone to values. ESG is the term that has come to capture this new set of values.

During the 17th and 18th centuries, first in the Netherlands and then in the North and Midlands of England, priorities began to shift from the hereafter to now, and from the spiritual to the material. An "Industrious Revolution" created a demand pull, where consumers decided to work longer hours and seek employment for hard cash to buy the luxuriant items, such as tea, coffee and cotton fabrics, that they could not make at home. Fashion came of age, and consumerism was born. Thus, the Industrial Revolution was preceded by, and then deepened, a transition in beliefs from values to value.

Today, we are seeing a comparable transition in beliefs about what matters. Only this time it is a reversal of the Industrial Revolution. We are moving from economic value alone back to values. ESG is the term that has come to capture this new set of values.

⁹ Jan de Vries, *The Industrious Revolution*, Cambridge University Press, 2008.

It's not (just) what you do, but how and why you do it

The notion of *purpose-led business*, which is closely allied to ESG, holds that the reason a company exists is not just to create economic value for its shareholders but also to bring value to its other stakeholders — employees, customers and, more widely, society and the environment. Here, it is not enough to *do no harm* — companies ought to aim to have a positive impact on, say, society or the environment.

In ESG thinking, *how* firms do business matters as much as *why*. Negative externalities (i.e., side effects and costs to society and the environment) should be factored into business decisions. Firms should be accountable for their GHG emissions and use of natural resources, since these are environmental costs borne by everyone else. Similarly, social costs (e.g., inequality, lack of diversity, poverty and human slavery) should be considered in how goods and services are produced. Finally, governance matters too. It encapsulates how a company is managed — for example, its board structure, executive pay, cybersecurity and tax policy.

Across the board, stakeholders are pushing for ESG

Pressure to place more weight on ESG comes from all sides: shareholders, customers, employees and governments or regulators.

- **Shareholders.** Shareholders and fund managers are taking a more activist stance on the environment and diversity. For example, the world's largest asset managers, **State Street** and **BlackRock**, have issued advisory letters laying out their expectations on climate disclosure, sustainability and diversity.
- **Customers.** Customers are increasingly conscious of the environmental and social impact of products and services. Furthermore, **upward of 70% of consumers surveyed by McKinsey** said they would pay an additional 5% for a green product if it met the same performance standards as a nongreen alternative.
- **Employees.** A World Economic Forum report charts the **rise of the 'belief-driven' employee**, with "6 in 10 of those changing jobs seeking a better fit between their own and their employer's corporate values." This pattern was strongest among those aged 18 – 34 and middle- and high-earners.

- **Governments.** Many countries are adopting laws and regulations aimed at ensuring alignment with ESG goals — for instance, the **European Union Green Deal**, Germany's **Supply Chain Act** and the U.S. Securities and Exchange Commission's **draft rules to enhance and standardize climate disclosures**.

In some areas of the transition to ESG, difficult choices will genuinely have to be made between value and values; but these choices do not necessarily amount to a zero-sum game.

The false choice between values and value

Although the shift to ESG is motivated by a desire to rebalance values and value, an ESG focus can bring more enduring ways to create economic value:

- **Sustainability.** Surveys by **Deutsche Bank** and **Morgan Stanley** found that ESG investments out-performed non-ESG investments, with lower volatility and a 20% smaller downside deviation.
- **Diversity.** A **McKinsey report** on 366 public companies found that those in the top quartile for ethnic and racial diversity in management were 35% more likely to have financial returns above the industry mean, and those in the top quartile for gender diversity were 15% more likely.
- **Employee engagement.** High employee satisfaction has been shown to earn an **excess return of 2% – 2.7% per year**, which equates to one-third of the average **annual return of the S&P 500**.

The scientific jury is not out; it reported back some time ago. In some areas of the transition to ESG, difficult choices will genuinely have to be made between value and values, yet these choices do not necessarily amount to a zero-sum game. Often, you can have your cake and eat it too.

ESG is not corporate social responsibility (CSR) on steroids

ESG entails profound transformation, not only in the resources that enterprises use, but also in how they make decisions at every level.

- **Harnessing organic energy.** Let's start with the obvious but nevertheless fundamental point: Key to limiting temperature change will be harnessing renewable energy sources; returning to the organic energy of water, wind and sun; and moving away from the fossil fuels of the Industrial Revolution.¹⁰ This task will be most challenging in the sectors that account for the **highest percentage of global GHG emissions**: industry (29.4% — includes 5.2% direct and 24.2% energy use), transport (16.2%), agriculture (18.4%) and buildings (17.5%). All sectors, however, will have to measure, report and reduce GHG emissions, not least where net-zero commitments have been made.

- **Shifting to a circular economy versus a linear economy.** The Industrial Revolution constituted a linear economy where resources were extracted, transported, processed into finished goods, used and then dumped. Although the rise of the information economy will diminish manufacturing's relative significance, manufacturing will remain of huge importance to the global economy. This will only be sustainable, however, if a more circular approach is adopted.

"Globally, the circular economy concept is increasingly seen as a way forward to achieve the necessary transformation into a resource-efficient economy, and the only way to achieve climate neutrality by 2050. In the circular economy, resources are used, but not used up. By applying suitable strategies to products, components, and materials during use and after the end of a lifecycle, companies can keep resources in the system," **writes Henrik Hvid Jensen of DXC.**

- **Making ESG integral, not an add-on, by embedding ESG in processes, governance and culture.** ESG considerations extend far beyond use of natural resources. Social and governance factors are as much a part of ESG as the environment. In addition, when an enterprise considers ESG, it needs to take into account not only its internal operations, but also the upstream impact of the products and services that it buys through its supply chain and the downstream impact of customers' use of its products and services.

In order to address ESG across all these dimensions, enterprises will have to overhaul internal processes and governance. For example, in manufacturing, firms will need to understand ESG in their supply chain, sometimes even in tier-three or tier-four suppliers. (What carbon is embodied in the products that we procure? Were metals in components that we buy mined in appropriate working conditions?) In banking, the principal ESG impact will come from the activities that a bank finances. (What GHG impact will this loan result in? If we provide trade financing for this shipment, where are the goods going and how will they be used by my customer's customer?) In pharma, the social dimension will be the most significant. (How do we ensure that medicines are priced so that everyone has access? How do we design clinical trials so that **the efficacy of treatments on different sexes is properly considered?**)

Ultimately, embedding ESG depends on cultural change rather than change to processes, IT and data alone.

In parallel with this renovation of internal processes and governance, firms will have to renew focus on social priorities, with more concerted action around diversity, accessibility and inclusion — all of which are coming under heightened scrutiny. Ultimately, embedding ESG depends on cultural change rather than change to processes, IT and data alone.

- **Escaping the ESG trap: all the downside of box-ticking, and none of the upside of revenue from ESG products and services.** Viewing ESG solely as a constraint is fundamentally flawed. In all sorts of sectors, consumers will seek ESG-aligned products and services. It is not for nothing that Tesla has a market value of \$687 billion (as of May 28, 2022). In banking, to give another example, retail investors will want to align their investment portfolios with their ESG priorities and corporations will want to raise capital through green bonds and sustainability-linked loans. For professional services and IT firms and for providers of green tech, the market to assist firms in managing the Great Transition will be huge. There is a real trap, though, when firms experience only the downside of ESG (reporting and regulation) as opposed to the upside of more engaged customers and employees.

¹⁰ Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*, Verso, 2016.

- **Adopting a risk mindset versus a cost mindset.** The impulse toward ESG comes not only from ideals of justice and fairness but also a belief that if a company aims to sustain success, it should take ESG into account. For example, an environmental lens would reduce dependence on fossil fuels because prices are volatile and supply may be exposed to risk. Social concerns would lead companies to recognize that their share price can plummet as a result of negative publicity, say, around child labor in its supply chain. A governance mindset would have identified risks of doing business in Russia.

Whereas in the industrial economy firms optimized efficiency with a focus on cost, a company with an ESG mindset will place greater weight on risks when it makes decisions — expanding both the time horizon and the aperture of its outlook.

The issue here is as much about broadening the perspective and time horizon over which decisions are evaluated, a problem that Mark Carney, the former governor of the Bank of England, called “**breaking the tragedy of the horizon.**” Consequently, whereas in the industrial economy firms optimized efficiency with a focus on cost, a company with an ESG mindset will place greater weight on risks when it makes decisions — expanding both the time horizon and the aperture of its outlook.

So, let’s test your assumptions again:

- How do your stakeholders conceive of value? Is it purely economic, or is there more?
- What environmental, social and governance impacts would your stakeholders value most highly?
- Look in the mirror and ask yourself whether ESG — truth be told — is just a tick-box exercise?
- Is your ESG strategy comprehensive, extending externally to customers and suppliers, and internally across operations, processes, governance and, crucially, culture?
- Does your strategy for ESG include significant revenue from ESG products and services?
- Have you incorporated appreciation of ESG risks fully in your decision making?

The structure of work: From a single model to hybrid working patterns

Until recently, we took for granted the pattern of our daily working life. We went to the same factory or office each day, starting and finishing at set hours and working for a single employer in return for wages. Yet, before the Industrial Revolution this labor pattern barely existed. With the Industrial Revolution, work was centralized in factories to access sources of power and operate large machinery. Multiple tasks were integrated under a single roof and new ways of organizing labor were adopted, including direct supervision, set hours and waged employment. All this represented a marked change from the putting-out system where piecework was parceled out to self-employed workers in (say) weaving and spinning, who worked from home and were paid per item. Later, clerical factories — i.e., offices — were built to host the staff required to control the industrial economy.

In the Great Transition we are seeing a fundamental transformation in working patterns, though it is in many respects a return to the model that predated the Industrial Revolution.

Away from the office and back to home

The location of work is moving back to the home. It is hard to determine what the new normal will be after the worst of the pandemic is over, but a **survey of HR managers** at the end of 2020 found that 26.7% of American workers were expected to work permanently from home. If we look at the UK, “homeworking was ... relatively rare in 1981 when only 1.5% of those in employment reported working mainly at home, **but by 2019 it had tripled to 4.7%.**” Even before the pandemic, UK census data showed that **8.5% of people regularly worked from home.** The data is sketchy though, not least because government collection of data has not caught up with new ways of working.¹¹

That said, the trend is clear and amounts to a rapid rate of change, from (say) 1.5% of the workforce working from home 40 years ago to almost 30% today. In addition to this shift toward full-time home working, there are countless shades of grey between working in the office and at home. Each firm is seeking the right balance.

¹¹ The U.S. Bureau of Labor Statistics classifies working from home as a perk and therefore collects data on working from home as part of its remuneration data.

The decline of 9 to 5, Monday to Friday

Even features as fundamental as the five-day week are coming under scrutiny with experiments of a **four-day week**. In trials conducted in **Iceland**, in which workers were paid the same amount for shorter hours, productivity remained the same or improved in the majority of workplaces. Similarly, Microsoft reported a **40% increase in productivity** in its four-day week trial in Japan. In the UK, **thousands of workers and 60 companies are taking part in a four-day week trial**.

Though there may be productivity gains, increasingly the principal drivers for a four-day week are employees wanting a better work-life balance and firms wanting to attract employees. For example, **Atom bank has seen a 500% increase** in job applicants since introducing its four-day week for all employees. Although change is definitely afoot, we are in the phase of experimentation. Just because some jobs may suit a shorter working week, this does not mean all jobs will, nor does it follow that the same level of pay for less input is always valid.

The gig economy

The traditional labor model, where you either work full-time for a single employer or are unemployed, is being eroded by more flexible models. To provide just a few data points:

- U.S. government statistics record that the percentage of workers engaged in alternative work arrangements rose from **10.7% in February 2005 to 15.8% in late 2015**.
- McKinsey estimated the number of people who participated in the gig economy across Europe and the United States to be **as high as 20% – 30% in 2016**.
- Research in the UK showed that **15% of working-age adults worked through gig economy platforms** such as Uber, Deliveroo or Upwork at least once a week in 2021. The figure was just 6% in 2016, again demonstrating a rapid rate of growth.

A key factor in the gig economy is that many people are seeking an additional income source; in one survey, 48% of those who worked in the **gig economy said they undertook gig economy jobs on top of full-time work**.

Across working patterns, the old model of a single employer, a single location and a standard set of hours is not being superseded by a single alternative new model. Instead, the

new normal that is emerging is a hybrid, where individuals and enterprises adopt a mixture of working patterns.

Once more, let's test your assumptions:

- How have you decided on your working patterns for location, working hours and employment? Were the principal considerations cost, or revenue and risk?
- Do you know which working patterns will be most suited to the creation and management of each of your key intangible assets? The answer may well be different for each (e.g., brand vs. code vs. intellectual property).
- Which working patterns will attract the people that you need? How have you found the right balance between what works for your people and what works for your enterprise?

A paradigm shift: From Industrial Revolution to Great Transition

The evidence for the Great Transition is all around us, yet the dominant paradigm — the mental model — that guides people's action remains that of the Industrial Revolution. Once people recognize that the old paradigm does not reflect today's economy and so cannot provide the answers required, they can shift their paradigm to meet the Great Transition.

The coffee smells pretty strong

The startling thing is how long ago some of this change took place and how open it has been. For example, it is almost 30 years since U.S. government statistics showed that intangible assets had overtaken tangible assets on balance sheets.¹² Moreover, it is not exactly a secret that digital firms dominate the upper echelons of the stock market. Nor have asset managers hidden their expectations around climate risk and other aspects of ESG; two of the world's largest asset managers have written directly to the CEO and board of every firm in the major markets in which they invest.¹³

Furthermore, hiring managers will have conducted few interviews for a knowledge-based role in the last 18 months without prospective employees stating where and when they would be expected to work.

¹² Jonathan Haskel and Stian Westlake, *Capitalism without Capital: The Rise of the Intangible Economy*, Princeton University Press, 2017.

¹³ See earlier links to State Street and BlackRock CEO letters under "Across the board, stakeholders are pushing for ESG," p. 6.

The old industrial paradigm no longer provides the right answers

So, what is getting in the way? Why can't people see and, therefore, react to the transition? It all comes down to paradigms — the mental models that shape what we see. Like an Escher optical illusion, two people can look at the same picture and see completely different things. The problem is that the dominant paradigm remains that of the industrial era — even though this does not provide the answers that many stakeholders expect, nor does it reflect how value is principally created, nor how, where and why much work gets done.

The problem is that the dominant paradigm remains that of the industrial era — even though this does not provide the answers that many stakeholders expect, nor does it reflect how value is principally created, nor how, where and why much work gets done.

The Great Transition requires a paradigm shift across each of these fundamental dimensions of the economy (**Table 1**).

	Dimension	Industrial Revolution paradigm	Great Transition emerging paradigm
Guiding principles	Mission Horizon ESG Focus	Economic value (what) Short term Constraint Cost	Values (why and how) Long term Responsibility and opportunity Revenue and risk
Value creation	Transformation Assets Energy Costs Flow	Physical material Tangible assets Fossil fuels Internal and financial Linear	Information Intangible assets Renewables External, social and environmental Circular
Working patterns	Labor model Location Hours Overall pattern	Employees Office/factory only Monday – Friday, 9 – 5 Single model	Employees, contractors, partners Flexible Flexible Hybrid

Table 1. Comparison of the Industrial Revolution paradigm and the emerging paradigm of the Great Transition: guiding principles, value creation and working patterns

Shifting the paradigm

Adopting a new paradigm is immensely challenging. First, for many people their formative years were at a time when the industrial model truly reflected the economy. Until now, the old paradigm may have served them well. Second, under the old paradigm some things will just not compute: If you focus on ESG as well as economic value, how could this ever create more economic value? How can a startup be worth hundreds

of millions when it has no tangible assets? If people work 4 days per week, how can they possibly produce the same as when they work 5 days? If we always recruit the best person for the job, how could we not have the best team?

Difficult as it may be, once leaders shift to the new paradigm, like seeing the alternative view in Escher's optical illusion, they will quickly conclude that how they lead their organization must change just as much.

Steering an enterprise in the Great Transition: New measures, skills and incentives

In response to such profound changes in the nature of the economy, it can come as no surprise that the way that enterprises are led must change to the same degree.

Assessing performance amid greater complexity

Industrialization necessitated new approaches to managing labor, raw material and machinery. The answer was Taylor's scientific management method.¹⁴ Tasks were standardized, and inputs, outputs and cycle times were meticulously measured in order to optimize efficiency. Moreover, workers were regarded as interchangeable.

However, this management method simply does not fit the more complex environment of the Great Transition. Increasingly, the most valuable outputs are intangible assets, value is expressed in non-economic as well as economic terms, processes are more circular than linear, and working patterns may be a hybrid. In addition, workers are far from being interchangeable. Instead, there is a war for talent, and as noted earlier, a third of excess returns are due to employee engagement. So, in contrast to Taylor's maxim that "in the past, the man has been first. In the future, the system must be first," now, one would say "in the past, the system has been first. In the future, **the human must be first.**"

In the Great Transition, leaders will have to move beyond efficiency and develop alternative ways to evaluate performance that assess the true value of outputs and outcomes. Moreover, in order to break free of the tragedy of the horizon, each aspect of ESG will have to be appropriately considered, including the right balance between the short term and the long term.

Nonlinear math

The mathematics of the new economy are not always linear: Feedback loops and tipping points are central to complex systems such as platforms and climate. Moreover, risk and revenue from intangible assets behave in a less linear and predictable fashion than costs. As a result, insight will come from looking forward using models to ask what if,

as opposed to looking backward through dashboards and reports to ask what happened.

Leading diverse remote teams

Leading teams of people who are diverse in color, gender, social background and sexual orientation will pose difficulties to managers who are used to recruiting in their own image. The challenge will be to recruit not for cultural fit, but for cultural contribution.¹⁵ Further, a control mindset is not suited to the production of intangible assets that depend on soft factors such as creativity, coding and insight, nor will control be possible when people (and, indeed, perhaps contractors, partners or gig workers) are working from home. Managers (is this even the right term?) will have to develop especially strong coaching skills to engage, motivate and retain employees when there is a war for talent.

In the past, the system has been first. In the future, the human must be first.

The formation of skills and culture will require special thought, as this is one of the most important functions where intangible assets predominate. Team working patterns will have to be designed not only for efficient task execution but also to establish culture and skills, with space created for observation, feedback and learning by doing.

Facing up to a politicized world

Executives and boards may wish to keep politics out of business, but truth be told, we are entering a more politicized world.¹⁶ Not everyone will buy into the shift from value to values, nor will everyone give the same weight to each aspect of ESG. There is no right answer here. The fact is, however, that stakeholders have deeply-held — and often conflicting — views. Furthermore, the information context within which enterprises operate has been transformed. Social media and disclosure requirements unite to shine a spotlight. As a result, debate about value(s) is bound to occur, and in public, whether executives like it or not. There is no option but for executives to acquire the sensitivity and skills to anticipate and steer this debate.

¹⁴ Frederick Winslow Taylor, *The Principles of Scientific Management*, Harper & Brothers, 1911.

¹⁵ Aaron Dignan, *Brave New Work: Are You Ready to Reinvent Your Organization?* Penguin, 2019.

¹⁶ Joe Zammit-Lucia, *The New Political Capitalism: How Businesses and Societies Can Thrive in a Deeply Politicized World*, Bloomsbury, 2022.

Aligning incentives

If the structure of work changes, the surrounding system of pay, pensions and holidays will have to adapt as well. The current remuneration paradigm is rooted in assumptions that often no longer hold true: a single place of work, a single employer and standard working hours. Similarly, if firms are to escape the tragedy of the horizon by taking a longer-term perspective and incorporating ESG and intangible assets in decisions, then incentives need to be rethought and realigned.

Navigating the transition

The Great Transition will take decades, if not longer, to play out. We are more than 200 years into the Industrial Revolution, and many parts of the world are still industrializing even as others are undergoing a transition to the next stage. The career of any executive today, therefore, will be defined by change rather than stasis. Managing a business in a state of constant change is a very different discipline from managing a business in a steady state. The board and executives must progressively overhaul their company so that it is successful today and sustainable in the future. Equally, they must be conscious that their customers and suppliers are all undergoing a comparable transition. What made perfect sense last year may make no sense this year.

Challenging old assumptions

Adopting change on the scale and depth of the Great Transition is too big to be driven entirely top-down. In any case, this would be at odds with the Great Transition itself, which entails a far more people-centered model of a successful organization. So, while leaders must chart the new direction, their greatest contribution will lie in helping others to recognize that a new paradigm provides better answers, and in challenging themselves and each other to translate thought into action.

It is one thing to accept intellectually that the structure of the economy is undergoing profound transition, but quite another to adopt and put into action a new paradigm. The task at hand is to challenge yourself and your organization by asking whether the assumptions that guide your daily decisions are being shaped by the old industry-based paradigm or the reality of the Great Transition.

Mastering IT is central to the Great Transition

In the economy that is being ushered in by the Great Transition, IT acts first and foremost as a multiplier of value, since it is the basis for creating intangible assets, though new technology and data will also be the foundation for steering an enterprise through the Great Transition.

Technology as a multiplier of value first, and a cost to be minimized second

We have seen how information systems play a key role, both as intangible assets in their own right and as an enabler of key elements of the Great Transition (e.g., the circular economy, digitization, the gig economy and new working patterns). A further factor is that IT multiplies the value of other intangible assets. Though intangible assets are scalable in theory, this potential remains unrealized without a vehicle for scaling. Software and cloud computing enable operations to scale so that intangibles can be leveraged at a global level. In addition, scalable software platforms support the concentration effects that lie behind many star firms. Consequently, under the new paradigm, technology is first a creator of value to be maximized, and only second a cost to be minimized.

Technology and data to create intangible assets

Since intangible assets revolve around the creative powers and productivity of individuals and teams, giving them the right technology becomes pivotal. Instead of automation technology being applied to increase efficiency by removing manual steps, the aim will be to boost revenue through giving workers the right tools to augment their internal information processor: the human brain. This goes far beyond enabling remote working. It extends to tools for knowledge sharing, collaboration, data interpretation and the creation of intangibles. The same level of analysis that has historically been applied to automation will be required to assess exactly what technology can best support the creation of value by each type of worker.

Analytical tools and skills for tomorrow's paradigm

The moment an enterprise starts down the ESG track, it is confounded by missing data. Data on a whole range of new vectors is required — much of it derived from external sources, typically in a multitude of formats, both structured and unstructured, and often inconsistent. Data management systems and processes will most likely need to be overhauled to acquire, synthesize and metabolize this inherently messy ESG data. Furthermore, the ability to explain data and tell stories will become a key skill when decisions must balance multiple aspects of value using

qualitative and quantitative data. Finally, modeling to assess risk and return under a host of scenarios will require deep competence in data science.

The speed with which data is harnessed will be key, making the flow of data one of the most important processes to optimize. In addition, the only way to make the right data available at the right time will be to allow people to self-serve, because only they know what they need and when.

The Industrial Revolution paradigm and the emerging paradigm of the Great Transition are compared in **Table 2**.

	Dimension	Industrial Revolution paradigm	Great Transition emerging paradigm
Management approach	Success	Financial	Financial and non-economic costs and impact
	Measurement Priority Math	Inputs and outputs System-first Arithmetical	Outcomes and value People-first Feedback loops, tipping points and synergies
	Role of managers	Optimization of a steady state	Guiding transition
Teams	People	“Resources” Interchangeable	Principal value creators Individuals
	Team mix Recruitment Manager/employee relationship Incentives	Cultural fit Support function Supervisor	Cultural addition Key process for success Coach
		Based on financials Short term	Based on financials and ESG Long term
Technology	Focus	Automation	Enabling value creation through intangible assets
	IT business case Workplace design	Cost Transactions and tasks	Revenue, risk and ESG Knowledge, insight and collaboration
	Analytical tools Data availability	Dashboards Reports	Models and graphs Self-service
	Data Time	Mostly internal, mostly structured Fixed reporting cycles	Mostly external, largely unstructured Speed of data flow

Table 2. Comparison of the Industrial Revolution paradigm and the emerging paradigm of the Great Transition: Management approach, teams and technology

Conclusion: Embracing the Great Transition

By labeling today's transition a Fourth Industrial Revolution as opposed to something quite distinct, we are starting from the wrong diagnosis. Through this misdiagnosis, by failing to join the dots, we underestimate both the nature and extent of the Great Transition. As a result, we cannot see the need for, much less adopt, a new paradigm for a new economy. Call it what it is: the Great Transition.

The Great Transition is not a matter of taste: something to like or dislike. As with the weather, it is just happening. You do not have to like ESG to appreciate that for many stakeholders, ESG matters. Similarly, you may regard intangible assets as fluffy, but even though you can't see them, data, code, brands, intellectual property and platform effects are just as real as any building or machinery. Equally, you personally may prefer a certain working pattern, but for each group of knowledge workers there will be a working pattern that provides the right balance for productivity, collaboration, culture, skills transfer and employee expectations.

The answer is to embrace rather than resist the Great Transition, seizing its opportunities before your competitors do, and running ahead of, rather than behind, your stakeholders.

Learn more at
dxc.com/greattransition



About the author



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