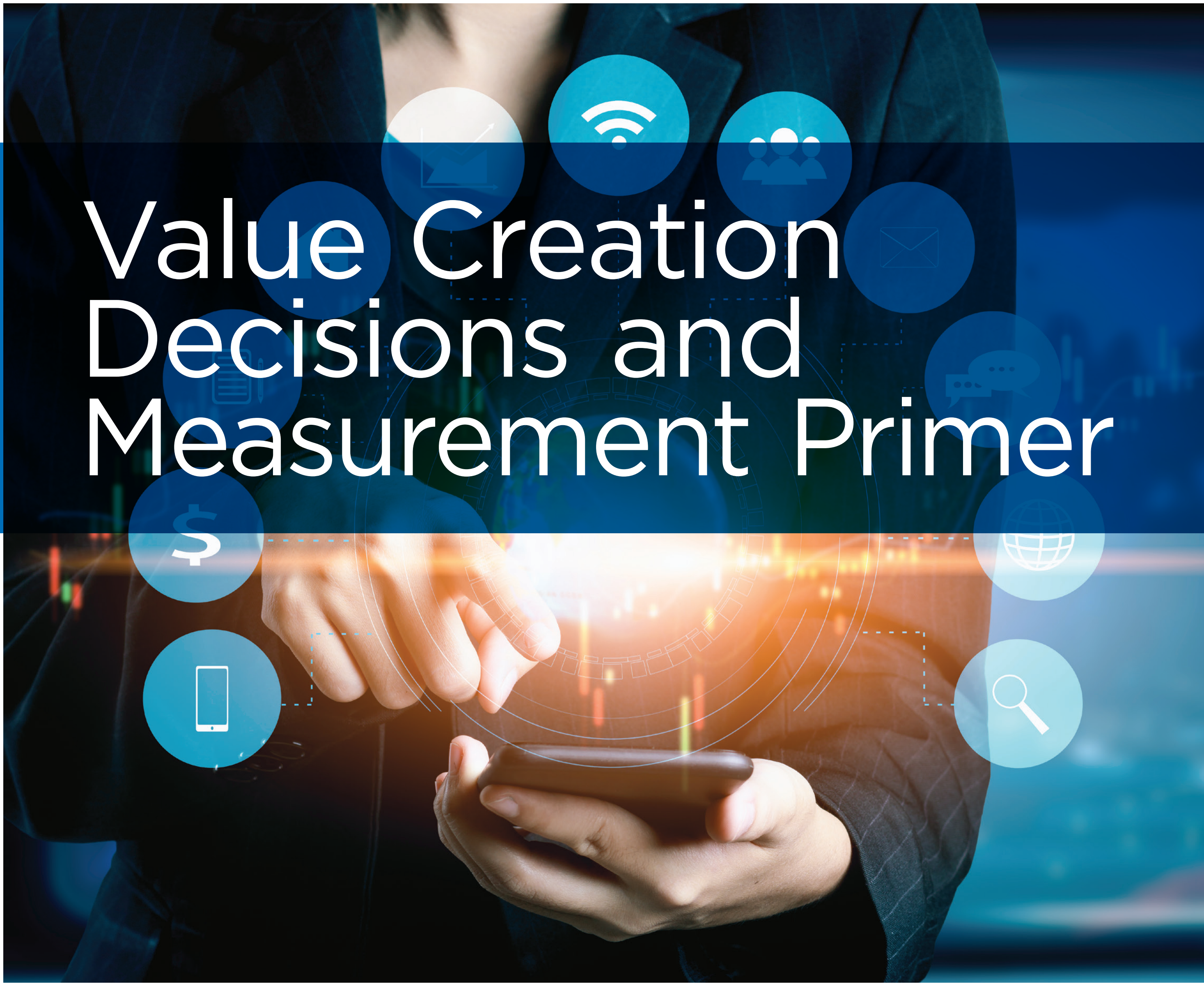
CHARTERED PROFESSIONAL ACCOUNTANTS CANADA

Value Creation Decisions and Measurement Primer



February 2020

CPA Canada Foresight

REIMAGINING THE PROFESSION.

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ABOUT CPA CANADA

Chartered Professional Accountants of Canada (CPA Canada) represents the Canadian accounting profession, both nationally and internationally. Operating in the highly complex and global accounting eco-system, CPA Canada is a convener, facilitator, contributor and disseminator of information that advances the profession. The organization works closely with the provincial, territorial and Bermudan CPA bodies to champion best practices that benefit business and society. With more than 217,000 members, CPA Canada is one of the largest national accounting bodies in the world. The organization supports the setting of accounting, auditing and assurance standards, advocates for economic and social development in the public interest, and develops leading-edge thought leadership, research, guidance and educational programs. cpacanada.ca

CPA Canada would like to thank the principal author of this document, Rob McLean, MA, FCPA, FCA.

About the Value Creation Decisions and Measurement Project

CPA Canada has initiated a Value Creation Decisions and Measurement Project to explore ways in which the CPA Profession could transform itself to include a strong focus on value creation as advocated by *The Way Forward*.

The Way Forward is a report that presents findings from phase one of CPA Canada's strategic initiative Foresight: Reimagining the Profession—a multi-stakeholder consultation that challenges the status quo and looks at what the future could hold in a rapidly changing business environment.

The objectives of this project are:

- to gather insights into the suite of knowledge, skills, capabilities, attributes, and tools a CPA will need to possess to contribute to value creation decision-making and strategy development in the future, and
- to advance new ways of thinking about value creation and explore and test new value creation measurement approaches that offer insights into the range of factors that promote and inhibit optimal results and outcomes.

1. Objective of this Primer

This primer is intended to provide a common understanding of the term "value creation" and introduce some fundamental concepts and definitions underpinning the value creation work we are exploring. This primer will be updated and expanded periodically as the Value Creation Decisions and Measurement Project continues.

2. What is Value Creation?

Value creation can be defined as the process by which an organization creates the potential for:

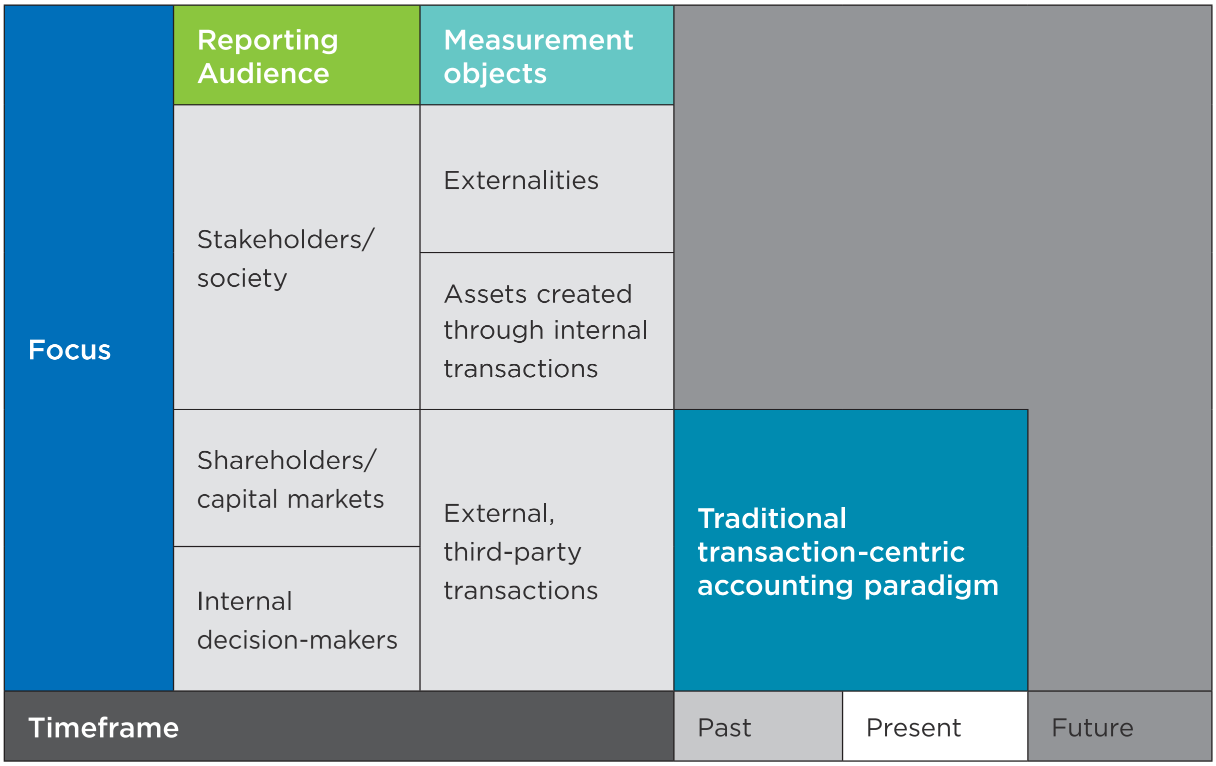
a) revenue and net income that can be realized in the future, and/or
b) future benefits for the organization's stakeholders.

The value creation process may include activities such as innovation, research and development, manufacturing, service delivery, training, capability development, enhancing sustainability, and working toward positive societal and community impacts, among others.

3. What is Value Realization?

Value realization is the process by which an organization and/or its stakeholders realize previously created value through transactions with third parties. The traditional focus of the CPA profession has been measuring value realization based on these transactions from a shareholder perspective. In the traditional transaction-centric accounting paradigm, value is realized as revenue transactions occur, and costs are matched with revenue to calculate profits or net income.

The diagram below depicts the limited scope of the traditional transaction-centric accounting paradigm for decision-making, which focuses on past transactions, does not recognize internal transactions (such as those involved in generating intangibles) and does not reflect externalities.



4. Why is Value Creation important to CPAs?

CPAs play key roles in organization decision-making about value creation, and typically lead the process by which organization success is measured.

As we look ahead, the context in which value creation takes place is changing for several reasons:

- Success requires creating value for all stakeholders, not just shareholders
- Organizations must increasingly address expectations related to sustainability and social impact
- Technological change continues to disrupt traditional ways of operating

In combination, these factors require organizations to rethink their mission, vision, culture, values, strategy, business models and operations.

These factors also make it clear that the traditional framework for reporting financial results to shareholders is no longer adequate.

CPA Canada is committed to helping CPAs:

- Strengthen their ability to play a leadership role in helping organizations make strategic decisions about the value creation challenges of the future
- Make appropriate adaptations to measurement and reporting functions to meet stakeholder expectations and support internal decision-making about value creation

5. What directions are being explored internationally?

Given the forces driving change in value creation business models, and the shortcomings of traditional financial statements with respect to value creation, in recent decades, various organizations have launched initiatives aimed at enhancing decision-making, disclosure and other purposes.

Examples of these initiatives include:

Embankment Project for Inclusive Capitalism (EPIC). Formed in June 2017 by EY UK and the Coalition for Inclusive Capitalism, this initiative aims to identify and create new metrics to measure and demonstrate long-term value to financial markets. EPIC builds on previous work by EY. In 2018, EY UK released its report *Is everything that counts being counted? Building a new perspective on value creation for all.*

FCLTGlobal. This non-profit encourages a longer-term focus in business/investment decision-making via practical tools and approaches to support long-term behaviour across the investment value chain.

Forum for the Future. This non-profit works with businesses, governments and civil society to accelerate the shift toward a sustainable future. Its Five Capitals Model prompts entities to rethink the resources and relationships on which they rely.

FSG Shared Value Initiative. FSG is a consultancy co-founded in 2000 by Harvard Business School's Michael Porter and Mark Kramer. FSG advises organizations on strategies for creating social impact.

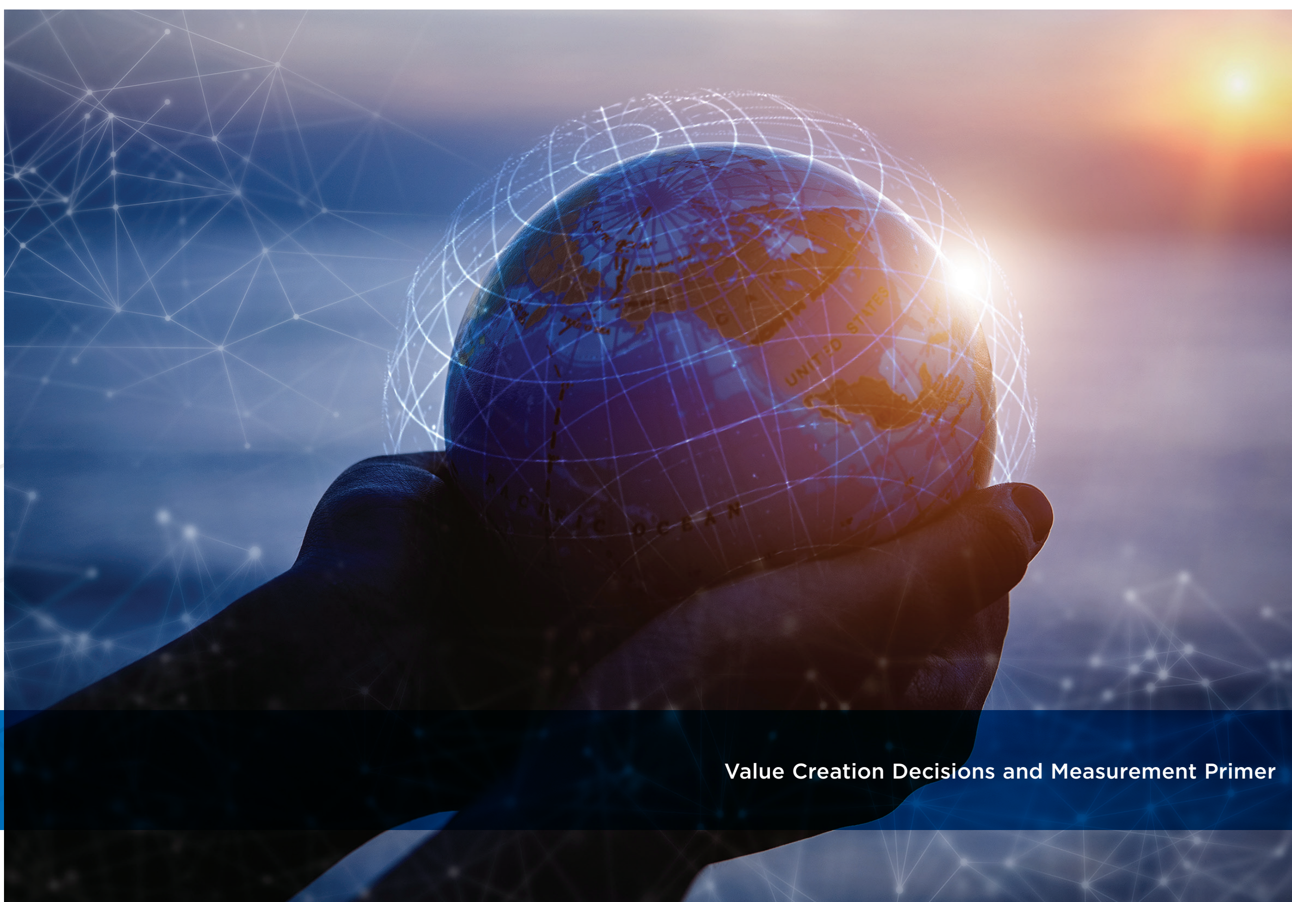
Global Steering Group for Impact Investment (GSG). GSG's Impact Weighted Accounts Initiative aims to accelerate the practice of considering social and environmental factors alongside financial performance in corporate management and investment decision-making.

Impakt. Founded in 2001, Toronto-based B Corp Impakt helps corporations transition from corporate social responsibility as a cost centre to create opportunities to help solve social problems and profit from doing so. For non-profit organizations, it develops new sources of revenue that align with their social purpose.

International Integrated Reporting Council (IIRC). Formed in 2010, the IIRC is a global coalition of regulators, investors, companies, standard setters, the accounting profession and non-governmental organizations. Through its International Framework, the IIRC promotes communication about value creation as the next step in corporate reporting.

Value Balancing Alliance. Newly formed, the Alliance aims to create a standardized model to measure and disclose the environmental, human, social and financial value companies provide.

WBCSD's Redefining Value. Redefining Value helps companies measure and manage risk, gain competitive advantage and seize new opportunities by understanding ESG information.



The following chart summarizes the primary operational and topical focus for each initiative.

Initiative	EPIC	FCLT Global	Forum for the Future	FSG Shared Value	Global Steering Group for Impact Investment	Impakt	International Integrated Reporting Council	Value Balancing Alliance	WBCSD Redefining Value
Primary operational focus									
Capital markets reporting	✓						✓		
Stakeholder reporting								✓	✓
Executive decision-making / corporate behaviours		✓	✓	✓			✓	✓	✓
Impact investment					✓	✓			
Primary topical focus									
Value creation / long-term value	✓	✓					✓	✓	
Sustainability / ESG			✓						✓
Social impact				✓	✓	✓			

To the extent to which these initiatives deal specifically with value creation, they generally address factors such as the following:

- **Foundation:** The organization's purpose, vision, mission, and related values, culture and structure
- **Context:** The factors influencing the organization's strategy, including market forces, key stakeholders, risks and opportunities, regulatory environment, and technological change
- **Business model:** The fundamental means by which the organization aims to create value
- **Results:** Performance, outcomes and impacts arising from the organization's efforts to create value

All of these initiatives suggest information and metrics that could provide insights into various aspects of an organization's value creation process and capabilities, and it is highly worthwhile for CPAs to become familiar with them. Many have been the subject of CPA Canada publications. As the Value Creation Decision and Measurement Project proceeds, we will be providing CPAs with additional insights and resources on these and other initiatives.

However, none of these initiatives seek to directly measure value creation in a quantitative matter, analogous to the way in which traditional accounting measures value realization.

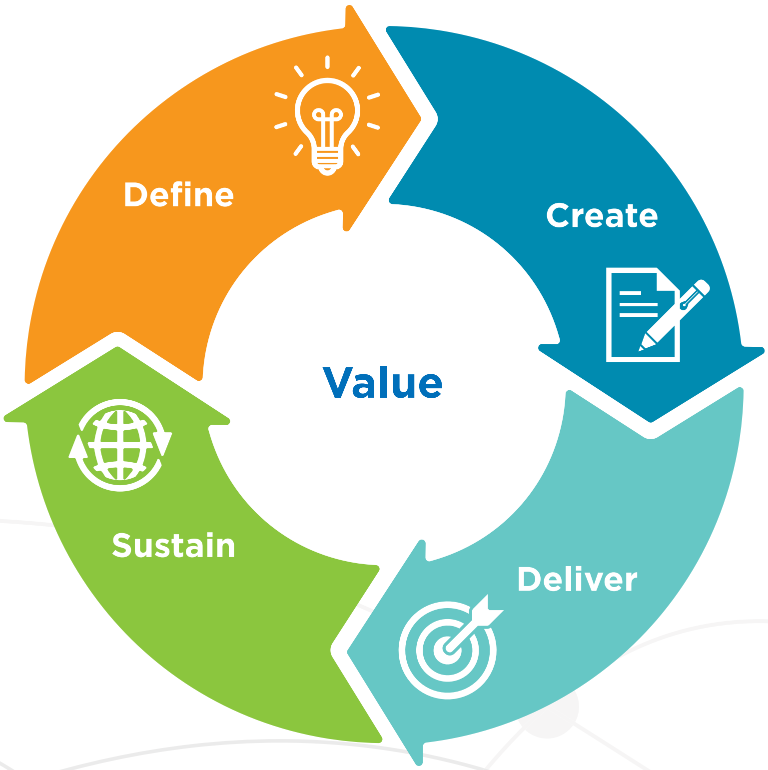
6. What roles should CPAs be playing in value creation?

A recent article from the International Federation of Accountants (IFAC) advocates that CFOs should evolve their roles so as to act as the "Chief Value Officer" (CVO) in their organizations. According to IFAC:

"The CVO role must ensure that all relevant aspects of value creation and destruction are accounted for and communicated to boards, management, and external stakeholders. To achieve this, the CVO will require deep knowledge and insights about the business to inform discussions on purpose, values and strategy, risks and opportunities, the business model, and relevant resources or capitals that the business depends on or affects."

To support this role, IFAC is developing an "integrated value creation approach" focused on:

1. Defining value
2. Creating value
3. Delivering value
4. Sustaining value



In addition to the recent Foresight initiative, in recent years CPA Canada has highlighted a variety of documents, webinars, and other resources related to the CPAs role in value creation. Many of these can be accessed via searches on CPA Canada's website for value creation and value disclosure.

Looking forward, in 2020 and beyond, CPA Canada's Value Creation Decisions and Measurement Project will explore how value creation measurement can become an integral component of IFAC's and similar value creation frameworks.

7. Can the traditional transaction-centric accounting paradigm measure value creation?

No, because inherently, value creation takes place in advance of its realization through transactions. The reliance on transactional data as the principal object of measurement is arguably the greatest strength of traditional accounting (provides for reliability and objectivity), but simultaneously its greatest limitation.

8. Could there be a value creation measurement paradigm that would enable the CPA profession to play a strong role in measuring value creation in parallel with the profession's traditional value realization focus?

We believe so: exploring viable approaches for value creation measurement, and the related roles of CPAs, is a major focus of CPA Canada's Value Creation Decisions and Measurement Project. This project is a direct response to the challenges explored in CPA Canada's Foresight initiative, as documented in *The Way Forward*.

9. Why should CPAs care about measuring value creation in quantitative terms?

There are many decision contexts in which value realization measurement is inadequate.

As an extreme example, consider the case of a start-up that is in the development phase, and has not yet recorded any revenue. The traditional financial statements will record only losses. But is it reasonable to assume as a result of these financial losses that the organization is not creating any value that can potentially be realized in future? Obviously not. In the context of this start-up, decision-makers evaluating the performance of the management team need a way of measuring the performance of the organization in creating value.

Apart from start-ups, in most organizations, value creation and value realization happen in parallel. Value realization is measured through traditional financial reporting. Value creation is generally not measured systematically.

10. What decisions would be informed by quantitative value creation measurement?

Examples of decisions that would be informed by quantitative value creation measures include:

- How much should we invest in technology *A*?
- Would it be worth investing an incremental $b to accelerate the launch of product line *C* by *d* months?
- If we can afford to invest $*e* in R&D, what projects should we focus on?
- How much should we be willing to invest to reduce energy consumption by *f*%, thereby achieving GHG reductions of *g*?
- What would be the long-term incremental benefits of investing $*h* in training, to enhance employee satisfaction by *i*% and achieve an overall productivity increase of *j*%?
- If we invest $*k* to improve brand recognition by *l*%, what could the incremental impact be on the lifecycle curve for product line *M*?
- How much should we be willing to invest to support the educational system in community *n*, to enhance our future ability to hire well-trained future employees?

Many other decision contexts can be identified for value creation measurement insights.

11. How might it be possible to measure value creation in quantitative terms?

CPA Canada initiated similar work in the past that explored the idea that value creation could be measured by modelling value streams based on events and related assumptions. The explicit focus of this effort was to develop a way to quantitatively measure value creation at a level of granularity that is analogous to transaction-centric accounting, but focusing on future value streams, not past transactions.

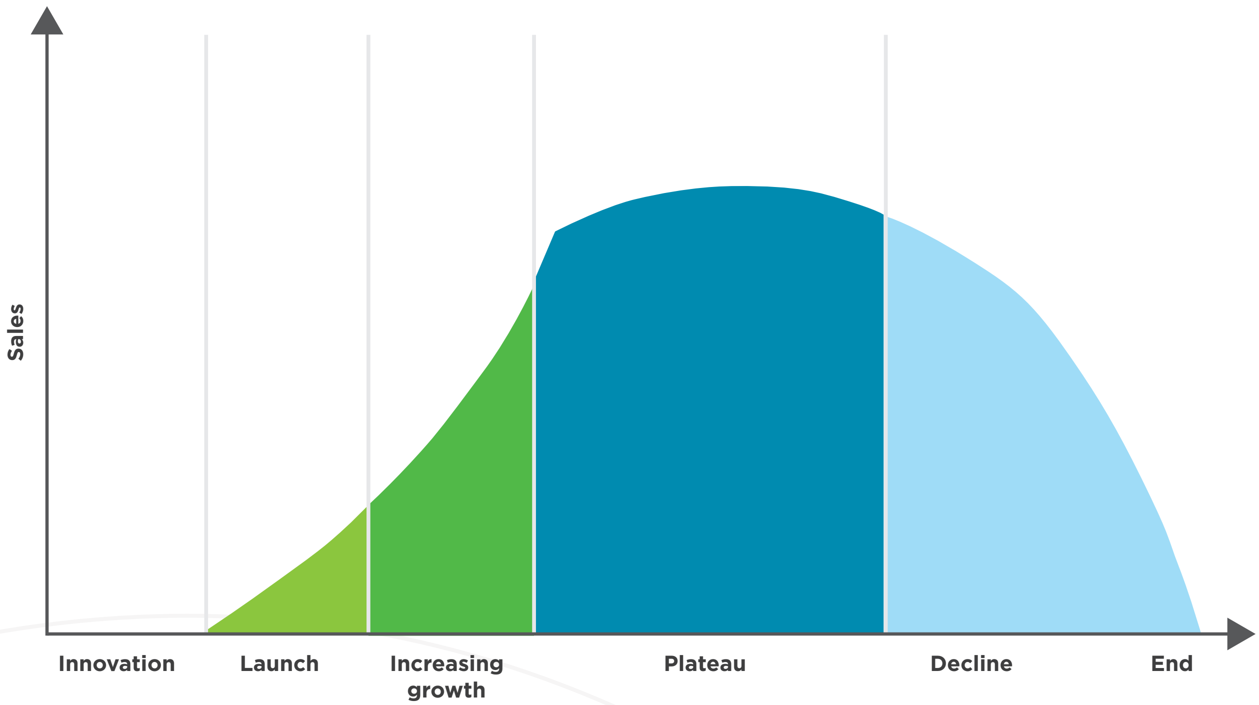
This earlier work included development of concepts and methodologies. The resulting approaches were tested in several case studies and client projects. The Value Creation Decisions and Measurement Project will build on this research taking into account the current technical environment.

12. What is a value stream?

A value stream is defined as a flow of financial and/or non-financial benefits over time to an organization and/or its stakeholders, typically related to a specific innovation, technology, product or service line.

In measuring a value stream, it is important to emphasize that many value streams cannot be measured in units of currency. “Quantitative” is not a synonym for “financial.” As discussed further in 17 below, there are various levels of precision for valid measurement, and we should aim for the highest precision possible given the nature of the value stream.

The diagram below demonstrates that a value stream (in this case, for a product) can be visualized as a curve over time (in this case, over the lifecycle of the product).



13. How can we measure value creation for the organization as a whole?

The value creation potential of an organization as a whole is in effect the sum or aggregation of its value streams over the lifecycle of each value stream.

14. How can we measure value streams?

We measure a value stream using a value stream model that quantifies financial and/or non-financial benefits over all or a portion of the lifecycle of a value stream, based on events and related assumptions. Incorporating events into a value stream model enhances the reliability of the model over time, since eventually, events will occur, or not occur, as specified in the model.

In a value stream model, events play a role analogous to that of transactions in traditional accounting. Events can be assigned probability distributions and be combined into scenarios to explore risk and uncertainty.

An individual event-based value stream can be modelled dynamically in two dimensions, looking at:

- the evolving present value of the future cash flows associated with the value stream as events occur over time
- the impact of various non-financial outcomes associated with that value stream, and the interrelationships among financial and non-financial outcomes as events occur over time

Optimally, value stream models should be updated continuously in real time and able to isolate measures of value creation performance over any specified time period.

To enable continuous updating in real-time will require use of computers and intelligent systems.

> Whatever the level of automation, CPAs will have a critical ongoing role in strategic value creation decisions, defining the value streams, ensuring the validity of inputs, tuning the algorithms, assessing the outputs, and interpreting their implications to support executive decision-making.

15. How do value stream models relate to stakeholders?

Value stream models should reflect multiple stakeholder perspectives. Solely measuring performance from a shareholder perspective is inadequate with respect to value creation. A well-performing organization must create value for all stakeholders: customers (or it won't have revenues), employees (or it won't be able to keep them), suppliers and business partners (or it won't have access to needed resources), and for the communities and societies it operates in (or it won't have a social license to operate).

16. Is a value stream model just another word for financial forecast?

No, a value stream model is not a financial forecast.

Financial forecasts are typically built for the organization as a whole, not aggregated from individual value streams. Value stream models should be created for individual value streams, and aggregated to the organization level.

A valid value stream model should be based on assumptions linked to events, not just on assumptions as is the case for most financial forecasts. Value stream models can be built at various levels of complexity based on the number of events incorporated into the model.

Financial forecasts that apply discounted cash flows (DCF) typically build risk into the discount rate. DCF calculations for a value stream model should be based on a risk-free discount rate, since a large component of risk is already taken into account through the linkage to events.

Financial forecasts may carry out sensitivity analysis based on scenarios. Scenarios for a value stream model should be linked to events.

A value stream model should come as close as we can in business to a scientific model, which is defined as "a conceptual, mathematical or physical representation of a real-world phenomenon."

17. How can we assess the validity of value creation measurement?

The validity of value creation measurement is supported by applying measurement fundamentals, which refer to the principles that underlie quantitative measures that are technically valid. Applying these principles enables value creation measurement to be "principles-based."

While measurement fundamentals are "baked-in" to traditional financial accounting, they must be considered explicitly when examining alternative measurement approaches. Key measurement fundamentals relevant in all contexts, including value creation measurement, include:

- Identifying the "objects" being measured and related "properties." In traditional accounting, the objects measured are transactions and key property measured is financial transaction value. In value creation measurement, the key objects are events, and the key property measured is the impact of the event on financial or non-financial value streams.
- The precision of the scale used to quantify the measured properties. Valid measurement scales in order of increasing precision include:
    - **nominal** (determining whether something does or does not meet some criterion);
    - **ordinal** (a scale in which things are arranged in rank order);
    - **interval** (a scale on which equal intervals between objects represent equal differences);
    - **ratio** (a scale on which the ratios of the numbers assigned accurately reflect ratios of the magnitudes of the objects and properties being measured)

While financial measures represent a ratio scale, in some decision-making contexts, value creation measures can be quantified at a lower level of precision and still generate actionable insights.

SCALE	SAMPLE: A CORPORATION WITH MULTIPLE DIVISIONS
Nominal	Division has net income >0. This differentiates between divisions that are and are not profitable.
Ordinal	Ranking divisions in a company based on comparative profitability in absolute dollars, from most to least.
Interval	Defining a set of income ranges, such as \$0-\$1M, \$1M-\$2M, \$2M-\$3M, and categorizing divisions based on how they fall into these ranges.
Ratio	Direct comparisons of profitability, or return on investment, which is a more complex ratio scale.

18. Is valuing an organization's intangible assets an alternative way to measure value creation performance?

In recent decades many people have observed that there is a growing gap between the market cap of an enterprise and the net book value of the organization's balance sheet assets. Many have concluded that this growing gap is an indicator of the declining relevance of traditional financial statements, and that the gap represents the value of the organization's intangibles.

However, from a measurement fundamentals perspective, there are some technical validity issues with this hypothesis.

- The net book value of a firm's net assets is based on historical third-party transactions. Market cap is established based on current transactions between buyers and sellers of securities. While both are denominated in units of currency, these are entirely different measurement objects, and are therefore not commensurable: any attempt to add or subtract these values is like comparing height and age, which for most of us would also result in a steadily growing (but meaningless) "gap." The market cap / book value gap can as readily be explained by the impact of real or perceived network effects on earnings/price multiples in the tech sector as on the impact of intangibles.

- The measurement issue with intangibles is not, as some argue, that traditional accounting cannot measure intangibles as assets. Traditional accounting is perfectly capable of recording intangibles as assets if they are acquired through a third-party transaction. What traditional accounting has trouble with is measuring intangibles (or tangibles for that matter), in the absence of a third-party transaction.
- There are valid methods for valuing some categories of intangibles, just as there are valid methods for valuing tangibles, although there are some specific characteristics of intangibles that must be taken into consideration, namely:
  - **context** (the same intangible can generate different value streams in different contexts)
  - **tradeability** (only some intangibles can be separated from the organization and can be considered as tradeable)
  - the potential for **multiple simultaneous value streams** (some intangibles such as patents can be licensed in such a way as to generate multiple value streams occurring at the same time).

Taking these characteristics into account, appropriate application of intangibles valuation methods can generate a meaningful value for individual intangible assets. In addition, the creation and maintenance of various intangibles can be key factors in an organization's ability to create value.

In sum, measuring the value of an organization's intangibles is highly relevant in some decision contexts. With respect to measuring an organization's overall performance in creating value, an approach that focuses on intangibles alone has limited validity.

19. As a CPA Canada member, how can I learn more about the CPA's role in value creation and value creation measurement?

CPA Canada is launching a specific website to engage members interested in the value creation measurement project at Engagement HQ.

Additionally, we are inviting a limited number of stakeholders to participate directly in a "proof-of-concept" initiative aimed at applying value creation measurement concepts, methodologies and tools to support specific value-creation-related decisions in their organizations.

If you are interested in participating, please contact Rosemary McGuire.

Appendix A: Value-creation related references from *The Way Forward*

Page 8: The increasing importance of intangible assets in driving organizational value.

Page 9: The Foresight initiative has inspired a renewed energy and eagerness to attack these challenges and help the profession move away from dealing in hindsight to a "permanently proactive" mode. In this new world, accounting will need to pivot to completely new ways of doing things, including: ….measuring value beyond financials to capture societal expectations.

Page 9: Our perspective on what constitutes "performance" must broaden substantially beyond financial aspects to also consider operational metrics, ESG factors and other dimensions on which stakeholders in organizations want to have reporting.

Page 9: This aspirational objective challenges CPAs to transition from being "keepers of the finances" to becoming proactive contributors to the real-time evaluation of a broader understanding of "performance."

Page 10: Rethinking value creation, both in terms of the development of new and evolving models of value creation and in reassessing how accountants add value.

Page 13: …fluctuating global conditions are reshaping what constitutes value in today's world… business are adapting to this new reality by increasingly making decisions based on real-time data rather than historical information — impacting the traditional role of accounting.

Page 15: The urgency [for change] rests in the fact that these technologies are quickly eliminating the transactional layer from accounting and will dramatically reshape the services accountants and auditors are expected to provide. As increasing currents of digital and big data continue to disrupt business models, the profession's success will depend on moving away from its traditional role of measuring value after the fact.

Page 17: Users are increasingly using real-time information to drive business decisions. More and more, users and even investors are basing their decisions, not on traditional financial data, but on other indicators of value such as social and environmental information.

Page 17: In this data-driven environment, a plethora of real-time information means traditional quarterly financial statements and GAAP measures are becoming less relevant as assessments of historical, present or future value.

Page 17: The profession currently does not have a business model for real-time assurance or measuring the future economy, and its practices for providing audited data are too slow.

Page 18: Value is increasingly intangible.

Page 18: Accounting… must change its approach to identifying, measuring, reporting and creating value to consider these intangibles, if it is to remain sustainable.

Page 18: Tangible assets tracked by traditional accounting today make up only 16 per cent of the S&P's market value (as opposed to 83 per cent 40 years ago), so the profession must look deeper at how to attribute and quantify value in ways that incorporate both financial and non-financial information.

Page 18: To build trust in the information age, accountants will need to shift their roles from that of mitigating and avoiding risk to being more strategic in creating new models that assess value in a fair, comprehensive and accurate way.

Page 19: Our traditional mindset of looking back in time to report on what has already occurred must be reoriented to a real-time and forward-looking point of view. New and emerging technologies will combine with digitization of corporate information to allow real-time automated reporting and support much more sophisticated modelling of what will occur in the future.

Page 20: Hindsight has traditionally been the predominant focus of the accounting profession, with a limited priority given to foresight. As a profession, we have an opportunity to make a fundamental shift such that foresight plays a much more dominant role in the way we provide value.

Page 23: The concepts of "performance" and "value" are highly integrated. "Value" is a measure of worth at a point in time. "Performance" is the impact that an organization's collective accomplishments create. Performance drives the change in value from one point in time to another.

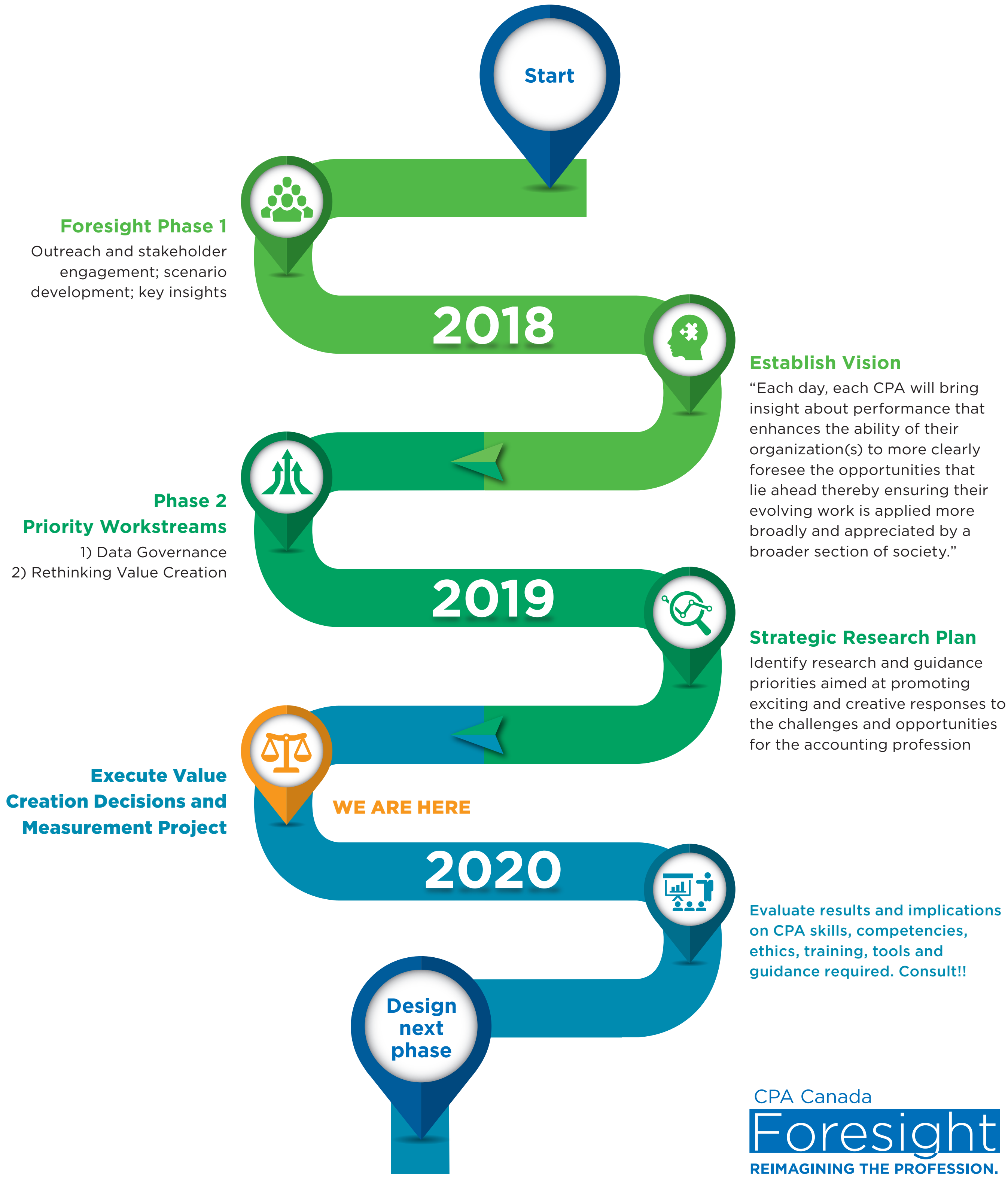
Page 23: The work of CPAs has always been vital to measuring and estimating value. In today's (and tomorrow's) economy, measuring and estimating value is becoming more elusive. Assets are increasingly intangible (such as brands, relationships or data) and/or non-financial (representing social or environmental value). And the real or perceived presence of future risks constrains value.

Page 23: ...the importance that these assets and risks will hold for our economy and society presents future generations of CPAs with an enormous opportunity — and maybe a duty — to build models and frameworks capable of recognizing and assessing these new "non-traditional" sources of value.

Page 24: Traditionally, so much of the value CPAs offered to society took the form of the order they created by synthesizing and reporting on the aggregation of vast amounts of transactional information.

Page 24: The CPA profession must help CPAs in all facets of our economy to reshape their perspective so that they reduce their reliance on accounting reports as their contribution to society. The profession must assist CPAs working in every capacity to reorient themselves, reimagining their work so that they routinely make distinctive contributions on performance insight or foresight.

CPA Canada Foresight:
Value Creation workstream roadmap



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