

# Accelerating new economics thinking and practices in the business sector – what are the most effective systems leverage points to create a shift?

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## ABSTRACT

This paper analyses business mega trends and the new economics movement through a systems lens to determine leverage points, which have the greatest potential to accelerate new economics thinking and practices within the business sector.

The underlying assumption of this paper is that the current global economic model is failing to deliver wellbeing, equality, justice, security and a healthy and diverse natural environment for societies to continue to flourish for many generations and millennia to come. An increasing number of organisations, as well as business leaders are recognising that 'Business-as-usual' is no longer an acceptable option. They are starting to develop concepts and frameworks for 'new economics' to address these issues. Implicit in this development is a desire to look for the most powerful places to intervene in the current economic system. This study investigates what role business and business leaders can play in accelerating new economics thinking and practices by analysing new economics organisations and their priorities and solutions. The research is based on desktop analysis of 26 new economics organisations from across the world and the solutions they identify as drivers for change in the current economic system.

Using Donella Meadows' (1999 & 2008) scale of effectiveness of systems leverage points, these solutions are considered to such leverage points. They are then assessed and evaluated for their capacity to introduce effective change in the economic system. The study found that the new economics organisations are focusing on a wide range of leverage points including some that have great potential to shift our current paradigm of economics, progress and success. However, the highest order leverage point identified by Meadows (2008) with the greatest potential for

creating systems change is not explicitly covered by any of the 26 new economics organisations and initiatives. The implication of this finding for business and business leaders is that there is room to accelerate change for those with courage and a sense of responsibility to use the power of business for the good of society at large.

**Keywords:** Leverage Points, New Economics, Systems-thinking, business, business leaders.

## 1. INTRODUCTION

The current global economic model is failing to deliver wellbeing, equality, justice, security and a healthy and diverse natural environment, that is, it is failing to deliver the conditions for societies to continue to flourish for many generations and millennia to come (Stiglitz 2010; Jackson 2009; Smith and Max-Neef, 2011; Heinberg 2011). As the business sector and its leaders are some of the key drivers of this faltering economic system they have potentially a vital role to play in accelerating new economics thinking and practices to create change towards a sustainable future.

This study firstly explores the rise of “New Economics” and how this emerging field is defined. This is followed by an investigation of the significance of the business sector in terms of its economic and human impact. This is particularly of interest in relation to global mega trends that have implications for the business sector for the next 20 – 30 years.

The study then analyses 26 ‘new economics’ organisations from across the world, which proposed a range of 29 solutions for addressing the current socio-economic and environmental crisis. These solutions were then assessed against Meadows’ (1999 and 2008) 12-point scale of effectiveness of leverage points in creating systems change. She describes levers for change or leverage points as the places that are most powerful to intervene in a system to create systemic change.

## 2. NEW ECONOMICS

### 2.1 The rise of “New Economics”

Since this latest global economic crisis in 2008, there has been a marked increase in research and initiatives exploring new solutions for ensuring sustainable progress and equitable human flourishing within the limits of the finite natural resources that our planet can provide. Many varied voices from governments, academics, NGOs and business leaders are calling for a shift in thinking and practices away from a mainstream economic model to replace the premise of unlimited growth (Capra & Henderson 2009; Berger 2010; Sachs 2011; UN 2012; OECD 2012; SNDP 2013). Examples of this shift are the discussions in many corners of the world that promote an approach beyond dualistic and linear thinking towards systems-thinking, particularly in political, economic and even religious systems. There is a thirst for a focus on what really matters to societies progress and flourishing (UNDG 2013), and one key example of this

movement is the idea of measuring beyond Gross Domestic Product (GDP) and towards human wellbeing and flourishing. GDP is increasingly recognised as overvaluing the production and consumption of goods and ignoring that which makes life worth living (Kubiszewski 2013; Kennedy 1968).

Hence, the shift to "new economics", "new development" and "Beyond GDP" thinking and practices has seen a flurry of studies and they are being debated more intensely over the last 5 years than ever before. Even though, it should be noted that the idea of "new economics" is not new. The origins of these sentiments and recognition of the limitations of GDP for example can be traced back to the mid 1930s, when the 'father' of GDP, Simon Kuznets himself presented the first data set on income to the US Congress. He presented the data as a way to assess the state of the national economy, but warned that what he called GNP should not be mistaken as a barometer for social policy. Kuznets went on to say that "the welfare of a nation can scarcely be inferred from a measurement of national income" (European Commission, 2013). He explained that GNP could for example not distinguish between the growth of good and bad jobs and that the results would look the same whether workers earned their income from employers who endangered their lives or from employers who guarded their health and safety (Wysham, D. 2011). Despite his warnings, his most important work 'National Income and its Composition' (1941) served as a blue-print and GNP/GDP was adopted by most nations from hereon as their measure of progress and comparison between each other.

Robert Kennedy's speech in 1968 of the limitations of GDP only now, some 45 years later seems to be heard and quoted by many who are working in the field of new economics. He said:

*"Too much and too long, we seem to have surrendered community excellence and community values in the mere accumulation of material things. Our gross national product ... if we should judge America by that - counts air pollution and cigarette advertising, and ambulances to clear our highways of carnage. It counts special locks for our doors and the jails for those who break them. It counts the destruction of our redwoods and the loss of our natural wonder in chaotic sprawl. It counts napalm and the cost of nuclear warheads, and armored cars for police who fight riots in our streets. It counts Whitman's rifle and Speck's knife, and the television programs, which glorify violence in order to sell toys to our children. The gross national product does not allow for the health of our children, the quality of their education or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country, it measures everything in short, except that which makes life worthwhile." (European Commission, 2013).*

Around the same time, in the early 1970's the recognition that GDP was too limited in its scope also emerged in Asia. His Majesty the 4<sup>th</sup> King of Bhutan famously coined the phrase "Gross

National Happiness is more important than Gross National Product" (GNH Centre, 2013). With this statement he set in motion the principles that have guided the Himalayan Kingdom's holistic development path ever since. Today, Bhutan is working with the UN and a distinguished group of international experts from a wide range of disciplines to co-create a "new development paradigm" that embodies a higher purpose for development.

New economics then started seriously emerging as a movement in the early 1980s. Many of its proponents came together for the first time at "The Other Economic Summit", held in 1984 in London as a counter-event to the annual G7 meetings. Globally, there are now many government, NGO, Civil Society, academic and business initiatives underway that are using the lingering economic, environmental and social crisis as a source of innovation and inspiration. Many of the emerging ideas of new economic thinking are appearing to be reflected in mainstream sentiments among the general public. A recent "Beyond GDP" survey (GlobeScan 2013) shows strong support for the idea of measuring social and environmental indicators in addition to economic ones as a way of getting a more complete picture of societies and their genuine progress. This was the third survey of its kind since 2007, across 11 countries with a sample size of nearly 11,000 people each time. The study found that on average 68% of the general public in countries like Australia, UK, China, Canada, France, Russia, Brazil, USA, India and Kenya now favour replacing GDP with broader and more holistic measures of progress. In countries like China, the UK and Australia support for this shift reached up to 81%. The countries most skeptical of this shift included India, with 44% supporting a new system for measuring progress, Kenya with 43% and Germany with 57% (GlobeScan 2013). These results will, no doubt, provide some food for thought to the key players engaging with new economics today.

While there are many alternative measures of progress being proposed such as Genuine Progress Indicators (GPI) (Kubiszewski et al 2013), it is the measurements such as happiness and wellbeing that also seem to be gaining increasing levels of interest from policy makers. This includes interest and proactive engagement by world leaders such as German Chancellor Angela Merkel, South Korean President Park Geun-hye and British Prime Minister David Cameron (Helliwell et al, 2013). The World Happiness Report 2013 (Helliwell et al, 2013) claims that *"there is now a rising worldwide demand that policy be more closely aligned with what really matters to people as they themselves characterise their lives."*

## **2.2 Defining "New Economics" thinking and "New Paradigm"**

As result of the increased debate and research in the field of New Economics, there has been a global emergence of many initiatives and organisations that either directly deal with 'New Economics' and 'New Paradigms' or more broadly are concerned with new approaches to sustainable development, growth, progress and poverty alleviation. For the purpose of this paper

“new economics” is considered as an umbrella-term that describes the movement away from mainstream economics and towards new ways of viewing and managing the complex systems that interconnect to function as our global and local economies. It also includes what is called the “Green Economy” and “Blue Economy” movements. Or in other words, the term “new economics” in this paper is about economic activity that promotes improvements in human wellbeing that are delivered in an environmentally sustainable way. This is in line with a definition offered by Seyfang (2010):

*“New Economics is an environmental, philosophical and political movement founded on a belief that economics cannot be divorced from its foundations in environmental and social contexts, and that sustainability requires a realigning of development priorities away from the primary goal of economic growth towards well-being instead.”*

A ‘paradigm’ on the other hand, is a way of thinking, a pattern or model that makes up the prevailing world-view to which a majority of people subscribe to, due to societal conditioning. The Oxford Dictionary defines a paradigm as “a typical example or pattern of something; a pattern or model; a world view underlying the theories and methodology of a particular scientific subject” (Oxford Dictionaries, 2013).

Kuhn (1962) quotes Copernicus’ theory, as an example of new paradigm thinking, which caused some of the most revolutionary upheaval of a prevailing paradigm that the world has ever seen during the 16<sup>th</sup> century. Copernicus proposed that the earth and planets revolve around the sun (the heliocentric model) during a time when the firmly established world-view was that the earth was at the center of the universe and all other planets and the sun revolved around the earth. Kuhn (1962) argues that it took scientific advancements in a *“series of peaceful interludes punctuated by intellectually violent revolutions”* and as a result *“one conceptual world view is replaced by another”*.

It may sound over-dramatic in this context, but shifting the current economic model to a new economic paradigm will require a shift of similar magnitude to that of the 16<sup>th</sup> century shift towards the heliocentric model. Paradigm shifts therefore require not just scientists, philosophers, political and spiritual leaders to change their minds through evidence-based research and transformational experiences, but it takes entire societies to shift their thinking and beliefs. Kuhn (1962) asserts that *“awareness is prerequisite to all acceptable changes of theory”* and therefore paradigm shifts can take a long time. The idea of the heliocentric view of the universe was first proposed by Greek philosopher Philolaus around 400 BC (Huffman 1993) and took until the mid 18<sup>th</sup> century to be accepted, when the Catholic Church took ‘heliocentric’ books off the ‘Index of Forbidden Books’ (Heilbron, 2005). This paradigm shift took almost 2,100 years to unfold, which is a luxury that we may not be able to afford today considering the crisis we are facing economically, socially and environmentally. There is an urgency to the paradigm shift that is imminent, however it may challenge our human capabilities of accepting change and revolutionary shifts in world-views and may result in resistance.

One of the contributors to systems-thinking, Donella Meadows (1999), argues that there is *"nothing necessarily physical or expensive or even slow in the process of paradigm change"*. She asserts that a mindset or believe system can change in a millisecond in a single individual, however she agrees that shifting the paradigm of whole societies, is another matter entirely. History shows that societies resist challenges to believe systems and their promoters more vehemently than anything else. Meadows (1999) quotes crucifixion, burnings at the stake, concentration camps and nuclear arsenals as examples of responses by societies that found themselves unable to cope with challenges to their paradigm. John Maynard Keynes (1936) himself said that *"The difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those brought up as most of us have been, into every corner of our minds"*. The best way to change a paradigm therefore according to Meadows (1999), is to step outside the system, observe its patterns and see the whole or bigger picture.

### 3. SIGNIFICANCE OF THE BUSINESS SECTOR

In this context it is important to understand the significance, reach and impact of the business sector in the current economic system. In most economies across the world, the business sector is a significant driver of economic activity and therefore it has significant potential as a key change agent during this unprecedented time in human history. Pavan Sukhdev provides compelling evidence about the size and importance of the business sector globally in his book *Corporation 2020* (Sukhdev, P. 2012):

*"The private sector delivers nearly 60% of GDP worldwide... Employs 70% of workers ... and corporate taxes comprise a significant slice of government revenues"*. He also found that *"The number of corporations whose revenues exceed one-tenth of a percent of global GDP ... rises from under 20 in 1970 to over 120 on 2010... if we look at absolute size, the trend is even more startling; the number of corporations with sales exceeding \$25 billion (inflation adjusted 2010 US dollars) increased from fewer than 20 in 1970 to 320 in 2010."*

Corporations, whether large multi-nationals or micro, small and medium-sized enterprises (MSMEs), have a vast global impact on their employees and are engaging with customers every day through billions of transactions. The business sector is at the forefront of engaging communities, effecting families and individuals all over the world. Business therefore has the potential to play a major role in an imminent shift and in accelerating the adoption of new economics thinking and in defining progress and success in new ways.

The importance of the business sector on people's lives all over the world becomes evident when comparing the world's largest 100 company revenues in US \$ billion with the GDP figures of entire countries. Appendix 2 shows this comparison in a graph and also the data sources which were used to compile it. It is apparent from the graph and this comparison that:

- The world’s two largest companies (Exxon Mobile and Wal-Mart Stores) have annual revenues similar to the GDP’s of the entire countries of Taiwan or Austria;
- General Motors, General Electrics and Ford Motor Company have annual revenues similar to the GDP’s of New Zealand or Vietnam;
- Microsoft, Boeing, Target, PepsiCo, Johnson & Johnson have annual revenues similar to the GDP’s of Ecuador or Sri Lanka; and
- Amazon.com and Coca-Cola have annual revenues similar to the GDP’s of Uruguay or Costa Rica.

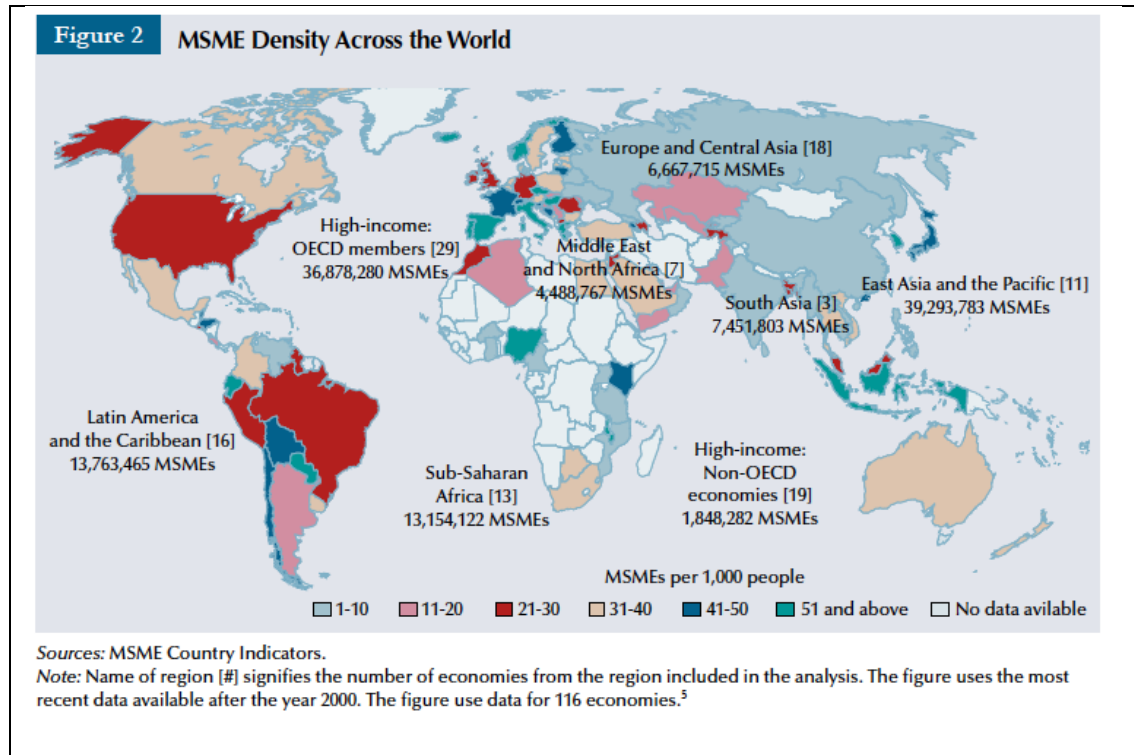
While this comparison tells one part of the business sector story, it is important to note that there are some 125 million micro, small and medium size enterprises (MSME) across 132 economies of the world (Kushnir et al, 2010). The classification of MSMEs applies to businesses with up to 250 employees. Almost 72% of those businesses operate in emerging markets and they employ more than 33% of the world’s work force (Kushnir et al, 2010). The map in Figure 3.1 shows the density of MSMEs per 1,000 people across 132 nations. Interestingly, when comparing the top 20 countries from the rankings in the World Happiness Report 2013 (Helliwell et al, 2013) with the MSME density map, 13 of the happiest countries have a density of more than 30 MSMEs per 1,000 people and only 6 of the happiest countries have a small business density of less than 30 MSMEs per 1,000 people as illustrated in Table 3.1 below. While there are no studies available that show evidence of a correlation between the happiness levels in a country and the number of MSMEs, it could be useful to conduct further studies to investigate this relationship.

Table 3.1: Top 20 countries ranked in the World Happiness Report and their density of MSMEs

<b>1 – 20 MSMEs per 1,000 people</b>	<b>21 – 30 MSMEs per 1,000 people</b>	<b>31 – 40 MSMEs per 1,000 people</b>	<b>41 + MSMEs per 1,000 people</b>
Coast Rica (12)	Israel (11)	Denmark (1)	Norway (2)
United Arab Emirates (14)	USA (17)	Netherlands (4)	Switzerland (3)
Venezuela (20)	Ireland (18)	Sweden (5)	Finland (6)
		Canada (6)	Iceland (9)
		Austria (8)	Luxembourg (19)
		Australia (10)	
		New Zealand (13)	
		Mexico (16)	
<b>3</b>	<b>3</b>	<b>8</b>	<b>5</b>

Note: The numbers in brackets (#) indicate the ranking of those countries in the World Happiness Report 2013. Panama ranked 15 in the World Happiness Report but there was no data available in the MSME study.

Figure 3.1: Map from a World Bank /IFC report titled “Micro, Small, and Medium Enterprises around the World: How Many Are There, and What Affects the Count?”



Source: (Kushnir K. et al 2010)

#### 4. GLOBAL MEGATRENDS WITH IMPLICATIONS FOR BUSINESS

As suggested by Meadows (2008), stepping outside of a system and observing patterns is a good way to gain a bigger picture view of the behaviors of a system. Investigating global mega trends is one such way of gaining a bigger picture perspective of changes that are imminent for the business sector. A desktop study of 10 randomly selected government and business organisations from the UK, Europe, USA and Australia that offered an outlook for the next 20 to 30 years, resulted in the organisation of the megatrends into 12 different categories. Seven of these categories appeared to be the most commonly identified by the various organisations. From this analysis, some of the key trends that will have major implications for businesses and business leaders include:

1. Power and economic growth shift: from West to East and North to South; (BITC 2013; Kent 2012; Skoll 2011; US National Intelligence 2012; Hajkowicz et al 2012; GACGC 2011)
2. Resource scarcity: particularly water, food and energy will require us to do more with less; (BITC 2013; US National Intelligence 2012; Hajkowicz et al 2012; GACGC 2011)
3. Climate Change & Loss of ecosystems: will require us to act preventatively, be adaptable and build resilient communities; (BITC 2013; Skoll 2011; Hajkowicz et al 2012; GACGC 2011; WBCSD 2010)
4. Population growth and aging: will put increasing pressures on resources and will fuel innovation and collaboration; (Kent 2012; Skoll 2011; US National Intelligence 2012;



Hajkowicz et al 2012; WBCSD 2010)

5. Consumers in charge: reflects shifting consumer values and expectations on products and services that matter; (BITC 2013; Kent 2012; TW 2013; BDO 2013; Hajkowicz et al 2012; WEF 2011)
6. Changing Business Models: will require business to be genuinely engaged with their customers to deliver value; there will be a shift from product to majority service economies; (Kent 2012; TW 2013; BDO 2013; Skoll 2011; US National Intelligence 2012; WEF 2011)
7. Innovation & Technology: will play an important role in enabling many sustainable living solutions (TW 2013; BDO 2013; Skoll 2011; US National Intelligence 2012; WEF 2011).

The most challenging part of observing these mega trends and trying to make sense of them is to consider them as interconnected phenomena in a complex system. All of these trends influence each other and rather than being seen as separate issues with distinct solutions, they need to be considered as an interconnected system in a network of new paradigm thinking.

## **5. NEW ECONOMICS ORGANISATIONS AND THEIR SOLUTIONS**

Another way of gaining a different perspective on the drivers and potential leverage points for change in the current economic system is by analysing lobby groups, government programs and business networks that focus on 'new economics'. In particular, an investigation of their proposed solutions and objectives, believed to be the most effective in creating change, reveals some interesting results.

A desktop study of a selection of 26 key organisations directly working on new economics, used nine organisations engaging with policy-makers and a further 17 that engage with the business sector and their leaders.

The organisations were selected due to their visibility of their work in attempting to shift the thinking of policy-makers and business leaders. They include initiatives, programs and organisations that display 3 key characteristics:

1. They have a clear focus either on policy-makers, business leaders or both;
2. They have contributed major pieces of work or are engaging with a large number of participants in their target group; and
3. Their voices are loud and clear and their contributions visible and broadly distributed via the Internet.

The analysis of the 26 organisations through their websites and online reports identified a set of 29 objectives and solutions that they promoted to be the most powerful points for intervention to shape a new economic system. The table in Appendix 1.1 lists the 26 new economics organisations, categorises the solutions and shows the frequency of how many of the studied organisations have dedicated their efforts to each particular solution. The following section 5.1

highlights some of the key findings and insights from analysing these categories. This is followed in section 5.2 by Donella Meadows (2008) scale of effectiveness of leverage points as a framework to analyse if the new economics solutions promoted by the various organisations have the potential to create effective change in the economic system.

Meadows (2008) refers to leverage points as being the points that have the greatest potential to create whole systems change. For the purpose of this analysis, the objectives and solutions proposed by the new economics organisations are considered to be levers for change or leverage points in the existing economic system.

Figures 5.1 and 5.2 below show the list of solutions in order of priority from most to least often identified solutions or leverage points according to the 26 organisations studied. Further graphs with the ranking and proportionate comparison of the solutions offered by the various organisations can be found in Appendices 1.2 and 1.3.

Figure 5.1: Ranking of most to least often identified solutions or leverage points by 26 new economics organisations (See Appendix 1 for full details)

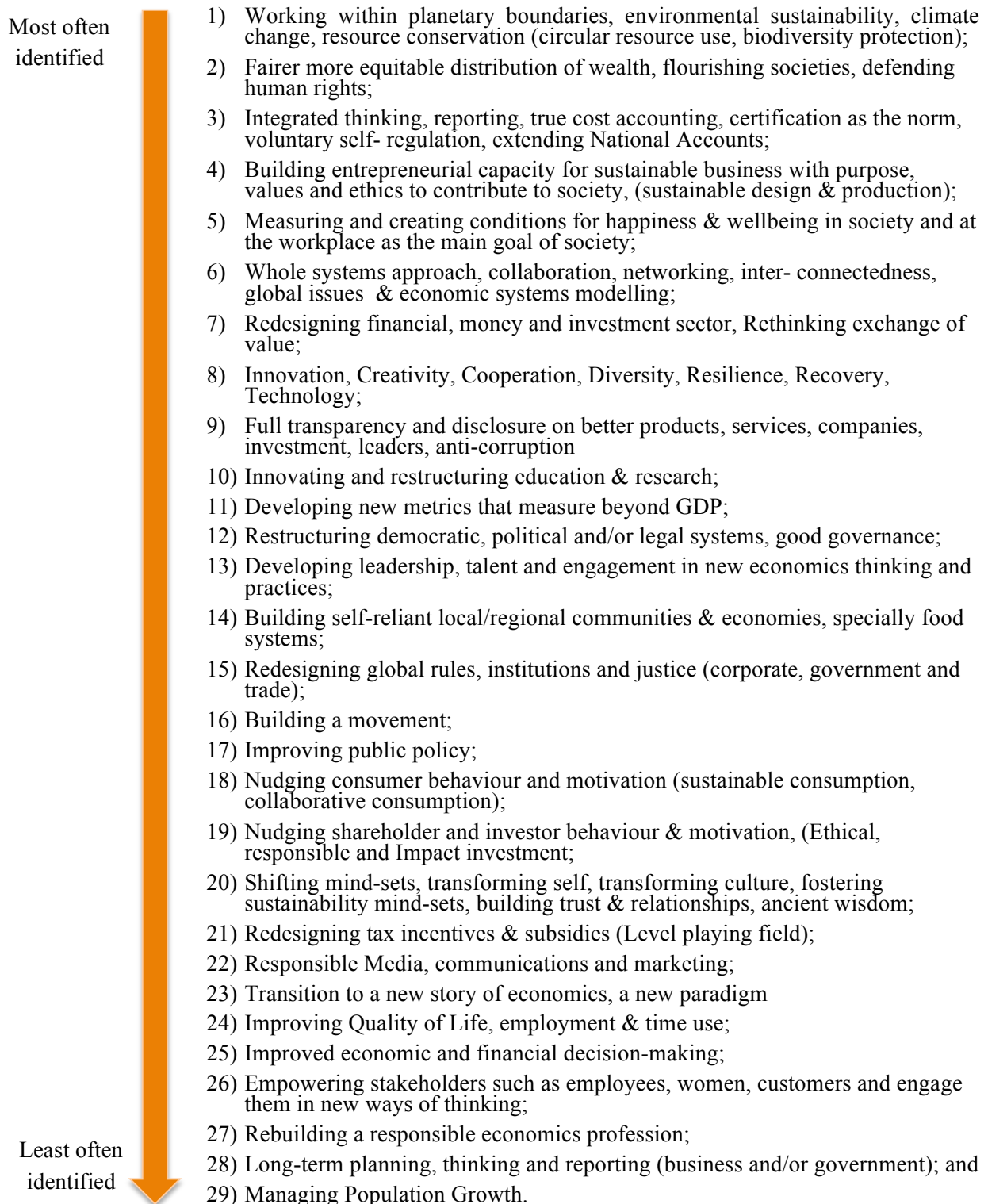


Figure 5.2: The relative importance given to the new economics solutions by the organisations engaging with business (% in brackets indicates the percentage of organisations engaging with business that identified the particular solution)

1 Working within planetary boundaries ... (65%)	2 Fairer more equitable distribution ... (47%)	9 Full transparency and disclosure on better companies ... (41%)		10 Innovating and restructuring education ... (35%)		12 Restructuring democratic, political systems ... (29%)					
		13 Developing leadership and talent in new economics ... (29%)	5 Measuring / creating conditions for happiness and wellbeing ... (24%)	7 Redesigning financial, money and investment sector ... (24%)	14 Building self-reliant local communities & economies ... (24%)						
3 Integrated thinking and reporting ... (65%)	6 Whole systems approach, collaboration ... (41%)	19 Nudging shareholder and investor behaviour ... (29%)		16 Building a movement ... (24%)		15 Redesigning global rules & institutions ... (18%)		18 Nudging consumer behaviour ... (18%)			
		20 Shifting mindsets, transforming self & culture ... (29%)		11 Developing new metrics ... (18%)		21 Redesigning tax incentives ... (18%)		26 Empowering stakeholders ... (18%)			
4 Building entrepreneurial capacity ... (59%)	8 Innovation, creativity, cooperation, technology ... (41%)	20 Shifting mindsets, transforming self & culture ... (29%)		11 Developing new metrics ... (18%)		22 Responsible media and marketing ... (18%)		24 Improving quality of life (6%)		28 Long-term planning & thinking (6%)	
								25 Improving decision-making (6%)			

Note: The solutions ranked 17<sup>th</sup> “Improving public policy”, 23<sup>rd</sup> “Transition to a new story of economics, a new paradigm”, 27<sup>th</sup> “Rebuilding a responsible economics profession” and 29<sup>th</sup> “Managing Population Growth”, did not appear as solutions among the organisations engaging businesses.

The graphs in Appendix 1.2 and 1.3 illustrate the variation of the focus given to the various solutions by the profiled organisations engaging with business and policy-makers. Of particular interest are the following observations:

- a) The top most often identified solution or leverage point of “Working within planetary boundaries, environmental sustainability...” seems to be more strongly recognised by the organisations engaging business (65%) compared to the organisations engaging policy-makers (44%).
- b) The second most identified solutions of “Fairer more equitable distribution of wealth...” is more strongly recognised by the organisations engaging policy-makers (78%) than those engaging business (47%).
- c) The third most identified solutions “Integrated thinking, reporting, true cost accounting...” is more strongly recognised by the organisations engaging business (65%) than those engaging policy-makers (33%).
- d) Not surprisingly, the fourth most identified solutions of “Building entrepreneurial capacity...” shows a large variation of focus between organisations engaging business (59%) and those engaging policy-makers (22%).
- e) The fifth most often identified solution was “Measuring and creating conditions for happiness and wellbeing in society ...” which had the largest variation between the organisations engaging policy-makers and business. Recognition among organisations engaging policy-makers for this solution was high with 67% compared to the organisations engaging business of which only 24% identified it as a solution for whole systems change.

Large variations between the efforts of organisations engaging policy-makers compared to those that are engaging business can be observed in the following solutions offered for systems change:

- a) “Redesigning financial, money and investment sector; Rethinking exchange of value” was by far more important to the organisations engaging policy-makers (56%) than it was to the organisations engaging with business (24%).
- b) Interestingly, the solution of “Full transparency and disclosure... anti-corruption” was much more prominent in the organisations engaging business (41%) than in the organisations engaging policy-makers (11%).
- c) “Developing new metrics that measure beyond GDP” was more often part of the solutions offered by the organisations engaging policy-makers (44%) than it was part of the organisations engaging business (18%).
- d) The two leverage points or solutions of “Shifting mind-sets, transforming self, building trust and relationships” as well as “Nudging shareholder and investor behaviour & motivation towards ethical and impact investment” only featured among the organisations engaging business (29%) and did not appear at all among the organisations engaging policy-makers.
- e) On the other hand, the solution “Transition to a new story of economics and a new paradigm” only featured among the organisations engaging policy-makers with 44% of them recognising this as a key leverage point for change. While the solution of “Transition to a new story of economics and a new paradigm” did not feature at all among the organisations engaging business, this could simply be a reflection of different language being used by the organisations to describe a similar leverage point. Both the “Shifting

mind-sets” and the “Transition to a new paradigm” leverage points are about changing believe-systems and therefore could also easily be combined into one category. In that case it would appear fairly evenly among the organisations engaging policy-makers and those engaging business. It is interesting therefore to observe how different language is used to describe similar areas of work among the new economics organisations depending on whether their audience are policy-makers or the business sector.

There were also some other solutions that were either only identified by the organisations engaging policy-makers and others that were only mentioned by the organisations engaging business. Following are the key examples:

- a) “Improving public policy” was only recognised by the organisations engaging policy-makers with 56%, and not at all by the organisations engaging business.
- b) On the other hand, “Nudging investor behaviour ...”, “Shifting mind-sets ...”, “Empowering stakeholders ...” and “Long-term planning...” were only identified by the organisations engaging business and not at all by those engaging policy-makers.
- c) Other leverage points only covered by the organisations engaging policy-makers and not at all by those engaging business were “Rebuilding a responsible economics profession” and “Managing population growth”.

## **6. EFFECTIVENESS OF NEW ECONOMICS SOLUTIONS IN CREATING SYSTEMS CHANGE**

The results from the analysis of the solutions offered by the 26 new economics organisations provide interesting insight so far. However, another layer of analysis against the 12-point scale of effectiveness of leverage points (Meadows 1999 & 2008) is used here to provide an additional perspective on the efforts by the organisations promoting new economics thinking and practices.

### **6.1 Complex systems and leverage points**

Meadows (2008) proposed scale of effectiveness for leveraging change in complex systems is not a hard and fast rule. Its weakness may lie in it never having been empirically tested, but instead it is based on over 30 years of Meadows’ experience in the field of systems dynamics and was proposed by her for further testing and evolving over time. In this spirit, the scale of effectiveness is used here as a framework to compare and assess the solutions or leverage points identified by the new economics organisations. Figure 6.1.1 and 6.1.2 illustrate how short levers are the less powerful points to intervene in a system compared to higher order leverage points that can be highly effective points of influence in creating systems change.

Figure 6.1.1: Lower order leverage points are less effective at creating systems change

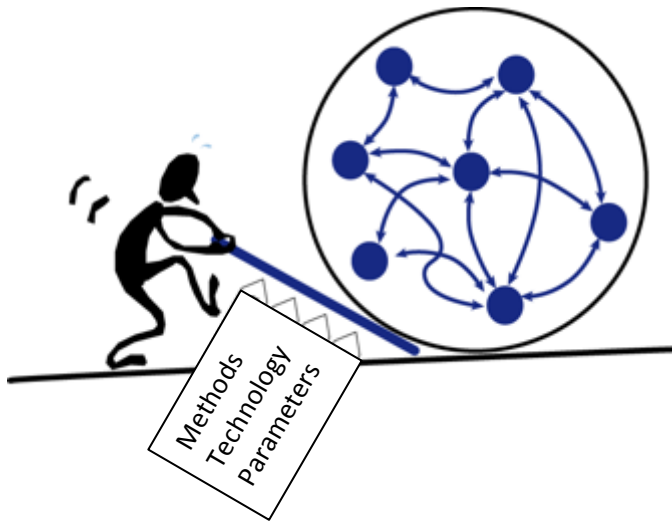
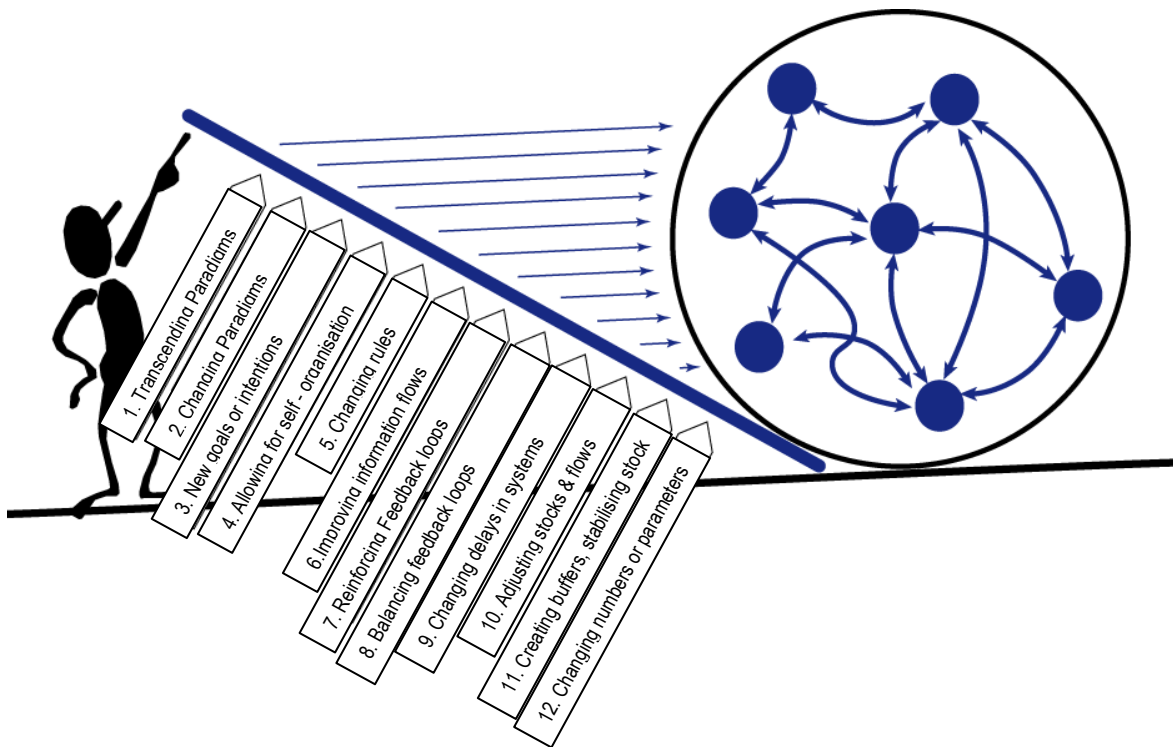


Figure 6.1.2: Higher order leverage points are more effective at creating systems change (see Table 6.1.1 for description of these leverage points)



Source: Graphics from Wandelweb.de [http://wandelweb.de/galerie/00\\_Management/index.php](http://wandelweb.de/galerie/00_Management/index.php)

The 29 solutions, which were identified by the new economics organisations investigated for this study, were then allocated against the scale of effectiveness as proposed by Meadows (1999). The purpose of using Meadows framework is to assess how likely these proposed solutions are to produce significant shifts towards new economic thinking in the business sector.

*Table 6.1.1: Effectiveness of leverage points (adapted from Meadows, 1999 and 2008)*

Leverage points in a system (1 = Most effective, 12 = Least effective)		Explanation of leverage points	Perceived effectiveness	Solutions identified by 26 new economics organisations (1 = most often identified to 29 = least often identified) Note: (#) indicates ranking of solutions identified by 26 new economics organisations
12	Constants, Numbers, Parameters, Subsidies, Taxes, Standards	<ul style="list-style-type: none"> <li>• Describes the conditions of a system (such as air quality, company profits, national debt or tax income to government);</li> <li>• Monitors and reports the stocks and flows of a system (i.e. inputs and outputs).</li> </ul>	<ul style="list-style-type: none"> <li>• Adjustments to this leverage point may be effective in the short-term and to individuals</li> <li>• Considered as points of least leverage, similar to “re-arranging the deck chairs on the Titanic”</li> <li>• They rarely change behaviours</li> <li>• Can be more powerful leverage points if they are used in conjunction with other leverage points further down this list</li> </ul>	Developing new metrics that measure beyond GDP (11)
11	Buffers, stabilising stocks	<ul style="list-style-type: none"> <li>• A system with large stocks relative to its flows is more stable than a system with small stocks;</li> <li>• For example large ‘stocks’ of higher quality of life (or wealth) in a population will make it more resilient to sudden changes in flows (i.e. loss of income)</li> </ul>	<ul style="list-style-type: none"> <li>• Can be used to stabilise a system by increasing the capacity of the stabilising stock, in other words by creating a buffer;</li> <li>• If the buffer is too big though, the system becomes inflexible and slow</li> <li>• Changing the size of a buffer can have major impacts on a system</li> <li>• However, most buffers are usually physical entities and not easily changed</li> </ul>	Improving Quality of Life, employment & time use (24)
10	Stock and flow structures and nodes of intersections	<ul style="list-style-type: none"> <li>• When the structures are physical (like roads, airports, schools or hospitals) they are slow and expensive to change;</li> <li>• When the structures relate to social, political, organisational or interconnected systems structures like banks, they are complex and linked to believe systems.</li> </ul>	<ul style="list-style-type: none"> <li>• Physical structures are important cornerstones in systems but rarely a powerful leverage point.</li> <li>• There is more leverage in proper design up front;</li> <li>• After structures have been built, the leverage is in understanding its limitations and bottlenecks;</li> <li>• There is not much leverage in trying to change non-physical structures such as</li> </ul>	Systems approaches, collaboration, networking, inter- connectedness, global issues & economic systems modeling (6)



			political or organisational structures without addressing the believe system (see 11. Paradigms)	
9	Delays in systems change	<ul style="list-style-type: none"> <li>• Changes to system flows often result in oscillations due to delayed adjustments caused by delayed information.</li> <li>• Delays in feedback as to the system state can therefore frequently results in overcapacity or under-capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Awareness of delays in a feedback process is crucial in understanding systems and changing delays can have big effects on a system;</li> <li>• While delays in a system with a threshold of irreversible damage seem a powerful leverage point they are not easily changeable;</li> <li>• There is more leverage in slowing down the rate of change or growth for technology and prices to keep up than trying to eliminate delays. Then the inevitable feedback delays won't cause as much trouble.</li> </ul>	No solutions were identified in this category.
8	Balancing Feedback Loops	<ul style="list-style-type: none"> <li>• Balancing feedback loops are inherent in complex systems to keep important stocks fairly constant and in safe bounds;</li> <li>• Often applies to the information and control parts of a system rather than the physical parts;</li> <li>• Balancing feedback loops need a goal, a monitoring mechanism that signals a variance from the goal and a response mechanism.</li> <li>• For example, as consumer spending and mortgage demand falls, the federal banks lower interest rates as a feedback loop to encourage more consumers to take out loans to increase spending and consumption</li> <li>• Another example is prices in a market system are self-correcting and respond to variations in supply and demand to keep the balance.</li> </ul>	<ul style="list-style-type: none"> <li>• Companies and governments often use balancing feedback loops as a leverage point to effect change, but unfortunately in the wrong direction using subsidies and taxes that can cause confusion in a system.</li> <li>• Strengthening balancing feedback controls to improve a system's self-correcting abilities is important but needs to occur relative to the impact it is designed to correct.</li> <li>• Global economy makes necessary a global government.</li> <li>• Because balancing feedback loops are concerned with information and control parts of a system they provide more leverage for change.</li> </ul>	<p>Long-term planning, thinking and reporting (28)</p> <p>Managing Population Growth (29)</p> <p>Redesigning tax incentives &amp; subsidies (Level playing field) (21)</p> <p><b>Working within planetary boundaries, environmental sustainability, climate change, resource conservation (circular resource use, biodiversity protection) (1)</b></p>
7	Reinforcing Feedback Loops	<ul style="list-style-type: none"> <li>• Reinforcing feedback loops are self-reinforcing and the more they work, the more they gain power to work some more.</li> <li>• Reinforcing feedback loops are the source of growth, explosion, erosion and collapse in systems and a</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing the gain around a self-reinforcing feedback loop (i.e. slowing the rate of growth or degradation) is usually a more powerful leverage point in systems than strengthening balancing feedback loops and much preferable to</li> </ul>	<p>Nudging consumer behaviour and motivation (sustainable consumption, collaborative consumption) (18)</p> <p>Nudging shareholder and</p>

		<p>system with an unchecked reinforcing feedback loop will ultimately destroy itself.</p> <ul style="list-style-type: none"> <li>• For example, the more money one has in the bank, the more interest one earns, and the more money one has in the bank.</li> <li>• Another example is soil erosion, the more erosion the less vegetation it can support, the fewer roots and leaves to soften rain and run-off, the more soil erodes.</li> </ul>	<p>letting the self-reinforcing loop run its course.</p> <ul style="list-style-type: none"> <li>• Slowing economic growth for example is a good leverage point as it gives the balancing feedback loops (i.e. technology, markets and other forms of adaptation) time to function.</li> <li>• The most interesting behaviour that rapidly turning balancing feedback loops can trigger is chaos when a system starts changing much faster than its balancing feedback loops can react to it.</li> <li>• Preventing chaos therefore must involve slowing down the reinforcing feedback loops such as birth rates, interest rates, or erosion rates.</li> </ul>	<p>investor behaviour &amp; motivation, (Ethical, responsible and Impact investment (19)</p>
6	Information Flows	<ul style="list-style-type: none"> <li>• Creating new loops through delivering information to places where it wasn't going before and thereby changing people's behaviour.</li> <li>• Missing feedback or information flows is the most common cause of system malfunction.</li> <li>• For example the overfishing of the worlds fish supplies (and depletion of most commons) occurs because there is no feedback about the fish population to the decisions to invest in fishing vessels. The price of fish does not provide this feedback. The more scarce fish are, the more expensive they are and the more lucrative it will be to invest in fishing vessels. In this case the price of fish provides perverse feedback, or a self-reinforcing feedback loop that leads to collapse.</li> </ul>	<ul style="list-style-type: none"> <li>• Adding or restoring information can be a powerful intervention in changing systems behaviour and usually much cheaper than rebuilding physical infrastructure.</li> <li>• If the missing feedback can be restored to the right place and in compelling form it will enhance accountability for our own decisions.</li> <li>• Due to the lack of accountability many feedback loops are missing.</li> <li>• Information flows have therefore become a popular and effective leverage point with the masses and unpopular with the powers that be.</li> </ul>	<p>Responsible Media, communications and marketing (22)</p> <p>Innovating and restructuring education &amp; research (10)</p> <p><b>Integrated thinking, reporting, true cost accounting, certification as the norm, voluntary self-regulation, extending National Accounts (3)</b></p>
5	Rules	<ul style="list-style-type: none"> <li>• The rules of a system define its scope, its boundaries and its degrees of freedom.</li> <li>• Many nations constitutions are strong social rules. Government acts and regulations set out rules of conduct and processes.</li> <li>• Laws, punishment,</li> </ul>	<ul style="list-style-type: none"> <li>• Rules are highly effective leverage points as they can change people's and systems behaviour very quickly and powerfully.</li> <li>• That's why lobbyists congregate when new laws are written to influence the rules of the 'game'.</li> </ul>	<p>Improved economic and financial decision-making (25)</p> <p>Improving public policy (17)</p>

		<p>incentives, constraints informal social agreements and rules of a game are progressively weaker rules.</p>	<ul style="list-style-type: none"> <li>• Power over the rules is real power.</li> <li>• The deepest malfunctions of systems can be understood by observing its rules and by identifying who has power over them.</li> </ul>	<p>Redesigning global rules, institutions and justice (7)</p> <p>Full transparency and disclosure on better products, services, companies, investment, leaders, anti-corruption (9)</p> <p>Redesigning financial, money and investment sector, Rethinking exchange of value (7)</p>
4	Self-Organisation	<ul style="list-style-type: none"> <li>• One of the most surprising characteristics of living systems and social systems is their ability to change themselves completely by creating whole new structures and behaviours – also called self-organisation</li> <li>• For example, evolution, technical advance or social revolutions.</li> <li>• When systems self-organise, the aspects of systems as listed above from 1 – 8 change, such as adding new physical structures, new feedback loops and making new rules.</li> <li>• Self-organisation is the combination of an evolutionary raw material that provides highly variable stock (i.e. DNA and spontaneous mutations) and a means for experimentation for selecting and testing new patterns (i.e. Darwinian selection).</li> </ul>	<ul style="list-style-type: none"> <li>• Any system, biological, economic, or social that becomes inflexible to the point that it cannot self-evolve, a system that is reluctant to experiment and wipes out its raw material of innovation is destined to fail over the long-term on this highly variable planet.</li> <li>• Giving a system the space, time and enabling conditions to self-organise is a powerful leverage point.</li> <li>• The ability to self-organise is the strongest form of system resilience – a system that can evolve can survive almost any change, by changing itself.</li> </ul>	<p>Building self-reliant local/regional communities &amp; economies, specially food systems (14)</p> <p>Building a movement (16)</p> <p>Innovation, Creativity, Cooperation, Diversity, Resilience, Recovery, Technology (8)</p>
3	Goals or intentions	<ul style="list-style-type: none"> <li>• The goal of a system reflects the purpose or function of a system.</li> <li>• System goals can be for example keeping the bathwater at the right level, or keeping the room temperature comfortable or keeping inventories stocked at sufficient levels.</li> <li>• Another example is if a company's goal is to dominate the market share</li> </ul>	<ul style="list-style-type: none"> <li>• Goals of a system are powerful leverage points superior to any of the previous ones because they will all twist to confirm to the ultimate goal of a system.</li> <li>• In simple single loop systems such as keeping the room temperature it is easy to see why changing the goal (i.e. another 2 degrees warmer on the</li> </ul>	<p>Rebuilding a responsible economics profession (27)</p> <p>Empowering stakeholders such as employees, women, customers and engage them in new ways of thinking (26)</p>

		<p>for its products then everything from physical structures, stocks and flows, feedback loops, information flows and even self-organising behaviour will work towards that goal.</p> <ul style="list-style-type: none"> <li>• Whole system goals are more complex and often relate to power or growth. They can usually only be observed by how a system behaves such as survival, resilience, differentiation, evolution are system-level goals.</li> </ul>	<p>thermostat) is the most powerful place to intervene.</p> <ul style="list-style-type: none"> <li>• It is the goal of every living population to grow, control and dominate, which only becomes a bad goal when it isn't subject to higher level balancing feedback loops.</li> <li>• Therefore in ecosystems for example, the goal of keeping populations in balance and evolving has to trump the goal of each population to reproduce without limit and control all the resource base.</li> <li>• This leverage point combined with changing the leader of a system who can influence the system's goals can introduce very powerful and changes in a system.</li> </ul>	<p>Restructuring democratic, political and/or legal systems, good governance (12)</p> <p>Developing leadership, talent and engagement in new economics thinking and practices (13)</p> <p><b>Measuring/ driving happiness &amp; wellbeing in society and at the workplace as the main goal of society (5)</b></p> <p><b>Building entrepreneurial capacity for sustainable business with purpose, values and ethics to contribute to society, (sustainable design &amp; production) (4)</b></p> <p><b>Fairer, more equitable distribution of wealth, flourishing societies, defending human rights (2)</b></p>
2	Paradigms	<ul style="list-style-type: none"> <li>• Paradigms are the source of systems.</li> <li>• Paradigms are the shared ideas in the minds of societies, the mind-set out of which a system – its goals, structure, rules, delays and conditions - arise.</li> <li>• It is the believe system about how the world works and is made up of unstated assumptions (unstated because everyone grows up with those believes)</li> <li>• Some of those assumptions of our current culture (particularly western) are that infinite growth is good, nature is a stock of resources to be converted to human purposes and that we can 'own' land.</li> </ul>	<ul style="list-style-type: none"> <li>• People who have managed to intervene in systems at the level of paradigm have hit a leverage point that totally transforms systems such as Copernicus, Einstein and Adam Smith.</li> <li>• It may seem that paradigms are harder to change than anything else about a system, however there is nothing necessarily physical or expensive or even slow in the process of paradigm change. In a single individual it can happen in a millisecond.</li> <li>• Whole societies are another matter and often resist challenges to their paradigms with all their might.</li> <li>• Changing societal and cultural paradigms requires</li> </ul>	<p>Transition to a new story of economics, a new paradigm (23)</p> <p>Shifting mindsets, transforming self, transforming culture, fostering sustainability mindsets, building trust &amp; relationships (20)</p>

			consistent pointing at the anomalies and failures in the old paradigm, keep speaking louder and with assurance from the new one, insert people with the new paradigm in places of public visibility and power. Don't waste time with reactionaries, but work with active change agents and with the vast middle ground of people who are open-minded.	
1	Transcending Paradigms	<ul style="list-style-type: none"> <li>• Staying unattached in the arena of paradigms, to stay flexible, to realise that NO paradigm is true and that this in itself is a paradigm.</li> <li>• Recognising that our own worldview is a limited understanding of the laws of the universe that are far beyond human comprehension.</li> <li>• Being fully aware that paradigms are a construct of our minds and being able to let go of them with a sense of humour and be comfortable in the humility of Not Knowing.</li> </ul>	<ul style="list-style-type: none"> <li>• This is the most effective leverage point to introduce change in a system, as it requires individual transformation and mastery over the paradigms we live by.</li> <li>• At this level of leverage people have the power to throw off addictions, live in constant joy, bring down tyrannies, found religions, get locked up or “disappeared” or shot, and have impacts that last for millennia.</li> <li>• In the end, it seems that power has less to do with pushing leverage points than it does with strategically, profoundly, madly letting go!</li> </ul>	No solutions were identified in this category.

Note: Numbers in brackets (#) in the last column indicate the ranking of importance given by the 26 new economics organisations to these solutions.

### 6.2 Analysis of new economics solutions against Meadow’s 12-point scale of effectiveness of leverage points

It is important to note that the method used in the Table 6.1.1 above to allocate the solutions identified by the new economics organisations against Meadows’ 12-point scale of leverage point effectiveness is at this stage purely based on the author’s subjective judgment. It therefore is highly likely that the outcomes of this analysis could differ greatly after it has been discussed, pulled-apart and put back together again as a result of some consultation and empirical study. For now though, following are some preliminary insights from using this framework to assess how effective the leverage points are that some key organisations in the area of new economics are working on.

Out of the top five most widely identified solutions proposed by the new economics organisations studied here, three appear in Meadows’ third most effective category of ‘changing goals and intentions’. This category of solution is rated high on Meadows’ scale of effective

leverage points as she concludes that lower level leverage points will conform to the ultimate goal of a system. The three solutions that could fall into this category and are considered by Meadows as powerful levers for change include:

- “Fairer, more equitable distribution of wealth...” (ranked as the 2<sup>nd</sup> most often identified solution);
- “Building entrepreneurial capacity ...” (ranked as 4<sup>th</sup> most often identified solution); and
- “Measuring and creating conditions for happiness and wellbeing in society ... “ (ranked as 5<sup>th</sup> most often identified solution).

This could be an indication that the new economics organisations working on these solutions are focusing their energies in the right direction and on effective levers that could drive real change.

Interestingly, the solution identified by most new economics organisations as the most pressing issue to address “Working within planetary boundaries...” could be rated much lower on Meadows effectiveness scale on eight’s place out of 12. It fits into Meadows’ category of ‘Balancing Feedback Loops’ and while environmental sustainability is paramount for human survival, it does not seem one of the most effective places to work on to create whole systems change.

The other leverage point ranked by the New Economics organisations as the third most important “Integrated thinking, reporting...” fits into Meadows’ category of improving ‘Information Flows’ which is considered of medium effectiveness at place number six out of 12 categories. It is an important area to pursue as more information flows allow more of the balancing and reinforcing feedback loops of a system to function more effectively.

The second highest category suggested by Meadows that can achieve effective realignment in a system is to shift the existing ‘paradigm’. Interestingly, the solutions identified by the new economics organisations that match this category are not widely pursued neither by the organisations engaging policy-makers nor by those engaging businesses. “Transition to a new story of economics, a new paradigm” and “Shifting mindsets...” received little recognition from the New Economics organisations studied for this paper. They ranked 23<sup>rd</sup> and 20<sup>th</sup> respectively out of the 29 solutions that emerged. The organisations assessed for this study, which engage with these two topics include among the organisations engaging policy-makers:

- Institute for New Economic Thinking (US/UK/Global)
- New Economics Foundation (UK)
- New Economics Working Group (US)
- Secretariat for a New Development Paradigm (Bhutan)

Organisations engaging business:

- The Natural Step (Sweden & Global)
- Tomorrow’s Company (UK)

- Global Reporting Initiative (Netherlands & Global)
- 3<sup>rd</sup> Metric (US & UK)

It would be beneficial to study these organisations more closely to get a clearer understanding of the depth and breadth of their commitment and their approach to 'shifting mindsets' and creating 'a new paradigm' of economics.

Lastly and may be most interestingly, the most powerful leverage point in Meadows scale that has the greatest potential to create a shift in a complex system is the "Transcending Paradigms" category. None of the organisations analysed in this study explicitly addressed this way of catalysing change in the complex economic system. This is possibly due to the reason that this category introduces major uncertainty, complexity and potentially chaos that is beyond human comprehension and would require relinquishing some of the control over the system. As Meadows points out, working at this level of systems change requires individual transformation and mastery, or in other words complete awareness of and non-attachment to the paradigm we live by. Her profound conclusion is that *"In the end, it seems that power has less to do with pushing leverage points than it does with strategically, profoundly, madly letting go!"* (Meadows, 2008).

## 7. CONCLUSION

As Wheatley (1999) points out, failing systems structures that are disturbed by the tiniest change can use those disturbances to help self-organise into a new form of order. She claims that structures, which are dissipating *"demonstrate that disorder can be a source of new order, and that growth appears from disequilibrium, not balance"* (Wheatley, 1999).

This study explored global mega trends, new economics solutions proposed by 26 organisations and then analysed their effectiveness in creating systems change. They all point towards the increasing disequilibrium, which societies, the economic system and our environment are facing today. How will the business sector be able to adapt and thrive on the opportunity that this complex disorder presents today?

Assuming that none of the proposed solutions identified by the new economics organisations can create systems change on their own, it will require an array of levers to be activated together to start shifting the current economic system. Unless of course, there is a critical mass of people ready to question and give up existing mind-sets that shape the current economic system, which is unlikely at this stage. Furthermore, due to the interconnectedness of change in a complex system, it will be difficult to predict what outcome will be achieved when all of the leverage points are being pushed at the same time.

It is therefore not surprising that businesses working in the real world mostly shy away from what Meadows (1999) describes as the 'transcending paradigms' realm, as it introduces the tension of uncertainty, change and emergence. It will therefore take business leaders with great

amounts of courage and sense of responsibility to step into this realm. One example of such a business leader could be Yvon Chouinard, founder of the outdoor-clothing brand Patagonia in the USA who recently launched a campaign for a 'Responsible Economy'. He explained the Patagonia ethos as:

*"... Making things in a more responsible way is a good start, and many companies like us have started doing that, but in the end we will not have a "sustainable economy" unless we consume less. However, economists tell us that would cause the economy to crash... We don't know exactly how this will play out. But we do know that now is the time for all corporations to think about it and act."* (Patagonia, 2013).

In the end, it all seems to come down to how individuals see themselves as part of the complex system that is the web of life. Each and every one of our world-views creates the system we live in and the rules we live by. It is this awareness that is required before any systems change can happen.

*"In essence, leaders are people who 'walk ahead,' people genuinely committed to deep changes, in themselves and in their organizations."* (Senge 1999)

It seems therefore that one of the biggest challenges ahead of accelerating new economics thinking and practices in the business sector is to nourish the awareness that in a complex system it is the interaction and interrelationship between individual actors such as between business leaders, their staff, suppliers, investors, customers and their environment, which create the dynamic behaviour of the system. A more sustainable future and a more responsible economy are possible if we individually recognise our part we play in creating a flourishing society and business sector.

*"Our top executives spent roughly 90 percent of their time concerned with ... people problems. Our study of effective leaders strongly suggests that a key factor was the creative deployment of self."* (Bennis & Nanus, 2003)

*"In times of change, the learners will inherit the earth while those attached to their old certainties will find themselves beautifully equipped to deal with a world that no longer exists".* (Hoffer 1973)

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