

Adaptive Sustainability for Business in Times of Uncertainty and Hyper Disruption

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The Adaptive Sustainability business management approach was developed pre 2020 when businesses were being disrupted at slow burn, continuous rates and by multiple factors, including globalisation, the need for environmental repair and stakeholder activism, to name just a few. That volatile business context now pales into insignificance in these times of global pandemic, community lockdown and hyper business disruption. Adaptive Sustainability for business management is an innovative approach to business leadership that encourages a shift in mindset, so that organisations are able to adapt more readily to change, and foster development of new skillsets to address today's complex challenges.

Keywords: sustainability, innovation, adaptation, agile, corporate social responsibility, leadership

INTRODUCTION

Organisations today operate in a dynamically changing and hyper disrupted business environment. Companies are getting upended at an unprecedented rate, with managers and staff struggling to keep up with a convergence of global emergencies and severe turbulence caused by a multiplicity of factors; for example: globalisation, the gig economy, technological innovation, automation, shifts in energy generation, to name just a few. Major events such as the current global health pandemic are disrupting lives and livelihoods across the world, a range of ecological crises are disrupting global production and supply chains, and in combination with rising social unrest around inequality and selective privilege, is uncovering a lack of business preparedness for new organisational and workforce challenges.

Companies across the world are experiencing and responding to this new business context in a multiplicity of ways. Some businesses are getting disrupted into oblivion, some businesses are managing to hold on, while some businesses are pivoting their way into new areas of success. Understanding and responding to these interconnected challenges is not easy. As multiple global emergencies converge, people from all walks of life are starting to see the interdependencies that underlie them, and are increasingly open to questioning some of the foundations of society that have been our assumptions for generations. This is amply demonstrated by the range of recent and current global protests attended by millions of people across the world, from global racism protests typified by Black Lives Matter, to global climate change protests through the Global Climate Strike, to global economic protests, or through the Occupy movement. Scientists, economists, environmentalists, social justice activists, and now the broader community, are

starting to see the world and all the people in it as a complex, interconnected and dynamically changing systems (IGS, 2019), with problems that cannot be partitioned into separate boxes, or solved in isolation.

Associated with this growing public awareness around the interconnectedness of societal issues, we have seen a new wave of activism that calls out for individual awakening and individual action, in order to achieve lasting and meaningful change. It is in this perfect storm of growing individual and collective awareness, responsibility and action, that an opportunity presents itself to develop a new cohort of ethical business systems thinkers. These are, and will be, business owners, managers and staff who can see the big picture, who challenge the status quo, who take personal responsibility and positive action across a range of interdependent systems in their homes, places of work, and in the broader community.

Adaptive Sustainability for Business Management is a novel, innovative approach to business leadership and management that aims to encourage new mindsets, that is, ways of thinking that are able to adapt to change, and actively develop new skillsets for addressing today's complex challenges. This paper begins by setting the context in today's hyper disrupted business environment, and the ways businesses are responding, from those who don't make it, to those who manage to survive, and those that thrive using adaptive management approaches. We discuss the evidence for a growing public awareness of the interconnectedness of issues, and the new waves of activism aimed at achieving lasting and meaningful change. We explain why a systems approach is a better way to address our more complex problems, and then set out a new framework based on ideas of adaptive sustainability, drawn in part from its development in natural resource management (NRM) and other related environmental areas (Andrich and others, 2010; Finegan and others, 2001; Fongwa, 2012). Finally, we describe how to apply this framework to business environments buffeted by disruption, and how to use the framework to manage business activity, for any type of business at any scale.

TODAY'S DYNAMICALLY CHANGING BUSINESS ENVIRONMENT

Disruption is an inescapable and growing challenge for all businesses. Extended exposure to persistent disruption comes with serious casualties. A recent review of American industries has shown that the level of disruption has considerably increased since 2011, with the most impacted industries being in the energy sector at 55%, retail at 37%, consumer goods and services at 31%, and automotive at 22% (Accenture 2019). This report titled *Breaking through Disruption* was published by Accenture before the current 2020 global pandemic. It describes the ways in which businesses have not adequately faced disruption, by keeping to cautious moves and using strategies that worked for them in the past, instead of seeking deep change on the inside, and extending themselves outward via effective innovation. Accenture (2019) suggested four methods to start an innovation pivot from "embracing new technologies to develop potentially disruptive ideas both in and outside current industry; progressively allocating innovation investments to test and turn new ideas into commercial realities faster; scaling new ideas with ecosystem partners who can provide access to technologies and specialized talent; and establishing a specialized entity such as an "innovation lab" to bring meaningful innovation into the established business". When looking at this report in the context of the pandemic, one can't help but consider that even these business professionals didn't predict the scale and depth of the turbulent times that lay ahead for the global business community.

Companies across the world are handling this new 2020 business context in different ways. Consider the live entertainment industry, which has been obliterated by coronavirus-related event cancellations across small and large venues. Rolling Stone magazine reports that the \$26 billion global live events industry is in chaos and facing its greatest risk-management challenge since the financial crisis (Rolling Stone, 2020). Live Performance Australia, the umbrella groups for promoters, festival organisers and other companies operating in the live entertainment space, has developed a number of proposals to help the sector return to life once the shutdown is over, but there is a long way to go to get the industry back on its feet (Live Performance Australia, 2020).

Already as a result of the CO-VID 19 pandemic, we have the bleak reality of deserted airports, empty trains and sparsely occupied restaurants that provides a window into future widespread economic

fragmentation. Although not wiped out completely, some businesses are now classed as “zombies” where they are earning too little even to make interest payments on their debt and surviving only by issuing new debt (The New York Times, 2020a). Despite this, some businesses are strengthening their position in the marketplace. Consider ecommerce businesses which have exploded as people move online to shop. Amazon has added 100,000 new jobs to manage their extra sales while online grocers are struggling to keep up with demand (The Conversation, 2020). Food delivery businesses like Deliveroo are booming, while video conferencing, entertainment streaming and online gaming are also flourishing as a locked down public look for recreational opportunities (The Conversation, 2020).

Some businesses have turned around completely so as to address changing consumer needs and survive into at least the near future. Some gin distilleries or micro-breweries are now producing hand sanitisers, grocery stores are banning customers from entering and transforming into fulfillment centres, and restaurants are selling grocery items alongside their restaurant orders (The Conversation, 2020). And it is not just the small local business adapting to the changing circumstances, big business is pivoting also. General Motors recently brought its self-driving cars out of dormancy to make food deliveries around San Francisco for two local food banks. Outdoor clothing retailer Patagonia has expanded its line of self-stable food items to offer long-lasting food products and help maintain the global food supply chain (Forbes, 2020).

Although few businesses were prepared for this catastrophic convergence of economic, social and ecological global emergencies, prudent business managers are now called on to deal with risk management issues every day and are trying to embed new levels of innovation and adaptation into their business operations (PWC, 2020). Yet more needs to be done to build the capacity of business owners, managers and their staff to understand the complexity of these uncertain times, and tackle the spectrum of new economic, social and ecological challenges that lay ahead.

But understanding these interconnected challenges is not easy. As our global emergencies converge, people are starting to question some of the foundational arrangements of society itself. The Executive Director of the UN Global Compact has stated that the COVID-19 pandemic has taught us an important lesson about ourselves as a human community, and how we are interconnected and interdependent on each other in ways we did not fully understand before. People have come to realise that their health and well-being is dependent on the health and well-being of others, near and far, and that our collective health defines the health of businesses and economies within and across nations (Greenbiz, 2020). We are also coming to feel the impact of our global hyper connectivity, as the emergencies we face ripple through the interconnections that make up our global systems, from air traffic, energy, manufacturing, food distribution, shipping and communication networks, to name just a few (TGM, 2020).

So how can we begin to understand the complexity of the systems driving our world? Let us use as an example the current health crisis sweeping the planet and the interconnections, impacts and feedback loops becoming clearer every day. Research suggests that those in lower economic strata are more likely to catch the disease and die from it. This is because people on low incomes are more likely to suffer from chronic health conditions relative to the rest of society, which in turn sets off a devastating feedback loop highlighting economic inequality (The New York Times, 2020b). According to a 2010 study by a British biological sciences journal, whole communities can become caught in a “disease-driven poverty trap in which the combined causal effects of health on poverty implies a positive feedback system” (RWJF, 2020). It is also worth keeping in mind that even those who remain healthy are likely to suffer loss of income or health care as a result of quarantines and other measures, potentially on a sweeping scale (The New York Times, 2020b), and be affected by the ill health and incapacity of those in lower status jobs who are central in keeping our economic and social systems afloat.

For ecological systems, there is an abundance of research to show the interconnections and interdependencies of our natural world, and how human impacts are pushing ecological systems to the brink of breakdown, beyond their capacity to regenerate themselves and restore their driving equilibrium (IPCC, 2018). Global warming and associated climate change, water shortages and the extinction of species, and increased wildfires, are impacting in some way on every organism on the planet, and the impact of ecosystem destruction will be felt by everything eventually. Ecosystem destruction is already being

demonstrated through increased flooding due to the erosion of soil and lack of trees; rising sea levels due to the melting of the glaciers; disruption of food chains when the apex predators become extinct; water shortages with a finite supply of fresh drinking water becoming a lived reality for millions; food shortages as land becomes barren and the oceans become depleted of fish. Biodiversity loss is happening on a global scale as a myriad of species disappear due to deforestation; pollution levels are become unmanageable in ways that affect our health; and rising temperatures may end up being too much for the majority of species (TWC, 2020).

As these interconnected impacts have become clearer and more present, the study of our climate system has become trans-disciplinary, as it takes into account the inter-related physical, chemical, biological, geographic, social, and economic processes affected by, and contributing to, our changing climate. Climate sciences have moved beyond traditional methodologies of the physical sciences because they are anti-reductionist. We have come to understand that we need to grapple with the holistic properties of systems, even when the detailed behaviour of those systems is not fully understood (Serendipity, 2020).

Scientists, economists, environmentalists, and social justice activists are starting to view the world and the people in it as a complex, interconnected and dynamically changing system. The broader community is also beginning to realise, on a larger scale than before, the beauty and complexity of life, and how our past ways of living and working are not enough to tackle the issues of today. For this reason, now more than ever, it is time to build the capacity of people to understand the systems that support life. Although sometimes viewed as too complex in itself, systems thinking enables people to see the bigger picture, it explores different viewpoints and test assumptions when solving problems. Systems thinking identifies emergent properties, interdependencies, time delays, unintended consequences and it checks systems structures and feedback for greater understanding (Doppelt, 2003). These types of thinking strategies foster problem-solving at a wider scale and encourages questioning which ultimately leads to better decision making. These are the sorts of thinking skills we need to develop in our business managers and staff, as they seek to operate in our complex and interdependent world.

In addition to the growing public awareness around a range of interconnected social, environmental and economic issues, we have also seen a new wave of activism that calls for individual awakening, as well as individual and collaborative action to achieve lasting and meaningful change (ABC, 2020). In the Black Lives Matters movement now taking hold across the world, black, indigenous and many other people of colour are taking a stand and fighting against systemic racism. No longer willing to do the emotional and intellectual labour for their white allies, they are insisting that these others “do the work” for themselves and to take action to explore their role in maintaining the status quo and how they benefit from it (ABC, 2020). In her book titled *Me and White Supremacy*, Layla F Saad (2020) strips away the comfortable fiction that racism happens “out there” and is done by other people. She describes white exceptionalism, with the underlying assumption that somehow white people are superior or ‘the norm’, as a form of racism where someone considers themselves to be an exception to the call for change, and in doing so continues to do harm, even if that is not their intention. Saad identifies “silence” and “apathy” as additional forms of racism and urges people who benefit from white privilege to take personal responsibility and do the work around self-education and action (Saad, 2020).

It is in this perfect storm of growing individual awareness, responsibility, and action that an opportunity presents itself to develop a cohort of ethical business systems thinkers. There is a need, and many opportunities, for business owners, managers and staff who can see the big picture, who challenge the status quo, who take personal responsibility and action across a range of interdependent systems in their homes, place of work and broader community.

CURRENT APPROACHES TO RESPONSIBLE CHANGE MANAGEMENT

Big business has been addressing a range of social, environmental and economic issues for many years. Over the centuries, businesses have evolved from being limited to the generation of profit, to instead include a broader set of responsibilities toward the belief that the main responsibility of companies should be the generation of shared value (Latapi, 2019).

With this developing idea of corporate responsibility has come a series of international standards to guide responsible activity. Some standards focus on social issues, like the United Nations Guiding Principles on Business and Human Rights (United Nations, 2011). Some standards focus on environmental issues like the Greenhouse Gas Protocol, or on the development of industry standards such as the Forest Stewardship Certification and the Marine Stewardship Certification, that seek to define and identify best practice across whole industry sectors. There are also standards that take a more interrelated approach, based on the interdependencies of social justice, ecological and economic issues. These more holistic initiatives include the United Nations Global Compact, that sets minimum standards for meeting fundamental responsibilities in the areas of human rights, labour, environment and anti-corruption. The Sustainable Development Goals (SDGs) have been developed to drive business awareness and action around 17 key action themes. ISO Sustainability standards have been developed that are specific to sustainability needs, and there are also standards to address the potential contributions to sustainable development that are embedded across a range of other ISO standards.

The next step in responsible business activity involves monitoring and reporting on associated activity. The Global Reporting Initiative sets the global best practice for reporting on a range of economic, environmental and social impacts. The International Integrated Reporting Initiative encourages businesses to provide a concise communication about their strategy, governance, performance and prospects, expressed in the context of their external environments, and that lead to the creation of value in this wider business environment in the short, medium and long term.

Along with changing community expectations, there is no doubt that these initiatives have increased the transparency and accountability of businesses across a range of industries and sectors. The only downfall is that they tend to be used by large organisations that have the human and financial resources to dedicate to their development. Small to medium enterprises (SME's) tend to focus on individual environmental or social issues, rather than looking at an integrated approach. And in the world of SME's this makes sense, as they struggle to address day to day challenges, in order just to stay afloat. But in these times of growing ethical consumption, where consumers are expecting that the products and services they are purchasing don't harm anyone or anything along their value chain, this is not enough. The time has come for all business owners, managers and their staff, no matter the size or scale of their business, to look more holistically at their operations and make sure they maximise social responsibility, environmental sustainability and economic prosperity at every opportunity. This means working towards a more integrated approach in managing their human and material resources, as they profitably produce their responsible products and services.

As is now demonstrated by those businesses responding to the current global health pandemic, another important aspect of modern business is the ability to adapt to the dynamically changing business environment, whether this be changing consumer expectations, changing technological advancements, changing regulatory conditions, or the consequences of the hyper connected digital world (Downes & Nunes, 2014, pg. 15). Over the last few decades businesses have been managing this change through a number of change management approaches, but these have their limitations. In a review of theories and approaches to change management, Todnem argues that the 'planned approach' to organisational change is based on the idea that "organisations operate under constant conditions that move in a pre-planned manner from one stable state to another" (Todnem, 2005, pg. 374). This approach has come under increasing criticism because it does not take into account the unpredictable, random and volatile nature of today's business environment. We argue that a better approach to change management is an emergent approach, which emphasises that "change should not be perceived as a series of linear events within a given period of time, but as a continuous, open-ended process of adaptation to changing circumstances and conditions" (Todnem, 2005, pg. 375). Emergence is now a well identified property of complex systems, in which emergent properties can arise that are not just a sum total of existing properties of the system, but also of their interactions (Senge, 1990). These emergent properties can be thought of as unexpected behaviours that stem from these multiple interactions that can be either positive or negative. It is time for organisations to begin thinking of themselves as interactive systems that operate in a complex, interconnected and

dynamically changing financial, social and ecological environment, and manage all of their activities from this viewpoint.

In order to cope with the complexity and uncertainty of the interconnected business environment, organisations need to adopt an “extensive and in-depth understanding of strategy, structure, systems, people, style and culture, and how these can function either as sources of inertia that can block change, or alternatively, as levers to encourage an effective change process” (Todnem, 2005, pg. 375). Furthermore, Burns (2004, pg. 54) argues, “successful change is less dependent on detailed plans and projections than on reaching an understanding of the complexity of the issues concerned and identifying the range of available options”. The emergent approach to change is more concerned with change readiness and facilitating for change than providing specific pre-planned steps for each change project and initiative.

One sector that understands the need for managing change is the natural resource management (NRM) industry, and in particular those groups charged with managing large scale catchment areas. These organisations adapt their on-ground activity to address their constantly changing conditions such as drought, fire, flood, pests, economic downturn, fluctuating markets, changing demographics and all manner of other circumstances. NRM groups develop strategic plans underpinned by holistic thinking. In doing so, they designate a range of indicators to trigger adaptation as needed. One large-scale example of this approach is the Catchment Action Plan 2013-2023 written by the Murray Catchment Management Authority (MCMA, 2013), and there are many more that showcase this integrated change management approach.

It is with these ideas of continuous improvement, change management and natural resource management in mind that we propose a new situational and responsive approach to business management more broadly. It is an approach that is based on a new way of thinking to help businesses and their stakeholders prosper in today’s dynamically changing business environment.

Adaptive Sustainability for Business Management is an innovative approach to business leadership and management that aims to encourage new mindsets, that is new ways of thinking that are able adapt to change, and to developing new skillsets that can address today’s complex social, environmental and economic challenges. Our approach was developed prior to the 2020 global business implosion, when companies were being disrupted at a slow burn, continuous rate. But that business context now pales into insignificance for some industries compared with the challenges of the CO-VID19 global pandemic, and associated business lockdown and hyper disruption. Adaptive Sustainability was born out of the need to create a practical toolkit for SME’s to carry out responsible and sustainable business activity, even in turbulent times. But in the current times of major challenges and change, our approach can be used by all working people whether in large, medium and small businesses, to either adapt themselves to the rapidly changing circumstances, or re-invent themselves in new ways.

Adaptive Sustainability is comprised of a practical framework combined with an implementation process. Its goal is to identify, and where necessary create, tangible ways to function in optimal ways in the perfect storm of growing individual awareness, responsibility, and action, and use this to develop a cohort of ethical business systems thinkers, within and across businesses. What is needed, and what Adaptive Sustainability promotes, are business owners, managers and staff who can see the big picture, who challenge the status quo, who take responsibility and take action, across a range of interdependent systems in their homes, place of work and the broader community.

USING SYSTEMS THINKING TO INFORM ADAPTIVE SUSTAINABILITY

Adaptive Sustainability takes its inspiration from the natural world that has been successfully managing often disruptive change, for 3.8 billion years. Our planet handles change through an infinite number of natural systems, all interconnected and all working together to keep the planet in balance, while producing the fresh air, clean water and clean food that sustains all life on earth. Every minute of every day these natural systems cycle through a series of complex processes, while adapting to changing circumstances and responding with emerging activity, so that they maintain their equilibrium and maximise their performance. Each one of these systems, not matter how large or small, how simple or complex, share the same set of general characteristics and behaviours. If these behaviours are extrapolated into a set of organising

principles, then insights arise into how successful, complex and adaptive systems operates, and how these insights can be applied to business.

All organisations are a form of an open-ended *social system* interacting and interdependent with numerous other socio-economic and environmental systems, no matter how much we think we can draw boundaries around them. We propose that, just like natural systems, organisations that comprise interconnected financial, social and ecological systems should follow the same set of organising principles, in order to adapt to their changing conditions, and maximise their performance. This new way of thinking recognises that the underlying structures and mechanisms that generate activity in the human world are much the same as the structures and mechanisms that generate activity in the natural world. Doppelt (2003) was one of the early proponents to explore this idea comprehensively. This way of thinking lays bare the reality that businesses operate in a changing and unpredictable environment, where elements are linked through a rich and deep network of connections, and where the effects of an action are at best probabilistic, and possibility even chaotic, with no certainty, and sometimes with only a degree of predictability in some outcomes (Coffey, 2010).

We can take this type of thinking, and associated practices, a step further by using some key tools and strategies from another paradigm known as Systems Thinking. This approach provides a disciplined way of understanding the underlying organisational structure and dynamic relationships among data, information and people, and beyond these into the social and natural world. It also expands individual and collective thinking skills and improves decision-making, by focusing attention on the real causes of performance problems, and the systems changes that will produce improved results (Senge, 1990) as well as the potential ways that performance might be disrupted.

While Systems Thinking was a key element of Peter Senge's seminal work *The Fifth Discipline: The Art and Practice of the Learning Organization* (Senge, 1990), it has not yet become commonplace in companies across the globe. This will not be a surprise to those who have tackled the deeper aspects of Systems Thinking, because it does not take long before the subject itself becomes very complex. Even Russell Ackoff, a pioneer in the field of systems thinking, acknowledges that a failure to communicate ideas in a way people can easily understand and use, has led to poor implementation of systems thinking (Ackoff, 2005).

Because of the challenges of understanding complexity, we have used principles from systems in the natural world, drawn in part from the application of adaptive sustainability in businesses directly dependent on natural resources such as Natural Resource Management (Finegan and others, 2001; Fongwa, 2012) and combined them with tools and strategies from Systems Thinking theory, to create our own practical framework for guiding our new business management approach. In essence we have turned these systems principles into a series of "Investigative Lenses" through which an organisation can examine its operations and interconnections and maximise its ongoing prosperity. The overall objective of applying this approach is to develop a moment-by-moment view of the organisation, determine the relative importance of different elements, and then respond with actions that are relevant and pertinent to the situation at hand. By taking this approach, the systems concept of leverage can be used to prioritise actions that increase productivity across the entire business even in challenging circumstances. In particular, the systems analysis approach can be used to identify a small set of high leverage interventions that can continually reinforce each other, and result in finding the most efficient and effective ways an organisation can move towards maximum prosperity and profitability in any given situation.

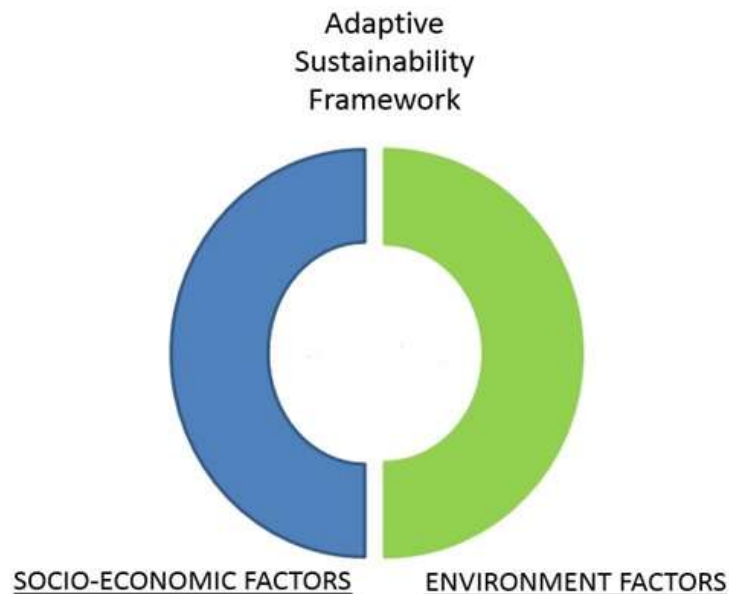
There are numerous anecdotal examples of how people have drawn on their sensing and understanding of the complex world they find their organisation in, as a result of the CO-VID19 epidemic, to forge new ways forward, or at least survive. A small bridal gown business in central-north Melbourne, in the midst of a lack of weddings, and knowing there will be a surge of weddings after the pandemic has been contained, realised it had all of the skills and materials to pivot its production into high quality surgical gowns (The Age, 2020). The only surgical face mask manufacturer in central Victoria, had only two machines operating, and no engineering drawings to make more machines. They developed a collaboration with the Australian Federal Government, whose Department of Defence (Army) engineers pulled one of the machines apart, redrew the drawing specifications, and together they found a small manufacturing business in northern

Victoria (a State of Australia) to produce three more machines – in turn providing the manufacturing business with an upturn in its productivity as well (ABC, 2020b). The list of businesses pivoting their way through the current crisis, drawing on a more systemic view of their threats and opportunities, is numerous.

ADAPTIVE SUSTAINABILITY FRAMEWORK

Adaptive Sustainability is a new management approach that aims to shift business focus from profit to prosperity (Figure 1). This new prosperity approach is a more appropriate way to look at business today, because it accounts for all socio-economic and environmental factors that interact with one another to influence the business. The prosperity approach helps to identify and address emerging, even unpredictable, transformations and disruptions. It involves looking beyond the organisation itself to consider prosperity for all of its stakeholders – its staff, its shareholders, its community and the natural environment.

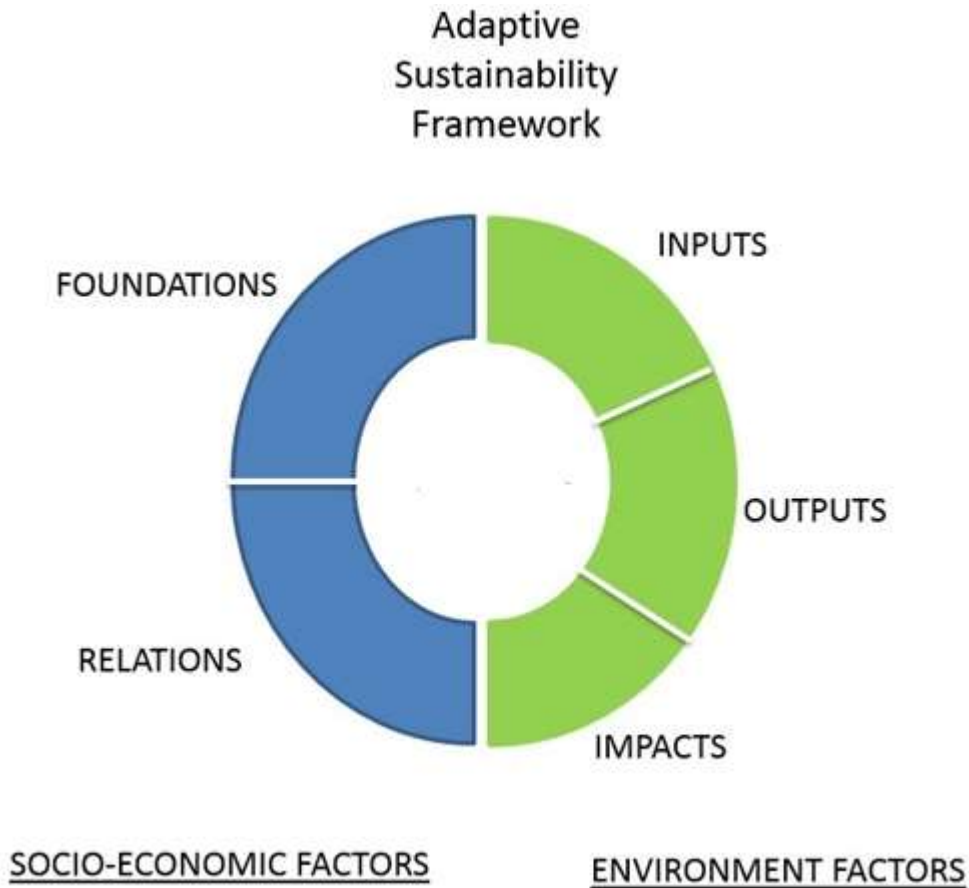
FIGURE 1
AN OVERVIEW OF THE ADAPTIVE SUSTAINABILITY FOR BUSINESS FRAMEWORK, ILLUSTRATING THE TWO BROAD SETS OF FACTORS THAT INTERACT AS A COMPLEX SYSTEM. WHEN CONSIDERED TOGETHER, THESE CAN HELP DRIVE A NEW FOCUS ON PROSPERITY FOR THE ORGANISATION, BUILDING POSITIVE OUTCOMES FOR ALL STAKEHOLDERS: STAFF, SHAREHOLDERS, AND BROADER COMMUNITY, AS WELL AS DELIVERING STEWARDSHIP FOR THE NATURAL ENVIRONMENT



The Adaptive Sustainability for Business Framework is a way that any business operating within the world of complex systems relationships can investigate most of the key factors that might influence its short term and longer term success. The idea is to use the Adaptive Sustainability Framework to investigate the socio-economic and environmental factors relevant to the business and encourage those doing the investigation to look for links between these factors.

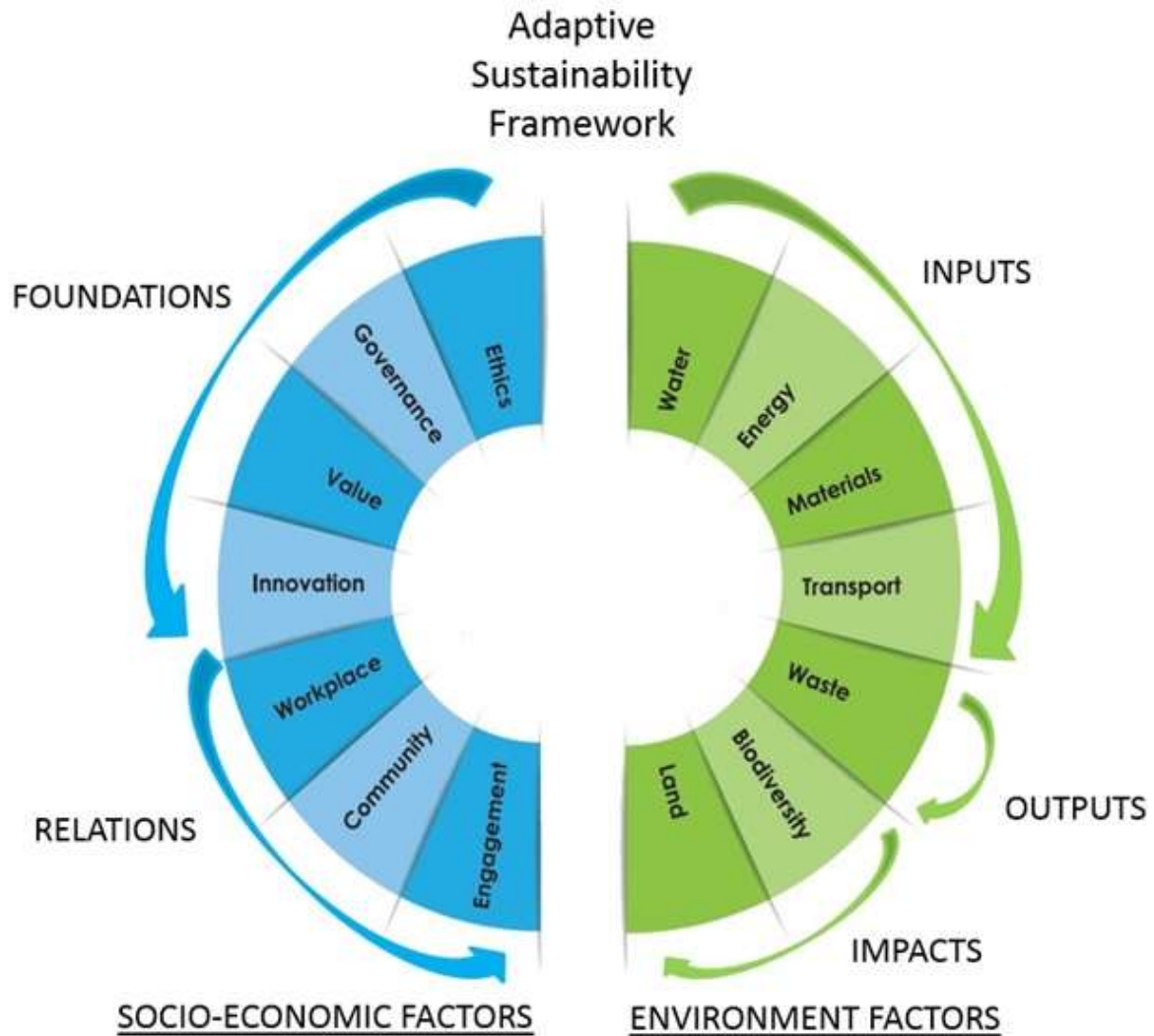
Within the Adaptive Sustainability Framework, the socio-economic factors are divided into two sub-groups, and the environmental factors are divided into three sub-groups (Figure 2).

FIGURE 2
FIRST LEVEL BREAKDOWN OF THE ADAPTIVE SUSTAINABILITY FOR BUSINESS
FRAMEWORK, SHOWING THE TWO SUB-GROUPS THAT MAKE UP THE SOCIO-
ECONOMIC FACTORS AND THE THREE SUB-GROUPS THAT MAKE UP
THE ENVIRONMENTAL FACTORS



The Foundations sub-group within the socio-economic factors relates to how the organisation is set up to go beyond business as usual and move towards engagement and disruptive innovation and are comprised of a range of within-organisation settings and ways of organising that affect overall performance and response during rapid change. They include business ethics, governance, value (generation of value and assessment of value) and innovation. The Relations subgroup within the socio-economic factors covers parameters that affect how the business engages with all of its stakeholders to create positive societal value. These include relations in the workplace, relations with the broader community, and the various forms of formal and informal engagement that the business is involved in. The environmental factors consist of three broad sub-groups that address the inputs, outputs and impacts of the organisation. These finer scale divisions within each of the sub-group point to areas of action that the business can address in pursuing Adaptive Sustainability (Figure 3).

FIGURE 3
DETAILED BREAKDOWN OF THE AREAS OF ACTION CONSIDERED BY THE ADAPTIVE SUSTAINABILITY FRAMEWORK FOR BUSINESS WITHIN EACH OF THE SUB-GROUPS WITHIN THE SOCIO-ECONOMIC FACTORS AND ENVIRONMENTAL FACTORS ASSOCIATED WITH A BUSINESS OR OTHER ORGANISATION



The areas of action within the Foundations sub-group are self-explanatory. They are Business & Ethics, Governance, Economic Value and Sustainable Innovation. The Relations sub-group is comprised of action areas that address Workplace Health and Wellbeing, broader Community Health and Wellbeing, and formal and informal processes for Engagement and Communications with each of the internal and external stakeholders. The Inputs sub-group is comprised of action areas dealing with Water, Energy, Materials and Transport. The Outputs sub-group is comprised of action areas dealing with Waste and Emissions and the Impacts sub-group is comprised of action areas dealing with Biodiversity and Land. In the details of the Adaptive Sustainability for Business Framework, each of these action areas, and the working tools associated with these, have been developed to best-practise guidelines, international standards and latest industry trends, to help guide organisations in their responsible business activity. Of course, all manner of issues fall under these areas of action, including risk management, resource efficiency, supply chain

management, social impact, environmental impact, sustainable procurement, whole system design and a range of other areas of action.

The Adaptive Sustainability for Business Framework can be used at different levels depending on the scope and detail of investigation. The objective is to help all working people, no matter where they sit within an organisation, and no matter how big or small the organisation, to consider all of the socio-economic and environmental factors relevant to the organisation, as well as the associated sub-groups and key areas of actions involved in operating a responsible and sustainable organisation, and for them to take positive steps towards this in their daily activity.

ADAPTIVE SUSTAINABILITY THROUGH INVESTIGATIVE LENSES

As stated previously, the Adaptive Sustainability approach takes its inspiration from the natural world. With this in mind, we have turned key systems principles into a series of “Investigative Lenses” through which to examine a social system, or business, in order to maximise its ongoing prosperity. These Investigative Lenses should guide activity around a continuous cycle of investigation through the following stages – Visioning, Scanning, Setting up, Succeeding and Leveraging (see Table 1). Each one of these stages is linked to one or more of the key systems principles, and each of these stages has the potential to change the way those in a business think, and how they manage their business activity (see Table 2 below for an example). Of course, each one of these principles, or lenses, is not meant to be applied individually or independent of each other, but rather as continuous cycles of interconnected investigation.

TABLE 1
LINK BETWEEN INVESTIGATIVE LENSES AND SYSTEMS PRINCIPLES

| Adaptive Sustainability Investigative Lenses for Business | Systems Principles | Systems Principles Explained |
|--|---------------------------|--|
| Visioning | Purpose | All systems have a unique purpose |
| Scanning | Context | All systems operate in, and are influenced by, a dynamic environment or context. |
| Setting up | Structure | The structure of a system determines its behavior. |
| | Interdependence | All systems are composed of inter-dependent parts. |
| Succeeding | Activity | *Systems behavior is an emerging phenomenon |
| | Feedback | Feedback loops regulate a system’s major dynamic behaviour |
| Leveraging | Optimisation | Unexpected ideas and possible actions arise when a systems approach is used |

*Emergence: In broad terms, the activities of a system (including a business) can best be viewed as what emerges from the operation of the system. Emergence is always part of a system, such as a business, but it can be deceptively overlooked. When the system is in balance, for example when a business is running smoothly and everyone is performing their assigned tasks, by understanding these tasks and taking responsibility for them, these activities appear set and predictable, and the actual ways that productivity emerges from the business system can be hidden, or out of view. However, when there is a disruptive change, or a new opportunity for evolutionary change, the emergent properties of the system can change rapidly, in ways that can either hinder the operation of the system, or alternatively, assist it to undertake transformational changes that take advantage of the new circumstances.

The ultimate task is to apply the systems-based Investigative Lenses to each of the socio-economic and environmental factors, while keeping in mind all of the potential links between these factors. To consider how this might work, we visit an energy example. Perhaps a business is examining its connection with the community as part of its investigation of energy and realises that it can become part of a community power project. This not only allows the business to source renewable energy, it also creates the opportunity to secure a long-term supply, decrease costs, decrease emissions, build links with the surrounding community, and demonstrate leadership in responsible and sustainable business behaviour to their stakeholders.

The following is an example of what Adaptive Sustainability for Business looks like when all of the elements of the framework are applied together, when considering its energy uses and requirements. An investigation of an organisation can start at any point. Usually an organisation will choose an action area that is material to its primary purposes and operations. For most businesses operating in today's competitive marketplace, one highly important area to address is energy efficiency and consumption. An investigation into a business' energy use and its associated cost will be different for every organisation, but it might begin by looking something like this.

TABLE 2
AN EXAMPLE OF HOW THE ADAPTIVE SUSTAINABILITY LENSES MIGHT BE APPLIED
TO EXPLORE THE USES AND ALTERNATIVE APPROACHES TO ENERGY
USE IN AN ORGANISATION

| <i>Investigation Question</i> | Potential answers / actions | System Principles |
|---|---|--------------------------|
| <i>What is the business trying to achieve?</i> | Use energy efficiently and source from renewable sources when possible. | Visioning |
| <i>What context is the business operating in?</i> | Understand legislation, codes of practice and/or standards. Investigate renewable energy schemes. | Scanning |
| <i>What structures need to be in place to maximise our efforts?</i> | Map out energy use and determine the best physical, organisational and behavioural structures. | Setting up |
| <i>What capabilities are required for coordinated activity?</i> | Map out all relevant stakeholders and determine the expertise they can bring to your activity. | Setting up |
| <i>What activities do we need to undertake to achieve our goal?</i> | Map current activities, collect current data, set future targets for electricity and gas and identify any issues. Develop goals, strategies, targets and actions. | Succeeding |
| <i>How will I know if I am doing well?</i> | Establish energy metrics and undertake cycles of monitoring, learning & adaption. | Succeeding |
| <i>How can I maximise my performance?</i> | Keep an eye on trends and patterns and set triggers for major change. | Leveraging |

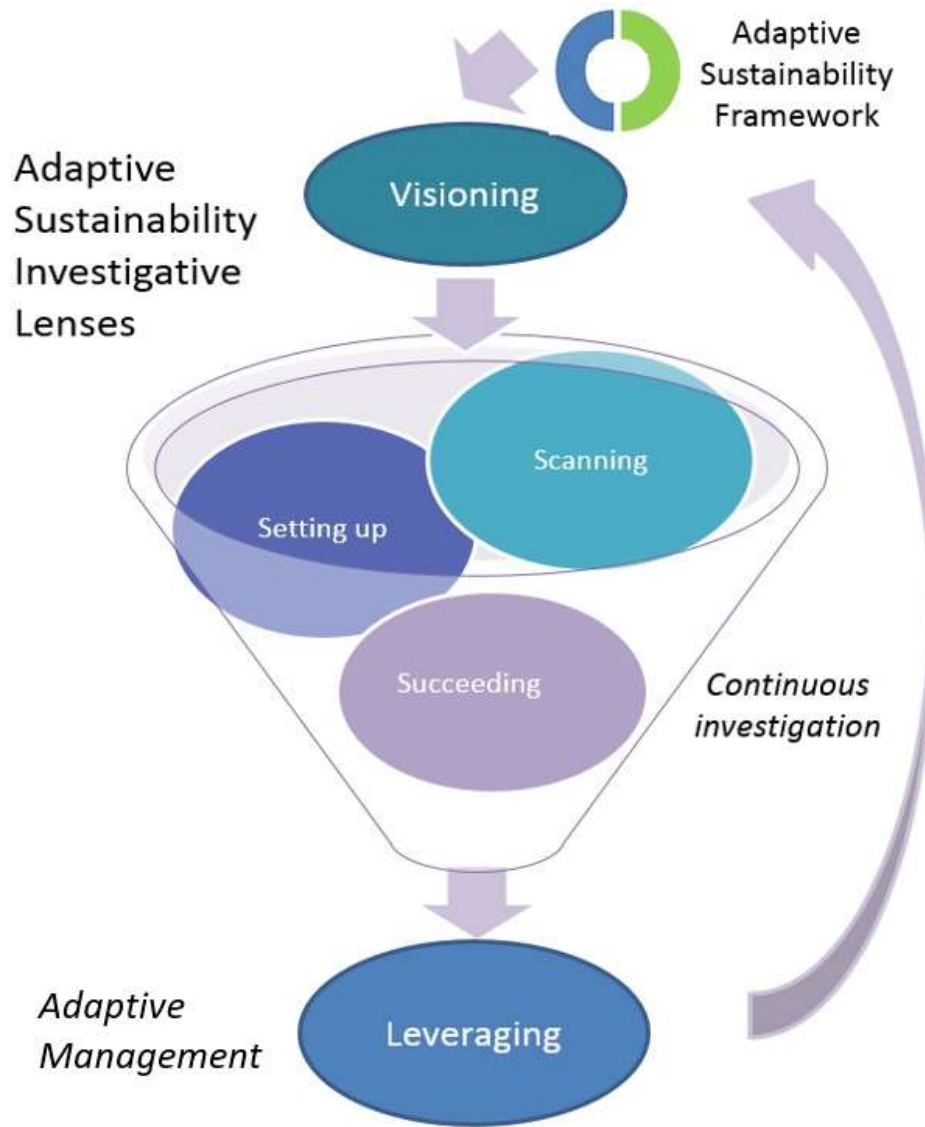
Consider another example, that of a business examining its compliance issues as part of its investigation of energy, during which the business realises that there are a number of voluntary codes and standards such as the National Greenhouse Energy Reporting Scheme, the National Pollutant Inventory and even the Global Reporting Initiative. Even though they may or may not be required to participate in these schemes, the framework standards in the schemes can be used as a practical source of information to set up business metrics and practices around sustainable energy use, and associated greenhouse emissions.

The key point in the discussion above is that, in the same ways that natural systems operate and adapt, those managing businesses must become aware of, and begin to address, the complex challenges that are likely to affect them in an adaptive way. The people working in the business must begin to use deeper thinking and organisational learning as part of their day-to-day management and operations approach. This means, at the same time as holding their vision and values in place, also keeping their eye on the big picture, setting up operations to maximise productivity and meet customer demand, while at the same time engaging with stakeholders in a transparent way that ultimately creates economic, social and environmental value, through the activity of the business. Re-envisioning a business in this new way will not only lead to a new and quite different understanding of how one aspect of the business (e.g. energy supply and cost) might be improved but is also likely to open up new and unexpected opportunities. These new insights are an emergent property of investigating the business as a whole system and add value by leading to prosperity in previously unimagined ways.

An example of this is of a major car manufacturing company in Australia, one that two decades ago, became interested in whole of lifecycle sustainability of the materials and resources they were using, supported by one of the authors of this paper as a consultant. Investigating sustainability at a deeper level involved developing an inventory of all of the parts manufacturers that supplied the company, in order to investigate where these businesses sourced their materials and how they used labour. As a result, the company realised that some of the parts supplied to them were from a single manufacturer, sometimes located overseas, and that if the manufacture or supply of the parts was disrupted, the entire car production line would come to a halt. The car company put in place a strategy to diversify the source of the parts supplied to them externally, including support for a number of supply companies located in Australia, as well as modifying the sources of materials and labour to be in line with the company's sustainability principles and practices. When the global financial crisis hit, and some overseas suppliers ceased making some parts, the company was able to turn to local suppliers and continue car production. Even though the car company itself is no longer in existence in Australia, the car parts suppliers it supported are still in business, and exporting their car parts, and other associated manufactured goods, to many places around the world.

In its more detailed form, the Adaptive Sustainability for Business approach is comprised of a flow process that helps to plan, implement, monitor, adapt and optimise business activity. The idea is to use the "Investigative Lenses" to guide business thinking and keep ahead of change, disruption and unpredictability, in as far as this is possible. This process also helps to build ways of knowing and viewing the organisation so that, when the unexpected does arrive, there is a systems-wide understanding of what the best responses might be. The Framework is then used to help make sure those involved undertake this business activity in a responsible and sustainable way. The next step is to develop an Adaptive Management Plan to guide implementation, monitoring, evaluation and adaptation. Figure 4. provides a broad idea of the steps involved in implementing the Adaptive Sustainability approach.

FIGURE 4
STEPS IN IMPLEMENTING THE ADAPTIVE SUSTAINABILITY FOR BUSINESS APPROACH



ADAPTIVE SUSTAINABILITY THROUGH THE RESPONSIBLE BUSINESS MODEL CANVAS

Using the investigative lens approach works well with managers of large enterprises who understand sustainability concepts and are accustomed to reporting on associated activity. But for managers and staff in small to medium sized businesses (SMEs), these ideas need to be translated into a more user-friendly form. The ideas and rationale for any Adaptive Sustainability investigation need to be closely linked to the business bottom line, especially for SMEs, and the questioning needs to be undertaken in a step by step approach that facilitates reflection, in ways that progressively reveal the potential for increased business performance.

Our Adaptive Sustainability Framework has been adapted to use the well-known business planning tool called the business model canvas, created by Alexander Osterwalder (Forbes, 2012). Our version of the

canvas is called the Responsible Business Model Canvas and helps business owners, managers and their staff develop a view of their business through ten essential action themes. We explore each of the socio-economic and environmental factors through these different themes, and through a range of investigative questioning. The objective is to analyse the business through the lens of economic prosperity, social responsibility and environmental sustainability.

FIGURE 5
THE 10 BLOCKS OF THE RESPONSIBLE BUSINESS MODEL CANVAS

| | | |
|--|--|---|
| Business Purpose Who you are, what you do, how you do it and why you do it? | | |
| Customers Who are your ideal customers? | Responsible Value Proposition How does your value proposition align with principles of social responsibility and environmental sustainability? | Key Activities What are your key activities to produce your products/services? |
| Customer Pathways How can you distribute to your customers in a sustainable way? | | Responsible Resources What resources do you need to produce your products/services? |
| Business Environment How do you keep your eye on changing circumstances? | | Strategic Stakeholders Who are your key partners and suppliers? |
| Cost Structures What are the costs associated with your key activities? | | Sustainable Revenue What are your source/s of revenue? |

Just like the traditional business model canvas, our goal is to help a business owner or manager take a bird’s eye view of their whole operations and context, or a new business product or service, to test whether it is likely to succeed in the marketplace. We begin this process by focusing on the business’ purpose, investigating how well this aligns with personal and business values across the organisation. Then we consider the responsible value proposition and how the business can create value that aligns with social responsibility and environmental sustainability. Then we look at the total value per customer segment and how the business will create additional value through customer related activities. The understanding of activities both at the strategic and tactical level, usually reveals more insight into the total value creation. Moreover, value elements for one customer segment can induce value for others. The interaction between value for customer segments and responsible business activities results in a powerful customer value centred business model representation. We then consider the business environment and start to build a holistic view of the external and internal context in which the business operates. Following this, we look at resource use within the business, exploring opportunities for redesign or sustainable alternatives. Analysing stakeholders explores partners, suppliers, community, NGO’s and government agencies, and encourages transparent and circular supply chains and meaningful stakeholder engagement. This leads on to analysing cost structures and sustainable revenue streams, to explore opportunities for benefits associated with responsible business activity. The goal is for companies to fully evaluate their responsible business model and seek opportunities for positive social and environmental impacts.

Once the canvas has been fully explored, the business develops an adaptive management plan to bring implementation into play. Exploring the business through the ten elements of the canvas, and then writing an adaptive management plan, based on the Adaptive Sustainability lenses, brings the Adaptive Sustainability Framework fully to life. In this way, the Responsible Business Model canvas explores all of the ways in which the Systems Principles apply to the organisation (Table 3).

TABLE 3
THE LINK BETWEEN THE RESPONSIBLE BUSINESS MODEL CANVAS AND THE
ADAPTIVE SUSTAINABILITY FRAMEWORK

| Responsible Business Model Canvas Process | Sustainability Actions | Systems Principles |
|--|---|---------------------------|
| Business Purpose | Business Values & Ethics | Purpose |
| Responsible Value Proposition | Governance | Structure |
| Ideal Customer / Customer Pathway | Governance | Structure |
| Business Environment | Sustainable Innovation | Context |
| Key Activities | Sustainable Innovation | Activity |
| Responsible Resources (Materials & Human) | Water, Energy, Materials, Transport, Biodiversity, Land & Staff wellbeing | Activity |
| Strategic Stakeholders | Stakeholder Wellbeing | Interdependence |
| Cost Structures | Economic Value | Feedback |
| Sustainable Revenue | Economic Value | Feedback |
| Creating & Revisiting the Business Model | Communication & Engagement | Optimisation |
| Creating an Adaptive Plan | Communication & Engagement | Optimisation |

This process has been used on many occasions when one of the authors has acted as a business consultant to a range of large and small organisations seeking to improve their performance. One national environmental organisation used the canvas to explore new corporate partnerships and how they could use their unique knowledge, capabilities and expertise in the environmental sector to develop meaningful programs and services to not only secure new partners, but to grow their membership base. One state based social justice group used the canvas to explore new delivery models in times of COVID19 lockdown, and through this process developed a range innovative and cost-effective programs that could be offered to their customers during lockdown and beyond. One small hospitality business used the canvas to develop a whole new business model, based on ethical business innovation where customers were asked to support front line workers and people of disadvantage in the community as they purchased healthy and delicious meals for themselves. Each of these practical, worked through examples demonstrated that the user-friendly tool and education based around the key concepts and actions embedded in the Responsible Business Model canvas and the Adaptive Sustainability Framework, made ideas of responsible and sustainable business practice a commercially viable option, and indeed a competitive advantage during CO-VID19 and beyond.

MAXIMISING ADAPTIVE SUSTAINABILITY THROUGH PRIORITISATION

Whether or not you use the Investigative Lens approach of the Responsible Business Model Canvas approach, the most powerful and innovative aspect of the Adaptive Sustainability Framework is the concept of leverage. According to Peter Senge, one of the leading thinkers in systems thinking as it relates to business management, leverage is the bottom line of systems thinking. In systems thinking, a leverage point is a place in a system's structure where a solution element can be applied. It's a low leverage point if a small amount of change causes a small change in system behaviour. It's a high leverage point if a small amount of change

causes a large change in system behaviour (Senge, 1990). Our non-systematic ways of thinking consistently lead us to focus on low leverage changes. Most of the time we focus on symptoms where the stress is greatest. But these efforts only make matters better in the short run, at best, and sometimes worse in the long run. It is difficult to disagree with the principles of leverage. But the leverage point in most real-life systems, such as most organisations, is not obvious to most of the people in those systems. This is because they don't see the structures that underlie and interplay with their actions – they are usually embedded within the system, rather than seeing it as a whole.

As an example, consider the energy use and cost example for a business outlined above. Often businesses try to source cheaper energy as a solution to their high costs, and there is no shortage of suppliers vying for their business in today competitive marketplace. But a deeper look into their operations through root cause analysis may well uncover a higher leverage point solution. There are many ways to do this, but most methods are based on deep questioning to uncover structural issues. How much energy does the business use? When does the business use energy? What are the hours of peak usage? Does high-load equipment need to be operated during these times? Can the business push some activity into an off-peak period? Is the cost of the energy likely to change, for better or worse, in the near future? This line of questions can continue to unfold, depending on the business and its activity.

A systems approach, focused on a small set of high leverage interventions that continually reinforce each other, is the most efficient and effective way to move an organisation on a path toward maximum performance. The best way to maximise action is to identify and apply interventions in a system in increasing order of effectiveness. Leading system thinkers have carefully considered a whole range of different systems and created a systematic approach to maximise leverage. The list below shows these actions from highest leverage opportunity to lower leverage opportunity (adapted from Meadows, 1999):

1. Change the mindset out of which the system arises.
2. Rearrange the parts of the system.
3. Change the goals of the system.
4. Change the rules of engagement of the system.
5. Change the information flows of the system.
6. Change the feedback processes of the system.
7. Change the parameters of the system.

This list reveals a critical approach that can be applied to any system. The Adaptive Sustainability for Business approach focuses on the higher order leverage opportunities listed above, and has translated these into real and transferable business steps, in the order of priority, to achieve greatest leverage or greatest positive change within a business, with least amount of effort.

CONCLUSION

Organisations today operate in a dynamically changing and hyper disrupted business environment. Companies across the world are experiencing and responding to this new business context in a multiplicity of ways. Some understand the complexity and interconnection of the challenges they face and have stepped up with agile thinking and integrated innovation, but the majority of business are struggling to stay afloat and manage their way through the turbulence and uncertainty. And this is particularly true for small to medium businesses that find it very difficult to manage these challenges in a holistic way.

Adaptive Sustainability for Business offers a way for organisations to re-calibrate their management of the emerging challenges of large scale, and of ongoing change and disruption, by shifting to a more systems-based approach. The Adaptive Sustainability approach sets out a detailed framework to guide investigators in their consideration of the key socio-economic and environmental factors within and around the system that is the organisation, and fourteen key areas of actions within each of these. Arising from the relationships and areas of action revealed in the overall framework, five “Investigative Lenses” are proposed, to be used to guide how and organisation can undertake continuous cycles of investigation. The Adaptive Sustainability framework has also been aligned with a popular business management tool, resulting in the Responsible Business Model Canvas. This is particularly useful to owners, managers and staff in small to medium

organisations as they explore the links between ten essential elements of their business, and the potential in increased efficiencies, performance and profitability, through the Adaptive Sustainability for Business Framework.

The ultimate objective of the processes outlined above is to create a new and innovative approach to business management that fosters new mindsets, ones that can adapt to change, and to develop new skillsets that can adequately address today's complex business challenges.

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