

# MBA Programs Need an Update for the Digital Era

<https://hbr.org/2021/11/mba-programs-need-an-update-for-the-digital-era>

by [Vijay Govindarajan](#) and [Anup Srivastava](#) November 11, 2021



U.S. corporations have changed dramatically over the last 40 years or so. Among the world’s most valuable companies today are Microsoft, Meta (Facebook), Apple, Amazon, Tesla, and Alphabet (Google). Aside from Tesla, which owns Gigafactories, these digital natives use knowledge, talent, subscriber networks, and innovation as their key assets. This is unlike the 20th-century giants — General Electric, U.S. Steel, General Motors, Ford, Goodyear Tire, and ExxonMobil — that rely on land, buildings, machines, warehouses, and physical infrastructure to produce physical goods. The magnitude of this seismic change can be judged from the fact that, according to our calculations, each 21st-century digital giant is at least 10 times more valuable than an average 20th-century industrial giant.

But this story isn’t just about digital giants. Eighty percent of companies currently listed on U.S. stock exchanges [went public after 1990](#) and are more likely to be asset-light, digital natives like Airbnb and Uber instead of asset-intensive companies like Alcoa or Walgreen.

The [MBA](#) has been the quintessential managerial education program and has supplied more ready and trained managers to U.S. corporations than any other graduate program. While MBA curricula are evolving to meet the changing needs of corporations, we believe that the pace of change must accelerate to keep the MBA degree future-proof. Otherwise, the danger is what Scott Cook, founder of Intuit, [described](#): “When MBAs come to us, we have to fundamentally retrain them — nothing they learned will help them succeed at innovation.”

Some of the earliest business schools were started to fulfill the needs of industrial and automobile companies. For example, [MIT’s business school](#) is named after Alfred Sloan, the ex-CEO of General Motors. [University of Pennsylvania’s business school](#) is named after Joseph Wharton, a leader in industrial metallurgy. Business schools have historically been organized into watertight departments, such as finance, accounting, production and operations management, marketing, and human resources. This department structure mimics that of a 20th-century automobile or industrial company.

For a large part of the 20th century, the dominant logic of business was based on the use of physical assets to produce physical goods. The biggest investments were in machines and factories. The costs of producing the product, composed of labor, raw material, energy, and machine hours, ate away most of the profits from revenues, leaving thin margins. Physical assets would depreciate with use. The main role of the manager, then, was to make wise investments in physical assets, lower production costs, and extract maximum efficiencies out

of labor and physical capital. Given the limitations of transporting physical goods over long distances, most companies operated in local markets, implying that numerous players around the world could produce the same types of products. [Laws of diminishing returns](#) applied — there was a limit to what a machine or laborer could produce. When a company became too big or too profitable, competitors would arrive to produce [mimicked goods at cheaper prices](#), stealing the market share and eroding profits.

Digital businesses [defy those rules](#). Think about Google’s search engine, Meta’s Facebook, or Microsoft’s operating system. The cost of servicing a new customer for each is negligible, so each dollar of revenue flows straight to pre-tax profits. Digital assets can be used an infinite number of times in infinite places, without any erosion. In fact, each usage grows the value of the digital asset because of network effects, leading to [increasing returns](#). Knowledge products can be distributed all over the world instantaneously using the internet, so most digital companies compete globally. This strategy, combined with extremely low variable costs, implies that very few players can successfully address the entire global market. Some of them earn [winner-takes-all profits](#). For example, [Facebook’s 2020](#) profits equaled the sum of the 2020 profits of three 20th-century giants: [Citibank](#), [Walmart](#), and [General Motors](#). If that surprises you, note that in the last year, [Apple](#) and [Microsoft](#) earned three and two times Facebook’s 2020 profits, respectively. The dominant strategy then becomes to establish first-mover advantage, grow your market, and become the global market leader as quickly as possible. In accounting terms, this means: Grow revenues instead of managing costs.

Given this background, let’s look at the main departments in a typical MBA program and what changes they need to keep up with to prepare students for how business is done today.

## Corporate Finance

Corporate finance defines the boundary of a company based on physical assets: land, buildings, warehouses, factories, machines, inventory, and patents. Based on expected risks and returns, it then determines the optimal way of financing from those assets, using a mix of debt and equity. Planning is based on measures such as return on assets, payback period, and internal rate of return.

A new framework is required to define the real asset base of a company by including the *soft assets*, which are now the predominant asset class for the company but are excluded from financial calculations: brands, first-mover advantage, information technology, talent, and competitive strategy. Some of those assets don’t even legally belong to a company — for example, Facebook’s network of 2.8 billion users, or teams of talented marketers and scientists promising research and knowledge of customers’ characteristics. In addition, there are physical assets that help firms generate revenues but that they don’t own, such as cars and homes for Uber and Airbnb. Improving the definition of the asset base is essential for proper calculation of return on assets, which would then improve the selection of profitable projects — a hallmark of corporate finance.

Asset pricing, another branch of finance, explores the factors that determine the prices of assets and company shares. An emerging challenge is to create a model that can explain the trillion-dollar valuations of tech giants and billion-dollar valuations of loss-making unicorns. Currently, no such model exists. In addition, asset pricing considers risks to be a negative feature for investments. [Digital natives](#), however, readily give up projects with certain but

small profits to chase highly risky projects with huge profit potential. New valuation models incorporating recent advancements in firm characteristics would improve [portfolio returns](#) and pricing of mergers and acquisitions — the hallmarks of asset pricing.

More and more research is being done in emerging areas and finding its way into classroom teaching. However, a wholesale shift to new models remains elusive. This is largely because the accounting numbers used in case-based teaching remain rooted in the past and remain deficient in addressing the new needs. (More on that later.)

## Marketing

Marketing has been one of the strongest pillars of American companies. American marketing models like the [four Ps](#) (place, price, product, and promotion) are used the world over for marketing physical products like cars and toys. However, digital natives sell informational services that are produced instantaneously, distributed over the internet, and either given to users for free or priced based on real-time auctions. Many are never advertised.

So, in addition to the art and science of traditional marketing, today's marketer needs to possess the skills of information technologists, data scientists, and econometricians. The new challenges include learning about customers from their browsing habits across digital platforms and calculating their lifetime value for the company. New marketing avenues, such as [social media influencers](#), are becoming as important as traditional advertising. Marketers' emerging roles require bigger skillsets than ever.

Business school marketing departments need to work more closely with departments of information technology, management information systems, and digital strategy to offer more integrated programs to meet these evolving needs.

## Production and Operations Management

Production and operations management has traditionally focused on the efficient utilization of labor and machines to produce physical goods; an optimal mix of raw materials; inventory planning; and smooth, orderly movement of goods. A key distinction between physical products and services is that there's a long timeline of raw-material procurement, production, shipping, and storage before a physical product reaches a customer. Goods are therefore produced in advance and stored in anticipation of demand.

A new line of thinking is required when the dominant economic activity shifts to services delivered on the web, such as Tweets, Google searches, and Facebook posts. These services are produced instantaneously and customized to a user's needs and preferences — they cannot be produced or stored in advance. Capacity to provide services often needs to be purchased in real time through clouds. Companies now need experts in system architecture to improve interactions between applications, databases, and operating systems.

As a result, we foresee a change in the educational background of MBA instructors. Many currently have production or mechanical engineering backgrounds, with advanced degrees in production management and business. We're likely to see a shift toward data scientists and electronics engineers to better train students for the emerging era.

## Human Resources

Human resources and organizational behavior departments are moving away from the industrial era, when organizations were hierarchical and labor was just another factor of production. In the new era, human ingenuity, ideas, and talent are the centerpieces of value creation. Netflix, for example, has [rewritten the rules](#) of human resource management.

The emerging challenge, then, is how to manage the talented employees who become partners in the business — not just hired hands. Like shareholders, they benefit directly from stock and stock options, and they own much of a company's crucial knowledge. An employee's knowledge grows during their stay with the company, and they later utilize it at another company to get a better position or to start a new business venture. So, an employee's stay with a company is more like an entrepreneur increasing value of their knowledge capital and less like an hourly wage worker.

Further, a growing segment of workers are not formal employees of the company, but are gig workers or freelancers. Their work allocation, performance evaluation, and incentive payments are often handled by [artificial intelligence and machines](#), not human managers. For example, algorithms manage work allocation and payment for Uber drivers.

Finally, there's an increasing emphasis on racial diversity, gender equality, and fairness in companies. Professors are doing more research into these issues and are increasingly better prepared to teach them. Courses related to immigration issues, however, have not received as much attention as they need. Skilled immigrants' [role in tech companies is increasing](#), which means companies need to be better prepared to address their [family resettlement](#) and [cultural assimilation](#) issues while complying with [immigration regulations](#).

## Accounting

Financial accounting continues to be deficient for the modern era and is best described using sociologist William Bruce Cameron's famous [saying](#): "Not everything that can be counted counts and not everything that counts can be counted."

Today's accounting treats future-oriented investments in knowledge and people as an expense, not as building block for the company. In a previous [HBR article](#), we highlighted that balance sheets and income statements, the two most important financial statements, are becoming less and less relevant for investor decision making. Future directions for accounting include the use of [blockchains](#) for instantaneous recording and verification of transactions. This advancement can address the concern that accounting numbers are increasingly stale, as financial reports are produced on a quarterly or annual basis, when other sources provide information on an instantaneous basis.

A big thrust of [managerial accounting](#) is to determine the costs of production, which are broken into subcategories, such as variable, fixed, overheads, direct, or indirect costs. Managerial accounting then determines the optimal mix of resources to lower production costs. Those concepts become less and less applicable as digital companies operate largely on a fixed cost structure with very few variable costs. A future challenge for managerial accounting is to determine which portions of digital companies' costs are required to support current operations and which portions improve a firm's future value — for example, how to divide employee training costs into maintenance and investment components.

There have been numerous debates in the accounting profession around these emerging issues, but unfortunately, not much progress has been made. This inertia stems from largely unchanged accounting standards, which are modified only after much deliberation and affirmations from numerous interested parties, such as corporate lawyers, company auditors, standard setters, banks, investor representatives, and CPAs. Change is slow, and in many cases never happens, as has been the case with [accounting for intangibles](#).

\* \* \*

In addition to transformations within business school departments, there's a growing need for breakdowns of walls between departments. For example, in a company like Meta, marketing and strategy pervade across the company and are not under the purview of a specific department.

More important, MBA education must keep evolving from algorithmic learning — teaching predetermined answers to predetermined questions — to meeting the [higher-order needs](#) of the changing corporations: creativity, empathy, leadership, conflict management, strategic thinking, understanding technological progress and disruption, crisis management, problem solving, and dynamic decision making. This readiness can be judged easily by counting how many freshly trained MBAs were ready to face the disruptions caused by the Covid pandemic. The pace of transformation in business school curricula we outline would differentiate the leading MBA programs from the rest.