

By valuing social, environmental, tax and economic impacts, business is now able to compare the total impacts of their strategies and investment choices and manage the trade-offs

Measuring and managing total impact: A new language for business decisions



Foreword

Stakeholders of a company want sustainable growth. This requires something more than a focus on the financial aspects and the present value of future cash flows.



Prof Mervyn King SC
Chairman International Integrated
Reporting Council

We know that today some 80% of the market capitalisation of companies is represented by so-called intangible assets which would not, according to financial reporting standards, be included as additives in a balance sheet.

While at the core of a business's performance is its financial return, because we report in monetary terms, a board has to take account of the legitimate and reasonable needs, interests and expectations of all its stakeholders and the resources used by the company.

Whilst it is clear that there are inputs other than the financial and manufactured resources such as human, intellectual, natural and social, the output or product and service of a company in turn has an impact on its stakeholders and the resources used by the company.

Integrated thinking requires all these factors to be considered in a holistic manner, such that a company can understand, and make decisions based on, the overall impact it has on all its stakeholders and generally on society, the environment and the economy.

I am delighted that PwC has developed the Total Impact Measurement and Management (TIMM) framework which demonstrates it is possible to carry out an impact study that puts a value on all a company's activities (or its product or service).

Some of the world's iconic companies have realised that the impacts of their activities, and of their products or services, on their stakeholders and generally on society, the environment and the economy, are critical. Consequently, the impact measurement and management framework developed by PwC is a huge step forward in assisting companies in thinking on an integrated basis and enabling them to do business in the 21st century. It also helps to change mindsets to take a holistic perspective and move towards Integrated Reporting.

The TIMM framework is a new language to assist companies in understanding the overall impact of their activities. I urge all companies to start incorporating this type of thinking into their strategic business decisions.

A handwritten signature in dark ink, reading 'Mervyn King'. The signature is fluid and cursive, with the first name 'Mervyn' and the last name 'King' clearly distinguishable.

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Introduction

We are pleased to introduce ‘Measuring and managing total impact: A new language for business decisions’. With business developing a better understanding of how creating sustainable value for their shareholders means that they can also sustain value for their other stakeholders, we examine how these insights will shape better decision making.



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We live in a world of significant change and upheaval. We have a growing population, seeking a better lifestyle, to be delivered from a planet with finite resources, many of which are now rapidly running out. The business models of today are simply not equipped to deal with this change. How business operates in the future will need to be transformed. And at the same time, what customers, suppliers, employees, governments and society in general expect from business is already changing.

The challenge is to understand how these changes could, and perhaps should, lead to a fundamental shift in how businesses are run and how they and their stakeholders measure success.

The starting point is the world's desperate, but understandable, desire for growth. Growth puts people in work and lifts them out of poverty. It generates the income to fuel a progressive and stable society. To date, growth (as

conventionally measured by changes in GDP) has also been a benchmark of success. But could the kind of growth we've been chasing be doing more harm than good?

We've seen boom and bust. We've seen vital resources being frittered away. And we're seeing communities that are failing to benefit from business, and economic, success – and the unrest that follows. As a result, many people are looking beyond today's narrow notions of input, output and profit, to something that's more real, more inclusive, more responsible and more lasting... in short, what we are calling 'good' growth.

Over the past three years, we've been working with our clients to develop ways to help them and their stakeholders to measure and manage these goals and track performance against set objectives. We've now brought all this together into what we call Total Impact Measurement and Management (TIMM).

Total Impact Measurement and Management

Total	A holistic view of social, environmental, fiscal and economic dimensions – the big picture
Impact	Look beyond inputs and outputs to outcomes and impacts – understand your footprint
Measurement	Quantify and monetise the impacts – value in a language business understands
Management	Evaluate options and optimise trade-offs – make better decisions

Join the debate

We want to hear your views on these issues. We believe a new way of thinking about and measuring success is required for business in order for ‘good’ growth to take root. Join us at pwc.com/totalimpact to have your say.

TIMM enables management to develop a better understanding of the social, fiscal, environmental and economic impacts of their activities, while still, of course, making a profit. This exercise is, in itself, interesting and helps support a business’s licence to operate. But the real benefit to business is in decision making. TIMM gives management the ability to compare strategies and make business decisions such as investment choices using quantified data, and evaluate the total impact of each decision and choice they make. Being able to measure, understand and compare the trade-offs between different options means decisions can be made with more complete knowledge of the overall impact they will have and a better understanding of which stakeholders will be affected by which decisions.

Our work draws on the plethora of literature and methodologies that have already been published, augmented with some new thinking which has been tested with our clients. We’ve pulled all

this together into a single framework that we believe meets the demands of a business model that can deliver “good growth”.

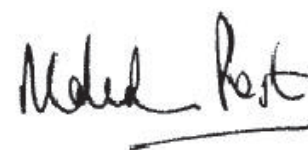
We think this total impact approach is the way forward. ‘Good’ growth is in everyone’s interest. We all want business to succeed, but not at any price.

However, we also acknowledge that this is work in progress, and that there will be valid questions over the exact methodologies adopted. That is why we are publishing this report. We want to contribute to the debate to demonstrate that while this is extremely complex, it is possible, even if not perfect. We welcome further dialogue to help move the debate forwards.

But it is hard to argue with a framework that allows a business to continue to operate with its usual (or, hopefully even better) levels of profitability, while at the same time creating the optimal outcomes and impacts for the communities and the environment in which it operates.

Looking at the big picture makes sound business sense and with TIMM, we believe we have shown it is possible to create a business model that can deliver the transformation that all stakeholders require, to meet the ever increasing demands of a growing population on a finite planet.

We would like to thank all the survey respondents, roundtable participants and other contributors who kindly gave their time and insights to the development of this report. We hope that you find it interesting and useful. If you would like to discuss any of the issues in more detail, please feel free to contact me or one of the authors listed on page 38.



The changing business context

The world is changing. Are the business models of the past fit for the challenges of today? Will they generate the 'good growth' that governments and society as a whole are increasingly demanding? In this new business context, it is time to revisit the breadth of information used to make decisions and to judge long-term success.



We all want growth. People need growth to sustain their livelihoods. Governments need growth to maintain employment and promote well-being. And businesses need growth to satisfy their shareholders. But the context in which growth needs to be delivered is evolving rapidly.

What is changing?

The business environment has changed significantly in the last decade and is set to change further in the coming years, driven by six groups of inter-connected forces for change (see Figure 1).

Global economic shifts are creating a 'new normal' in which the rate of economic growth (as conventionally measured) has slowed and is set to become more volatile: looking forward, steady, stable growth will be more precious.¹ At the same time, the economic balance of power is shifting and is set to shift further towards

emerging economies: by 2050, it is projected that seven of the world's largest 13 economies will be emerging compared with four currently.² This shift will bring with it the rapid growth of a large new middle class, notably in China and India. Competitive advantage based on access to cheap labour and materials will become a thing of the past: instead, the global battle for talent and access to knowledge will increasingly be the basis for competition.

Developments in technology will have many pervasive effects. They will allow businesses direct access to consumers and open up markets to new businesses of all shapes and sizes. They will allow businesses, consumers and communities to assemble almost instantaneously to influence or create alternatives to traditional business, government and community structures. This will disrupt the established rules of competition by enabling small businesses to compete

¹ Andrew Sentence, "Time for west to adjust to 'new normal'", Financial Times, 2012.

² PwC Economics, "World in 2050: The BRICs and beyond: prospects, challenges and opportunities", January 2013.

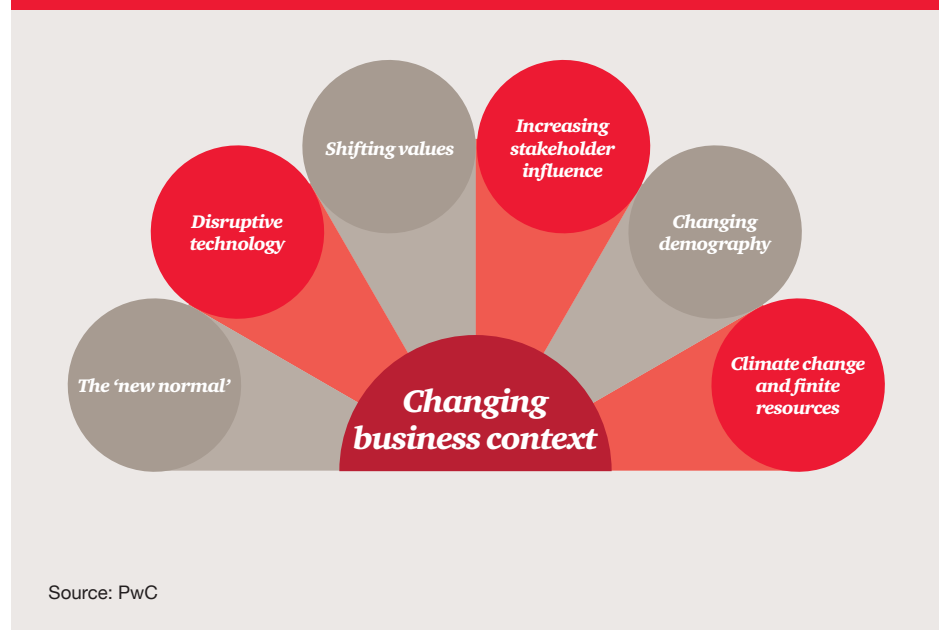
with larger ones and reducing the costs of cross-business collaboration. In addition, the power of the internet and social media has accelerated heightened transparency by enhancing the availability of complex information. And as the horsemeat scandal in Europe earlier in the year exemplifies, the impact of any business lapses can quickly escalate and be very difficult to contain.³

Values in society are being reassessed. Evidence suggests that values are shifting to focus more on experiences, relationships and meaning rather than material gain. These shifts will have an important bearing on business. For example, people are becoming increasingly aware of the limitations and threats posed by conventional economic growth. The result of this is that consumers are becoming ever more environmentally and socially conscious, especially younger ones: they want to know more than ever about the products and services they use and who they buy them from. At the same time, trust in business has been declining (see Edelman Trust Barometer).⁴

Stakeholders, other than shareholders, are having an increasing influence over business and are demanding more and better information as they pursue higher standards of responsibility and accountability from businesses. The high-profile controversies over some businesses' tax affairs, environmental practices and working conditions highlight the need for greater openness and, as a consequence, the need for businesses to behave responsibly. But current business reporting varies quite markedly in both breadth and quality, from meeting minimum guidelines to embedding sustainability ideals at the heart of the organisation.

The growth of the sharing economy and collaborative consumption looks set to continue – value networks are replacing value chains and consumers

Figure 1: The forces for change



are now important co-creators of value. Many consumers are also becoming increasingly able and used to drawing on diverse sources of information to make up their own minds about where they stand on key social and environmental issues, irrespective of whether businesses market their environmental credentials or not. As a result, their buying decisions are no longer made purely on the basis of price and quality.

Demographic change will see the world's population growing by 2.64 billion (38%) between 2010 and 2050.⁵ At the same time, it will age significantly, especially in the developed world, and the 'bottom of the pyramid' will become recognised as a significant market segment in its own right.

The threat of climate change will heighten the risk to capital investments. Furthermore, pressure on the world's finite resources shows little sign of abating. Natural resource depletion means that new sources of raw materials will become increasingly valuable.

"It is becoming impossible for companies to operate behind closed doors, so transparency is the new paradigm for conducting business successfully."

Business in the Community

³ Frozen beef burger sales fell by 40% in the following month, though, proving that for every threat there is an opportunity, sales of vegetarian alternatives jumped by 40%, Daily Telegraph, February 2013.

⁴ Survey of 31,000 respondents in 26 markets carried out for the 'Edelman Trust Barometer' 2013

⁵ UN World Population Prospects: The 2012 Revision, 2013.

And the threat of loss of biodiversity remains. While many of these risks and issues remain unpriced, over time they are likely to be reflected in higher costs through market pressure, increased regulation or because, in extreme examples, they may simply run out.

Good growth – a new perspective on growth

This changing business context and, in particular, the differing needs and

values of all stakeholders, demands that management take a broader view of growth, which looks beyond increased output and short-term financial returns towards real, inclusive, responsible and lasting ‘good growth’ (see ‘Box 1: What does ‘good growth’ look like?’). It raises doubts about the desirability and current sustainability of the growth we are achieving.

Box 1: What does ‘good growth’ look like?

Growth sounds good. But is it always good? Bad growth can quickly evaporate (‘boom and bust’). Bad growth brings little benefit to society, depletes more resources and exacts a bigger cost on society than the short-term returns it generates. The benefits of bad growth are not shared.

Good growth is real, inclusive, responsible and lasting. Good growth benefits everyone – consumers, employees, suppliers, shareholders and society alike. Good growth makes sound business sense as businesses perform better in a society that is stable, healthy and prosperous. But it may not always be reflected in conventional financial and management reporting. So what do we mean by real, inclusive, responsible and lasting?

Real

Real growth doesn’t simply shift market share from one business to another (‘zero sum growth’). Expansion into new and untapped markets drives ‘real’ growth. So does innovation, providing solutions to help meet people’s changing needs and aspirations.

Inclusive

Inclusive growth shares the benefits by combining expansion in business output with improvements in living standards and outcomes that matter for people’s quality of life (e.g. good health, jobs and skills, clean environment, community support).

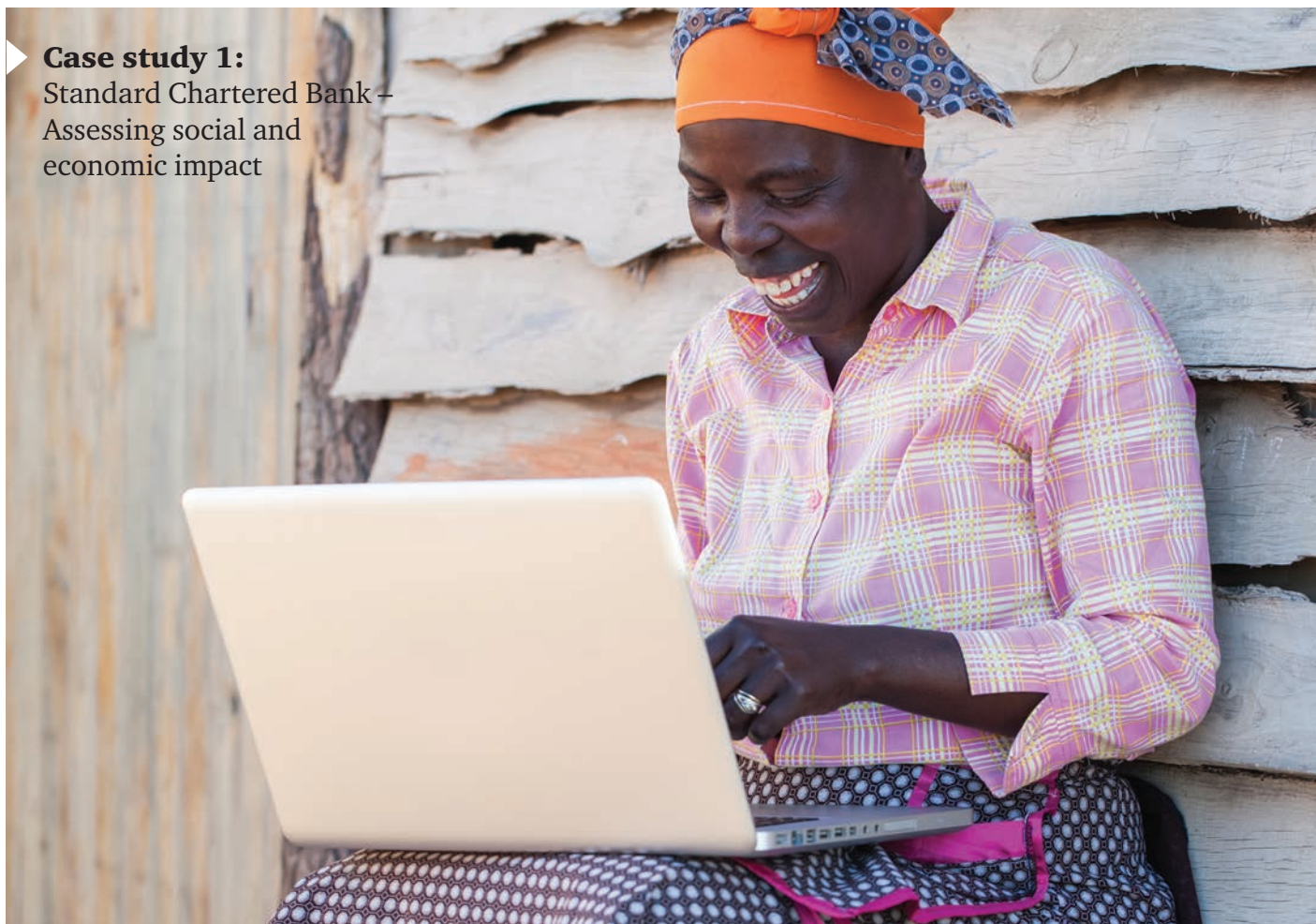
Responsible

Responsible growth considers the impact of doing business rather than just the profits. Financial return can’t be gauged in isolation from the tax contribution, environmental and economic impact and effect on community stability, health and prosperity.

Lasting

Lasting growth is maintained over the long term. The focus on meeting short-term financial targets may obscure the underlying strengths, weaknesses and potential of the enterprise. The long-term view is at the heart of good growth.

Case study 1: Standard Chartered Bank – Assessing social and economic impact



A well-functioning banking system plays a fundamental role in driving economic growth. But the financial crisis led to a sharp decline in public trust in the industry and many continue to question the role banks should play in society.

“Banks themselves have been poor at articulating what we do and why it matters,” says Peter Sands, Group Chief Executive of Standard Chartered Bank.

The bank is keen to discover the role it plays in supporting growth and job creation in Asia, Africa and the Middle East – and to use this insight to drive strategic action in the business.

To evaluate, demonstrate and identify ways to strengthen the value Standard Chartered creates for the markets in which it operates, the bank has commissioned a series of independent socio-economic impact studies.

The studies have been led by Professor Ethan Kapstein of Georgetown University and have so far covered Ghana, Indonesia and Bangladesh, reflecting the bank’s strong and longstanding presence in many emerging markets. “By exploring and articulating our broader impact on the communities in which we operate we can begin to rebuild the contract between banks and society. A contract that is imperative to a prosperous and healthy economy,” says Peter Sands.

The assessments have combined quantitative and qualitative analysis to create a picture of Standard Chartered’s impact in these countries. The quantitative assessment has used the well-established Social Accounting Matrix (SAM) to quantify both the impacts of Standard

Chartered’s direct operations as well as those associated with the financing that the bank provides. This was complemented by a qualitative assessment of the bank’s other contributions, including its trade services, financial innovation and development of expertise.

The reports highlight the impact of the Standard Chartered’s activities, findings it can use to help build trusting relationships with its stakeholders. In Bangladesh, for example, the bank supports, directly and indirectly, 1.5% of the country’s GDP and some 655,000 jobs, and is one of the country’s most important tax payers. It also supports more than 13% of Bangladesh’s trade with the world through trade finance.

This information gained from these studies is helping Standard Chartered to enhance its contribution to these economies and promote sustainable business development by focusing its core skills, products and services. For example in Ghana, one barrier to SME lending was the lack of technical skills in accounting and other business operations. Standard Chartered has since partnered with PwC to provide ongoing technical assistance to SMEs in Ghana.

In another example of the insights gained, by quantifying the importance of the bank’s support for trade finance in the development of these emerging economies, it can highlight the potential for unintended consequences of regulatory changes that affect the supply and costs of such finance.

New opportunities and threats

For business, the changing landscape and the search for ‘good growth’ present both opportunities and threats as stakeholders bring their growing influence to bear. These will affect diverse aspects of the business:

Products and services: opportunities come from rapid growth in the emerging economies but new sources of competition are potential threats;

Customers: changing customer needs in both existing and new markets offer scope for revenue growth, but revenue is at risk for those businesses which fail to keep in touch with their customers’ shifting values;

Production processes: businesses which use resources more efficiently stand to benefit, but those that ignore pressure on resources are at risk - for example, if disputes become increasingly commonplace on both land and at sea and threaten resource availability;

Business models: opportunities exist to develop new collaborative business models involving customers and/or suppliers to capitalise on the growth of the sharing economy and collaborative

consumption – established models which fail to adapt could be threatened; and

Reputation management: more open dialogue with stakeholders can improve business reputation (for example, by building trust and reinforcing the licence to operate) whereas “closed” businesses that fail to embrace new ways to communicate could be adversely affected (for example, if they are implicated in environmental damage or species extinction, tax avoidance or poor labour standards).

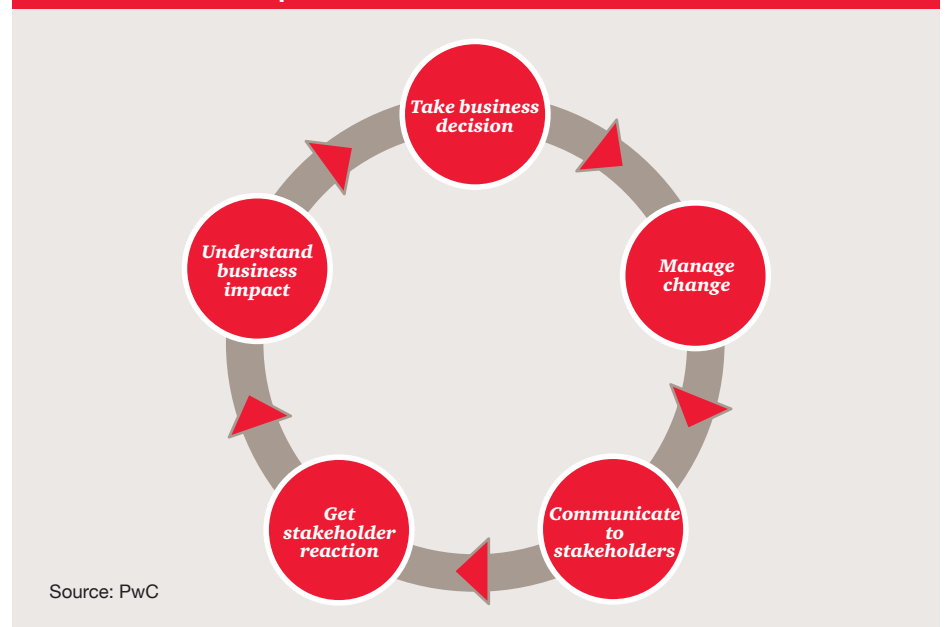
The challenge for business

The challenge facing business is to respond to these opportunities and threats while still balancing the needs and expectations of its different stakeholders. Often, this will mean resolving potential conflicts: for example, low prices for consumers have to be weighed up against the acceptability of the working conditions and creating jobs in a lower cost location. The key questions for business, therefore, are how to balance the demands of different stakeholders and how to judge the sustainability of its business practices.

Clearly, businesses have to satisfy their shareholders’ demands. But, as we have seen, achieving this increasingly depends on their ability to meet the ever more exacting expectations of a broader set of stakeholders, stretching from customers, employees and suppliers to politicians, environmental groups and nongovernmental organisations (NGOs).⁶

This challenge is heightened by the breadth of stakeholders that need to be taken into account. It demands a more balanced and comprehensive assessment of how their respective needs and aspirations are affected and their likely responses (see Figure 2). It also demands greater transparency and a more open dialogue with stakeholders,⁷ with many businesses looking to step up non-financial reporting (e.g. corporate social responsibility reporting) as a result.⁸ Some examples of mandatory tax reporting on a country-by-country basis have already been introduced and regulatory proposals exist to extend the scope. This is prompting some business leaders to consider how best to tell their own story, not just that required by legislation.⁹

Figure 2: Understanding the relationship between business decisions and stakeholder impacts



⁶ Tellingly, the business leaders taking part in PwC’s latest global CEO survey believe that customers, governments and employees now have a bigger influence on their strategy than investors (PwC’s 16th Annual CEO Survey Dealing with disruption – Adapting to survive and thrive).

⁷ Nearly 90% of the business leaders taking part in PwC’s latest global CEO survey are looking to strengthen engagement with customers and nearly 80% with employees and suppliers (PwC’s 16th Annual CEO Survey Dealing with disruption – Adapting to survive and thrive).

⁸ More than 40% of business leaders in PwC’s latest global CEO survey are looking to strengthen stakeholder engagement through increased non-financial reporting.

⁹ PwC: Tax Transparency and Country-by-country reporting. http://www.pwc.com/en_GX/gx/tax/publications/assets/pwc-tax-transparency.pdf

Looking forward, with trust at an all-time low, business must recognise that it is already operating in new conditions where society's expectations are quite different and the need to rebuild trust is irrefutable. In particular, it needs to explain its purpose and manage its impact, not only through its direct operations, but also across its entire value chain, including all its stakeholders. This heightens the value of impact measurement as a means to better understand, demonstrate and manage its role and contribution to society.

What is expected from business and the landscape in which it operates have rarely been more complex or rapidly changing. It is no longer sufficient to simply measure costs and the financial returns. Consideration needs to be given to the sustainability of these returns.

Business's response so far

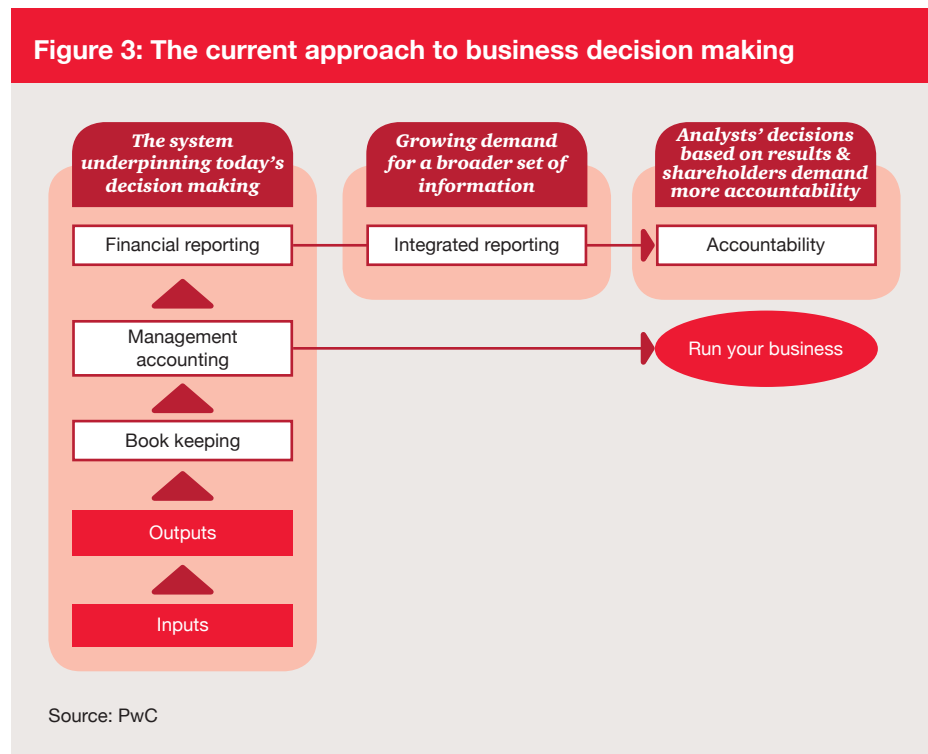
For the agile, the change in the business context has offered an opportunity to rethink old problems with inspirational solutions.

Slower movers have found that the advent of new technology and changing social norms have meant the death knell for long tried and tested business models. The music industry of today, for example, bears little resemblance to that of just a decade ago.

For most, however, the consequences of the changing business context have not been so immediate or compelling. Although many have taken tentative steps towards greater awareness of their impact on the environment, on local communities or on society as a whole, for most this activity remains a "side line" rather than underpinning day-to-day decision making.

Safety in numbers

The language of value creation has barely changed since the days of Luca Pacioli.¹⁰ It is about inputs (i.e. resources used) and outputs (i.e. activity rather



“We need a new ‘dimension’ that balances classic profit or loss with the impact on sustainability and society.”

CEO, Total Impact Survey 2013

than achievement). It is about revenues and costs. Risk is defined in terms of factors that can throw the financial model off course.

And that language is deeply rooted in how business is structured and governed and, consequently, how decisions are made. As Figure 3 illustrates, for the world's leading businesses, financial systems are hard wired into every step of every transaction with vast teams of employees dedicated to the collation and analysis of the outputs of these systems. These outputs underpin the day-to-day decision making by board and management alike. The financial accounting system, which works from the bottom up, was originally developed to create management accounts which were used to help run the business. Management accounts, however, are

not comparable and so need codifying through accounting standards. This codification enables financial reports to be prepared which, to a large extent, are comparable and are used to inform the capital markets.

The first steps are being made towards the development of integrated reporting which offers the prospect of a more rounded view of a business's impacts. Significantly, however, integrated reporting is being driven from the top down, rather than from the bottom up. This means that at present it lacks the equivalent of book keeping and management accounting to support its application.

¹⁰ Luca Bartolomeo de Pacioli (1445 – 1517) is widely viewed as the father of accounting.

First steps

But managements are not blind to all that is taking place around them. In response to the changing business context, many management teams have started down the path of examining aspects of their broader environmental, social or economic performance and, in some cases, impact. Whether through the publication of “sustainability reports”, participation in the Carbon Disclosure Project (CDP)¹¹ or support for international commitments such as the Extractive Industries Transparency Initiative (EITI)¹² or the UN Global Compact¹³, the breadth of non-financial information reported by management has never been greater.

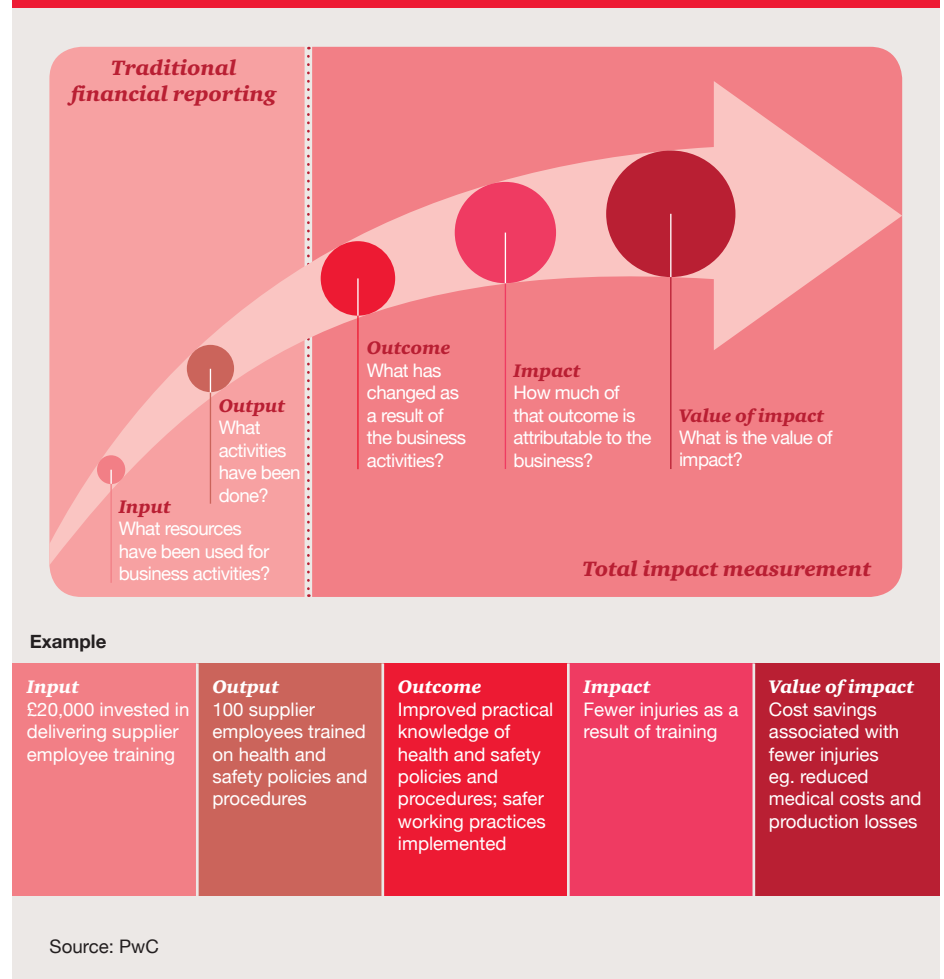
The implications of these first steps are profound. They provide tangible

evidence of management’s realisation that business as usual is not a viable long-term option.

For some, the additional information they report reflects a desire to explore untapped opportunities or to have better information on new threats and risks. For others, it demonstrates a re-evaluation of the organisation’s role in society and a new avenue along which to motivate employees or engage with governments. And then there are those who are acting in response to growing demands from a broad coalition of stakeholders for greater corporate transparency.

Whatever the motive, these first steps signal a recognition that the language of Pacioli is no longer enough.

Figure 4: Measuring and managing what matters



¹¹ CDP is an international not-for-profit organisation providing a global system for companies and cities to measure, disclose, manage and share environmental information.

¹² EITI is a global standard that promotes revenue transparency and accountability in the extractives sector.

¹³ The UN Global Compact is a strategic policy initiative for businesses committed to aligning their organisations with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption.

Conventional measurement techniques mainly focus on inputs and outputs. For example, measuring the money and resources invested in delivering an education programme to a community and the number of hours of teaching provided. Rarely do they consider the outcomes and impacts.

And business is not alone. Organisations like the International Integrated Reporting Council (IIRC)¹⁴, Global Reporting Initiative (GRI)¹⁵, Impact Reporting and Investment Standards (IRIS)¹⁶ and Sustainability Accounting Standards Board (SASB)¹⁷ are developing frameworks which look at how to balance financial reporting with the social and environmental impacts of business activities. But what these lack is a robust and comprehensive approach to measuring impacts.

Conventional measurement techniques mainly focus on inputs and outputs. For example, measuring the money and resources invested in delivering an education programme to a community and the number of hours of teaching provided. Rarely do they consider the outcomes and impacts. This is because their significance is not fully understood and they are not measured by conventional techniques. Emerging impact measurement techniques address these shortcomings by developing an understanding of the relationship between businesses' inputs and activities, their outputs and their longer term outcomes and associated impacts (see Figure 4).

Learning a new language

Despite the progress that has been made, our conversations with management suggest that few, if any, believe they have achieved any degree of fluency in this new language of value and long-term impact. Box 2 shares some of the questions business asks.

The practical challenges highlighted by management are not trivial. And it would be misleading to say that every hurdle to understanding value in today's world has been overcome. However, substantial progress has been made. In the next section, we describe the results of our collaborative innovation with some of the world's leading businesses – a framework that we call Total Impact Measurement and Management (TIMM).

14 The IIRC is developing an International Integrated Reporting Framework to enable businesses to demonstrate the linkages between an organisation's strategy, governance and financial performance and the social, environmental and economic context within which it operates.

15 GRI provides all businesses and organisations with a comprehensive sustainability reporting framework that is widely used around the world.

16 IRIS is the catalogue of generally accepted performance metrics that leading impact investors use to measure social, environmental and financial success and evaluate deals.

17 The Sustainability Accounting Standards Board (SASB) is a non-profit organisation engaged in the development and dissemination of industry-specific sustainability accounting standards. SASB is establishing an understanding of material sustainability issues facing industries and creating sustainability accounting standards suitable for disclosure in standard filings such as the Form 10-K and 20-F. SASB addresses the unique needs of the US market, establishing standards for integrated reporting that are concise, comparable within an industry, and relevant to all 13,000 publicly listed businesses in the US.

Box 2: Key management questions



Questions that management commonly raise include:

How do I know if our strategy will deliver sustainable shareholder value in this new environment?

While recognising the seismic shift in the global operating environment, management remain mindful of their fiduciary duty – to deliver long-term value. And so their focus is still highly pragmatic, with much of their effort dedicated to the age-old question – will my strategy deliver sustainable shareholder value?

Although this fundamental question has not changed much over the years, management's confidence in their analysis of the strategic options that are available is not as great as it once

was. How should they go about trying to identify and then prioritise the untapped opportunities that exist? How do they manage risk in a world where performance is no longer judged solely by shareholders and the Board? And where new risks are emerging that are themselves new and unknown (e.g. climate change).

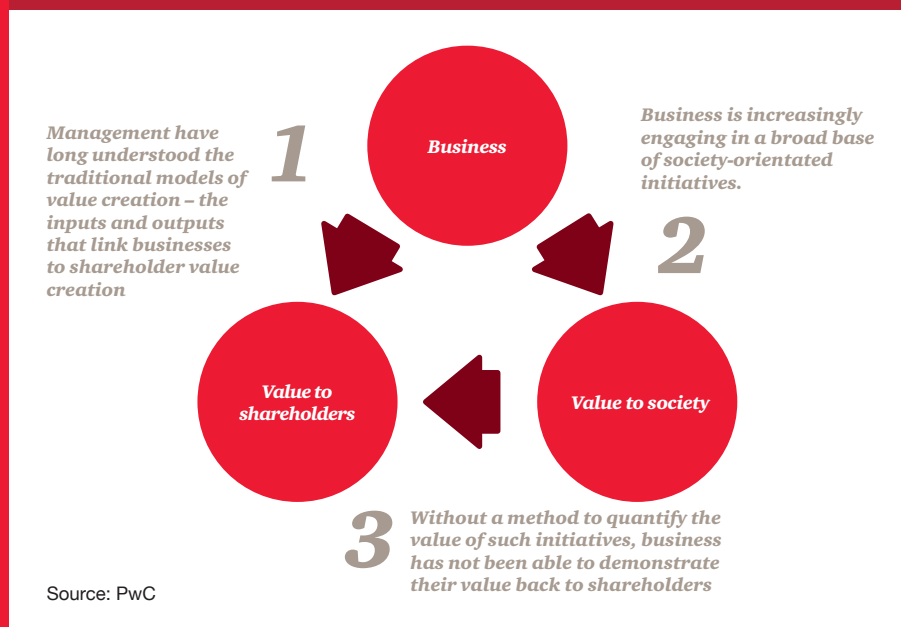
Does my initiative make good business sense?

Many businesses are investing in community-oriented projects. They are increasingly mindful of resource consumption and their environmental footprint. But where does long-term business sense end and philanthropy begin? As Figure 5 'Optimising decision making' illustrates, there is unquantified value in the society-based initiatives that business drives.

Which projects will deliver the best returns given the expectations and needs of both our shareholders and society?

At a project level, management are constantly trying to juggle the competing needs of disparate stakeholder groups. They know that one approach might, for example, reduce the tax they pay, but that the cost saving could come with consequences. It might result in damage to their reputation, not just in the local community but with a wider group of stakeholders internationally. For instance, it might harm their ability to persuade other territories to allow them access to their local markets. Evaluating such trade-offs in a consistent and comparable fashion remains a commonly cited frustration of management today.

Figure 5: Optimising decision making



How do I measure impacts in a consistent and timely fashion? Is the data sufficiently reliable for my needs?

Good decisions require consistent, reliable and timely data. As the world moves beyond the tidy language of revenue and costs, management tell us that they seek robust measurement frameworks that will allow them to incorporate a broader set of information into their assessment of their organisation's overall strategy as well as allowing a direct comparison between competing investment opportunities.

At the same time, they are starting to consider whether they have the infrastructure they need to embed such information into the structure of decision making. As we saw in Figure 3, today's financial reporting model is hard wired into management action. In

contrast, all too often the collation and analysis of the broader information set needed to measure and manage today's business are relegated to a few hard-pressed individuals using undocumented spreadsheets.

How much is enough?

We see businesses that produce large volumes of data, covering a vast array of their societal impacts. We also see businesses that focus on just a few metrics that offer insight into a narrow – and often positive – element of management action. The wide variation in current practice highlights a challenge all management face when considering the depth and breadth of the data that they use: how much is enough?

How can I demonstrate the value that I am creating to stakeholders?

We regularly hear management complain that investors are not interested in broader measures of performance. And yet, when we talk to investors, they are hungry for any information that gives them more confidence that the long-term value creation story is intact. We believe that this apparent disconnect is directly attributable to the language of communication. Until management can articulate the value that they are creating through their activities (see Figure 5), investors will struggle to factor their initiatives into their assessment of performance.

In a similar vein, governments and NGOs express frustration at the lack of consistency in disclosures by management and voice concerns that data may have been carefully selected to present just one side of the story. They tell us that they seek a consistent and balanced language for communication, both to add credibility to management reports and to build trust between different stakeholder communities.

A better way – introducing Total Impact Measurement & Management

Businesses know the goalposts have moved. They know that their operating environment is more complex and dynamic than ever before. And they have responded through a series of initiatives that demonstrate their “good corporate citizenship” credentials. However, they have lacked an ability to put a value on such initiatives – to be able to assess where business sense ends and philanthropy begins. Total Impact Measurement and Management offers a structured framework for decision making in today’s world.



The search for a measurement approach for business that bridges the gap between emerging integrated reporting frameworks and traditional management information is a key focus for PwC. Our collaborations with businesses and their stakeholders have led to the development of what we believe is a more comprehensive, balanced and hence more relevant evaluation of business impacts on society, the economy and the environment.

Introducing TIMM

Total Impact Measurement and Management (TIMM) provides a new ‘language’ of decision making that generates hard numbers equivalent to the new ways of evaluating national output and wellbeing being developed and used within governments (see Box 3).

Figure 6 illustrates the four key dimensions of impact considered within TIMM:

Social

Social impact analysis measures and values the consequences of business activities on societal outcomes such as health, education and community cohesion. This is the least developed area in a business context and examples tend to focus at the project rather than the enterprise level.

Environmental

Environmental impact analysis measures emissions to air, land and water, and the use of natural resources. It values the resulting impacts on society. This is an emerging area with a few leading examples in business such as PUMA's Environmental P&L¹⁸ (see Case study 2).

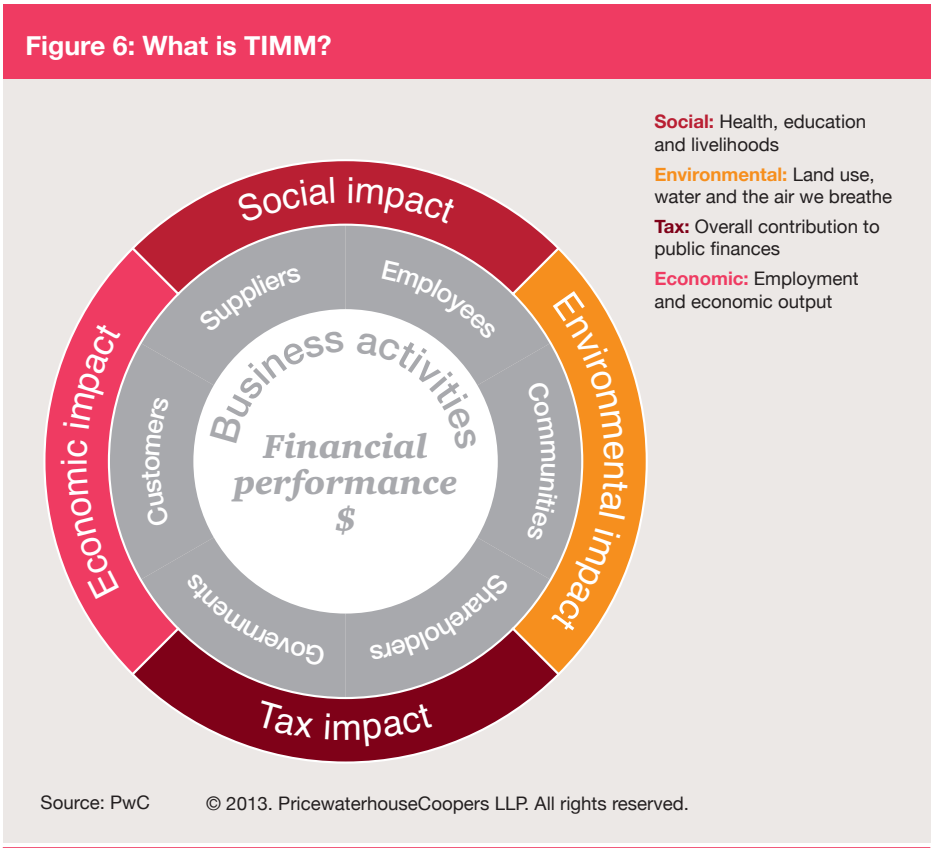
Tax

Tax impact measurement identifies and measures a business's overall tax contribution using a well-established process, drawing on the development of Total Tax Contribution (TTC)¹⁹ by PwC (see Case study 3).

Economic

Economic impact measurement measures the effect of a business activity on the economy in a given area. It measures changes in economic growth (output or value added) and associated changes in employment. Some elements of it (e.g. multiplier analysis) are fairly well established.

Further details of how TIMM works can be found in the following section, 'Using TIMM to support decision making'



Total Impact Measurement and Management	
Total	A holistic view of social, environmental, fiscal and economic dimensions – the big picture
Impact	Look beyond inputs and outputs to outcomes and impacts – understand your footprint
Measurement	Quantify and monetise the impacts – value in a language business understands
Management	Evaluate options and optimise trade-offs – make better decisions

18 Visit about.puma.com/category/sustainability/epla
19 See pwc.com/tax under 'Tax policy and administration'

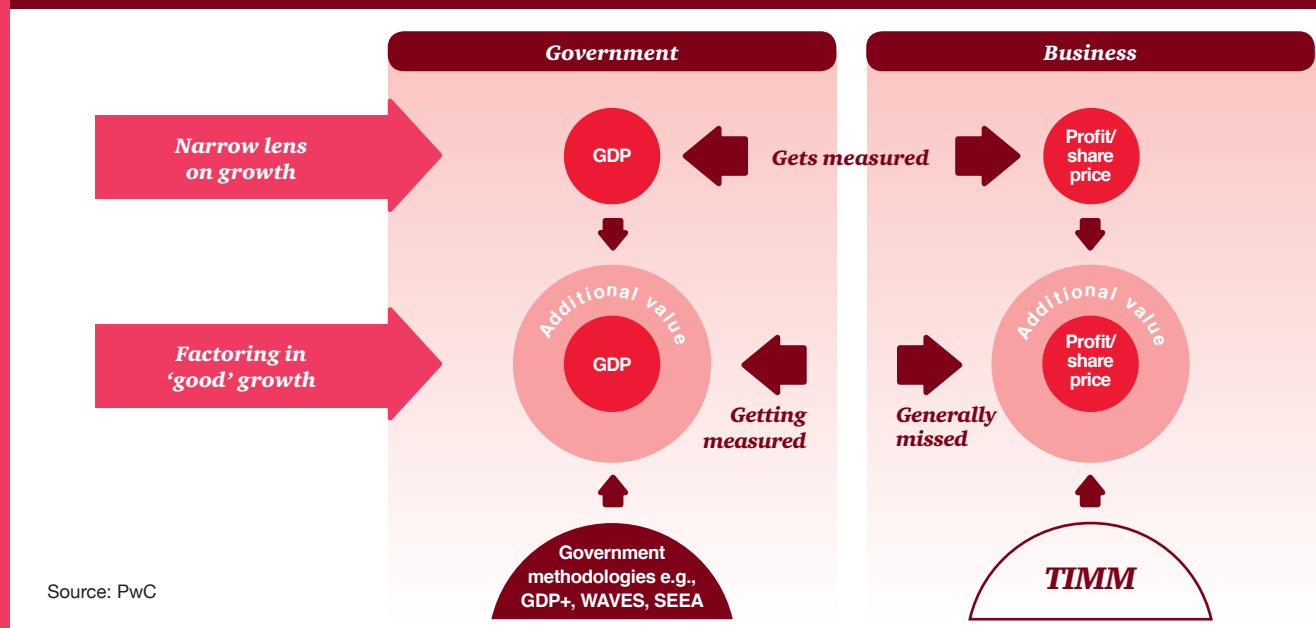
Box 3: Governments are evolving the way they measure growth

The new perspective on good growth and how it can be achieved demands a more holistic approach to measuring and managing value by businesses, governments and those they answer to. We are already seeing this in the development and adoption of new

ways for governments to measure national output (see Figure 7). These include GDP +, Wealth Accounting and Valuation of Ecosystem Services (WAVES)²⁰ and the System of Environmental Economic Accounts (SEEA)²¹, which enhance traditional

GDP measures with an evaluation of the depletion or replenishment of a nation's natural resources. These measures are gaining currency because they recognise that growth through the endless exploitation of natural resources is unsustainable.

Figure 7: Measuring value – government and business compared



²⁰ Wealth Accounting and Valuation of Ecosystem Services (WAVES) looks beyond the conventional System of National Accounts (SNA) by seeking to include intangible forms of wealth such as human capital and the benefits flowing from ecosystem services such as pollination and flood protection from mangrove swamps.

²¹ The UN Statistical Division's System of Environmental-Economic Accounts (SEEA) contains the internationally agreed standard concepts, definitions, classifications, accounting rules and tables for producing internationally comparable statistics on the environment and its relationship with the economy. The SEEA framework follows a similar accounting structure to the SNA. China, Germany and France are among the major economies following a SEEA-type framework.

TIMM seeks to create a holistic understanding of how a business's activities impact on a broad range of stakeholders and how these impacts in turn affect the business. Impacts arise directly through a business's operations and indirectly through the effects of its customers in the marketplace and by other organisations in the supply chain. Some of these impacts are positive and some negative.

The attributes of TIMM

So what sets TIMM apart from conventional management information and how does it seek to strengthen the basis for decision making? As we set out in Table 1, TIMM offers a number of unique attributes. Crucially, these include assigning monetary value to both individual and aggregate business impacts.

Table 1: Key attributes of TIMM

Attribute	Description
Measures value both to society and to the business	TIMM builds on existing measures of value, complementing these with the broader impacts of business on society – whether contribution to economic growth, tax payments, impacts on the environment and people.
Backward and forward looking	TIMM can be applied looking backwards to understand the value business has generated and looking forward to inform strategy and project-level decisions.
Flexible for different boundaries	As a framework for impact measurement and management TIMM can be applied at multiple levels. For example, to support assessment of specific projects, impacts in a country/region, a division, or across the entire enterprise. Equally, it can be applied to a whole value chain or specific elements, such as the supply chain.
Flexible to enable focus on material impacts	One size does not fit all. The framework enables businesses to select only their material impact areas. For example, the environmental impacts of land use may be not material for a professional service firm such as PwC, but are hugely significant for a brewer where key ingredients come from agricultural land.
Monetises impacts	By moving beyond more traditional measures of inputs and outputs to quantify and monetise outcomes and impacts, TIMM simplifies complex interdependencies by converting these into a language the boardroom is familiar with – money.
Accounts for attribution	Measuring impact means that TIMM takes into account consideration of what would have happened without the intervention of the business. This is important for assessing the unique value that is created by the way a business chooses to operate.
A balanced understanding of impact	By covering all the key elements of impact (economic, fiscal, social and environmental), TIMM supports a holistic view of value creation. In doing so it helps businesses avoid a natural tendency to focus on positive impacts.
Consistent information	Quantifying impacts across all the areas of TIMM in monetary terms enables comparison of impacts over time and between different strategic options. As more and more businesses adopt TIMM, stakeholders will be able to understand better the trade-offs businesses face and determine where partnerships will deliver mutual benefit.
Comparable information	Monetisation of all impacts also enables comparison across different types of impacts for the first time. For example, directly comparing between water use and GHG emissions, or between environmental impact and social impact. This enables trade-offs to be considered with hard numbers.
Produces decision ready/useful information	TIMM provides a strengthened basis for decision making, which seeks to bring information into line with today's more complex and uncertain business environment. It produces timely and reliable data that employs estimates and assumptions that are fit for purpose for business to make better informed decisions and engage stakeholders in meaningful discussions.

Source: PwC

Business benefits

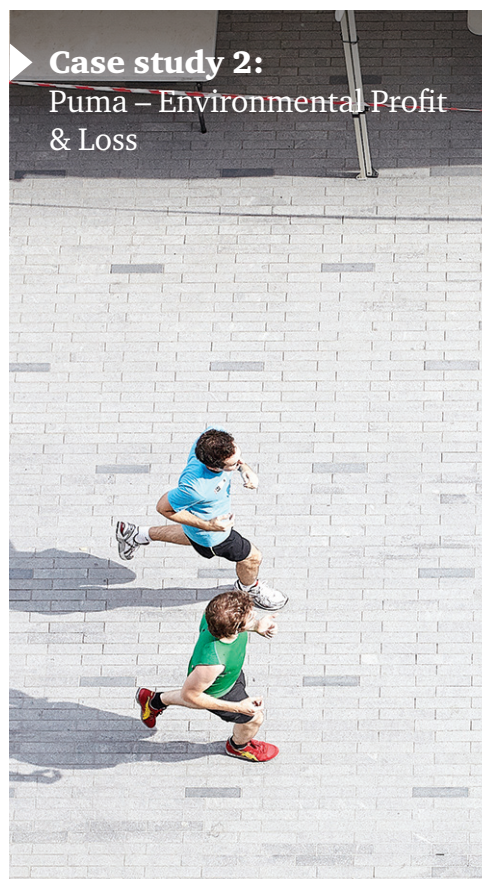
Adopting TIMM provides a number of tangible benefits to a business, helping answer fundamental questions such as whether a strategy will deliver sustainable shareholder value in the changing business environment, and how to demonstrate the value a business creates for its stakeholders.

The value of TIMM in strengthening decision making was endorsed by business leaders taking part in a survey specially commissioned for this report.²² Our survey of CEOs identified a significant appetite for this more holistic approach to judging business strategy and performance. More than 90% of the CEOs believe that measuring total impact would help their businesses to identify and manage their risks more

effectively (see Figure 8). More than 80% believe it would provide more insights than conventional financial reporting and identify new business opportunities. The strong support for this approach was further underlined in roundtable discussions with business executives, investors and NGOs.²³

From an external reporting perspective, most CEOs believe that communicating total impact would enhance their reputation with a range of stakeholders (see Figure 9). The ability to enhance reputation among employees is especially noticeable and would suggest that CEOs are taking a close interest in how their staff perceive and understand the value and importance of what they do.

Analysts are seen as noticeably less receptive to this kind of reporting, however. The feedback from survey participants suggests that some believe there may be an overemphasis from analysts and investors on short-term returns and this may be impeding interest in total impact evaluation. But if a longer-term view became the norm, could we see growing analyst and investor appetite for TIMM and a resulting response from businesses? To secure greater interest from analysts, businesses will have to demonstrate clearly how their management of total impact is delivering improved returns that may have been missed if a TIMM approach had not been adopted.



Case study 2: Puma – Environmental Profit & Loss

PUMA, the Sportlifestyle company, and its parent company Kering have been pioneers in the development and reporting of an 'Environmental Profit & Loss (E P&L)'. The aim is to put a monetary value on the environmental footprint across the entire value chain (material sourcing, manufacture and disposal), which in the case of PUMA is now being applied to particular products to help consumer comparison. For example, the environmental impact of its InCycle shoe is nearly a third less than its conventional suede shoe and equivalent to €2.95, or 3% of the retail price.

PUMA hopes that this sort of information will help aid more informed consumer choices as well as the development of more sustainable products and is exploring ways to bring this information to consumers as has been done with calories and nutritional information on food products. It can also help in discussions with government, for example addressing areas where sustainable materials may be subject to higher import duties than more environmentally costly alternatives.

PUMA and Kering have invested heavily as first movers and the question will now be at what point will consumer pressure and government policy make this the norm and what dividend can companies like PUMA reap in the meantime. To illustrate this dividend, for the first time PUMA had real insight into the environmental consequences of commercial decisions and of their impact on the environment by region, by product line and by use of raw material. And in the face of declining natural resources and biodiversity, the company was able to clearly assess the environment-related risk and act upon it.

²² 187 CEOs were polled representing a cross-section of sectors, business sizes and geographical locations worldwide.

²³ PwC Global CEO Pulse Poll June 2013

Figure 8: The business benefits of TIMM

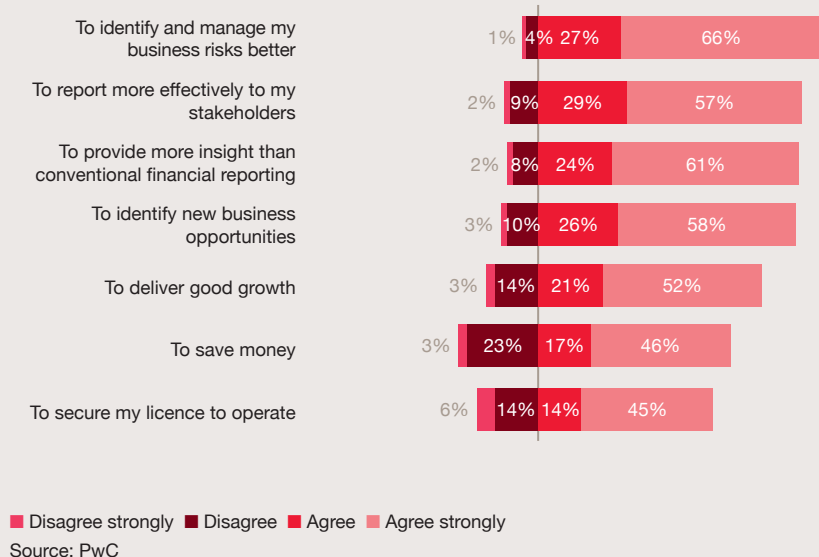
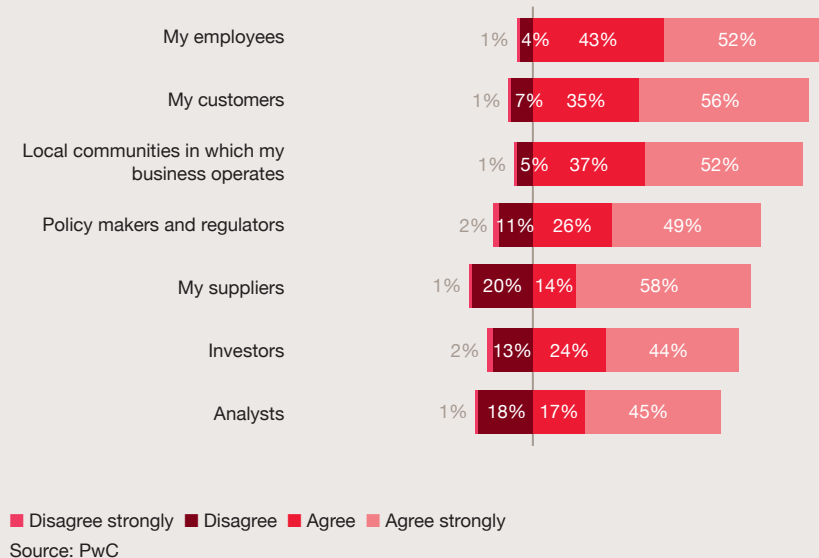


Figure 9: Who benefits from communicating total impact?



The next section provides further insight into how TIMM can be used in practice while the subsequent section considers what needs to happen if TIMM is to become part of the mainstream.

Case study 3:

Rio Tinto – Taxes paid reporting



Tax is a major subject of debate for all businesses, governments and other stakeholders. At Rio Tinto, tax strategy and payments are central to the approach to achieving sustainable development for the long term as a business, as a sector and as a global corporate citizen.

In 2010 the organisation committed to increase the level of detailed tax reporting on tax payments to governments by voluntarily providing a detailed breakdown of all the taxes paid, not just corporate income tax.

“We believe that our voluntary reporting can help to foster constructive debate over natural resource taxation policy as part of the overall contribution to economic development that responsible mining investments can make. We believe that it is essential for tax policy and design to take into account the cyclical nature of the industry and to respect agreements under which investment capital has already been committed. For an industry that makes multi-decade investments, with significant up-front capital expenditure, the risk of fiscal instability will influence the global flow of capital and a country’s ability to attract and retain investment. Above all, tax law should never be retrospective.”

Using TIMM to support decision making

Total impact measurement and management (TIMM) is not just an aspiration. It is the result of years of collaboration between PwC and some of the world's leading businesses. This section explains what is behind the approach.



This section is aimed at readers who are keen to know more about how TIMM works. As such, we build on the previous section and provide further details of how TIMM can be applied in practice. We start by describing the scope of the impacts which are covered and the methodologies and tools which we draw upon when applying TIMM. We then outline the steps which are typically needed, and explain the type of results produced and how they can be used.

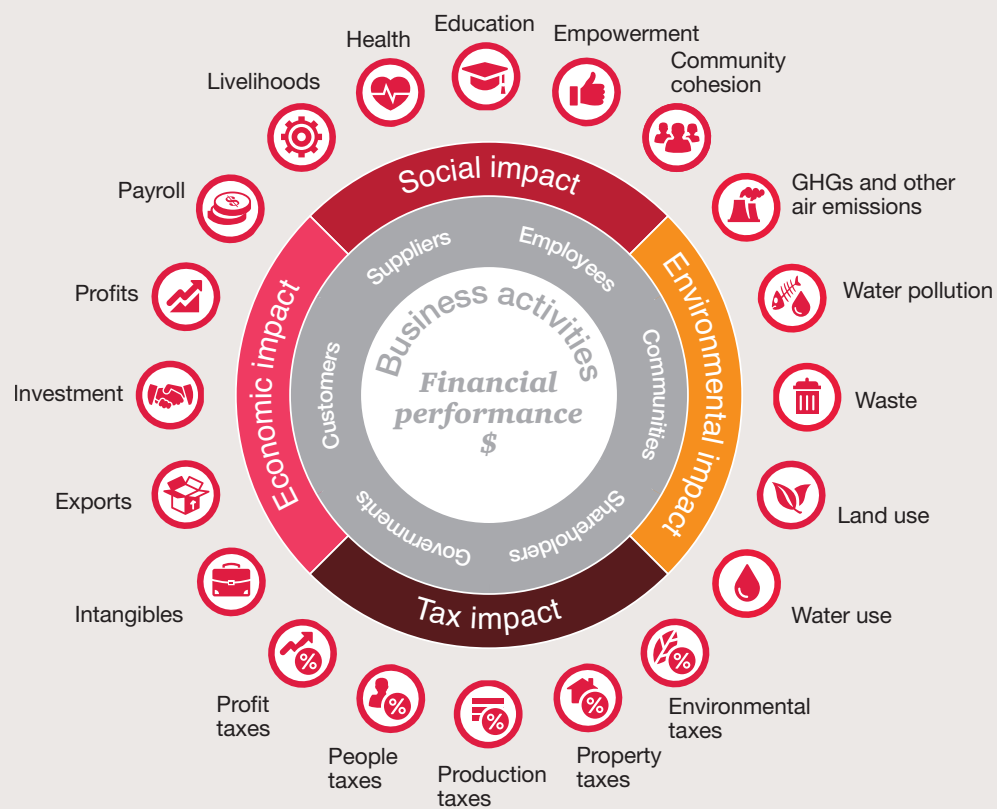
Scope of TIMM

TIMM is designed to help businesses make more informed and better decisions. It provides a holistic understanding of how a business's activities deliver value to the supply chains and communities in which it operates, through its contribution to the

economy and the public finances and through its impact on the environment and wider society (see Figure 10). In this way, TIMM provides a comprehensive assessment of how businesses generate and, potentially, destroy value for shareholders and for the diverse other stakeholders who are relevant to the business.

TIMM examines the impacts that arise directly through the effect of a business's activities and plans and indirectly through their effects on customers in the marketplace, other organisations in the supply chain and other stakeholders (for example, through the impact on local communities). Figure 11 summarises the scope of the impacts covered by TIMM.

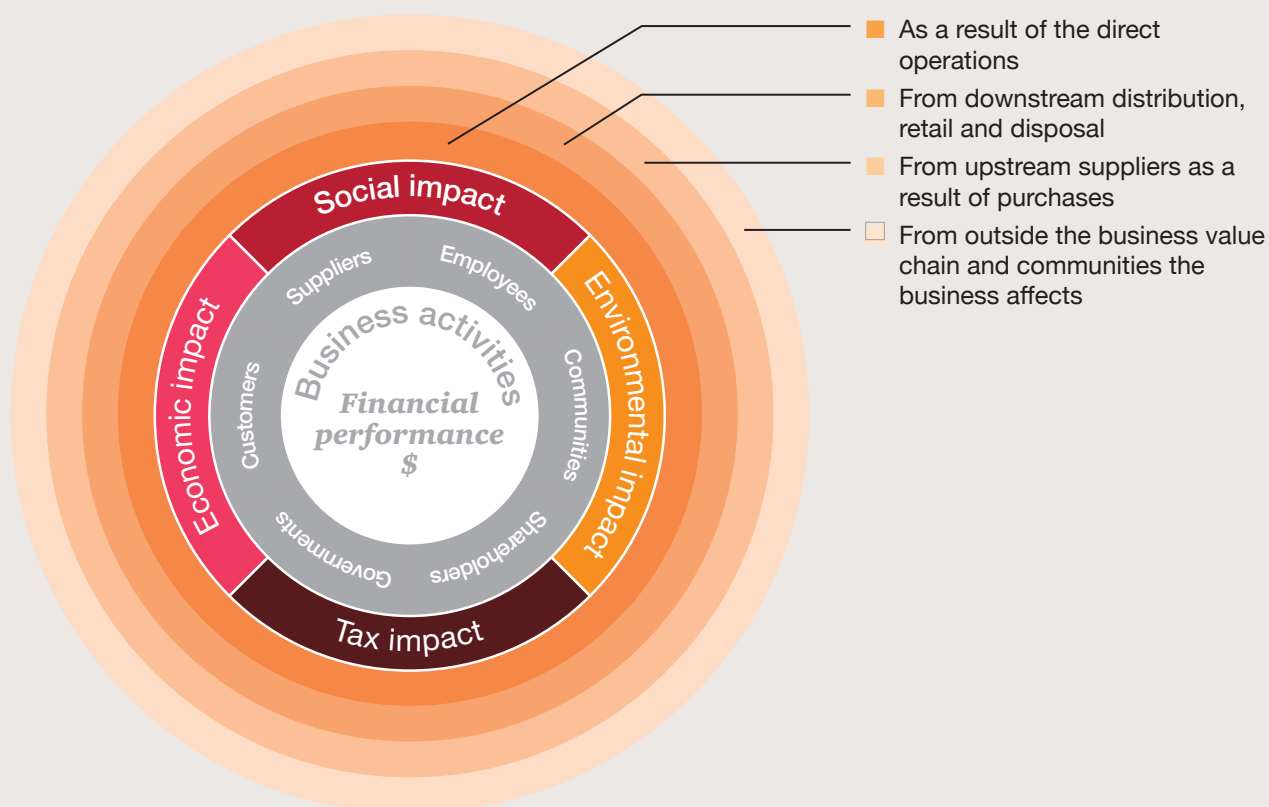
Figure 10: Illustrative dimensions of impact considered within TIMM



Source: PwC

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Figure 11: Scope of impacts addressed by TIMM



Source: PwC

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Methodologies and tools underpinning TIMM

TIMM draws upon a wide range of methodologies and tools. Some of them are well established, while others are developing quickly.

Often, the application of the methodologies and tools needs to overcome challenges in relation to evidence gathering, assessing the indirect impacts and valuing the impacts identified.

Table 2 summarises the elements of TIMM for each of the four individual areas: further details are provided in Appendix B.

Table 2: Overview of TIMM methodologies and tools

Impact area	Methodologies and tools
Fiscal	- Tax impact measurement assesses a business's overall tax contribution. - We already have a well-established process which builds on our Total Tax Contribution (TTC) methodology²⁴ which was developed in 2004 and is now used by a large number of businesses to report and analyse their tax payments. - TTC uses a standardised approach to assess all the taxes that a business pays and collects on behalf of the relevant tax authorities. The taxes borne by a business are those taxes that represent a cost to the business, such as corporation tax, while the taxes collected are those that are generated by a business's operations, but don't impact on its results, such as sales and payroll taxes. - TTC can be combined with input-output modelling (and other economic modelling techniques) to estimate the taxes that a business enables through its value chain in addition to those which it directly pays and collects.
Economic	- Traditional economic impact analysis assesses a business's economic contribution in terms of value added and employment. It covers not only the direct impact but also the indirect impact (through the supply chain) and the induced impacts (from spending by employees in all the supply chain). - Economic impact analysis starts with a business's financial (e.g. profits and wages) and procurement data. These are then linked to economic models which describe the structure of the relevant economies (for example, input-output tables or computable general equilibrium models) to estimate the indirect and induced impacts of the business on value added and employment. - Businesses may also generate 'wider' economic impacts which extend beyond the supply chain and over time. For example, they may include spill-over effects as a result of the effects of R&D activity, the exploitation and transfer of new technology, enhancements to the stock of human capital and from infrastructure development and clustering. - We have carried out economic impact analysis for over 20 years, but it is only relatively recently that the established techniques are being incorporated alongside the other dimensions of impact.
Environmental	- Environmental impact measurement covers emissions to air, land and water, and the use of natural resources. - Environmental impact analysis has been around for a long time and applicable to public and private sector projects, although the valuation of these impacts at an enterprise level is less developed. - The methodology quantifies the changes in ecosystem services resulting from value chain activity by using business data (e.g. purchase ledger), public information (e.g. ecosystem databases) and modelling. - We use welfare economics techniques and peer-reviewed academic research to assess the resulting impacts on society. For example, use of fresh water in the manufacture of products and services influences the availability for others e.g. for food production or drinking. - The methodology quantifies the changes in such ecosystem services and converts these impacts into monetary terms. - In 2010, our developments in this area came together in the production of the first E P&L by Puma (see Case study 2) which has been endorsed by independent academic review. We have continued to develop our methodology to respond to the findings of this review.
Social	- Social impact measurement focuses on measuring the consequences of business activities on key stakeholder groups such as employees, customers and communities. - Business activities can generate social impacts including on health, education, standard of living, empowerment and/or community cohesion. The improvement (or deterioration) of these outcomes drives improvements (or reductions) in well-being and wider social value. - Our method involves creating impact pathways to understand how business activities cause social impacts and how these produce welfare impacts (over and above those captured in the economic impact analysis). - We use non-market valuation techniques (e.g. willingness to pay or well-being valuation) to put a monetary value on these impacts. - In some cases, these values can be derived from existing literature (although the current literature is more limited than in other areas), national well-being surveys and various forms of primary research. - Where no credible and/or relevant literature exists on the social impact, we use secondary and primary data gathering from beneficiary groups (and comparative non-beneficiaries). - New emerging approaches also allow us to estimate the social value associated to a business's activities using national life satisfaction data across a significant number of countries.

Source: PwC

²⁴ To find out more about PwC Total Tax Contribution visit <http://www.pwc.com/gx/en/tax/tax-policy-administration/what-is-total-tax-contribution-framework.jhtml>

Case study 4:
Scottish Hydro Electric (SHE)
Transmission

SHE Transmission is currently building a new 400-kilovolt transmission line in Scotland. At present there is no approach to help assess the value of the full range of impacts, including consent conditions, of a new transmission line. Through the use of our TIMM framework, we've worked with SHE Transmission to develop a range of methods to measure and value all material social, economic, environmental and fiscal impacts in the UK resulting from the construction of the transmission line.

The project is now in the process of estimating the value of the line's impact on areas such as visual amenity, cultural heritage, traffic, land use and waste, as well as considering taxes paid and the contributions to local and national GDP. This approach will help SHE Transmission to communicate more effectively to stakeholders how planning choices and consent conditions affect the impact of the transmission line, including any trade-offs generated.

And by building jointly with SHE Transmission a transparent and quantitative framework, they will be able to revolutionise the way that social, economic and environmental impacts are considered when planning and implementing future projects. This will not only add value to the business, but also value for society.

In keeping with the three fundamental questions we posed earlier in the paper, this might be gauging the long-term sustainability of strategies, determining the right investment choices or demonstrating the value to stakeholders.

Applying TIMM – the five-step process

Figure 12 outlines the five key steps in applying TIMM.

The first step is to define the scope. In keeping with the fundamental questions we posed earlier in the paper, this might be gauging the long-term sustainability of strategies, determining the right investment choices or demonstrating the value to stakeholders. Then, it is about defining the scope of the impacts to be included, for example the timeframe, the geography, the areas of business and the relevant parts of the value chain.

The second step is to determine how far the impacts reach along what are likely to be extended supply and sales chains within modern business. This means understanding the dimensions of total value through end-to-end mapping to ensure that all impacts are considered and a structure for capturing impacts is formed. It also means determining the social, economic, environmental and tax impacts from each part of the value chain, how they arise, what methodologies can and should be used to assess them and what data need to be collected to apply them.

As the third step highlights, a significant amount of the necessary information in areas such as employment, tax paid and resource usage will be available within existing databases. Any necessary additional information can then be sourced externally in the fourth step, be this from suppliers or from targeted evaluations in areas such as community well-being.

The final stage is to quantify outcomes and impacts and to put a financial value on the impacts and track them over time. This involves using techniques such as economic and process modelling to estimate impacts and valuation techniques to monetise these.

As more impact evaluations are carried out, the process is gradually moving from prototype to business as usual. This is allowing techniques to be refined and costs to come down. As we examine in the next section, one of the key priorities for the development of TIMM is how to win confidence in the techniques and bring them into the mainstream.

Figure 12: Applying TIMM – the five-step process

Total impact includes social, environmental, economic and tax impacts

Define scope

What's the objective? ... to gauge the long-term sustainability of strategies, determine the right investment choice or demonstrate value to stakeholders?

What impacts to include? ... timeframe, business areas, geography, parts of the value chain.

Define dimensions of value

How far do the impacts reach along the value chain? This requires mapping of the total impacts and understanding of each one – how they arise, what methodologies to assess them with and the data needed to do so.

Collect existing data

What information can the business provide? A significant amount of information is likely to be available within existing corporate systems (e.g. employment, tax payments and resource use).

Source new data

What additional information is needed and how can it be generated or provided? Any necessary additional information is sourced externally – from suppliers or targeted evaluations eg. community well-being.

Analyse data and value impacts

What is the value of the impacts? Put an economic and social value on the impacts and assess these over time. This involves using techniques such as economic and process modelling to estimate impacts and valuation techniques to monetise these.

Source: PwC



Case study 5: HP's 'Go West' strategy in China

HP, like other international companies operating in China, invested in the coastal cities like Shanghai to manufacture goods such as personal computers and printers. In 2008, it noted concerns such as inflationary pressures because of rising food and energy prices, labour shortages, high staff turnover and absenteeism.

In response, HP decided to 'Go West'. By encouraging its suppliers to build new facilities in cities like Chongqing, it was able to reduce its costs, increase staff retention and improve the working conditions of the tens of thousands of workers in its suppliers' factories who no longer needed to move from their homes to coastal cities to find work.

However, a critical need to improve the logistics of moving products from Chongqing to HP's consumer markets in Europe remained. Air freight was expensive and transport by road to the coastal ports and then by sea freight took nearly 34 days. HP pioneered the use of the TransEurAsia Railway which connected China to Europe and provided it with a more economically viable route that took only 22 days.

HP's 'Go West' strategy, including the use of the TransEurAsia Railway, is part of its larger supply chain social and environmental responsibility programme.

It underscores how HP has been able to use its scale, purchasing power and experience to drive innovation and improve its business processes. The strategy is delivering important benefits for:

- Workers and the local community: the TransEurAsia Railway means HP can keep its manufacturing facilities in western China and remain competitive so driving employment and economic growth in the region and improving working conditions for tens of thousands of its suppliers' factory workers.
- The environment: by using rail rather than air transport, HP's carbon footprint from transport is reduced by up to 95%.
- The business: using the TransEurAsia Railway costs one-third that of air transport, reduces the time to reach the European market by one-third the time of trucking products to the coastal cities and shipping them and also reduces HP's inventory costs.

For more information on HP's supply chain social and environmental responsibility programme go to <http://www.hp.com/hpinfo/globalcitizenship/society/supplychain.html>

Hypothetical Example:

To illustrate how TIMM works we have prepared this over-simplified hypothetical example. We recognise that in reality there will be numerous trade-offs and considerations to be made, but here, to keep things simple, we explore just two.

Business type and geography:

Brewer in Africa

Key strategic question:

Should barley be imported or should an alternative, locally grown crop be grown for the brewery?

Description of strategic context:

Procurement decisions include capital and revenue expenditure (including overheads) as well as potential risks such as regulatory change. Often they do not take account of wider impacts (e.g. environmental or social) or the more intangible implications for business (e.g. reputation or changes in consumer attitudes).

In this case, the brewer wants a balanced, holistic analysis to support its decision. An approach that compares the total long-term impact of using barley with that of a locally grown alternative will provide the basis for transparent decision making on sourcing. This new total impact perspective could also help address, for example, security of supply and foreign exchange exposures. In addition, it would allow the brewer

to develop a clearer long-term strategy for the business and help engage with stakeholders on the basis of a more credible analysis of the impacts of business decisions.

How TIMM could be used (examples of analysis)

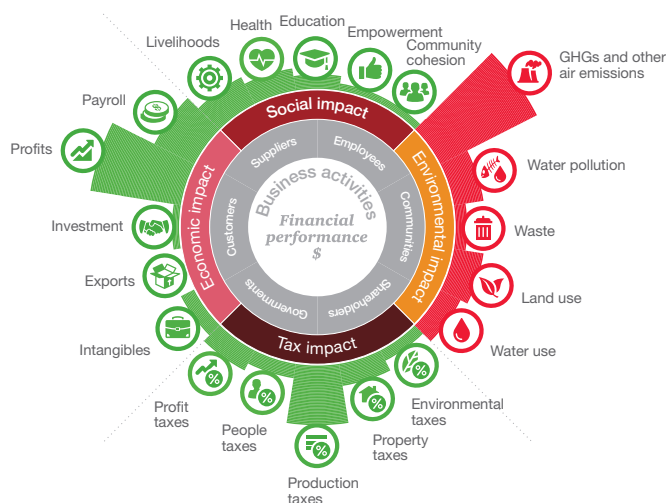
The brewer has two options: it can import barley from Country A (Option 1) or it can grow an alternative crop locally in Country B (Option 2). Each option has different social, tax, economic and environmental implications as well as, of course, financial ones. TIMM can be used to measure and value not only the business financial performance, but also the societal costs and benefits of each option on both a global and a national basis. A simplified analysis of the pros and cons of each strategy are set out below.

Summary outputs of the TIMM analysis

Figure 13 summarises the results of the TIMM analysis for the two options. Each bar represents a positive (green) or negative (red) impact. The inner circle represents the expected return to shareholders. The different impacts can be compared and aggregated.

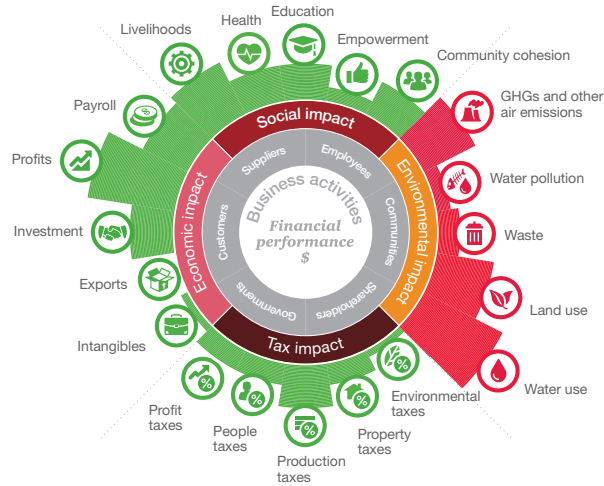
Figure 13: Using TIMM to weigh up the options

Option 1: Import barley



Source: PwC

Option 2: Grow and source locally



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Business financial performance:

- Local sourcing in Option 2 reduces the brewer's costs and risks due to lower distribution costs and reduced foreign exchange exposure.
- Local sourcing in Option 2 enhances the brewer's reputation with local consumers which is reflected in stronger demand and customer loyalty; in Option 1, the brewer's reputation in barley-growing countries is weakened, but only marginally.
- However, Option 2 has higher set up and running costs, including supply chain development, community investment and increased local staff and offices.
- Trade-off: Will reduced operating costs of Option 1 outweigh the benefits and set-up costs of Option 2?

Environment:

- Option 2 generates lower greenhouse gas emissions as transport demands are lower and creates less water pollution because more traditional growing techniques are utilised which use natural fertilisers.
- On the other hand, Option 2 has some higher environmental costs due to less advanced waste management and the loss of valuable ecosystems which may have been cleared for agricultural purposes.
- Even though the alternative crop chosen requires less water than barley, Country B has greater water scarcity which makes it more valuable in comparison to Country A.
- Trade off: Which is better... reduced global greenhouse gas emissions or better water availability in Country B?

Economic:

- More mechanised barley production in Country A means that more physical capital is employed in Option 1.
- Local procurement under Option 2 has more wide spread economic impacts along the brewer's supply chain. Although, given the higher value added activities across the supply chain for Option 1 (i.e. higher use of technology), this generates overall higher profits.
- Additional investment is needed under Option 2 to establish the infrastructure required for local production which will have a positive economic impact.
- At a global level, there is no net effect on exports so the impact in both options is zero.
- Even though Option 2 will require more local employees, these generate lower value added per employee so the overall impacts for the two options are similar.
- Trade-off: It can be seen the impact on the economies of the two countries is very different under the two scenarios.

Social:

- Under Option 2, local farmers benefit from access to a (more) secure market and the support of the brewer in developing business infrastructure such as co-operatives, training and health services. This is reflected in more secure livelihoods, greater self-confidence and enhanced cohesion of the agricultural communities.
- Under Option 1, barley is bought on the international market with no established direct supply chain relationship. This means the brewer's influence is weaker on the social outcomes in exporting communities.
- Volumes of beer consumption are largely unaffected by the choice of option.
- Trade-off: There would appear to be a clear social impact benefit of Option 2.

Tax:

- Under Option 2 the brewer is expected to be more profitable in the long term and, hence, liable to greater profits tax. However, in the short term, the costs of establishing the local supply chain will reduce profits tax.
- Under Option 1, duty would be payable on imports of barley; this would not be offset by the taxes payable by local farmers.
- Trade-off: In reality, tax considerations would be considerably more complex.

Summary

In this hypothetical example, in the absence of total impact thinking, the decision would have been made largely using financial analysis with some qualitative overlays.

TIMM brings a new perspective. Using TIMM and putting a value on the qualitative overlays, the total impact of each decision is clear and the many trade-offs between Options 1 and 2 are easy to identify. It is immediately obvious that there are two key trade-offs that need to be considered:

- reduced green house gas emissions vs increased water usage in a more water scarce location
- improved societal outcomes vs an increased use of an already scarce water resource in those same communities

TIMM may not be able to provide the empirical answer, but it gives management significantly more information with which to make a more informed decision, and communicate the rationale for that decision with their multiple stakeholders.

Bringing TIMM into the mainstream

Business and society are asking for a new language to understand and communicate value and growth. Businesses which have worked with the TIMM framework believe that this offers a robust starting point to evaluate decisions and to judge performance.

But new languages are not learnt overnight. In this section, we review what can be done by governments, regulators, investors and corporates alike to make total impact assessment the new “business as usual”.



The next big challenge is how to bring total impact measurement and management into the mainstream so that it becomes an essential element of how businesses are run and judged by all stakeholders. This means developing a clear vision and understanding of how TIMM can realise its full potential and then overcoming the barriers that have created an execution gap between businesses' perception of the value of the total impact approach and how many businesses have actually adopted it.

Businesses' view of TIMM

Our survey of CEOs identified a significant appetite for the use of the total impact approach for judging business strategy and informing business decisions. More than 90% of the CEOs believe that measuring total impact would help their businesses to identify

and manage their risks more effectively (see Figure 8 on page 21). Further, more than 80% believe it would provide more insights than conventional financial reporting and help them to identify new business opportunities.

Even though many businesses can foresee the benefits of the total impact approach, we believe that the approach may have even greater relevance and potential than some business leaders currently recognise, especially given the changing business context.

At present, however, there is a significant execution gap, with more CEOs seeing the potential benefits of the total impact approach than are actually using and reporting these measures. This suggests that the demand for TIMM information has outpaced the ability of businesses to supply the data.

In terms of reporting and communication, some may prefer not to disclose the information, although our interviews with business suggest that a major reason is concern over whether stakeholders would fully understand or necessarily trust the numbers. As we explore later, a standardised approach would enhance the credibility and comparability of reporting.

Current use of total impact frameworks

Figure 14 summarises how the four dimensions of our total impact approach are currently incorporated in business decision making and reported externally.

When considering their areas of impact, less than one quarter of businesses that responded to the survey were using impact analysis for decision making and less than 15% for reporting. Though many businesses are incorporating economic, environmental, social and tax information into decision making and reporting, it is questionable whether so many businesses are using outcome and impact information as proposed by our TIMM framework.

Our vision for TIMM

With TIMM in the mainstream all businesses will have:

- The tools for a new basis for value creation which is aligned with ‘good growth’
- All stakeholders, including employees, communities, suppliers and regulators, working together to realise mutual opportunities to reduce friction in the system and ease the way for good growth

- Increased reputation from greater transparency of their impacts and the trade-offs they have had to consider

These benefits are underpinned by a single total impact dataset, with different cuts of the same source data underpinning strategic decisions and external communications.

Figure 15 sets out what we believe are the key steps in realising this vision.

Figure 14: Current use of impact analysis for decision making and reporting

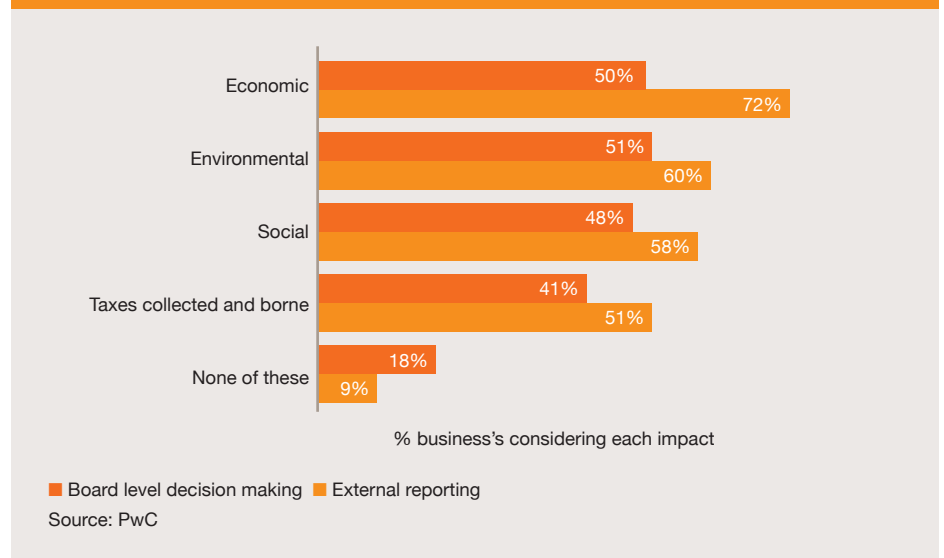


Figure 15: Realising the vision

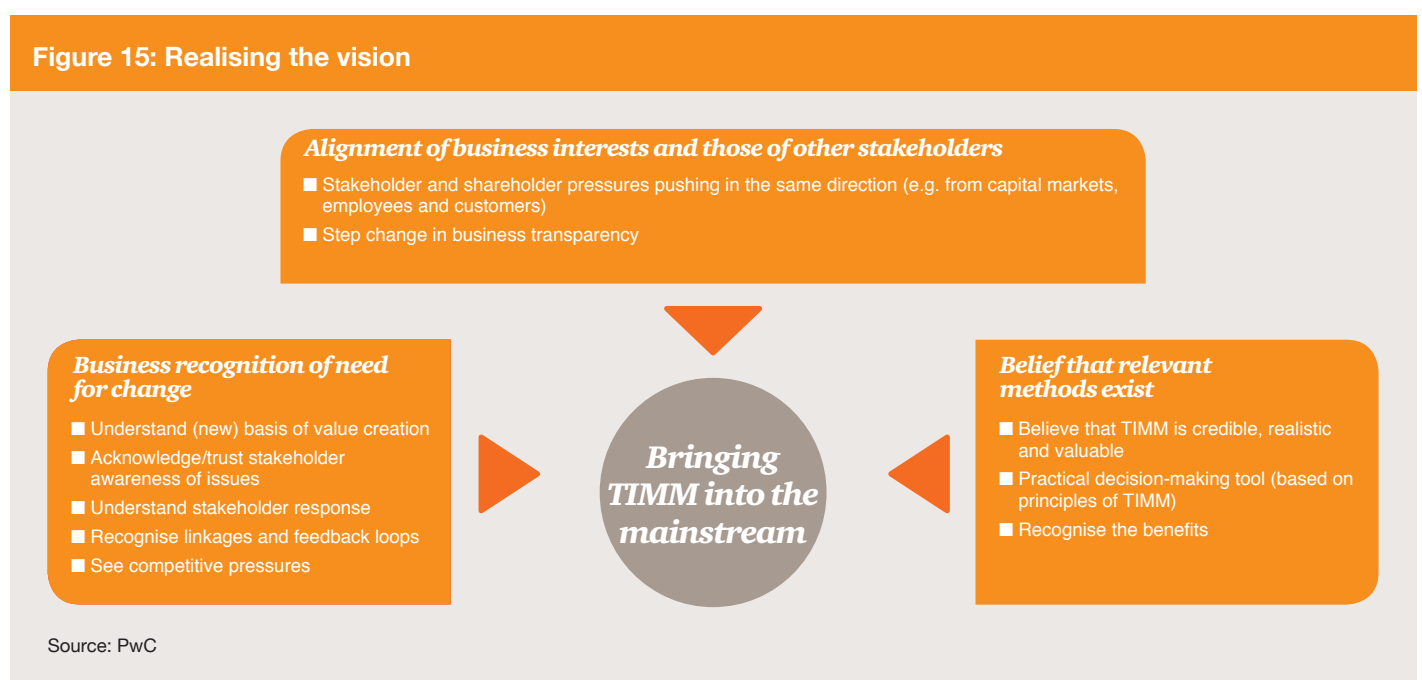
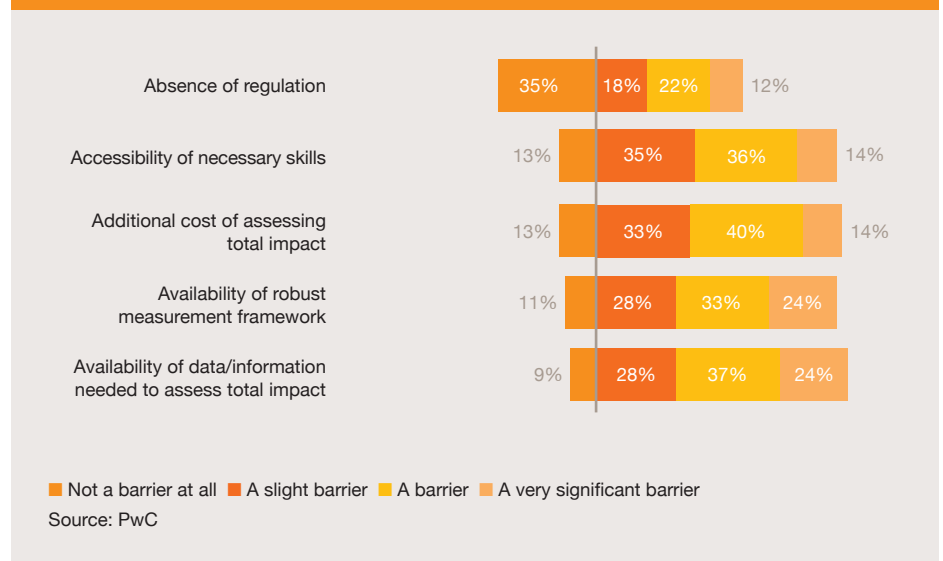


Figure 16: Potential barriers to adoption of TIMM



“The rise of local expectations, fuelled by improving communications and the presence of more effective NGOs that understand the emerging power of the local voice, is redefining the concept of sustainable mining practices. In simple terms, if we cannot convince our local partners that the developments we propose for their backyard will benefit them in the long term, our ability to develop our projects will be seriously compromised.”

Mark Cutifani, Indaba, February 2013

The key question is how to harness business support for ‘good growth’ and interest in the total impact approach. ‘Total impact’ will only really come into its own if business believes that it can help it to make better decisions and generate more value for stakeholders. This, in turn, will only happen if business can measure and communicate its impacts on society in a meaningful way to shareholders and all other stakeholders alike.

Two key conditions are necessary for success. First, we need to make sure impact measures are sufficiently consistent to provide meaningful comparisons across business. Secondly, we want the catalysts to be business imperatives such as developing new products, new markets, building reputation with all stakeholders and licence to operate.

Barriers

So why have less than one quarter of the business leaders responding to our survey incorporated total impact frameworks into their business? Measuring and managing total impact is still a relatively new concept and many CEOs are concerned about the practical challenges of TIMM. Figure 16 highlights the barriers that

will need to be overcome before the total impact approach gains widespread acceptance and take-up within decision making. Top among them are the perceived lack of the data and other information needed to assess total impact and the absence of robust measurement frameworks. Interestingly, lack of regulation is seen as the least important barrier, indicating that if the other barriers could be removed, lack of regulation would not stop many businesses adopting a total impact approach.

Accelerating the adoption of total impact frameworks

The nature and extent of the barriers to the adoption of total analysis for both decision making and reporting suggests a need for some form of intervention to accelerate the process.

Earlier in the paper we outlined how there is a gap between the investment in the standards, people, processes and technologies that underpin management accounting and financial reporting, and the investment in new reporting aspirations such as Integrated Reporting. To enable businesses to respond to the changing business context and realise the associated new opportunities, this gap will need to be closed.

So what needs to be done to accelerate the adoption of the total impact approach? We believe it will require a combination of:

- **Carrots**, which provide business with a greater incentive to make use of the total impact approach to measurement and management;
- **Enablers**, which help to reduce the costs and increase the confidence of those businesses which adopt total impact frameworks; and
- **Sticks**, which create pressure on business to make use of total impact frameworks, if the carrots and enablers are likely to be insufficient.

First movers have already come to the fore in many areas of impact measurement. Figure 17 'Charting the course towards mainstreaming TIMM' illustrates this. Fast followers are now joining them as they see the potential upside benefits and understand the potential risks of falling behind. The catalysts of reputation and licence to operate mean that larger businesses are likely to be in the vanguard, with their market influence helping to bring in

their suppliers (many of them smaller businesses). Some may wait for a 'critical mass' to emerge. But if competitors are making use of a stronger basis for decision making and generating the resulting returns, simply waiting for others to follow may be a dangerous strategy.

Carrots

The uptake of total impact frameworks can be incentivised through:

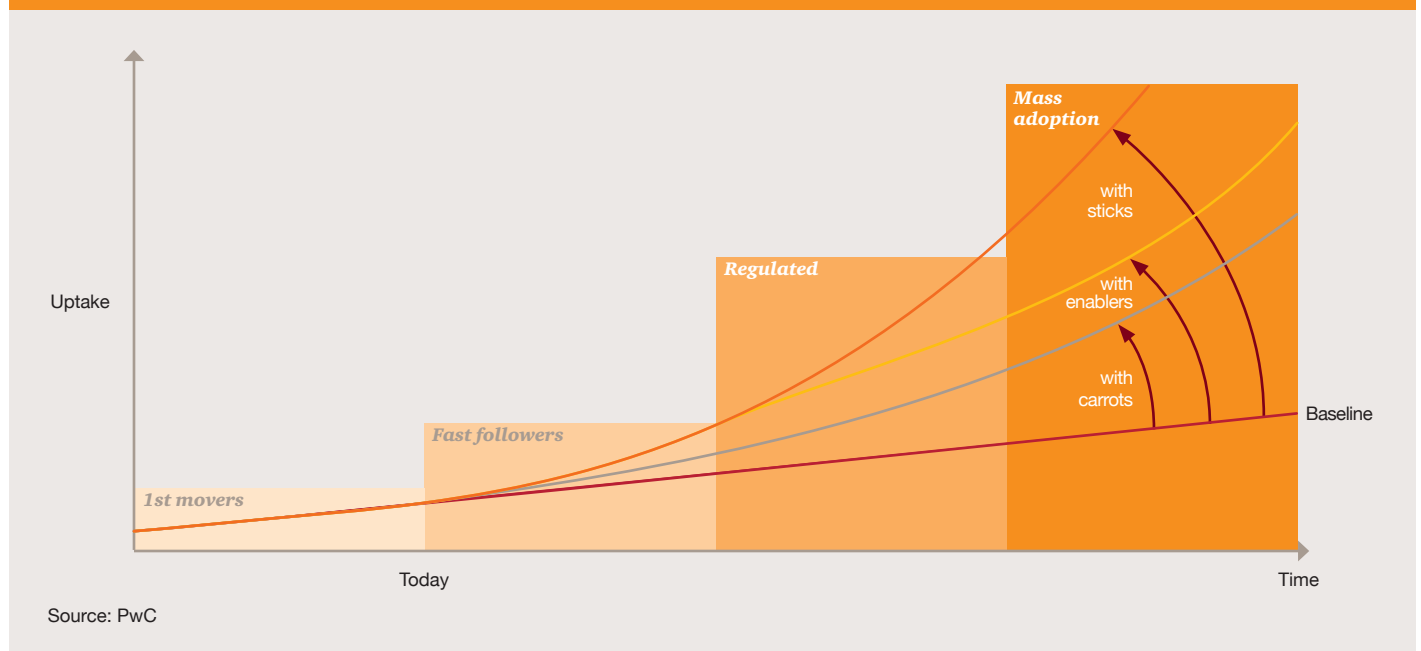
- Greater awareness: of the range of benefits for the business from the adoption of a total impact approach, and the existence of a new way of thinking that provides decision-useful quantified data.
- Competitive pressure: the extra value and 'good growth' achieved by leading businesses and fast followers who have adopted TIMM will encourage others to follow.
- Requests from customers and suppliers: as TIMM encourages consideration of impact across the whole value chain, one actor in the chain can incentivise a change across the entire value chain.

- Pressure from stakeholders: as more and more stakeholders become aware of TIMM and the transparency it offers, the external pressure on businesses to communicate their total impact will ratchet up.
- Case studies of success: Businesses promoting the benefits they have gained from the adoption of TIMM will act as a catalyst for others to follow.

Additionally, as more and more businesses adopt TIMM, the costs will reduce and the pool of skills and availability of impact data will increase. This will begin to have a snowball effect on the pace of adoption.

However, carrots alone may only influence a small percentage of businesses. To increase the pace of adoption more rapidly, a series of enablers will be required.

Figure 17: Charting the course towards mainstreaming TIMM



Enablers

The adoption of TIMM will benefit from the following:

- Robust measurement frameworks, methodologies and tools: TIMM needs to be underpinned by methodologies, frameworks and standards developed by credible organisations which provide business with the confidence that measuring total impact is practical and achievable. Many organisations need to be involved in this development so that the best ideas rise to the top.
- Support of influential advocates: business will look to industry bodies and their membership organisations (such as WBCSD, TEEB4B, WEF, IIRC) for reassurance that the benefits are real. Many of these organisations are already advocates (e.g. IIRC and WBCSD with their focus on ‘capitals’). Other organisations will need to explore the benefits for their members.
- Training and development: development of skills and critical mass of people with the necessary expertise. Similar to the experiences with management accounting and financial reporting, demand for trained and experienced individuals will grow and the availability of skilled people will enable more businesses to adopt impact measurement.
- Research and development: impact assessment relies on research undertaken by academic institutions and businesses to link the activities of businesses to their impacts on society. An increase in research by academics, businesses and communities will help to increase the robustness of impact assessments. The more of this that is open source, the easier it will become for business to carry out their own assessments.

- Support of investors: analysts would need to be made aware of how this approach can measure threats and sources of value that they and the business they are rating might otherwise miss. We’ll know total impact has arrived when analysts start asking about it at presentations. Figure 18 shows how the expectation of the capital market might drive the take-up of TIMM.

With effective enablers in place, the barriers to adoption will reduce even further. Economies of scale will bring costs down further, techniques will be industrialised, more and more businesses will be inclined to report as impact measurement becomes more comparable and impact data will start to become open-sourced.

Will enablers shift rates of adoption to a critical mass that means that businesses will receive more pressure for not measuring and reporting total impact than praise for doing so? There is likely to remain a group of businesses who have not considered the potential benefits from adoption. To further increase adoption of TIMM some sticks may have to be used.

Sticks

The most common stick used to encourage business behaviour is regulation. Regulation has advantages and disadvantages, but history shows it can achieve the fastest and most far-reaching change. The Clean Air Acts in the UK have had a decisive effect on pollution levels in the UK, eliminating London’s infamous ‘smog’ as gas suppliers shifted from ‘town’ to ‘natural’ gas. Table 3 sets out some of the advantages and disadvantages of regulation.

Many CEOs see regulation as important or necessary for stimulating the take-up of TIMM (see Figure 19). One way forward would be to use regulation as a last resort only if using carrots and enablers does not have the desired effect on take-up. Space for the development

Figure 18: Need for capital markets to expect business to report driving adoption of total impact framework

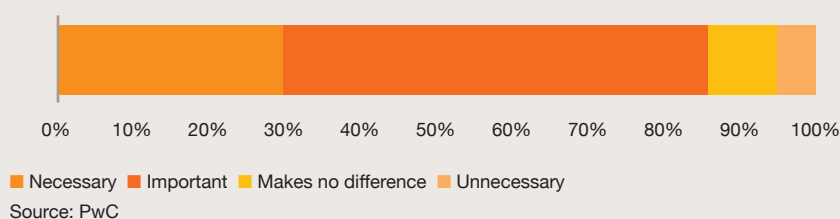
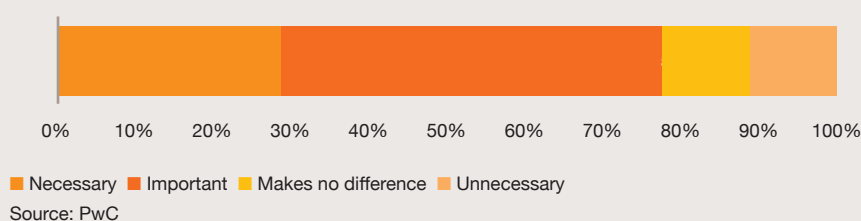


Table 3: Advantages and disadvantages of regulation

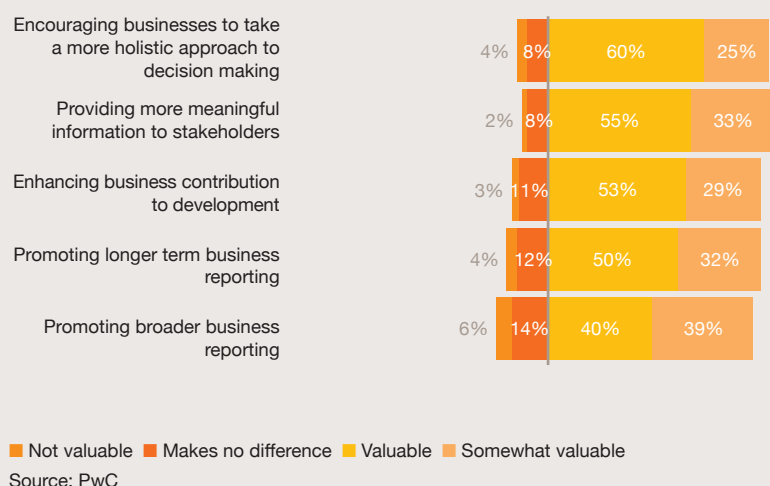
Advantages	Disadvantages
• Compliance is monitored	• Lack of incentive for innovation and forcing a reactive, tick-box approach
• Credibility and comparability from the use of recognised guidelines	• Places a compliance cost and bureaucracy on business
• Changing the corporate culture – raising the area up the corporate agenda	• Undermines first mover advantages
• Avoids non-disclosure of negative performance	• Involvement in the development of voluntary standards provides businesses with an avenue to learn in a safe environment
• Can reduce costs of providing bespoke information to stakeholders (e.g. investors)	• Often assumes one size fits all

Figure 19: Need for government regulation to stimulate take-up of TIMM



Focusing on the carrots and enablers will therefore be critical for mainstreaming TIMM. Papers like this are important, as is support from the likes of the UN, but the messages need to come from all angles. We encourage all organisations to join the debate at pwc.com/impact, and for companies to ask their suppliers to get involved, for governments to ask questions of their suppliers, and for investors and NGOs to ask businesses what is their total impact.

Figure 20: Value of UN moves to promote social and environmental reporting



To support this momentum all of the enablers highlighted above will need focus. We need investors to demonstrate that this is linked to core business value, standard and framework developers to bring this more into the mainstream, more research into impacts to provide the data for companies to perform impact assessments easily, and the development of capacity to deliver TIMM data and catch up with other areas of management information such as financial management. All this will benefit greatly from the support of influential advocates – we are already seeing this with the likes of the WBCSD and its focus on natural, social and financial capital.

of methodologies and standards will be important, especially within the formative years.

The UN also wants businesses to move in this direction. In particular, the UN High Level Panel of Eminent Persons post-2015 Millennium Development Goals (UN HLP) is urging businesses to do more to measure and report on their social and environmental footprint so that they become more accountable for their actions (we contributed one of the background papers for the report, which looked at the role and development of TIMM).²⁵ When asked how valuable the UN HLP proposals would be, a significant proportion of CEOs in our survey highlighted the potential to provide more meaningful information for stakeholders and encourage businesses to take a more holistic and longer-term approach to decision making (see Figure 20).

The way forward – our view

We believe it is currently too early to consider regulation. The frameworks, standards and tools that underpin TIMM are still evolving fast and we embrace this evolution as a necessity to reach the optimal approaches.

Regulation can also stifle innovation through the adoption of a compliance mind set which would affect the required evolution. We need more companies to dip their toes in the water and trial TIMM and share what they learn with others and contribute to the ongoing innovation in the area.

Consideration also needs to be given to the value assurance can play in the uptake of TIMM. Development of new high-value management information means companies will be looking for comfort that the information they are using to make decisions is fit for purpose and information shared externally is credible. Companies and the accounting profession are already looking at the future of assurance²⁶ and information on total impact should form part of this debate.

²⁵ A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development, published by the UN HLP, July 2013

²⁶ <http://www.icaew.com/en/technical/audit-and-assurance/the-future-of-audit>

Conclusion: Equipping business to generate good growth

Effective total impact measurement helps businesses to make better business decisions by enabling them to understand how their activities create, or destroy, social, fiscal, environmental and economic value while still, of course, making a profit for their shareholders. In this way, it gives management the ability to test its strategies and make important business decisions such as investment choices and supply chain management.

Key benefits include the ability to understand business risks and identify new business opportunities by examining critical trade-offs and developing plans capable of generating maximum value to society and the business. It also transforms stakeholder engagement by providing a structured, comparable and meaningful basis for reporting and communication.

The next big challenge is how to bring total impact measurement and management into the mainstream. Our TIMM approach seeks to overcome the barriers that have created an execution gap between businesses' perceived value of the total impact approach and how many businesses have actually adopted it. As take-up increases, we believe that these kinds of measures will be a crucial element of how businesses are run and judged by stakeholders.

Our work to develop TIMM draws on the extensive existing literature and methodologies which we have augmented with some new thinking. We have tested this with our clients and pulled it into a single framework that we believe meets the demands of a business model that can deliver 'good growth'. However, we acknowledge that TIMM is still work in progress and further work is needed. We are publishing this report as a contribution to the debate and we would welcome further dialogue to help move the debate forwards.

For more information on TIMM and to join the debate, visit pwc.com/totalimpact



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Appendix A: Recent developments in business impact measurement

There has been growing interest in impact measurement in recent years from the private sector, governments, IGOs, standard setters, investors and the third sector. Table 4 highlights some of the most significant recent examples.

Table 4: Recent developments in business impact measurement

Private sector

Environment	2011	PUMA's 2010 Environmental Profit & Loss account (E P&L), valuing environmental impacts on society from greenhouse gas emissions, local air emissions, water use, waste and land use. PUMA has subsequently released a new range of Cradle-to-Cradle products and has used the E P&L to demonstrate that the environmental impact of this range is 30% less than conventional products. ²⁷
	2011	Dow Chemicals and The Nature Conservancy came together in 2011 to undertake an experiment to incorporate the value of nature into business decisions. This collaboration is an example of a partnership between the non-profit and for-profit sectors to initiate significant change in both conservation and business decisions. ²⁸
Social	2005	In 2005, Unilever was the first company to work with Oxfam GB and Oxfam Novib (the Netherlands) to assess its poverty footprint in Indonesia. The key finding from the research was that the potential poverty reduction impacts of a business such as Unilever Indonesia are spread across the full breadth of its value chain: the long chain that links raw materials providers and other suppliers to the manufacturing of products, then through product distribution and retail outlets to the consumer. ²⁹
	2011	In 2011, The Coca-Cola Company and SABMiller partnered with Oxfam America to understand the impact of the soft drink value chain on poverty. The methodology provides a comprehensive understanding of how businesses are impacting sustainable livelihoods, health and well-being, diversity and gender, empowerment, security and stability, and all key dimensions of poverty. The report details positive impacts The Coca-Cola Company and SABMiller are having, including job creation, the development of entrepreneurial skills and technical training. The report also includes recommendations for workplace improvements, along with improvements in areas such as gender, water and opportunities for small businesses. ³⁰

²⁷ For more on PUMA 2010 Environmental Profit & Loss account (E P&L) see, <http://about.puma.com/puma-completes-first-environmental-profit-and-loss-account-which-values-impacts-at-e-145-million/>

²⁸ For more information on the Dow Chemicals and The Nature Conservancy collaboration see <http://www.nature.org/about-us/working-with-companies/companies-we-work-with/dow/working-with-dow-chemical-company.xml>

²⁹ Visit <http://www.unilever.co.uk/aboutus/foundation/oxfam/index.aspx>

³⁰ Exploring the links between international business and poverty reduction http://www.sabmiller.com/files/reports/oxfam_poverty_footprint_report.pdf

Economic	2011	Standard Chartered published 'The Social and Economic Impact of Standard Chartered Ghana' in 2010. The bank decided to undertake a study intended to help it understand and maximise its contribution to society, with a focus on Ghana.³¹ The report found that lending to small and medium enterprises (SMEs) was a very powerful driver of economic value and employment compared to lending in other sectors. SME lending amounted only to 6% of the portfolio, with significant constraints to growth – like lack of formal legal status among SMEs, absence of positive credit references, and difficulty securing land title-based collateral. Standard Chartered has set up a dedicated SME team and developed specific products.
	2011/2012	British Land published a report in 2011 on its estimated contribution to the UK economy, as well as the public purse, and how many jobs it supports during construction and tenancy of its buildings.³² In its 2012 report, it expanded this to include the benefits to communities from its major construction projects.³³ The business is now exploring opportunities with others to develop its socioeconomic analysis further.
	2013	In 2013, Centrica published a summary of the contribution of its own operations, the indirect impact from its UK supply chain and the induced impacts on the UK economy.³⁴
Tax	2005	PwC's Total Tax Contribution (TTC) framework was developed in 2004 and provides a standardised approach to identify and measure a business's overall tax contribution. It's a framework that can be used on an industry and/or global basis. The framework has been used by hundreds of businesses around the world. The Hundred Group in the UK has used the TTC framework to report its contributions since 2005 and studies have taken place at an industry level in Australia, Belgium, Canada, India, Japan, Luxembourg, South Africa, Switzerland, United Kingdom and United States.³⁵
	2012	Rio Tinto published its second annual total tax contribution report in 2012 covering business taxes, royalties, payroll taxes and sales/indirect taxes, with details of the payments made by Rio Tinto country by country in 2011. It chose to be transparent in disclosing payments made to individual governments in 2011 to assist in the fight against corruption and enhance the scope for citizens to hold their governments to account. It supports the principles of the Extractive Industries Transparency Initiative (EITI) which it considers to be the best way to promote transparency of payments to governments. It welcomes constructive debate on natural resource taxation policy as part of the overall contribution to economic development that responsible mining investments can make.³⁶
Multiple impacts	2005	Unilever started to integrate sustainability factors into its sourcing and manufacturing processes in the 1990s. In 2005 it began to embed this agenda into its product brands using a process called Brand Imprint³⁷ which aims to assess the brand's positive and negative 'imprints' on society and the environment. It provides its brand teams with a 360° scan of the social, economic and environmental impact that its brand has on the world. Since 2005, Brand Imprints have been completed across all their product categories and social and environmental considerations are now integrated into the innovation and development plans of their major brands.
Governments & IGOs		
World Bank	Established in 2010	Wealth Accounting and the Valuation of Ecosystem Services (WAVES) is a global partnership that brings together a broad coalition of UN agencies, governments, international institutes, non-government organisations and academics. It aims to promote sustainable development by ensuring that the national accounts used to measure and plan for economic growth include the value of natural resources.
UK	2011	Natural Environment White Paper – which places the value of nature at the centre of the choices the UK must make to enhance its environment, economic growth and personal wellbeing. It has four objectives: protecting and improving the natural environment; growing a green economy; reconnecting people and nature; and International and EU leadership.
UN	2012	UN System of Economic and Environmental Accounts (SEEA) – approved by the UN Statistical Commission to fit alongside the System of National Accounts (SNA). This is being used by countries to develop accounts that target key policy concerns. Examples to date include water accounts in Botswana, fisheries accounts in the Philippines, and land accounts for forests in Costa Rica.

31 http://www.standardchartered.com/en/resources/global-en/pdf/sustainability/Ghana-our_social_and_economic_impact.pdf

32 Our economic contribution http://www.britishland.com/~media/Files/B/British-Land/reports-and-presentations/reports-archive/bl_our_economic_contribution.pdf

33 Building business, creating growth 2012 http://www.britishland.com/~media/Files/B/British-Land/reports-and-presentations/reports-archive/2012_sec_report.pdf

34 The economic impact of Centrica in the UK http://www.centrica.com/files/pdf/centrica_economic_impact_report.pdf

35 <http://www.pwc.com/gx/en/tax/tax-policy-administration/what-is-total-tax-contribution-framework.jhtml>

36 <http://www.riotinto.com/ourcommitment/taxes-paid-in-2012-4757.aspx>

37 See <http://www.theindela.com/im/Unilever%20Brand%20Imprint.pdf>

'Standard setters'

The International Integrated Reporting Council (IIRC)	Founded in 2010	The key objective of Integrated Reporting is to demonstrate the linkages between an organisation's strategy, governance and financial performance and the social, environmental and economic context within which it operates. The IIRC is a global coalition of regulators, investors, businesses, standard setters, the accounting profession and NGOs. It is developing an International Integrated Reporting Framework to enable businesses to achieve this end. Examples of countries that are promoting the adoption of integrated reporting include South Africa (King III) and France (Grenelle II).
World Business Council for Sustainable Development (WBCSD)	2008–2013	The WBCSD has published a number of guides to help business measure its impacts, including: Measuring Impacts Framework (2008) This guide, published with the International Finance Corporation, explains a four-step process for identifying, measuring, assessing and managing a business's development impact. The framework was developed in collaboration with over 20 WBCSD member businesses. Guide to Corporate Ecosystems Valuations (2011) This guide outlines a process to make better-informed business decisions by explicitly valuing both ecosystem degradation and the benefits of ecosystem services. The guide was road tested by 13 businesses, including Akzo Nobel, Holcim, Rio Tinto and Syngenta. Measuring socio-economic impact – a guide for business (2013) This recent guide helps businesses navigate the landscape of socio-economic impact measurement tools and identify those that best meet their needs.
The Economics of Ecosystems and Biodiversity (TEEB)	Study reports published in 2010	TEEB is a global initiative focused on drawing attention to the economic benefits of biodiversity. TEEB presents an approach that can help decision makers recognise, demonstrate and capture the value of ecosystems and biodiversity, including how to incorporate these values into decision making. It published four study reports in 2010: Ecological and Economic Foundations; National and International Policy Making; Local and Regional Policy; and Business and Enterprise.
Global Reporting Initiative (GRI)	2011 (G3.1)	The Global Reporting Initiative (GRI) is a non-profit organisation that promotes economic, environmental and social sustainability. GRI provides all businesses and organisations with a comprehensive sustainability reporting framework that is widely used around the world. GRI is due to launch its fourth generation reporting guidelines in 2013.
The Sustainability Accounting Standards Board (SASB)		The Sustainability Accounting Standards Board (SASB) is a non-profit organisation engaged in the development and dissemination of industry-specific sustainability accounting standards. The SASB is establishing an understanding of material sustainability issues facing industries and creating sustainability accounting standards suitable for disclosure in standard filings such as the Form 10-K and 20-F. SASB addresses the unique needs of the US market, establishing standards for integrated reporting that are concise, comparable within an industry, and relevant to all ~13,000 publicly listed businesses in the U.S.
The Extractive Industry Transparency Initiative (EITI)	2002	The EITI is a globally developed standard that promotes revenue transparency at the local level. Through the EITI businesses report on the taxes they pay to government and governments report on the revenues they received from businesses in a joint report. The EITI is driven by a coalition of governments, businesses, civil society groups, investors and international organisations.
The Social Return on Investment Network (SROI)	Founded in 2008	SROI is a framework based on social generally accepted accounting principles (SGAAP) that can be used to help manage and understand the social, economic and environmental outcomes created by an organisation or its activities. The current SROI Guide, published in 2012, is the result of consultation with practitioners, members, academics and others with an interest. It is a step-by-step approach to completing an analysis of social return. The methodology is still being developed and the SROI Network supports a sub-committee for considering and approving developments to the methodology. These will result in the issue of supplements from time to time.
Social Impact Analysts Association (SIAA)	2011	An international professional body of social impact practitioners and professionals who create and share knowledge about social impact analysis.

Impact investment

Global Impact Investing Network (GIIN)	Founded in 2008	GIIN is a not-for-profit organisation dedicated to increasing the scale and effectiveness of impact investing (investments made into businesses, organisations and funds with the aim of generating a measurable social and environmental impact alongside a financial return). GIIN projects include the Impact Reporting and Investment Standard (IRIS), a catalogue for selecting performance metrics covering predominately input and output indicators.
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Others

Global Footprint Network (GFN)	Founded in 2003	GFN is an international think tank which aims to accelerate the use of the Ecological Footprint – a resource accounting tool that measures how much nature we have, how much we use, and who uses what. Countries such as Japan, the Philippines, Costa Rica, Ecuador and Switzerland have formally adopted the approach.
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Source: PwC analysis

Appendix B: TIMM tools

In assessing the feasibility of TIMM and in developing our approach, we have been mindful that many frameworks and tools already exist which support impact measurement and valuation. We have been keen, therefore, to avoid developing a new approach where existing approaches are already more than sufficient. In some areas, however, we have developed our own tools or enhanced existing ones in order to be able to help our clients to address new complexities (e.g. to understand their impacts across their value chains and, in some cases, across international boundaries). By developing TIMM in this way, our aim is to provide a decision making framework and tool that draws on the best available approaches depending on the task at hand.

We have spent time understanding and reviewing existing approaches from three perspectives:

- The purpose they serve – we distinguish between those which support definition of the scope of TIMM and those which define the relevant metrics and generate the results;
- The dimensions of the TIMM framework they cover, specifically the social, environmental, tax and economic ones; and,
- The elements of the impact pathways they cover, linking a business's activities and inputs to their outputs, outcomes and impacts they address, including whether they value the impacts.

We have taken into account the valuable work of the World Business Council for Sustainable Development (WBCSD) which recently completed reviews of the frameworks and tools available for environmental³⁸ and socio-economic impact assessment.³⁹ We are also aware of others who have developed databases of tools, methods and best practices.⁴⁰

Some frameworks have been developed primarily to help businesses scope work to assess elements of their total impact (e.g. WBCSD's Measuring Impacts Framework). Others are geared to identifying relevant impact metrics and/or generating estimates of the impacts themselves (e.g. Social Return on Investment). Many focus on one specific dimension of the TIMM framework, although the state of development of the frameworks and tools is varied.

³⁸ 'Eco4Biz: Ecosystem services and biodiversity tools to support business decision-making', WBCSD, April 2013.

³⁹ 'Measuring socio-economic impact: A guide for business', WBCSD, February 2013.

⁴⁰ See, for example, the Foundation Center's Tools and Resources for Assessing Social Impact (TRASI).

Social impact analysis is a relatively new field for businesses. The majority of companies report on their social performance using input and/or output indicators following standards such as GRI, but very few analyse the outcomes and impacts of their activities. While input and output information is crucial to support impact measurement, very few companies have comprehensive social performance databases. Governments, academics and other researchers have been analysing the social implications of public policies and other government interventions for a longer period of time. These analyses cover diverse activities including health treatments, educational programmes and (re-)distributional policies. They provide a useful starting point for assessing a business's social impacts. In addition, some useful frameworks and tools have evolved from the development community to help businesses measure their wider social (and economic) impacts (see Table 5). Some focus on poverty reduction outcomes only and are more applicable to product/project level. We have focused on refining the

approach so that it can build on these, but aim to measure and value multiple outcomes, across the value chain or applicable to a global business in a developed or developing context.

In the case of the environment, our work to develop an environmental profit and loss account for PUMA (see Case Study 2) drew heavily on existing academic and public sector approaches to measure and value the environmental impacts associated with the company's operations and entire supply chain. Since those early days we have significantly developed and refined our methodologies, initially in response to the recommendations of an independent academic review. And more recently to deliver the increasingly precise and robust results our clients want for decision making.

Our approaches can be applied in any sector, with the level of detail largely dependent on the availability of environmental data. Data can however be a serious constraint. Accountants have spent centuries refining approaches for recording, collating and interpreting

Table 5: Examples of frameworks and tools for assessing social and socio-economic impacts

Framework/tool examples	Comments
- Poverty Footprint methodology – this framework was developed by Oxfam to identify, measure and assess the socio-economic impacts along the value chain - Social life cycle assessment (SLCA) – social equivalent to more traditional life-cycle analysis mainly used for product level analysis - Social return on investment (SROI) – a principles based lighter version of traditional cost-benefit analysis which helps to value impacts mainly associated with specific projects - Base of the Pyramid Impact Assessment Framework (William Davidson Institute) - Analytical framework for the identification and measurement of business impacts on a company's customers, local distributors, and surrounding communities	- Social impact assessment tools, especially those focused on impact valuation, are an emerging area. - The tools included here are predominately focused on poverty reduction outcomes. They cover different parts of a business value chain or can be used to assess a particular product through its life cycle or a project/programme (e.g. supplier training) from mainly a socio-economic perspective. - Also, most of them are based on gathering primary data from impacted populations with the aim of identifying relevant impacts and establish a causal link between the business activities and changes in the conditions of individuals and communities.

financial data, and companies invest significant sums in staff and the systems to do this. By contrast, environmental data are often collected on a shoestring, in spreadsheets, by a few people. For this reason, robust methods for estimating corporate environmental data are often as important as those for direct collection at source. Decent quality data are a pre-requisite for any subsequent quantification of actual changes in the environment and valuation of associated impacts on society.

In spite of these challenges, our methodologies are built on robust foundations and they serve to collate, integrate and refine the best available approaches. Table 6 summarises some of the key reference material.

We developed the Total Tax Contribution (TTC) framework in 2005 to provide a standardised approach for identifying and measuring the overall tax contribution of a company or a sector. The TTC framework covers both the taxes borne by business and the taxes collected by business (on behalf of governments). TTC is now well established and used by companies and sectors across the world. The TTC is now being combined with economic analysis so that it can be used to estimate the tax contributions arising along value chains.

Economic impact assessment tools are well established. Input-output has been in use for many years and computable general equilibrium (CGE) modelling is now being used more widely as its advantages over input-output analysis are recognised and its data demands are more easily fulfilled. Both approaches can be used to trace the economic footprint of a business's operations in a particular geography (usually a country) through its operations, suppliers and employees.

Table 6: Frameworks and tools for assessing environmental impacts

Framework/tool examples	Comments
- Environmental economics, welfare economics and the ecosystems approach. - Life-Cycle Assessment (including recent innovations in Ecological LCA) and Environmentally Extended Input-Output modelling. - Geo-spatial modelling, hydrological modelling, chemical fate modelling, dispersion modelling. - Open source approaches and data repositories provided by NGOs, national governments and inter-governmental organisations including the World Bank, OECD, EU, US EPA, WHO, UNEP, IUCN, WWF, TEEB and others. - The Corporate Ecosystem Services Review and the Guide to Corporate Ecosystem Valuation from WRI and the WBCSD as well as comprehensive assessments of tools by WBCSD (eco4biz) and BSR.	- Environmental economics has evolved as a distinct branch of economics over the past 40 years, providing a bridge between economic theory (particularly theories of human welfare) and environmental science. More recently the ecosystems approach has driven a more systems based approach to environmental management and served to highlight the links between functioning ecosystems and human well-being. - Used with caution, LCA databases can be a rich source of environmental data, particularly at a process or material level. Sophisticated LCA models can also be used to characterise specific scenarios and estimate environmental outcomes. Input-Output modelling is under-going something of a renaissance with particular innovation in its application to corporate supply chains. Combining economic results with environmental 'intensities' per sector and country can produce useful (if approximate) estimates of environmental impacts based on limited data inputs. - A range of established modelling techniques can be used to quantify likely changes in the environment as a result of corporate emissions or resource use in different contexts. - Government endorsed methods for policy and project impact assessment provide valuable reference material often including survey results, damage cost estimates and relevant guidance on methodological issues for practitioners. Spatially explicit ecosystem and species datasets can be equally useful. - These two complimentary guides provide the most useful practical starting point for corporate managers wishing to understand their company's impacts and dependencies on the environment. - The WBCSD's most recent review of tools certainly provides a comprehensive catalogue but many of the tools themselves suffer from a lack of practical application in corporate contexts and a tendency to focus on the priorities of their creators rather than those of the businesses they are aimed at.

Where impact measurement and valuation frameworks and tools exist that cover more than one dimension of TIMM, they are most likely to deal with economic and social impacts. There are a broad range of tools and methods that help to assess social and economic impacts, some of which were mentioned above.

We also see significant differences between the frameworks and tools in terms of which part of the impact pathway they address. Many focus on establishing the linkages between a business' activities and inputs and their outputs whilst others seek to measure outcomes; in a few cases, some tools value the impacts. This pattern partly reflects the methodological and data

related challenges especially associated with valuing impacts, especially where markets do not exist to provide an appropriate price. In these cases, different valuation techniques are available to estimate the value of social, environmental, economic and tax impacts:

- Stated preference
- Revealed preference
- Well-being valuation
- Subjective wellbeing analysis
- Avoided cost analysis

We have not included approaches which focus on only one sector or issue.



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