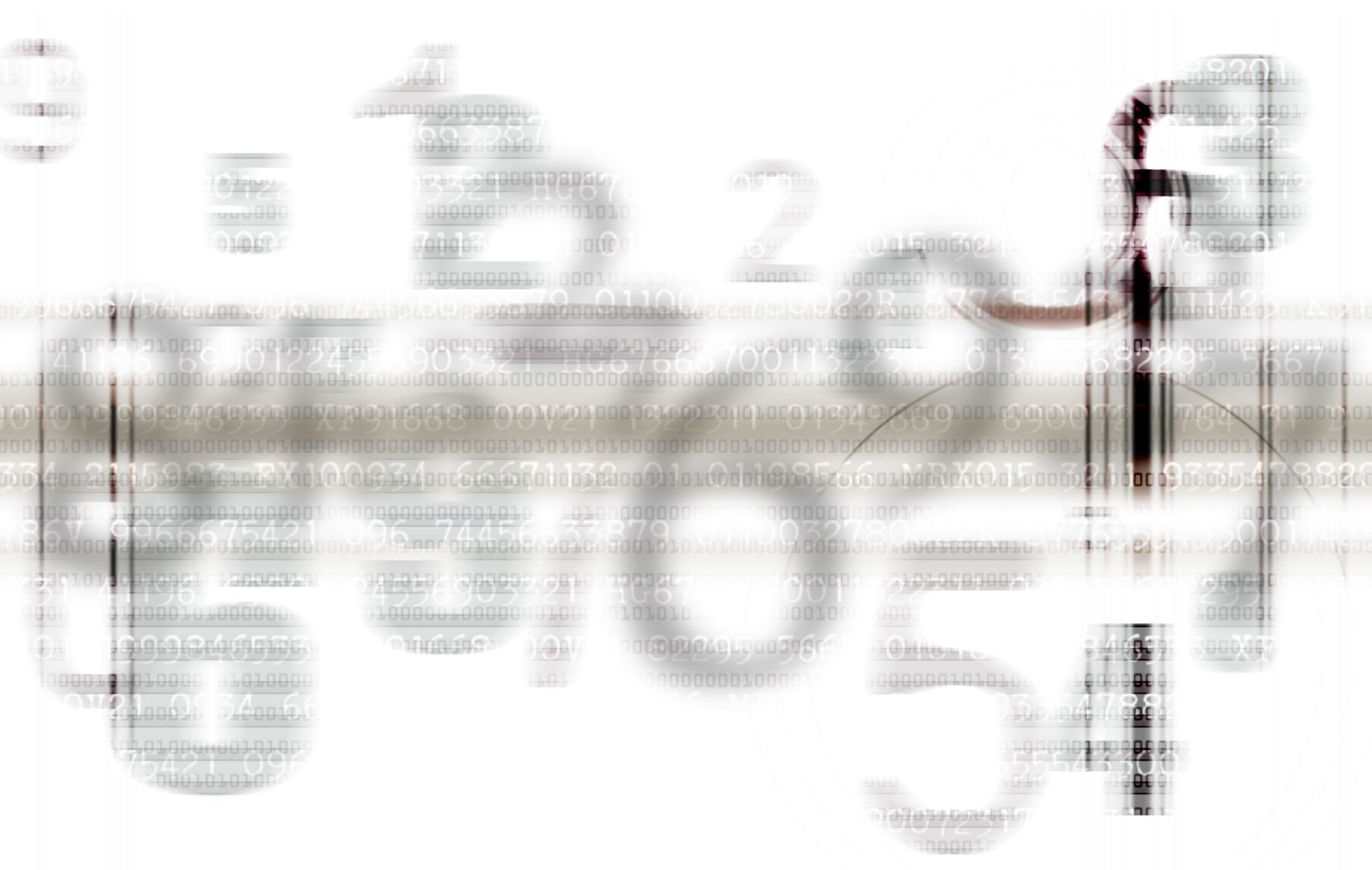


CIGI Papers No. 262 – February 2022

Accounting for the Digital Economy Time for a Fresh Approach

Patricia Meredith



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About the Author

Patricia (Pat) Meredith is a CIGI senior fellow and a global thought leader, award-winning author and consultant in the emerging field of strategic governance.

Pat is the director of many public, private and not-for-profit organizations. She was executive vice president and chief strategy officer of a major financial institution and senior strategy adviser to financial services and technology companies for a global strategy consultancy.

Pat has written three books on strategy and governance: *Stumbling Giants: Transforming Canada's Banks for the Information Age* (co-authored with James L. Darroch, 2017), which won the Donner Prize for best public policy book of the year; *Catalytic Governance: Leading Change in the Information Age* (2016); and *Better Boardrooms: Repairing Corporate Governance for the 21st Century* (2020).

From 2010 to 2012, Pat chaired Canada's Task Force for the Payments System Review. The task force, which applied a catalytic governance process, delivered a community-supported action plan that enabled government and industry to quickly act on all four of the recommendations. With her *Catalytic Governance* co-authors, Steven A. Rosell and Ged R. Davis, she is working to create a community of leaders developing better approaches to governing in the information age.

Pat has a Ph.D. in business strategy, an M.B.A. in management information systems and a B.Math. She is a fellow of the Institute of Chartered Professional Accountants of Ontario and the David and Sharon Johnston Centre for Corporate Governance Innovation at the University of Toronto's Rotman School of Management. She teaches courses on strategy, uncertainty and governance to M.B.A. students and executives. Pat is chair of the Audit and Finance Committee of the Canadian Institute for Advanced Research.

Executive Summary

The digital economy is being driven by investments in intangible assets, such as design branding and software, not by tangible assets, such as machinery, buildings and computers, of the industrial economy. However, accounting standards have not kept pace with the shift. They do not recognize investments in intangibles unless they are purchased from a third party. It is not that accountants do not know how to record these assets, as the methodology used to determine if purchased intangibles are impaired could be expanded to include internally manufactured assets. But doing so would require a change in mindset, from ensuring that in hindsight, assets were not overstated, to recognizing with foresight those assets likely to create future value for stakeholders. Shifting this mindset is much more difficult than changing accounting standards.

History has demonstrated in previous economic revolutions that shifting mindsets and accounting standards is necessary to capture future economic prosperity. Without formal recognition of intangible assets and alignment of accounting with the new economic reality, it is difficult for lenders to make loans, for investors to make investments and for governments to tax value creation. The profession cannot accomplish such a massive task on its own. It needs active support from policy makers and regulators, investors, creditors, managers and directors. It may also need a crisis response, such as mandated net-zero carbon emissions, to make the necessary changes.

Introduction

Some prominent historians, notably Niall Ferguson (2018, 82–9), have argued that society would never have achieved the prosperity of the industrial age without the benefit of double-entry bookkeeping. But while the accounting system that requires equal and corresponding entries for every item may have been just the ticket for nineteenth-century factories and shops, it is ill-equipped for the knowledge-based businesses driving the digital economy. Double-entry bookkeeping, as it is still practised today, cannot capture the intangible assets that drive all businesses, especially technology

companies such as Facebook, Google, Microsoft and Netflix. It does not give corporate leaders the real-time information they need to direct resources to the activities that society values most. Nor does it tell others with an interest in a company's success, such as employees, customers, suppliers, investors and regulators, whether the business is creating or destroying value for them. Finally, it is not terribly helpful in managing future risks and uncertainties.

If the accounting profession is to continue supporting economic prosperity and effective corporate governance in the information age, it must develop new tools better suited to our times. So far, it has lacked the mindset, training and taxation incentives to do so. Measuring intangibles would require new types of information, including non-financial information, for which there is currently little guidance or standards. Even if the profession develops these standards, it would not be enough. Today's users expect companies to shift their focus to long-term value creation for all stakeholders, rather than fixate on quarterly earnings and tomorrow's share price. The profession cannot accomplish such a massive task on its own. It needs active support from policy makers and regulators, investors, creditors, managers and directors.

A powerful force for change is emerging in the form of climate change. Existing accounting standards require companies to adjust their reporting to take account of new trends in society. The costs and benefits of net-zero climate emissions are an obvious candidate for inclusion. Such a change would force companies to develop strategies to deal with greenhouse gas emissions and to invest in technology, including intangible assets, to discharge their climate-change liabilities. Most companies would also want to recognize these investments, forcing the accounting profession to rethink its approach to recording intangible assets.

This paper aims to explain why the information economy requires a new approach to accounting. It examines how the profession can reshape existing accounting standards to help fill the information gap, while developing an entirely new approach to gathering and reporting financial and non-financial information. Finally, it recommends creating a coalition of stakeholders to chart the ways in which companies can create long-term value for all their stakeholders.

The Information Economy Is Different

We have entered a technology-driven economic revolution. As Jonathan Haskel and Stian Westlake point out in their book, *Capitalism without Capital: The Rise of the Intangible Economy*, “Early in the 21st century, a quiet revolution occurred. For the first time, the major developed economies began to invest more in intangible assets, like design, branding, R&D [research and development], or software, than in tangible assets, like machinery, buildings, and computers. For all sorts of businesses,...the ability to deploy assets that one can neither see nor touch is increasingly the main source of long-term success” (Haskel and Westlake 2018, back cover of paperback edition).

The intangibles economy is driven by ideas and information — in other words, intellectual property (IP). But intangibles encompass far more than the trademarks, patents and industrial designs that make up IP. They also comprise, for example, software, algorithms, customer data and relationships, goodwill and brand recognition. Although share prices are far from the perfect measure of a company’s value, recent trends in stock market valuations do indicate the magnitude of this shift. In 1975, intangible assets made up just one-sixth of the value of S&P 500 companies; today, they account for five-sixths of these companies’ value (see Figure 1). While the combined market value of Alphabet, Amazon, Apple, Facebook and Microsoft is more than US\$9.5 trillion, their tangible assets add up to less than five percent of that figure.¹

The result is that conventional financial statements based on “book value,” which is calculated on past transactions, now reflect less than 10 percent of a typical company’s value. As Warren Buffet wrote in his 2019 letter to Berkshire Hathaway shareholders: “Long-time readers of our annual reports will have spotted the different way in which I opened this letter. For nearly three decades, the initial paragraph featured the percentage change in Berkshire’s per-share book value. It’s now time to abandon that practice. The fact is that the annual change in Berkshire’s *book*

value — which makes its farewell appearance on page 2 — is a metric that has lost the relevance it once had” (Buffet 2019, emphasis added).

This is not the first time that Western capitalism has experienced such a shift, and each transition in the past has been accompanied by reforms in accounting theory and practice in response to the new environment. The first accounting revolution occurred in the fifteenth century, when society moved from a closed agricultural economy to a dynamic trading regime. The mercantilist model spawned new forms of capital, such as letters of credit. Medieval bankers (the Medicis, for example), accountants and investors reinvented themselves, creating a fresh suite of assets, such as inventories and receivables, with the help of the newly introduced concepts of Arabic numerals and double-entry bookkeeping (McGarvey 2016).

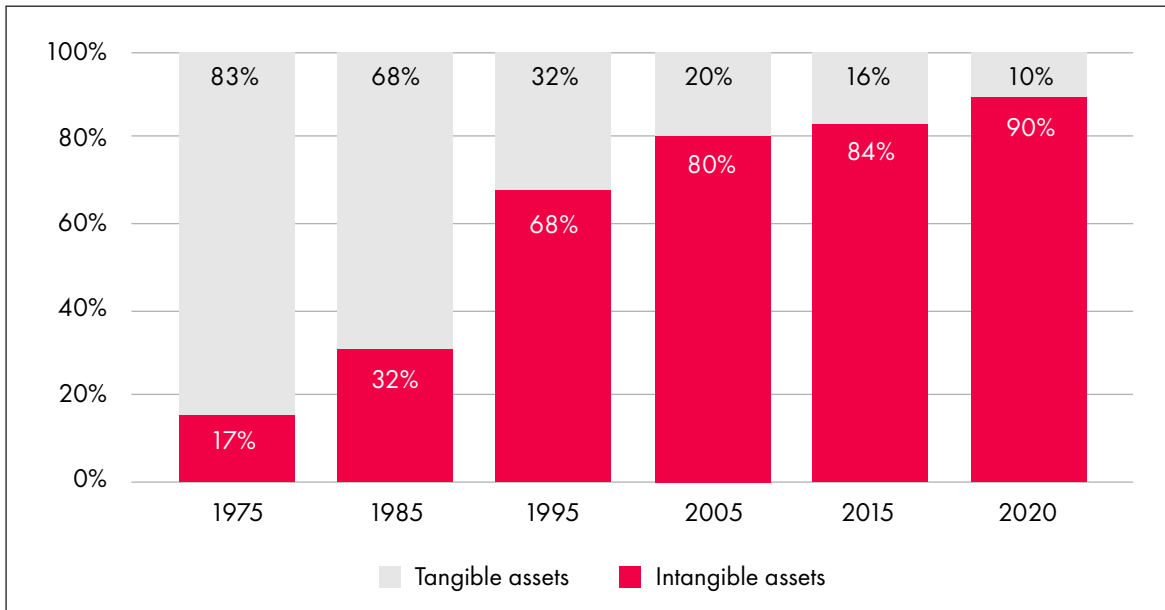
Then came the Industrial Revolution, starting in the late eighteenth century. Once again, the economy changed first, moving from home-based domestic manufacturing to a mechanical, factory-based industrial model. Soon, new institutional infrastructure emerged. Accountants created new asset classes in plant, equipment and machinery (that remain to this day), as well as industrial-oriented cost-accounting standards and procedures. Similarly, bankers devised more advanced and efficient capital markets.

Unfortunately, this financial reporting system, largely still in use today, does not reflect the value created (or destroyed) by the newly emerging class of intangible assets. It does not take into account the perspectives of stakeholders other than shareholders, nor does it provide the tools needed to allocate resources efficiently, or to manage uncertainty and risk. Accounting practices must adapt to provide this information so that everyone with a stake in the business’s success can make wise decisions based on the best possible information.

The good news is that one of the greatest challenges currently facing our planet — the climate crisis — could help trigger this badly needed shift.

¹ Market capitalization on November 10, 2021.

Figure 1: Components of S&P 500 Market Value



Source: Ocean Tomo (see www.oceantomo.com/intangible-asset-market-value-study/).

Changing the Mindset

Twenty years ago, at the turn of the twenty-first century, Wayne S. Upton, Jr., then chairman of the International Financial Reporting Standards (IFRS) Foundation's interpretations committee, famously said there is nothing new about the new economy. He went so far as to describe intangible assets as "old wine in new bottles" (Upton 2001). Accountants breathed a sigh of relief. Having emerged from the "dot.com" boom and bust, the Enron scandal and the demise of accounting giant Arthur Andersen, they figured they would have little trouble keeping abreast of the emerging digital economy by using the tried and trusted tools of double-entry bookkeeping.

Alas, such optimism has turned out to be misplaced. As noted earlier, the corporate giants of the digital age, such as Amazon, Facebook, Google and Microsoft, have some tangible assets, but their business is dominated by intangibles, such as human creativity, artificial intelligence, software, and digital products and services, whose full value is not reflected in their financial statements. As we now know, the new bottles are, in fact, full of new wine that needs proper identification, bookkeeping and the same responsible stewardship as any other asset.

The International Accounting Standards² (IAS) framework, the set of rules that guides accountants around the world, defines an asset as "a resource with economic value that an individual, corporation, or country owns or controls in the expectation that it will provide a future benefit" (IAS 1). This definition clearly encompasses the intangible assets driving the information economy. Yet the application of this framework has not kept pace with the dramatic changes in the global economy over the past 20–30 years.

The problem is not that accountants do not know how to measure intangible assets. IAS 36 spells out an approach (known as value-in-use) to valuing purchased intangibles to determine whether they are impaired. Likewise, IAS 38 provides guidance on how to recognize internally generated intangible assets and how to revalue them in a few specific situations. The real problem is that accountants have an *outdated view of economic reality*.

Rethinking Capital, a London, UK-based think tank, has been advising companies for the past 20 years on how to apply IAS 36 and 38, as well as the IFRS Foundation's conceptual framework to intangible

² See www.iasplus.com/en/standards/ias for a complete list of standards; see appendix for selected standards.

assets.³ It suggests using “normative” accounting rules. As described by Richard Mattessich in the 1950s, “normative accounting represents theories of accounting, often based on deductive logic and reasoning, that prescribe the accounting procedures and policies that should be followed rather than observing or describing those that are followed in practice” (Mattessich 1984).

Using this normative approach, Rethinking Capital applies the following principles:

- Intangibles are the assets that create and sustain value in today’s economy.
- Accounting practices systematically write off investments in intangible assets as expenses.⁴
- Depending on company size, 40–60 percent of expenditures over a three-year period could typically have been capitalized.
- Current accounting practice therefore substantially understates a business’s assets, equity and profitability.
- Properly capitalizing and reporting the current value of intangible assets based on actual customer demand will reflect their fair value.⁵

Rethinking Capital has concluded that with a shift in mindset, accountants can use existing standards and conceptual frameworks to value intangible assets. Rather than using the IFRS’s conservative “prudence” principle and IAS 36 and 38 only to write down impaired intangible assets, the profession can use the same value-in-use principles to recognize and continually revalue these assets. Since standards already exist for auditors using this methodology, it should not be difficult to extend them to cover intangible assets.

The “prudent” mindset is reinforced by the Income Tax Act, which already encourages companies to write off the costs of creating intangible assets to reduce their tax bill. This approach is

misguided because it reinforces the attitude that intangible assets have no value, when in fact they can be crucial for a company’s growth and competitive advantage. Given the key role of innovation in driving economic growth, it would surely make sense to rewrite the rules to encourage recognition of intangible assets. Although Canada’s national accounts record some intangible assets, a shift in accounting rules would provide a more accurate and favourable picture of the country’s ability to manage its debt.

Historically, accountants have managed to adjust their practices to accommodate shifting economic trends. According to historian Ananias Charles Littleton (1933, 362), “Accounting originated in known circumstances in response to known needs; it has evolved and grown in harmony with its surroundings; its changes can be explained in terms of forces current at the time.” The forces at work in 2021 are those driving the transition from the industrial economy of the nineteenth and twentieth centuries to a digital, knowledge-based economy. In other words, the time is ripe, if not overdue, for another series of adjustments.

The question is how the profession can once again integrate the new economic environment with companies’ record-keeping and operating systems. For a start, a good deal of training and retraining will be needed. The leaders of our profession would be wise to encourage colleagues to think differently about intangible assets and liabilities, in the process bringing a new lens to how companies create and commercialize these assets. This would be reinforced with the tax treatment.

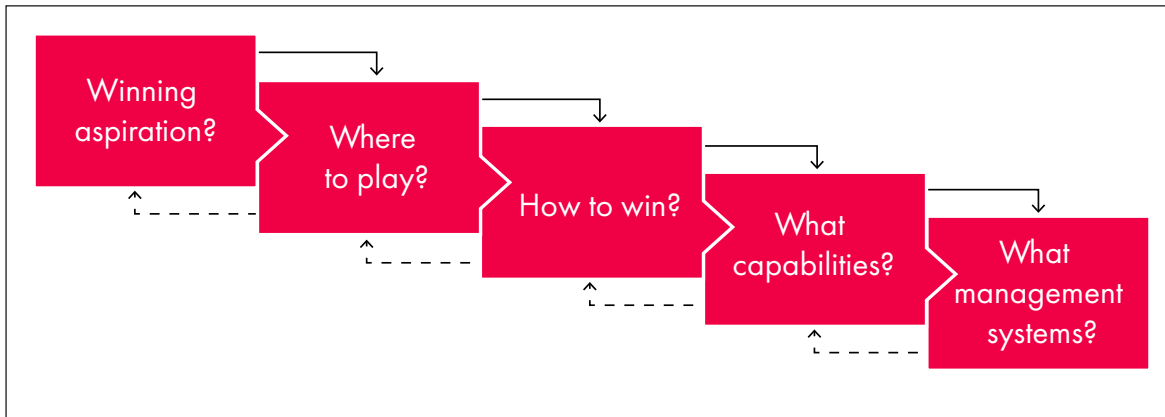
Given the importance to the global economy and the future of the accounting profession, it should not be difficult to make this adjustment. However, changing mindsets can be a frustrating and time-consuming process. Yet IAS 1 requires just that. According to this standard, if something is material, it must be disclosed. The 80–90 percent of value currently missing from most companies’ financial statements thus surely deserves urgent attention from the profession, whether by adapting existing accounting standards or creating new ones. Using existing accounting standards to begin integrating information about intangible assets, while developing new approaches to gathering and governing data and turning it into information for decision making using updated measurement and reporting standards, may be a good place to start.

3 Rethinking Capital is dedicated to advancing a new suite of normative theory applications in economics, accounting and governance to transition capitalism to the twenty-first century.

4 The system of national accounts for the Government of Canada, which initially considered investments such as R&D to be expenses, now capitalizes them. Statistics Canada is now working on valuing data as an asset. See www150.statcan.gc.ca/n1/pub/13-605-x/2019001/article/00009-eng.htm; see also Girard, Lionais and McLean (2021).

5 See www.rethinking-capital.org/.

Figure 2: The Strategy Choice Cascade



Source: Lafley and Martin (2013, 15).

Integrating Strategy and Accounting

Capital markets have moved quickly to give intangible assets the recognition they deserve. According to McKinsey & Company, 60 percent of net new capital came from private equity funds in 2019.⁶ Under the sway of strategy consultants and Harvard M.B.A.s, these investors have focused on the intrinsic value of their holdings by understanding a company’s purpose, strategy and business model, and evaluating its underlying assumptions. They do so by relying increasingly on non-financial data to measure and evaluate future revenue streams. In part, this approach is designed to compensate for the shortcomings of traditional financial reporting. To remain relevant, accountants must create measurement and reporting standards for this new approach.

Strategic modelling begins with a definition of strategy, described by Roger Martin, former dean of the University of Toronto’s Rotman School of Management, as a “cascade of choices” (see Figure 2).⁷ This approach assumes that “strategy is an integrated set of choices that uniquely

positions the firm in its industry so as to create sustainable advantage and superior value relative to the competition” (Lafley and Martin 2013, 14).

Martin argues in a 2020 Medium post that management systems, including performance metrics, are an important reality check on corporate strategy:

A company needs *management systems* that build and maintain the distinctive *capabilities* that underpin a unique how to win in the chosen *where to play* that meets its *winning aspiration*. If a strategy does not have specific management systems that serve the purpose of building and maintaining distinctive capabilities, then those capabilities either won’t get built in the first place or will deteriorate because they are not systematically maintained. Additionally, if the capabilities and management systems of an organization are entirely or nearly identical to those of competitors, its where-to-play and how-to-win choices will be replicated as soon as shown to be successful. Hence distinctiveness is a key attribute to management systems. Sameness in management systems is typically matched with sameness in capabilities which delivers competitive parity not competitive advantage. (Martin 2020, emphasis in original)

In other words, if the company’s internal accounting systems fail to provide the data necessary to determine if its strategy is creating

6 According to McKinsey & Company (2020, 5), private equity markets totalled US\$6.5 trillion on December 31, 2019, or eight percent of total public equity market capitalization. However, for the past decade, private markets have been growing at almost three times the rate of public markets.

7 This definition of strategy was developed by Martin and Monitor Group, a strategy consultancy founded by Harvard Business School professor Michael Porter and his colleagues and acquired by Deloitte.

the value expected, then the company is unlikely to be successful. Real-time access to information requires internal and external financial reporting systems to be aligned.

Many new-economy companies have learned this lesson. Singularity University's research into the 100 fastest-growing start-ups worldwide has identified a number of common traits among what it describes as "exponential organizations" (ExOs): "They all think big. They aspire to capture the imagination of everyone around them with their aggressive sense of purpose. Ideally, the company's massive transformative purpose...is so inspirational that a community forms around the ExO and spontaneously begins operating on its own, ultimately creating a new culture" (Meredith 2020, 133). However, ExOs need a way to measure and manage themselves given the huge amount of data now available from their customers and employees. One way of doing that is to create a real-time, adaptable dashboard containing all essential company and employee metrics, accessible to everyone in the organization. This trove of data can provide the answers to two questions: Where do we want to go and how will we know when we're getting there? In other words, these companies are using new sources and new standards to report on value creation.

But where are the accountants when it comes to determining whether a company is creating long-term value for its stakeholders?⁸ Businesses have expressed frustration over the lack of harmonized standards, and investors are joining the discussion. As a result, a movement has gathered pace to bring some uniformity to the array of non-financial reporting standards that have emerged in recent years. Several groups are searching for a solution. One is the Corporate Reporting Dialogue, a platform convened by the Value Reporting Foundation that aims to promote greater coherence, consistency and comparability between corporate reporting frameworks. Talks are also taking place within the European Union, with the goal of harmonizing European reporting requirements, possibly in the form of a European standard for environmental, social and governance (ESG) data.

Elsewhere, the IFRS Foundation, after merging with the Value Reporting Foundation and the Climate Disclosure Standards Board, updated its Practice Statement Management Commentary and provided prototype disclosures of factors affecting companies' long-term prospects. The IFRS recently began consultations to gauge market views on a global standard for sustainability reporting. An exposure draft based on these consultations is due in early 2022. While a harmonized set of rules is still some way off, these are encouraging developments, indicating that at least some members of the accounting profession are eager to embrace the future.

The Future of Accounting: Real-Time Value Streams

The various initiatives the author has described so far — recognizing intangible assets, integrating strategy and accounting, improving non-financial metrics, and harmonizing the various approaches to sustainability or ESG reporting — are all steps in the right direction. But welcome as these steps may be, this piecemeal approach does not reflect the underlying shifts in the economy. Under current accounting rules, only the historical cost of creating an asset, not its expected value, would be recognized. Non-financial metrics would not be integrated into the financial models that underpin a company's strategy. And current ESG reporting reflects only the downside risk, not the upside opportunities created through innovative solutions to these challenges. Finally, this piecemeal approach does not give corporations, their managers, directors and stakeholders the information they need to deal with the two biggest challenges: maximizing long-term stakeholder value and managing strategic risk (Meredith, forthcoming 2022).

Over the past two decades, CPA Canada has been developing an integrated approach to reporting future value-creation streams that would address the shortcomings mentioned above. This would recognize value creation as the process by which an organization creates the potential for two currently unfamiliar concepts: first, revenue and net income that will be realized in the future; and, second,

⁸ Accountants in Canada responded quickly to the need for real-time financial and non-financial performance indicators. In March 2019, Chartered Professional Accountants of Canada (CPA Canada) produced the Framework for Reporting Performance Measures.

future benefits for the organization's stakeholders. The value creation process typically includes innovation, R&D, manufacturing, service delivery, individual training, capability development, enhancing sustainability, and making a positive contribution to local communities and society at large, among other activities (McLean 2020).⁹

Value creation differs from value realization. Value realization is the process by which an organization and its stakeholders realize previously created value through purchase and sale transactions with third parties. The focus of the accounting profession up to now has been on measuring value realization based on how it benefits or hurts shareholders. Value is realized as transactions generate revenues, and costs are offset against revenues to calculate profits or net income. But as Figure 3 shows, this model has significant shortcomings in enabling wise decisions. It focuses on past transactions, does not recognize internal transactions (such as those involved in generating intangible assets), takes no account of externalities such as the impact on the environment, and makes no allowance for the expectations of stakeholders other than shareholders.

Recording intangible assets using current accounting standards would capture some of the missing pieces but would still take no account of the future benefits to investors, customers, suppliers, employees and the communities in which the business operates. Clearly, we need a new model that reflects future value creation and recognizes the immense value of intangible assets in today's economy.

As we look ahead, the way in which companies create value will continue to evolve. Business success will hinge on creating value for all stakeholders, not just shareholders. Organizations will increasingly have to address expectations related to their sustainability and their social and environmental impact. Technological change will continue to disrupt traditional ways of operating. In combination, these factors require organizations to rethink their purpose, strategy, business model, operations, risks and opportunities. Yet no business can do that without suitable management and accounting systems.

Businesses in the information age are far more complex and interconnected than the distinct manufacturing, distribution and service companies that dominated the economy in the nineteenth and twentieth centuries. Nowadays, a variety of stakeholders determine what data companies can use and how they use it. As well, these diverse groups, ranging from employees to customers and governments, expect businesses to create value that matches their various priorities, rather than make shareholders their sole focus. As discussed in the International Integrated Reporting Framework, sustainability requires value to be created in each of six categories: financial, human, intellectual, natural, social and manufactured. In other words, businesses in the information age must think in 360-degree terms. The information economy will not function effectively without measurement, assurance and clear accountability to key stakeholders. What is more, ethical behaviour on the part of the accounting profession and management will be critical in creating trust.¹⁰

Any attempt to measure value creation in the information age must begin with Peter F. Drucker's seminal 1994 *Harvard Business Review* article titled "The Theory of the Business." Drucker identifies three assumptions that determine the nature of any business: first, assumptions about the environment in which the organization operates, notably society and its structure, the market, the customer, regulations and technology; second, assumptions about the organization's specific mission or purpose; and third, assumptions about the core competencies needed to accomplish the organization's purpose.

As Drucker sees it, the assumptions about environment define what a business is paid for. The assumptions about purpose define what a business considers to be meaningful results; in other words, how it envisions making a difference in the economy and in society at large. Finally, the core competencies define where an organization must excel to maintain leadership. Not surprisingly, Drucker's theory aligns closely with Martin's "cascade of choices" approach to strategy development discussed earlier.

Any company hoping to succeed in the information age must be rooted in Drucker's

⁹ In 1998 and 2005, the Canadian Institute of Chartered Accountants published papers describing value creation decisions and measurement.

¹⁰ One example of these new disclosures is the Embedding Project, a global public-benefit research project that helps companies embed social and environmental factors across their operations and decision making.

Figure 3: Traditional Accounting Is Incomplete

Focus	Reporting audience	Measurement objects	Measurement framework			
	Stakeholders/ society	Externalities	Future value streams			
		Assets created through internal transactions				Normative accounting for internally created intangibles
	Shareholders/ capital markets	External third-party transactions				Traditional transaction-centric accounting paradigm
Internal decision makers						
Time frame			Past	Present	Future	

Sources: CPA Canada and the author.

theory. It must shift its focus from hindsight to foresight, or from relying on past transactional data as the principal object of measurement to ensuring that all relevant aspects of future value creation (and destruction) are accounted for and communicated to boards, management and external stakeholders. To calculate expected future value streams, accountants must venture into some unfamiliar territory. They need to consider the company’s purpose, as well as its strategy for achieving that purpose, the assumptions that underpin the strategy, and the business model that aims to create value for all stakeholders.

When accountants get around to doing this, financial reporting will change dramatically. Instead of 100 pages of financial statements and notes, each company will produce a narrative outlining how it applies Drucker’s three assumptions. This integrated report will describe the environment (not just the physical environment) in which the business operates. It will outline the business’s purpose and its strategy for where it will play and how it will win. It will spell out the competencies that the business needs and how it is building them. Finally, it will contain management’s best estimates of the value streams that the business expects to generate many years into the future.

The most sophisticated companies will test their assumptions using alternative scenarios for their sector. According to Peter Schwartz

(1991, 3), a former head of strategic planning at Royal Dutch Shell, “Scenarios are stories about the way the world might turn out tomorrow... that can help us recognize and adapt to changing aspects of our present environment.” Corporate managers and their accountants will spell out these scenarios, determining the implications of each for their industry, and identifying assumptions they have made that may range from certain to highly uncertain. They will then model the future value that can realistically be created under each scenario. Armed with this information, boards and senior management will be far better placed than they are now to take their companies purposefully into the future.

The information described above will also help markets function more efficiently. Investors and analysts can thoroughly evaluate management’s assumptions about the environment, the corporation’s purpose and strategy, and its ability to deliver the expected results. If they disagree with management’s assessments, the model can be rerun using different assumptions. Stress testing the impact of different estimates in this way will enable shareholders and creditors to determine more clearly the risks involved in their investment.

Climate Change as a Catalyst

Climate change is a pressing global issue that requires as much attention from accountants as from political and business leaders. The Supreme Court of Canada noted in a landmark judgment earlier this year that “the threat of climate change is so great that it demands a co-ordinated national approach” (Tasker 2021). That surely includes the accounting profession. IAS 1 undoubtedly requires that climate-related constructive liabilities be recorded not only when laws or government regulations change, but also when society’s attitudes shift, as they certainly have in recent years.¹¹

Accountants’ obligation is clearly recognized in IAS 37, which mandates companies to recognize a liability not only when it is legally required, but also when shifts in public opinion create a likely obligation.¹² There is little doubt that issues related to climate change fit this definition, given the impact of extreme weather events on businesses and communities around the world in recent years. If companies were required to record these liabilities and disclose their plans for discharging them, they would no doubt also want to report as assets the investments they make toward combatting climate change. Many of these investments would likely be intangible assets, such as development of substitute products or manufacturing processes.

Regulators are now giving every indication that they intend to change the rules for climate-change reporting. Among other initiatives, the US Securities and Exchange Commission has

created a task force to examine ESG issues. It has also named a climate “tsar” and promises to “enhance its focus” on climate-related disclosures for listed firms. Authorities in several other countries, such as Canada, New Zealand, Switzerland and the United Kingdom, have also moved to mandate climate-related disclosure.¹³ As *The Economist* (2021) has noted: “The flurry of rulemaking stems from a concern that climate change poses a threat to financial stability. Whether this is true or not is hard to say. The data are shoddy and climate-risk reporting is largely voluntary. Firms tend to cherry-pick the most flattering numbers and methodologies. The reporting seldom reveals anything about a firm’s risk in the future — which is where the financial threats from climate change mostly reside.”

Much attention is focused on the Task Force on Climate-Related Disclosures set up in 2015 by the Financial Stability Board (FSB) and spearheaded by former Bank of England and Bank of Canada Governor Mark Carney. The task force has already recommended disclosures under four headings: governance, strategy, risk management, and metrics and targets. The standard would require information about firms’ future plans, including “scenario analysis” in which a company’s strategy is tested against possible future outcomes such as rising temperatures and higher fossil-fuel prices.

Laudable as these initiatives may be, this piecemeal approach will not resolve the fundamental problem. As noted in a press release for the Global Solutions Summit in Berlin, Germany, in May 2021: “The current system of corporate reporting also needs to be overhauled if the world is to attain climate goals, as a business wanting to implement a net zero strategy today is likely to be dissuaded by concerns over the company’s share price” (Wingate 2021). Rethinking Capital’s Robert McGarvey went on to say in the same press release, “We have a situation where doing the right thing, investing heavily in net zero transition is penalized...and on the other hand doing nothing or doing the minimum possible is rewarded” (quoted in *ibid.*).

11 The IFRS Conceptual Framework for Financial Reporting (in paragraph 2.12, see www.ifrs.org/issued-standards/list-of-standards/conceptual-framework/) notes that financial statements should faithfully represent the substance of economic phenomena (not just legal form). Indeed, IAS 1.17 states that fair presentation goes beyond compliance with IFRS. Entities must also apply judgment in preparing financial statements (where specific guidance is not given in IFRS) as well as provide additional disclosures to enable users of the financial statements to disclose where it believes that after compliance with IFRS, the financial statements would be so misleading that they would conflict with the overall objective of providing useful information.

12 IAS 37 introduces the idea of “constructive obligation,” an obligation that derives from an entity’s actions including best practices, published policies or sufficiently specific statements made by the company, creating a valid expectation that the company will discharge the obligation (see Appendix).

13 Canada is participating in a global initiative through the Canada Climate Law Initiative. The initiative’s mission is to ensure Canadian directors and trustees understand their fiduciary obligations with respect to climate change, and have access to resources to help them govern with confidence in the area of climate-related financial risks and opportunities.

CPA Canada Cannot Do It Alone

In May 2019, CPA Canada issued its report on phase one of the Foresight Project, a wide-ranging consultation process to assess how the accounting profession can best adjust to the far-reaching changes taking place around it. Since publication of the report, titled *The Way Forward: Turning Insights into Actions*, the profession has worked to define internal control and assurance standards for data governance, and to develop a new measurement and reporting model for future value creation. It has also come up with a new set of competency standards for its members that reflect the changed requirements of the information age. However, CPA Canada's governance structure, under which all 13 provinces and territories must agree on any major initiative, hampers its ability to move forward.

Deputy Prime Minister and Finance Minister Chrystia Freeland took an important step forward in August 2021 when she wrote to the IFRS Foundation, expressing the Canadian government's support for the proposed International Sustainability Standards Board (ISSB) and inviting the foundation to locate the new body's headquarters in Canada. The ISSB will develop global sustainability standards to address the need for more consistent, comparable and decision-useful reporting on climate change and other ESG factors. More than 60 large corporations, trade associations and other organizations have pledged to support this initiative. Although Frankfurt, Germany, was chosen for the headquarters, Canada will be home to one of the ISSB's main offices.

The business sector's enthusiasm for the ISSB project marks a critical step forward given that the accounting profession will not be able to transform itself without help from users and regulators. For at least the past two decades, institutional investors and other users of financial statements have been trying to drive home the message that current accounting practices are ill-suited to the knowledge economy and must adapt. They have set up numerous international initiatives to move the process along, including the Integrated Financial Reporting Council, the Value Balancing Alliance, the Global Steering Group for Impact Investment and several others. None

of these groups, however, has so far paid much attention to new asset classes, developing an effective measurement model, or creating related assurance and reporting standards. Fortunately, as this paper has noted, the profession does not have to dig very deep to find solutions, provided it goes back to first principles, starting with the definition of an asset and the recognition of a liability.

Missing up to now has been a forum that can bring the various interested parties together to devise a new system of measurement and reporting. The accounting profession has the knowledge, frameworks and processes to create accounting and assurance standards for the information age. What we need now is a coalition of champions of change — managers, directors, policy makers, regulators, investors and bankers — who will come together to create a system better suited to the twenty-first century. To quote an adage: "What gets measured, gets managed."

Conclusion

In the author's opinion, there are six specific actions, which, if supported by Canada's Department of Finance, could move us decisively forward:

- Set up a task force of accounting experts from all walks of life to devise and implement a measurement and reporting system that will take Canada from the industrial age to the information age.
- This group's first priority would be to refresh existing accounting and assurance standards to record internally generated intangible assets. This exercise would reduce the gap between book value and market or intrinsic value. To repeat Buffet's sage 2019 observation, "Book value...is a metric that has lost the relevance it once had."
- Amend the Income Tax Act to encourage investment in intangible assets, rather than incentivizing companies to minimize their tax burden by writing off expenditures, such as R&D costs. Other changes would also be needed to align tax legislation with the new economic reality.

- Within each company, immediately start to articulate the “theory of the business” and to estimate future value streams.¹⁴ Management should begin periodically disclosing the company’s purpose, strategy and underlying assumptions, using real-time, key performance indicators to monitor actual results versus management’s estimates. The author anticipates that most businesses will take at least a decade to transition to real-time future value streams reporting.
- Test the business for sensitivity to various assumptions and alternative scenarios, as outlined by Drucker. This is the only way to navigate uncertainty or strategic risk, which is defined by Porter as how poorly a strategy will perform if the wrong scenario occurs.
- As a practical application, require companies to record their climate-change obligations, describe the actions they are taking to mitigate environmental and societal risks, and track the impact of the initiatives they have put in place to mitigate those risks.

These actions would go a long way toward ensuring that companies and non-profits have the information needed to survive and prosper in the digital age. Without them, they will be trying to move forward while looking in the rear-view mirror. With gradually improving information, all those responsible for steering businesses in the right direction — boards of directors, government policy makers, managers, investors and bankers — will be able to allocate resources more efficiently, meet multiple stakeholder expectations and keep risk to a minimum.

All these parties have their work cut out. As mentioned above, the author estimates that it will take about 10 years to complete the transition to a future-oriented, real-time value creation system of measurement and reporting. The task force proposed by the author would need this time to get to grips with methods and standards

unfamiliar to many of its members. It will need to work with a wide cross-section of accountants and other interested parties to ensure that directors and external stakeholders have the information they need for effective decision making.

As Ferguson has suggested, an updated accounting system is key to economic prosperity and sustainability in the information age. The author has little doubt that the job can be done and that, once it is, all those involved in corporate accounting will reap enormous benefits.

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¹⁴ According to Drucker (1994), there are four specific requirements for the theory of the business: First, the assumptions about the environment, purpose and core competencies must fit reality. Second, the assumptions in all three areas have to fit one another. Third, the theory of the business must be known and understood throughout the organization and by its stakeholders. Fourth, the theory of the business must be tested constantly. It is not engraved on tablets of stone; it is a hypothesis. And it is a hypothesis about things that are in constant flux: society, markets, customers, suppliers, technology and governments.

Appendix: Selected IAS

According to IAS 36,¹⁵ value in use is the present value of the future cash flows expected to be derived from an asset or cash-generating unit.

30 The following elements shall be reflected in the calculation of an asset's value in use:

- (a) an estimate of the future cash flows the entity expects to derive from the asset;
- (b) expectations about possible variations in the amount or timing of those future cash flows;
- (c) the time value of money, represented by the current market risk-free rate of interest;
- (d) the price for bearing the uncertainty inherent in the asset; and
- (e) other factors, such as illiquidity, that market participants would reflect in pricing the future cash flows the entity expects to derive from the asset.

31 Estimating the value in use of an asset involves the following steps:

- (a) estimating the future cash inflows and outflows to be derived from continuing use of the asset and from its ultimate disposal; and
- (b) applying the appropriate discount rate to those future cash flows.

32 The elements identified in paragraph 30(b), (d) and (e) can be reflected either as adjustments to the future cash flows or as adjustments to the discount rate. Whichever approach an entity adopts to reflect expectations about possible variations in the amount or timing of future cash flows, the result shall be to reflect the expected present value of the future cash flows, ie the weighted average of all possible outcomes.

Appendix A provides additional guidance on the use of present value techniques in measuring an asset's value in use.

IAS 37¹⁶ defines constructive obligations and notes when provisions (including constructive obligations) should be recognized as liabilities:

10 A constructive obligation is an obligation that derives from an entity's actions where:

- (a) By established pattern of past practice, published policies of sufficiently specific current statement, the entity has indicated to other parties that it will accept certain responsibilities; and
- (b) As a result, the entity has created a valid expectation on the part of those other parties that it will discharge those responsibilities.

14 A provision shall be recognized when:

- (a) an entity has a present obligation (legal or constructive) as a result of a past event;
- (b) it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation; and
- (c) a reliable estimate can be made of the amount of the obligation.

If these conditions are not met, no provision shall be recognized.

¹⁵ See www.ifrs.org/content/dam/ifrs/publications/pdf-standards/english/2021/issued/part-a/ias-36-impairment-of-assets.pdf.

¹⁶ See www.efes.group/wp-content/uploads/2018/11/ias37_en.pdf.

IAS 38¹⁷ also provides guidance on capitalizing development costs for internally generated intangible assets (as well as subsequent revaluation):

57 An intangible asset arising from development (or from the development phase of an internal project) shall be recognised if, and only if, an entity can demonstrate all of the following:

- (a) the technical feasibility of completing the intangible asset so that it will be available for use or sale.
- (b) its intention to complete the intangible asset and use or sell it.
- (c) its ability to use or sell the intangible asset.
- (d) how the intangible asset will generate probable future economic benefits. Among other things, the entity can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset.
- (e) the availability of adequate technical, financial, and other resources to complete the development and to use or sell the intangible asset.
- (f) its ability to measure reliably the expenditure attributable to the intangible asset during its development.

75 After initial recognition, an intangible asset shall be carried at a revalued amount, being its fair value at the date of the revaluation less any subsequent accumulated amortisation and any subsequent accumulated impairment losses. For the purpose of revaluations under this Standard, fair value shall be measured by reference to an active market. Revaluations shall be made with such regularity that at the end of the reporting period the carrying amount of the asset does not differ materially from its fair value.

¹⁷ See www.ifrs.org/content/dam/ifrs/publications/pdf-standards/english/2021/issued/part-a/ias-38-intangible-assets.pdf.

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