

Innovation Pathways Towards Creating Integrated Value: A Conceptual Framework

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Abstract

In the context of a plethora of worsening social, environmental and ethical negative conditions often associated with economic growth and industrial activity, I am proposing Integrated Value as a conceptual and practical framework for business to respond credibly and effectively as a force for innovation and solutions. In order to do so, I begin by asking: how is value to society currently being destroyed by economic activities? Taking a systems science perspective, the answer is: whenever it causes fragmentation, or disintegration. My contention is that this disintegration in society occurs in at least five principle ways, which I call the five forces of fragmentation: disruption, disconnection, disparity, destruction and discontent.

I then ask: how might this value destruction in society be countered or reversed? And I find clues in innovations that are occurring in five emerging economic spheres: the resilience, Exponential, access, circular and wellbeing economies. In each of these areas, there are breakthrough business models, practices, products and services that are building, rather than destroying, societal value. I call these the five pathways to innovation, defined in terms of the desired future state they are trying to advance, which is a society that is more secure, smart, shared, sustainable and satisfying. Four strategic value-creation options are then described (singular, focused, diffuse and integrated value) before citing illustrative cases and describing the seven steps of a methodology to implement integrated value.

Redefining Value Creation

The scale, urgency and worsening of numerous social, environmental and ethical global challenges, from income inequality and biodiversity loss to climate change and pervasive corruption, has led to prevailing concepts and practices of value creation in business and economics coming under increasing scrutiny by scholars and practitioners alike.

In particular, there is a strong call to reform incumbent business models that have done little to resolve these global challenges – and may even be argued to have caused or exacerbated the problems. Volans (2016) suggests that in order to achieve sustainability, breakthrough business models will need to be social (delivering both financial and extra-financial value through positive impacts for people—in the present and in the future), lean (optimizing the use of all forms of capital, from physical and financial through human and intellectual to social and natural), integrated (managing financial and extra-financial value creation across economic, social and environmental systems) and circular (sustaining inputs and outputs at their highest value in both technical and biological cycles).

Similarly, AMS and ING (2017) propose hybrid business models, which can be either incremental or radical. These new approaches may be seen as an attempt to respond to longstanding critiques of neo-classical, neoliberal capitalism (Hertz, 2002; Hart, 2005; Klein, 2007) and corporate social responsibility (Christian Aid, 2004; Blowfield, 2005; Visser, 2008;). For instance, I have argued previously that sustainable business models would need to embrace 'responsible capitalism' (based on the principles of investment, long-termism, transparency, full cost accounting and inclusion) (Visser, 2012) and 'transformative CSR' (based on the principles of creativity, scalability, responsiveness, glocality and circularity) (Visser, 2010).

This questioning and recasting of value has been building for a number of decades now. For example, Freeman's (1984) stakeholder theory was largely proposed as an alternative to narrow, neoclassical economics conceptions of value creation solely in terms of shareholder returns, typified by Friedman's (1970) contention that "the social responsibility of business is to increase its profits." Freeman (2010) stressed that managing for stakeholders should be approached as a new business model for value creation, rather than a way of making trade offs between stakeholders.

Subsequent to Freeman, this questioning and expanding of the concept of value continued with Elkington's (1994) 'triple bottom line', Kanter's (1999) 'social innovation', Emerson's (2000) 'blended value', Prahalad and Hart's (2002) 'bottom of the pyramid' (BOP) inclusive markets and Porter and Kramer's (2011) 'creating shared value' or CSV. Of course, not all of these re-conceptions have been without criticism (e.g. see Crane et al., 2014 on CSV). Nevertheless, shifting to the language of value, rather than of responsibility, is important, as is the emphasis on a more strategic and integrated focus (Visser, 2013).

Typically, all these new conceptions built on what went before, but called for greater integration and an expansion of the potential of business to make positive impacts. For example, Hart's (1997) 'sustainable value' framework incorporates pollution prevention, product stewardship, base of the pyramid (BOP) and clean tech. Emerson's (2000) 'blended value', much like Elkington's (1994) 'triple bottom line', looks for an overlap between profit and social and environmental targets, while Porter and Kramer's (2011) CSV focuses on synergies between economic and social goals.

We have also seen efforts from standards bodies (King and Roberts, 2013). For example, the International Integrated Reporting Council (IIRC, 2013) published their International Integrated Reporting Framework, the International Organization for Standardization (ISO, 2014) issued guidance on integrated management systems as part of its ISO Directives (Annex SL) and the Future Fit Foundation (2016) launched their Future Fit Business Benchmark.

In addition, numerous practitioner organisations have been working on methodologies for measuring value in a way that incorporates externalities, including for examples (cited in KPMG, 2014): True Value (KPMG), B Impact

Assessment, Environmental Profit & Loss (EP&L) Statement, Natural Capital Protocol (Natural Capital Coalition), Redefining Value (WBCSD), Social Return on Investment (SROI Network), Total Impact Measurement & Management (PwC) and True Price.

Introducing Integrated Value

Taking into account these trends and developments – and building on previous groundwork (Visser and Kymal, 2015) – I am proposing Integrated Value as a conceptual framework for pulling together these intellectual and methodological threads. In order to do so, I begin by asking: how is value to society currently being destroyed by economic activities? Taking a systems science perspective, the answer is: whenever it causes fragmentation, or disintegration. This is consistent with the idea that the tendency towards greater integration in nature and society is a fundamental principle of evolution (Smuts, 2013; Capra, 2014).

Hence, fragmentation is by definition devolutionary, literally causing disintegration or the destruction of complexity. Complexity in this instance does not refer to ‘complicatedness’, but rather to synergistic connection or positively reinforcing relationships, in the same way in which our brains embody complexity through its 100 billion interconnected neurons. My contention is that this disintegration in society occurs in at least five principle ways, which I call the five forces of fragmentation: disruption, disconnection, disparity, destruction and disease.

I then ask: how might this this value destruction in society be countered or reversed? And I find clues in innovations that are occurring in five emerging economic spheres: the resilience, Exponential, access, circular and wellbeing economies. In each of these areas, there are breakthrough business models, practices, products and services that are building, rather than destroying, societal value. I call these the five pathways to innovation, defined in terms of the desired future state they are trying to advance, which is a society that is more: secure, smart, shared, sustainable and satisfying.

Hence, one of the decisive factors that may tip the balance between these opposing evolutionary forces in society – in favour of integration rather than disintegration – is synergistic innovation. Table 1 summarises these tension and potentials.

Table 1: Forces of Global Disintegration, Integration and Innovation

<i>Forces of Fragmentation</i>	<i>Forces of Integration</i>	<i>Pathways for Innovation</i>
Disruption	Resilience economy	Secure
Disconnection	Exponential economy	Smart
Disparity	Access economy	Shared
Destruction	Circular economy	Sustainable
Discontent	Wellbeing economy	Satisfying

There is ample case-study evidence that the five pathways to innovation are creating value beyond narrow financial or economic conceptions. Viewed in terms of a multi-capital perspective, we can demonstrate that they are building – in addition to financial capital – infrastructural, technological, human, social and ecological capital. However, the real breakthrough in value creation comes when two or more of the pathways to innovation are synergistically combined, thus creating integrated value.

Let me define the concept fully before going on to describe the essential building blocks in more detail:

Integrated Value is the simultaneous building of multiple capitals (notably financial, infrastructural, technological, human, social and ecological) through synergistic innovation across the resilience, Exponential, access, circular and wellbeing economies that result in a world that is more secure, smart, shared, sustainable and satisfying.

Five Forces of Fragmentation

An emphasis on integrated value may seem obvious or even inevitable to some. After all, following decades (some would even say centuries) of globalisation and the acceleration of international trade and tele-digital connectivity, the world seems more integrated than ever before (*The Economist*, 2013). But the globalisation trend has also masked cracks in the façade of integration, beyond the recent political trend of rising nationalism and protectionism in the Trump era (Plender, 2017).

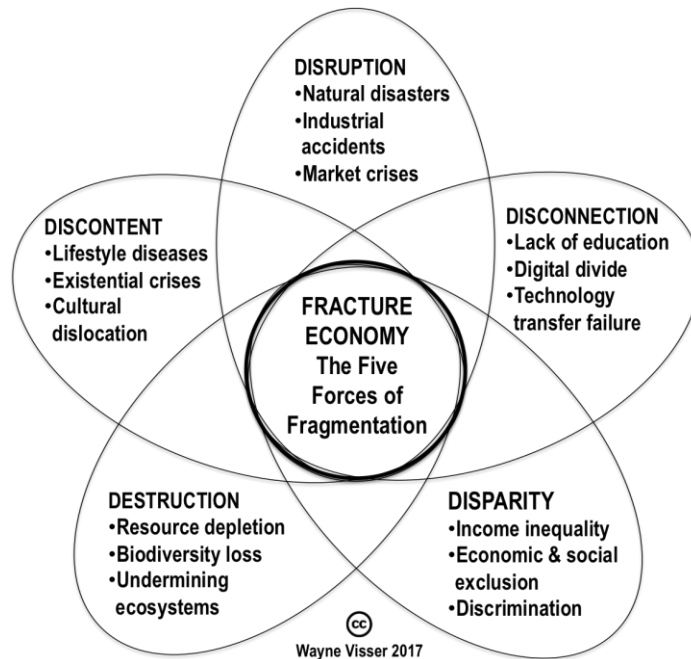
As systems scientists remind us, any complex system exists in a state of dynamic equilibrium, which, if sufficiently disrupted will either break through to a higher state of integration, or break down into a lower state of fragmentation (Laszlo, 2014). In our world today, we feel the tension between the tendency towards integration and the counter-tendency towards disintegration. For example, if we look at the data on security risks, digital distribution, social inequality, ecological integrity and human wellbeing, we can see that there are powerful forces of disintegration that threaten global harmony and progress for all. These can be distilled into the following five forces of fragmentation in what I call the Fracture Economy (Figure 1).

Disruption – This refers to any instability that threatens human life, safety and security, and is most often associated with political conflicts, acts of terrorism, demographic disruption, industrial accidents and natural disasters. For instance, according to the Global Peace Index 2016, only 10 countries in the world can be classified as conflict free (Institute for Economics and Peace, 2016). Another example is the 65.3 million forcibly displaced people worldwide, including 21.3 million refugees and 10 million stateless people (UNHCR, 2017).

Disconnection – This refers to any form of isolation that prevents human communication and effective data sharing, and is most often associated with a lack of access to knowledge, uncensored media and information technology. For

instance, 4 billion people still lack access to the internet and nearly 6 billion people do not have high-speed internet (World Bank, 2016). And nearly 2 billion do not use a mobile phone, and almost half a billion live outside areas with a mobile signal (World Bank, 2016).

Figure 1: Five Forces of Fragmentation in the Fracture Economy



Disparity – This refers to any inequities that increase social friction or inefficient resource utilisation, and is most often associated with income inequality, over-consumption and unnecessary private asset ownership. For instance, since 2015 the richest 1% has owned more wealth than the rest of the world’s population and 8 men now own the same amount of wealth as the poorest 50% (Oxfam, 2017). And from 1960 to today, the absolute gap between the average incomes of people in the richest and poorest countries has grown by 135% (Bolt and van Zanden, 2014).

Destruction – This refers to any production and consumption that leads to the decline of resources and disruption of ecosystems, and is most often associated with rapacious economic growth, demographic changes and industrial pollution. For instance, according to the Living Planet Index, populations of vertebrate species declined 58% between 1970 and 2012 and will decline 67% by 2020 if current trends continue (WWF, 2016). And unabated climate change, resulting in 2.5 degrees Celsius warming, will devastate ecosystems, increase poverty and cost the global economy \$12 trillion by 2050 (UNDP, 2016).

Discontent – This refers to all unhealthy lifestyles and toxic environments that impair human wellbeing, and is most often associated with stressful workplaces, poor diets, lack of exercise and negative psychological attitudes. For instance, more than 40% of deaths from non-communicable diseases (which account for

70% of all deaths, an increase since 2000) are premature or preventable, notably from cardiovascular and respiratory diseases, cancers and diabetes (WHO, 2017). And depression and anxiety disorders affect 10% of people, cost the global economy US\$1 trillion each year and have increased 50% from 1990 and 2013 (WHO and World Bank, 2016).

Five Forces of Integration

Countering the five forces of fragmentation are five forces of integration, which are really economic trends that collectively form a Nexus Economy that is rapidly transforming our world for the better. Many of these trends were anticipated by pioneering systems thinkers like Kenneth Boulding (1966), Fritjof Capra (1984), Peter Russell (1991), Hazel Henderson (1997), Willis Harman (1998), Paul Hawken, Amory Lovins and L. Hunter Lovins (1999) and Donella Meadows (2008). Consider the following five forces of integration (Figure 2).

The **Resilience Economy** includes all the defensive expenditures and investments that lower risks in society, from property insurance and health and safety controls to flood defences and emergency response training. The Stockholm Resilience Centre (2017) defines resilience as “the capacity of a system, be it an individual, a forest, a city or an economy, to deal with change and continue to develop. It is about how humans and nature can use shocks and disturbances like a financial crisis or climate change to spur renewal and innovative thinking.” As we enter a period of greater turbulence, we expect the resilience economy to grow as a strategy to survive and thrive.

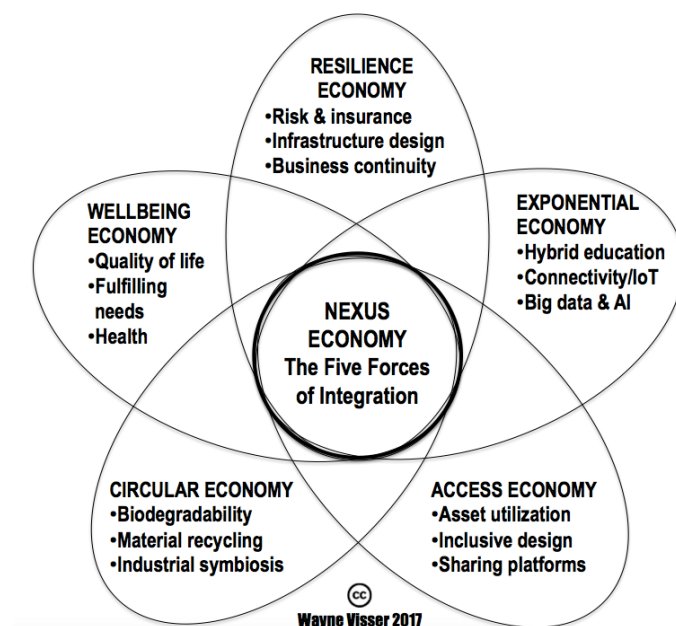
The **Exponential Economy** includes all the technological expenditures and investments that increase connectivity and intelligence in society, from high-speed internet and The Internet-of-Things to MOOCs (massive open online courses) and artificial intelligence. The increased use of Exponential technologies could add \$1.36 trillion to total global economic output in 2020, according to a recent study by Accenture (2015) (that’s the same size as the whole South Korean economy). The World Economic Forum calls this the Fourth Industrial Revolution and describes it as a “blurring the lines between the physical, digital, and biological spheres”, which is growing exponentially (Schwab, 2016).

The **Access Economy** includes all the expenditures and investments on shared services that increase efficient utilisation of assets, resources and capacity, from car-sharing (like Zipcar) and “couch surfing” (Air BnB) to entertainment streaming (Netflix) and crowdfunding (Kickstarter). The access economy (a term promoted by Harvard Business Review to suggest that customers increasingly want utilitarian value from accessing benefits from a product or service, rather than social value from intimate exchanges) is also known as the sharing economy, peer-to-peer marketplace, or collaborative consumption (Eckhardt and Fleura, 2015). PwC (2015) estimates the access economy may be worth \$335 billion by 2025.

The **Circular Economy** includes all the expenditures and investments that decouple economic growth from environmental impact by 'closing the loop' on resource and energy flows, from waste recycling and biodegradable plastics to renewable energy and biomimicry designs. The circular economy draws on an evolution of concepts and practices since the 1960s that include 'spaceship earth' thinking, eco-balance, life cycle analysis, industrial ecology, industrial symbiosis, cleaner production, eco-innovation and cradle to cradle (Visser, 2017). In the book *Waste to Wealth*, based on analysis by Accenture, the circular economy opportunity is valued at \$4.5 trillion by 2030 (Lacy and Rutqvist, 2015).

The **Wellbeing Economy** includes all expenditures and investments that increase human health and happiness in society, from stress-relief practices and life coaching to plant-based diets and solutions to social diseases (like crime, inequality, suicide, domestic violence). There are various national indicators that have been created to demonstrate the limitations of economic growth as an indicator of progress in society, by measuring human wellbeing instead, such as the Social Progress Index, the Happy Planet Index and the OECD Better Life Initiative. As we become more conscious of the health impacts of lifestyle, consumerism, diet and pollution, the wellbeing economy is set to grow rapidly.

Figure 2: Five Forces of Integration in the Nexus Economy



Five Pathways for Innovation

Each of these economic trends has spawned an aligned pathway for innovation in response to the opportunities that they represent. Some of these approaches have been captured in research on concepts and practices such as social innovation (Nicholls et al., 2015), responsible innovation (Koops et al., 2015), frugal innovation (Radjou and Prabhu, 2015), eco-innovation (Reyes-Mercado,

2016) and sustainable innovation (Hargadon, 2015). Each of the five pathways (Figure 3) is a lens through which to create more positive, integrated futures.

A **Secure Pathway** is one in which our organisations, communities, cities and countries do not create or exacerbate disasters or crises; rather, they help us prepare for and respond to emergencies and catastrophes, allowing us to survive and thrive through periods of breakdown, uncertainty and volatility. The test question is: to what extent does your organisation protect and care for us, i.e. your stakeholders? Keywords are secure, secure, resilient, and indicators might include occupational health & safety, insurance cover and emergency preparedness. ClimateWise illustrates pathway for innovation, through its dedication to preparing the insurance industry to respond effectively to the impacts on climate change.

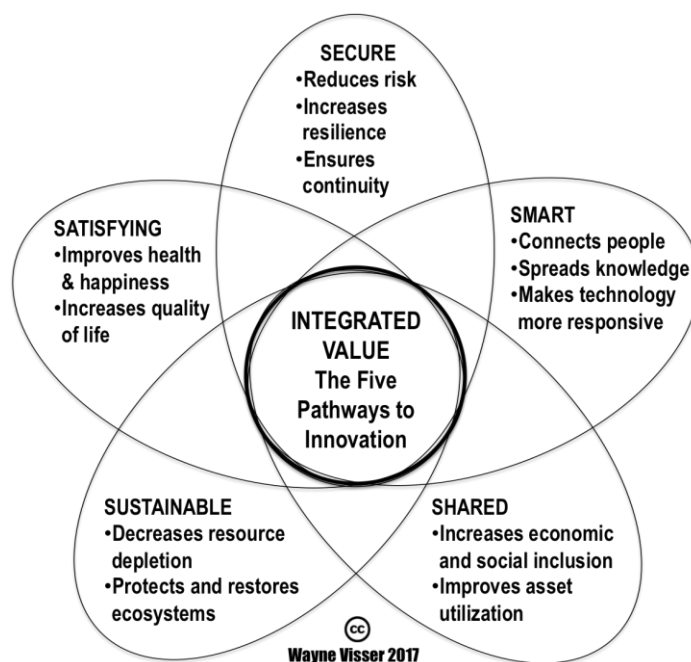
A **Smart Pathway** is one in which our organisations, communities, cities and countries use technology to better connect us to each other and allow us to share what we value most, and facilitate more democratic governance by allowing us (as customers or citizens) to give direct, immediate feedback. The test question is: to what extent does your organisation connect and empower us? Keywords are educated, connected, responsive and indicators might include connectivity, access to knowledge, and R&D investment. Worldreader illustrates the smart pathway for innovation, through its use of tablets and mobile devices to make 31,000 educational titles in 44 languages available to over 17 million people in 69 countries.

A **Shared Pathway** is one in which our organisations, communities, cities and countries address issues of equity and access by being transparent about the distribution of value in society and working to ensure that benefits are fairly shared and diversity is respected. The test question is: to what extent does your organisation include and value us? Keywords are fair, diverse, inclusive and indicators might include value distribution, stakeholder participation, and diversity. Park24 Group illustrates the shared pathway for innovation, through its Times Car PLUS car sharing scheme in Japan that has over 15,000 vehicles operating in over 8,000 locations, with more than 700,000 participating members.

A **Sustainable Pathway** is one in which our organisations, communities, cities and countries operate within the limits of the planet by radically changing resource consumption and ecosystem impacts, with a shift to renewable energy and resources, closing the loop on production and moving to a low carbon society. The test question is: to what extent does your organisation protect and restore our environment? Keywords are renewable, enduring, evolutionary, and indicators might include externality pricing, footprint analysis, and renewability. Danone illustrates the sustainable pathway for innovation, through its targets to build plants with zero liquid discharge, use 100% bio-sourced second generation plastic, and achieve 100% rates of recycled materials in packaging.

A **Satisfying Pathway** is one in which our organisations, communities, cities and countries produce high quality services that satisfy our human needs, as well as enabling a lifestyle and culture that values quality of life, happiness and other indicators of wellbeing. The test question is: to what extent does your organisation fulfil and inspire us? Keywords are beneficial, beautiful and meaningful, and indicators might include quality standards, levels of satisfaction, and happiness. AllLife Insurance illustrates the satisfying pathway for innovation, through offering whole life cover to HIV positive individuals who were previously excluded from mainstream financial services, by linking the cover to customers adherence to various dietary, lifestyle and health behaviours.

Figure 3: Integrated Value Synergies from the Five Pathways for Innovation



Differentiating Integrated Value

When an organisation, community, city or country pursues one of the 5-S pathways to innovation, they are already adding societal value. But depending on their approach, they may not be maximising the value creation opportunity. To simplify, there are four strategic value-creation options available: singular, focused, diffuse and integrated value (Figure 4).

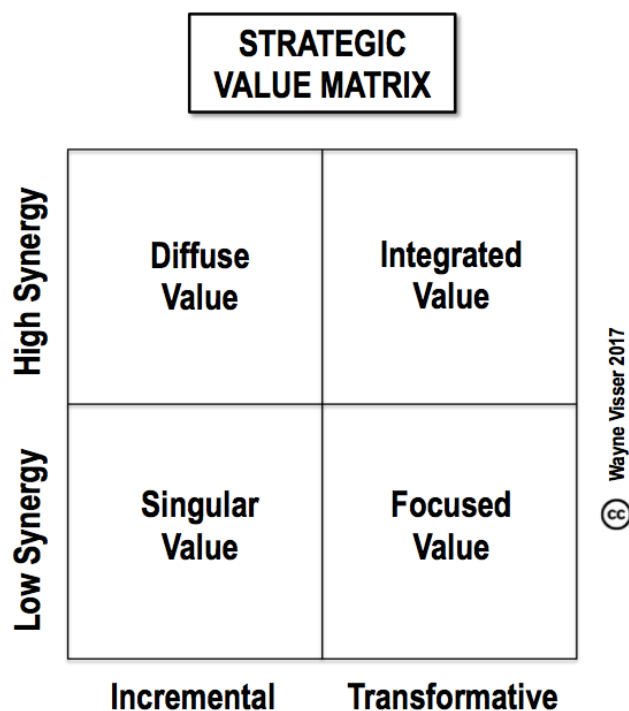
Singular Value is when an organisation focuses on one of the 5-Ss as its innovation pathway, but does so in an incremental way. This means they will have a management system (objectives, targets, programs, KPIs, reporting, audits, etc.), but they are content to make a marginal contribution on the issue. The potential for synergy is low, because they are only focused on one innovation pathway. For example, a chemicals company may decide that a Secure strategy is key for their success.

Diffuse Value is when an organisation focuses on multiple of the 5-Ss as its innovation pathway, but does so in an incremental way. This means they will have a management system, but they are content to make a marginal contributions on the issues they have prioritised. The potential for synergy is medium, because they are looking to leverage more than one innovation pathway at a time. For example, a mining company may decide that a dual Secure and Sustainable strategy is key for their success.

Focused Value is when an organisation focuses on one of the 5-Ss as its innovation pathway, but does so in a transformative way. This means they will have a disruptive innovation approach, and they will only be content with rapid, scalable change on the issue, especially within their industry. The potential for synergy is low, because they are only focused on one innovation pathway. For example, a food and agricultural company may decide that a Shared strategy is fundamental and they wish to completely transform the lives of farmers in their supply chain.

Integrated Value is when an organisation focuses on multiple of the 5-Ss as innovation pathways, but does so in a transformative way. This means they will have a disruptive innovation approach, and they will only be content with rapid, scalable change on the issues, within and beyond their industry. The potential for synergy is high, because they are looking to leverage more than one innovation pathway at a time. For example, an electric car company may adopt an integrated 5-S strategy that takes Secure, Smart, Shared, Sustainable and Satisfying to a completely new level of performance.

Figure 4: Strategic Value Matrix



The way in which Integrated Value manifests - when more than one of the 5-S strategies is applied simultaneously in a transformative way - is through synergy, which Ackoff (1999: 40) described as “the principle purpose of a social system: to contribute to the development of its parts, itself, and the larger system of which it is part.” We know this more commonly by the catchphrase: the whole is greater than the sum of the parts. Synergy is the driver of the new Nexus Economy and will be the key to competitiveness in the coming decade.

Illustrating Integrated Value

To illustrate the potential and practice of integrated value, let’s look at a few cases (Table 2).

Table 2: Cases Illustrating Integrated Value Strategies

<i>Case</i>	<i>Secure</i>	<i>Smart</i>	<i>Shared</i>	<i>Sustainable</i>	<i>Satisfying</i>
Novamont					
Dutch Awearness					
Caterpillar					
Tesla					

Novamont, as an Italian producer of bio-based plastics and biodegradable plastics, has adopted 2-S (Sustainable-Satisfying) Integrated Value strategy. Among their clients are the global coffee company Lavazza, which now sells compostable coffee capsules that Novamont have produced, which biodegrade within 20-40 days. It is *sustainable* because it is addressing climate change and resource depletion and it is *satisfying* because it decreases respiratory diseases associated with the manufacture of fossil fuel based plastics and eliminates the possibility of persistent plastics leaching toxic residues.

Dutch aWEARness demonstrates a 3-S (Smart-Shared-Sustainable) IV strategy in the Netherlands as one of the first textile companies to make fully ‘circular’ clothes. For example, their WearEver suits are made from 100% recyclable polyester, which can be turned back into a suit at least 8 times, giving the total life of the materials of between 40 and 50 years. It is *smart* because it uses a ‘track-and-trace’ digital app to record material flows in the supply chain; it is *shared* because the suits can be leased and returned or swapped; and it is *sustainable* because it is extending the life of its products, thus reducing the extraction of virgin resources. There are also plans to use reconstituted end-of-life clothing as a substitute for tropical hardwoods in the reinforcement of dykes and canals.

Caterpillar, the heavy machinery company, has pursued a 4-S (Secure-Smart-Shared-Sustainable) IV strategy through their Remanufacturing Centre in South Africa (the second largest in the world, operated by Barloworld), which is designed to rebuild ‘as new’ CAT components for 20-60% less than the cost of replacing with new parts. It is *secure* because it recalls equipment before it fails in the field, thus reducing industrial accidents; it is *smart* because it constantly

assesses the performance and maturity of equipment with real time, online monitoring; it is *shared* because it includes an asset lease (rather than ownership) scheme; and it is *sustainable* because it promotes reduces environmental impacts through a circular economy strategy of closing the loop on material flows.

Tesla, the integrated automotive and energy company, has pursued a 5-S (Secure-Smart-Shared-Sustainable-Satisfying) IV strategy. It is *secure* because it's electric cars with autopilot features already reduce automotive accidents and its fully autonomous cars due on the market soon are expected to be 10X safer than human drivers; it is *smart* because the cars are digitally connected to the company, with live performance monitoring, over-the-air software updates and computer managed driving; it is *shared* because autonomous cars will scale car-sharing by allowing car owners to add their car to the shared Tesla fleet; it is *sustainable* because the cars eliminate fossil fuels and the utility and home-storage batteries, solar panels and solar tiles are speeding up the adoption of renewables; and it is *satisfying* because the cars directly clean the air that drivers and passengers breath (with their HEPA filtration system), as well as indirectly by cutting carbon emissions, thus reducing respiratory diseases.

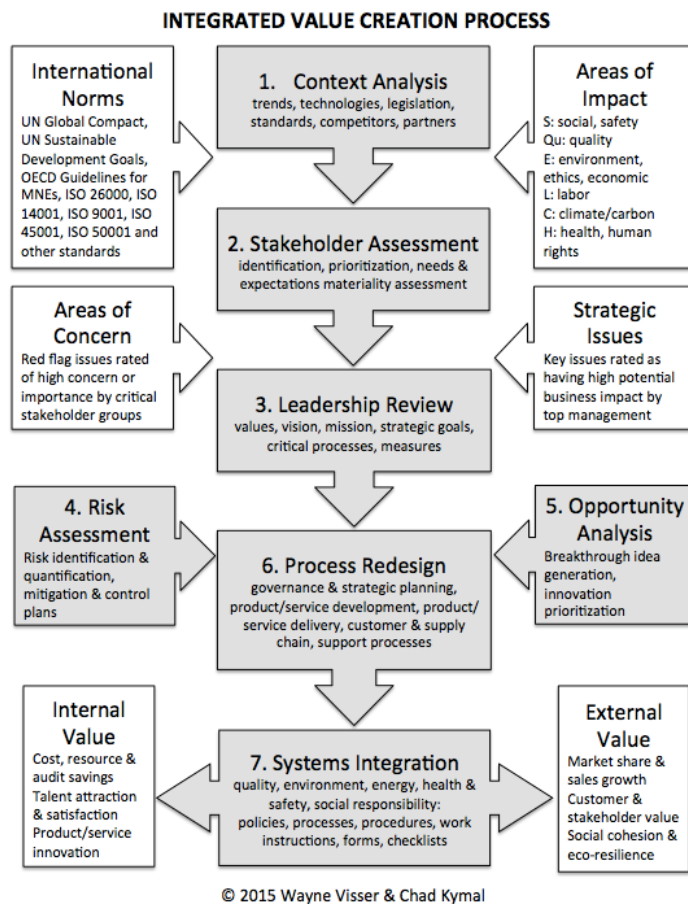
Implementing Integrated Value

Integrated Value is not only a conceptual framework for driving innovation to create a better world, it is also a practical methodology for embedding a multi-capital perspective in the management systems of business. This methodology, which I developed in collaboration with Chad Kymal and called Integrated Value Creation (IVC), is a 7-step process illustrated in Figure 5 and described below (Visser and Kymal, 2015).

Context Analysis takes stock of all the relevant societal trends, disruptive technologies, changing legislation, responsible business codes and standards, cross-sector partnerships and competitor activity. During this stage, the company is using a multi-capital perspective to identify what are the most critical pressures that are shaping its operating environment. This is in line with the new ISO (2014) High Level Structure for management systems, which states that: "The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcome(s) of its management system."

Stakeholder Assessment is an iterative process that systematically identifies, categorises and prioritises all stakeholders (Mitchell et al., 1997) – including customers, employees, shareholders, suppliers, regulators, communities and others – before mapping their needs and expectations and analysing their materiality to the business (Zadek and Merme, 2003). The output of this process is often a stakeholder materiality matrix, popularised by the Global Reporting Initiative, in its G3.1 Sustainability Reporting Guidelines in 2011 (GRI, 2011).

Figure 5: Integrated Value Creation Methodology



Leadership Review is where top management should review (and if necessary, revise) its values, vision and mission to ensure that they are truly aligned with the priorities identified in the first two steps. The material issues then need to be translated into strategic goals and targets. Companies can use established frameworks like the balanced scorecard (Kaplan and Norton, 1992), linking it to sustainability accounting and sustainability reporting (Schaltegger and Wagner, 2006), or the goals can simply be integrated with existing strategic performance measurement systems in the company (Gates and Germain, 2010). These goals will then act as another filter, leading to the identification of critical business processes that will enable the achievement of the strategic goals.

Risk Assessment is the process of identification and quantification of quality, cost, product, environment, health and safety and social responsibility risks, in terms of their potential affect on the company's strategic, production, administrative and value chain processes. As Linder and Sexton (2014) observe, different risk assessment methodologies have evolved for different types of risks. For integration, however, the risk measures developed need to be valid and comparable for all the different types of risks and different entities of the business, and mitigation measures identified. The key to integrated risk

assessment is to understand that risk is always a function of severity times occurrence ($R = S \times O$) (Kymal et. al, 2015).

Opportunity Analysis entails the Innovation and Value Identification element. It recognises that not only is technological innovation booming, but it is rapidly shifting towards sustainable solutions. Opportunity analysis is comprised of idea generation and screening and the creation of a Breakthrough List. This is the chance for problem solving teams, Six Sigma teams, Lean teams, and Design for Six Sigma teams and others to use improvement tools to take the company towards its chosen transformational goals (Fargani et al., 2014). The improvement projects will continue for a few months until they are implemented and put into daily practice.

Process Redesign are where business processes are mapped and redesigned in order to align with stakeholder expectations, move towards the strategic goals, minimise risks and maximise breakthrough opportunities. For example, if eliminating corruption is a strategic goal, management will determine which business process is most critical – most likely procurement/purchasing (in the customer and supply chain process) and employee training (in the HR support process). By mapping out the process, and determining key measures for that process, opportunities for improvement can be identified. For example, introducing a procurement policy on bribery and corruption, or a third party due diligence or forensic audit procedure for new supplies.

Systems Integration is the final step, where the requirements of the various sustainability standards most relevant for the organization, together with the transformational strategic goals, are integrated into the management system of the organization, including the business processes, work instructions and forms/checklists. The new Annex SL of the ISO Directives provides useful guidance on the key components of integrated management systems. This goal of integrating management systems for quality, environment, health and safety and social responsibility is well established in the literature (Almeida et al., 2014; Mohamad et al., 2013).

Conclusion

To conclude, Integrated Value is an important evolution of the corporate responsibility and sustainability movements – and a timely addition to the live debate on creating new, more sustainable business models. It combines many of the ideas and practices already in circulation, but signals some important shifts, especially by combining integration and value creation, and by aligning the practice with pathways to innovation in the 5 areas of the nexus economy. In addition to giving some meat to the bones of the emerging language of Integrated Value, the IVC Methodology provides a window on the 'how to' of implementing Integrated Value in organisations.

Hence, Integrated Value helps organisations respond to the proliferation of societal aspirations and stakeholder expectations in a credible way. The focus on

innovation and transformation suggests the potential of Integrated Value to turn the corporate social responsibility and sustainability practices from defensive, philanthropic and promotional practices into a positive, solutions-driven approach.

Integrated Value has five main implications for sustainable business models, notably that it encourages scholars and practitioners to:

1. *Re-assess* – Business models are implicitly about creating value, but if measures of value remain narrowly conceived, or if sustainability KPIs remain peripheral to management and investment decision making, very little will change. Integrated Value calls for better assessment of impacts on multiple capitals (economic, technological, social, natural and human).
2. *Re-align* – Integrated Value is premised on finding synergistic relationships and breaking down silos; hence, it underscores the importance of collaboration in making many new business models effective, whether it be sharing platforms in the access economy, or industrial symbiosis in the circular economy.
3. *Re-define* – Integrated Value is a philosophy based in systems thinking, as well as a practical methodology for transforming business models, which stresses the importance of integrated leadership, whereby the systems pressures and the diverse perspectives of stakeholders are translated into strategic goals that drive change throughout the business.
4. *Re-design* – Innovation is at the heart of many new business models. Integrated Value highlights that the probability for innovation to occur – as well as its transformational potential – is increased when we seek synergies between varied disciplines, such as combining two or more of the five pathways to innovation (secure, smart, shared, sustainable, satisfying).
5. *Re-structure* - Finally, by taking a multi-capital approach, Integrated Value stresses that it is critical to look beyond institutional boundaries in creating new business models; to see the opportunities in connecting natural and social capital, or technological and human capital. This prompts us to focus on changing the context, i.e. the ‘rules of the game’ in the economy.

Each of these merit further research. However, two areas that may be particularly fruitful are: 1) Assessing the UN Sustainable Development Goals from an Integrated Value perspective, especially what synergies for value creation exist between the 17 goals and which show the strongest potential for joining together in solutions; and 2) Assessing the contribution that sustainability accounting can make to Integrated Value, especially the extent to which externalities are being credibly measured and integrated in management and decision making in business.

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