



# MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

## Value Dynamic Collection

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## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic ... Introduction**

*January 2014*

The analysis of 'Value Dynamic' is a way to get some understanding of what is going on in society and the global economy. The aim of this type of analysis is to give some balance to the conversation about the performance of society and the economy that is presently dominated by a singular focus on the performance of the corporate organization and capital markets.

GDP growth is a metric that has outlived its usefulness by a long time, yet remains popular, not so much because it measures much of importance, but rather because GDP growth makes it possible to have a much easier time achieving corporate profit growth and stock price improvement.

At this point in history it is a big mistake to use algorithms based on past performance to try to predict future performance ... rather something is needed that helps to identify what changes are needed to move society and the global economy forward in the right direction. This is not about one huge pivot by policy makers at the top of an authoritarian world, but rather a vast number of small changes that will in aggregate represent the biggest change the world has ever seen. The challenge is that these changes will aggregate to a result that is in the best interest of everyone.

This methodology is more engineering and accounting than it is economics ... more about cause and effect than correlation. In this context, accounting is a system of measurement, and keeping track of measurements so that they may be most usefully used.



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Addiction**

*January 2014*

Addiction is part of the human condition, and when it takes control, it is very destructive to the individual and more broadly to modern society and the economy.

Addiction comes in many forms, some are relatively benign, but some are extremely destructive, ruining an individual's life, and making the life of others very difficult.

The value dynamic of addiction in a money profit society means that addiction does damage and the problem will spiral out of control.

With MDIA the multiple issues associated with the problem of addiction may be identified one at a time and all of them addressed in a coherent manner.

Follow the money. Addiction results in a craving for something, and this in turn creates a demand for whatever it is. Demand encourages supply. The greater the addiction and the craving, the greater the demand and the more money a supplier can make.

The supply chains for drugs that satisfy addiction are very profitable. In the money focus society and economy, profits attract entrepreneurs and the business that supplies drugs to satisfy addiction has become one of the biggest business sectors on the planet.

Many interventions have been tried ... none have worked:

- 'Wars' against drugs have been expensive and quite unsuccessful.
- 'Prohibition' has been ineffective
- Making drugs 'illegal' has not worked
- Making addictive drugs 'legal' is also problematic.

This is a classic 'complex system' problem. Many things have to change in order for addiction to be addressed successfully.

At the center of everything is a person. Addiction impacts an individual, and this individual should be the focus of a workable solution.



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Advertising**

*January 2014*

Advertising is a big segment of the modern economy, but the value dynamic of advertising is perhaps not very well known by the public at large.

There was an important inflection in global economics about 50 years ago. Instead of the world being in a situation of endemic shortage, the productive capacity reached a position where production was outpacing consumption. (Note 1) . What this means is that consumers have to be persuaded to buy 'my products' rather those of someone else. It also meant that the public needed to be persuaded to buy more than they might otherwise have bought to satisfy their needs.

The systems of metrics being used throughout the economy have all been dysfunctional in that: (1) companies have only had reporting based on conventional money profit accounting, where more profit usually results from more sales; and, (2) the performance of the national economy is measured by GDP where GDP has a big component of consumption in its makeup.

Advertising fits into this business and economic model very well. Advertising is all about getting people to consume more, and this in turn pushes up the revenues and profits, and at the same time GDP goes up as more is consumed, and the GDP goes up because more is produced.

Advertising works. Though people may say they dislike advertising, the data show that people change their behavior based on advertising. Companies that reduce their use of advertising usually regret it.

For society and the global economy, however, advertising is encouraging behavior that makes things worse and not better.

More consumption is only a good thing when the result is a better quality of life for the consumer. This is true when a person does not have enough, and more enables someone to have enough.

Instead, advertising from the perspective of the producer is good whether or not the consumer gets some value from more buying.

Because of consumption the world is now awash in waste. The producers who pay for advertising are concerned about the consumers buying the product ... what happens afterwards in terms of use and the post use waste chain is not of any importance.

Because of consumption the world has problems with resource depletion and environmental degradation. These matters are not part of the conversation embraced by producers and advertisers intent on selling product.

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Value Dynamic Collection

The idea that more may be less is not something that is embraced in conventional money profit accounting and GDP computation. Yet more quality of life and more sustainability of resources and the environment may well be accomplished by a business and economic model where less is better than more.

The prevailing value dynamic of advertising is out of step with what is needed in the modern world. The whole of the advertising industry is beholden to the prevailing conventional corporate model of more is better.

The value dynamic of advertising should be something that is built on top of the idea that state, progress and performance has a value (truvalue) dimension as well as a money wealth dimension.

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Note 1: A more comprehensive analysis of this tipping point is being developed and will be available at TO COME

Note 2: It is interesting to note that much of the 'free' Internet and mobile device products are funded by advertising that in turn is geared to selling the Internet user more and more product courtesy of the advertising being hosted and the personal data that may be harvested from Internet and mobile devices.



## MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

### Value Dynamic of Agriculture

January 2014

Agriculture is one of the biggest sectors. Everyone on the planet requires food, and the industry that supplies food is one of the biggest in the world.

In some ways it was the agricultural revolution that started the journey into the modern era, and enabled a lot of the comforts that are now a normal part of modern life. Without an agricultural revolution, the world would be starving, and life would be fragile.

Agriculture, therefore, is very important. Without food supplies a human society cannot exist.

*I have worked in places around the world where food was short and people were dying of starvation ... specifically various parts of the African Sahel during the drought of the 1980s. It is not a pretty sight. There is a reason that I abhor waste the way I do. There is a reason that I understand the value of 'food security'.*

There was a time when agricultural productivity was so low that if everyone on earth worked to produce food, people would still be hungry. This has changed as a result of our improved understanding of agricultural science and the application of this knowledge in agriculture to improve productivity.

Agricultural productivity comes from:

- more production from an acre of land;
- more inputs (water, fuel, fertilizer, pesticides, herbicides, etc.);
- more mechanization (tractors, combines, etc.); and
- less labor

This has produced more food per acre, and more food in aggregate. The amount of food that can be produced is enough to feed everyone.

But there are problems. As in almost all segments of modern society and the economy, there are important externalities that are being ignored. These externalities are not incorporated in conventional money profit accounting, nor in any of the prevailing economic reporting.

Less labor on farms has resulted in a massive migration from rural areas into towns and cities. Some have been able to build a new life around the new circumstances, but others have not. Much of this migration took place more and a hundred years ago in the developed industrial economies, but is only now taking place in the less developed countries and emerging economies. The prevailing economic indicators do not capture the full impact of these changes in a coherent comprehensive way, yet they are very important.



The money balance of more inputs and more mechanization in agriculture has produced profits which in turn has encouraged widespread adoption of the methods. At the same time, however, there have been other factors that have been ignored in the prevailing conventional metrics.

Most of the inputs have serious life cycle issues that need to be taken into account:

- Fuel: the truecost of fuel takes into account issues such as resource depletion and environmental degradation (specifically greenhouse gases), both of which are ignored in conventional money profit accounting.
- Fertilizer: the truecost of fertilizer takes into account the resource depletion and the environmental degradation including items like greenhouse gases in the supply chain and water pollution from run-off into rivers.
- Herbicides: the truecost of herbicides is similar to fertilizer, but the chemicals are also finding their way into the food chain the unknown unintended consequences.
- Pesticides: the truecost of pesticides is similar to herbicides, but maybe even more serious with respect to the food chain.

The degradation of land using the methods of modern high production agriculture is not being accounted for in the conventional money profit analysis. There were lessons from the Oklahoma dust bowl years that were applied in the aftermath, but many of these lessons may now have been forgotten.

There are also issues of risk. High productivity is often achieved using monoculture. At some time in the future it is likely that there will be massive crop failure caused by some situation that is not yet understood. Nature is resilient in part because of diversity. Man, on the other hand has tended to eliminate diversity in favor of scaling up the one and only best ... failing to take into account the risk associated with this practice.



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Airports TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Antibiotics TO DO**

June 2014



## MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

### Value Dynamic of Assets Employed

January 2014

All economic activity is enabled by the deployment of resources. In conventional business planning, money resources are converted into the various assets required to support the business activities and to pay for business expenses including the cost of employing people.

One of the best ways to understand the performance of a business is to understand what profit is arising from the assets employed ... the working capital and the fixed assets.

Working capital: the working capital comprises essentially cash, accounts receivable and inventory. Some cash is needed in order to pay bills on time, and allow the business to operate. Inventory is needed in order to have materials for production and goods for sale. Accounts receivable are needed in order to allow for sales on credit.

Fixed assets: the fixed assets are the land, buildings, machinery and equipment needed to manufacture the goods or provide the services that are being sold.

In this analysis, the manner in which assets are financed is ignored as well as the manner in which the assets are owned. The determining factor is that the assets are being used in the manufacturing of the goods or the delivery of the services. In other words, this analysis is closer to a measure of the true economic performance of the business, rather than the performance after financial engineering.

Financial engineering is something that has become a big part of the modern economy, but the analysis of economic performance after financial engineering does not give a good understanding of the true economic dynamic of what is happening.

*My experience goes back to the 1960s and the 'gogo' years of mergers and acquisitions. Investors were making huge profits by engaging in 'leverage' which made it possible for a small equity investment to have amazing results as the profits were increasing. The euphoria ended in the early 1970s when investors suddenly became aware that leverage worked in the other direction when profits declined.*

In conventional money profit accounting, the reporting boundary is tightly drawn around the corporate entity so that reporting reflects the interests of the owners and investors in the business. In MDIA the reporting boundary will be varied and reflect the interest of all the stakeholders. Reporting will have many perspectives, but on top of the same sets of data that reflect the same underlying socio-economic reality.

In a socio-economic environment where the total of business is small relative to the planet, the old conventional money profit accounting was good enough, but in the modern world where the total of business has a scale that is global, then something a lot more comprehensive is needed. Where business is small relative to planet, externalities are not material, but when business has the same scale as the planet, externalities really matter.

In MDIA, all the dimensions of externalities are treated as rigorously as the money profit dimension. Not surprisingly, many of the conventional assumptions about correlation and cause and effect that drive many of the biggest decisions that get made are wrong, and in turn this explains why, despite and the amazing potential of modern technology and educated young people, the global economy seems to remain in a permanent state of dysfunction.

There will be a huge change in the decision making process when it is the relationship between assets employed and progress achieved that is used to determine performance and to allocate resources. Making social good as important as business profit in the decision analysis about resource allocation will be a game changer ... but it will only be possible if there is a reliable comprehensive quantification of the many 'values' that are important for quality of life.



## MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

### Value Dynamic of Beauty

January 2014

Beauty has an intrinsic value.

There are many ways in which beauty is 'monetized' and brought into the conventional money metrics of society and the economy, but there are even more ways in which beauty exists and is never taken into account.

Beauty in people is monetized by Hollywood, fashion magazines and the like ... but this co-exists with ordinary people who are also beautiful. And it can also be said, that beauty is more than 'skin deep' because there are many who may not have so much of physical beauty, but have beautiful characters.

Buildings may be beautiful, or they may be ugly. Too often, low cost housing seems to be ugly. In part this is because the building materials that go into low cost housing are intrinsically less attractive, but part it may also be that architects really don't care so much when the occupants are going to people in the lower echelons of society. The difference in cost between beauty and ugly may be quite modest. The difference in quality of life arising from living in an attractive place to living in an ugly place is significant ... and in turn this translates into longer life for the building and less maintenance. In the end, the beautiful building is more valuable than the ugly one.

Nature is full of beauty ... and at the same times some of the happenings in nature are very cruel and ugly. The same with life.

Music ... another place where beauty can be magnificent. I am reminded when an orchestra is tuning up that music can be terribly discordant. Music at its best is beautiful and an amazing source of inspiration.

As is dance.

And art also ... but in a different way.

And photography ... and films.

Beauty adds value to life in all sorts of ways.

So the question remains, how to value beauty? And the answer to this question has to come from the way beauty improves the quality of life of people ... and it does.

*A building for billionaires is being built in New York on 57th Street in Manhattan. The bathtubs are being made out of Italian marble at a cost exceeding \$100,000 (just for the bathtub). They are beautiful. For people with a really lot of money,*

*this beauty is being valued at a 6 figure dollar amount. While I would quibble about the exact valuation I argue that when you have the money, people are prepared to pay for beauty.*

The incremental cost of having something that is beautiful rather than ugly is a money amount that may be calculated. This is the amount that drives much of the decision making about what gets made or built. The impact on quality of life while the product is used or the building stands is not quantified and ignored. Even when this is a small number, for many people and perhaps many years, such a number adds up to something of consequence ... and most likely its money equivalent will be much higher than the cost saving by making ugly.

*One of the first large scale apartment developments in the UK for low income occupants was in Leeds in Yorkshire. It was ugly. I was horrified when it was decided to knock it down because it had become run down and expensive to maintain. One has to wonder what might have happened if the building had more beauty? Maybe the same ... but maybe not.*



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Big Data**

*February 2014*

'Big Data' is the name applied to something that has been emerging since the 1990s, but now becoming bigger and bigger at an accelerating pace ... a classic example of exponential growth.

The value dynamic of big data is of considerable concern. Whether or not 'big data' will be a force for good or a force for bad needs to be addressed, and addressed seriously and soon.

Most of the power of 'big data' is being used for analytics that are designed to enable more efficient advertising so that more products and services can be sold. There is nothing in this use of big data that balances the problems of sustainability relative to the profit goals of the advertiser.

The capital markets are also users of big data, and especially high frequency traders. While the activities of big data users in capital markets has some value in the sense that these activities help to 'make a market', the big reason for the use of big data analytics is to make money on the trades without much, if any, regard for the consequences. Big data involvement in capital markets makes volatility a source of profit, but this is a zero sum game with losers in balance with winners. A healthy economy is one where there are many more winners than losers, and the net result of more real wealth.

While big data is now being mainly used for activities that contribute little or nothing to the real economy, there is an opportunity to use big data for the analysis of the state, progress and performance of the society and the economy. When big data is used to improve society and the economy, then big data may become a major factor in success and a prosperous and peaceful future.

One of the ways in which MDIA enables big data is that the MDIA data architecture makes it possible to have more data that are relevant to the issues of society and the economy and with much less extraneous noise. While modern computer science makes it possible to draw conclusions from massive amounts of data, better conclusions will come from analysis of data that has more connection and relevance to reality.





## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Bio-Diversity**

*January 2014*

One of the big features of nature is diversity, and arguably it is diversity that is one of nature's greatest strengths.

There are three things that have enabled the modern human centric world:

- The energy of the sun;
- The natural resources (minerals) of the planet; and
- Whatever it is that has enabled biological life.

The world has many many millions of different life forms. Some of these flourish, others wither and do not survive. If too many life forms disappear, the risk of ALL forms of life disappearing increases dramatically.

There is scientific evidence that the extinction of species is higher in recent decades than in most of recent history, in large part because of damage to the environment in which many species live.

Another issue with the loss of bio-diversity is the loss of potential progress in the areas of medicine and healthcare, where compounds existing in nature are identified and then used for development of pharmaceuticals.

Risk is one of the things that is very badly measured in modern society using conventional accounting and economics. The loss of biodiversity is increasing the risk of something adverse happening in society and the economy that we are not capable of handling.



## MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

### Value Dynamic of Brain-Drain

January 2014

Recently I saw this in a paper about Iran, and it has caused me to try to better understand the value dynamic of brain-drain.

*... a 2009 report by the International Monetary Fund (IMF) indicated that Iran tops the list of countries suffering from brain drain, with an annual loss of 150,000 to 180,000 specialists - that's equivalent to a capital loss of \$50bn.*

It was the linking of people (150,000 to 180,000 specialists) to a capital value of \$50 billion that got my attention. This is equivalent to about \$300,000 per person.

As MDIA has developed it has become clear that people are a huge resource and the biggest component of a successful society and economic system.

In MDIA the value of a person varies depending on the context ... something that is a result of the past, the circumstances of the present and the possibilities in the future. This means, of course, that the value of a person can vary enormously.

Brain-drain has a value dynamic that is something like arbitrage in capital markets. A person in a situation in one place has one value, but the same person in another place has a higher value. The circumstances of the present become better and the possibilities for the future are also better.

In MDIA the value of a person is a component in the 'state' of the place and the 'state' of the country. When a person migrates from one place to another it would have the same impact on both places if the circumstances in the two places were the same, but usually they are not. Typically a person migrates from one place where the circumstances of the present are poor and the possibilities of the future are poor to another place where the circumstances of the present are better and the possibilities of the future are better.

Brain-drain reduces the value 'state' of the first place by one amount, and increases the value 'state' of the second place by a bigger amount.

*This argument sounds a bit like an economist's argument for free trade ... which I see as sometimes right and sometimes not.*

The logical arguments that describe the value dynamic of brain-drain should be treated with caution, and not used blindly to advocate for migration. In a complex system, there are many factors that are in constant interplay.

In the case of many countries that are at a low level of socio-economic performance, the low number of specialists is a constraint, but so also are many other things like the low capacity of

the infrastructure, many aspects of governance and rule of law, etc. so progress is constrained on many fronts. As one constraint is removed, another constraint becomes the driver. In time it is the lack of specialists that becomes the constraint, at which time the value of this element in the whole becomes important.

*This situation is a bit like potential energy in engineering. It sits there until it is released at which point potential energy becomes important.*

The value of knowledge ... the value of brain-drain ... depends a lot on the enabling environment of the society and the economy. In some ways the freedom of the United States together with its framework of law that protects intellectual property encourages innovation, but maybe it also constrains innovation.

One of the issues is that the funding of research is linked in large part to the potential of the research to generate business profit. Without this, there will not be adequate funding to pursue research, even though such research might result in amazing results for society.

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Note 1: This phrase is from an AlJazeera English opinion piece from February 2014



## MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

### Value Dynamic of Built Environment

January 2014

#### **Built environment ... what is it?**

Built environment includes buildings of all types, industrial processes and all types of infrastructure. The built environment has a big influence on the efficiency of the economy, especially as regards the consumption of energy.

*My experience working on economic development in third world countries sensitized me to the huge social and economic cost of a dysfunctional built environment. Other experience has alerted me to the importance of an efficient built environment, as for example, the energy intensive industrial processes and buildings in the USA that depend on very low prices for energy.*

In conventional money profit accounting, the 'costs' of having fixed assets in a corporate business are a part of the accounting, and taken into consideration as part of the calculation of profit. On the other hand the built environment outside the corporate walls is an externality that is not taken into account at all.

Some external infrastructure may only be used upon the payment of a fee, but there is a huge amount of public infrastructure that is essentially free. In some countries this infrastructure is very efficient and contributes quite significantly to productivity. In other places, this infrastructure is missing, and the impact on productivity substantial.

*The lack of roads and bridges in many developing countries is an extreme constraint. In many places access is impossible in the 'rainy season' because of the condition of the roads and the lack of bridges.*

The impact of built environment is evidenced by the very high energy consumption and carbon pollution associated with the economy of the United States. The carbon pollution of the United States (in 2010) was calculated to be around 17.2 tons per person compared to the average for Europe of around 8 tons. The GDP of the two areas are comparable. Addressing the huge inefficiency of the built environment in the United States is something that ought to be a policy priority, but is not because it is difficult to make a money cost justification for the investment. Using the MDIA value constructs, such a policy clearly becomes a priority.



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Capital Markets**

*January 2014*

Capital markets are 'organizations' whose primary purpose is to enable an efficient economy through the optimal allocation of capital resources.

Capital markets have existed for a very long time, but the modern capital markets have a very different economic dynamic than the older markets.

The role of 'speculators' in making a capital market function smoothly have been contentious going back a long way. A small amount of speculation is the main mechanism to put liquidity into the market, while a large amount of speculation results in distortion of the market prices.

The biggest single change in the characteristics of the markets over the past 50 years is the speed with which buy and sell transactions are executed.

*Essentially, 50 years ago 'settlement' took place every two weeks. The same function is now done in real time, that is instantaneously.*

A capital market may be used to finance an enterprise, but in the main a capital market is used to make money by trading on the movement of prices. There are some very real economic advantages that arise from financing, but the economic benefits that flow from trading are very different, especially when the trading is 'high frequency trading' with multiple decisions inside of a second being made using complex computer algorithms.

The value of financing is substantial. Money makes it possible for a business enterprise to acquire and deploy all the assets it needs to implement an economic activity. Money itself has no real value. The activities of an economic activity have very real, real values.

Relative to the value financing, the real value of trading on a capital market is inconsequential. All that happens with trading is that money wealth moves from one owner to another. As a direct result of trading, there is absolutely no contribution to the real economy.



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Cities TO DO**

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## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Coffee Shops TO DO**

June 2014



**MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**  
**Value Dynamic of Commercial Banks TO DO**  
June 2014





**MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**  
**Value Dynamic of Commercial Buildings TO DO**  
June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Communications TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Community TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Community Banks TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Cooperatives TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Corporate Cash TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Corporate Wealth TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Country TO DO**

June 2014





## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Credit Unions TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Culture TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Do-Good Expenditures TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of E-Commerce TO DO**

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## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Education TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Enabling Environment TO DO**

*January 2014*

The enabling environment is a big factor in constraining in the state of society and the economy and in progress or not.

*Americans might well argue that capitalism and democracy are elements of the US enabling environment that enabled the success of the American economy for a very long time.*

The following are some of the elements that are part of the enabling environment:

- the organs of government
- the framework of law
- the system of justice
- security
- freedom
- economic supports services of all types
- a public infrastructure that works
- a tax and subsidy regime that works
- availability of electricity
- availability of Internet
- availability of water



## MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

### Value Dynamic of Energy TO DO

*January 2014*

Every well managed company has an accounting system that will be keeping track of the energy used in the company's operations. The cost of energy will be included in the money profit reporting of the company.

In MDIA the analysis of energy brings into account the life cycle trucost of energy, including the trucost elements of the supply chain, the trueconomics of use, and the post use waste chain.

Every analysis of economic history shows that energy has been a big part of the agricultural and industrial revolutions together with the improvement in agriculture and industrial productivity and the broad improvements in quality of life and standard of living.

MDIA brings into account the truvale associated with the use of energy, but also brings into account the life cycle trucost of energy use.

#### ***Examples***

*I remember learning in my youth that electricity was 'clean' energy. This was evident to the general public from the cleanliness of an electric train compared to the grime of a steam train. What was missing from this conversation was that the process for electricity generation involved coal, which had both air and water pollution issues, as well as serious workplace issues in the coal mines.*

In MDIA, every use of energy is associated with the life cycle trucost of the energy.

- Purchase of electricity (from coal fired generation)
- Purchase of electricity (from oil fired generation)
- Purchase of electricity (from natural gas fired generation)
- Purchase of electricity (from hydro generation)
- Purchase of electricity (from central solar generation)
- Purchase of electricity (from central wind generation)
- Purchase of electricity (from local solar photo-voltaic)
- Purchase of gas (for transport vehicles)
- Purchase of natural gas (for transport vehicles)
- Purchase of diesel oil (for transport vehicles)
- Purchase of coal (used for hot water, steam, production processes)
- Purchase of oil (used for hot water, steam, standby generators)
- Purchase of natural gas (used for hot water, steam, standby generators)

The trucost of each different type of energy purchase may be computed by reference to the standards for each of the energy types.

Conventional money profit accounting makes it look as if 'renewables' such as wind and solar are expensive relative to fossil fuels. This changes when the concepts of trucost and truvalue are applied in the MDIA framework and the fossil fuel analysis includes the resource depletion and the environmental degradation associated with the extraction, processing, distribution and use of these fuels. In the MDIA analysis, renewables are now more competitive than fossil fuels in every situation.





## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Environmental Degradation**

*January 2014*

The history of the industrial revolution has been one where wealth has been created by industrial activity and the consumption of natural resources without any consideration to the consequences of resource depletion and degradation of the environment.

But the problem started way before the industrial revolution. It seems that rivers have been used as sewers as long as there have been people.

Even today, rivers are a big part of the world's sewer system, and while a considerable part of the flow of waste water is treated before release into the rivers, a lot of run off from the land just flows into the rivers untreated. To the extent that run-off is contaminated with pesticides and herbicides and fertilizers from agriculture and other toxins from other wastes exposed to storm water, the rivers are more or less seriously polluted.

*I remember my first visit to the United States in 1960. I could not believe the contamination of some of the major rivers that I saw ... notably the three rivers in Pittsburgh (the Allegheny, Monongahela and Ohio Rivers), the Housatonic River in Connecticut and the Hudson and East Rivers around Manhattan.*

The United States started to make some progress in cleaning up the environment in the 1970s, but business interests have opposed many of the regulations that were put in place to reduce the scale of industrial pollution.

Hardly any of the major US companies have taken a leading role in encouraging a responsible approach to environmental degradation. Worse, multinational companies have a track record of abysmal behavior when pollution is unlikely to be seen by the international media.

*I have worked in many parts of the world where international companies are engaged in mining and petroleum exploitation. The industrial pollution being created by these companies is a disgrace, but the companies argue that what they are doing is legal, and therefore allowed.*

There are many ways for a company to be responsible for environmental degradation. These include:

- Pollution of water
  - Diversion of fresh water into industrial processes
  - Diversion of fresh water into agricultural uses
  - Process water discharges
  - Agricultural run off

- Pollution of land
  - Solid waste landfills
  - Industrial pollution ---> brownfield pollution
  - Conversion of rural land for urban development
- Pollution of air
  - particulates
  - Sulphur dioxide (acid rain)
  - Nitrous oxides (from vehicle exhausts)
  - Carbon dioxide (from burning carbon based fuels) ... a greenhouse gas
  - Methane (from bio-waste) ... a greenhouse gas

A company must also be held accountable for what happens in the supply chain of everything that is used in the manufacturing or processing of its products and services. For many companies the result of seeking out the lowest cost suppliers has been a race to the bottom in terms of business behavior and impact on issues like environmental degradation.

*This became clear at PUMA when they produced an environmental profit and loss account which showed that only a very small part of the environmental degradation took place in the final stage of manufacturing.*

The impact of environmental degradation accumulates over time. Environmental degradation has its own value chain that results in other changes which have their own consequences. Thus for example the release of carbon dioxide and methane into the atmosphere is considered to be a primary cause of the increase of greenhouse gases and global climate change. Global climate change, in turn will change the performance of agriculture which may in turn have a major impact on the production and supply of food.



**MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**  
**Value Dynamic of Factory Processes TO DO**  
June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Fast Food Joints TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Fisheries TO DO**

June 2014



## MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

### Value Dynamic of Food

January 2014

Food is one of the biggest sectors. Everyone on the planet requires food, and the industry that supplies food is one of the biggest in the world. Without food, people starve and die.

*In the 1980s I worked in various parts of the Sahel in Africa during the drought when millions died. Without water, both animals and people die. Food security for me is not an empty phrase ... it is something that is of critical importance.*

For most of human history, food has been a priority economic activity and famine was common. It is only relatively recently that the agricultural revolution made it possible for farmers to produce enough food for everyone, but even so, from time to time there were still massive famines and death.

In the 20th century as world population increased it became increasingly likely that widespread hunger would be the norm. The epicenter of this concern was the Indian sub-continent, but this concern receded with what came to be called a green revolution when new strains of rice made it possible to obtain much higher yields and the immediate hunger crisis was averted.

The massive mechanization of crop farming places like the United States and Canada together with higher yielding seed, as well as more use of fertilizers, pesticides, herbicides and so on has made very high levels of food production. This has been good in increasing food production and consumption, but there have been other impacts that are not fully taken into account:

- The negative impact of energy use ... resource depletion and environmental degradation
- The impact of pesticides and herbicides ... environmental degradation including run-off into rivers and then the oceans.
- The impact of monoculture ... land degradation
- The impact on human health ... chemical residues from pesticides, herbicides, fertilizers, etc on fruit and vegetables ingested by consumers.

The industrialization of meat and chicken production has also been successful in terms of quantity and costs, and in turn consumers have had more food at lower prices. The downside is that the chicken and meat being consumed has levels of various chemicals that may or may not be dangerous to human health.

- Antibiotics are heavily used to keep animals healthy prior to slaughter. About 80% of all antibiotics used are used in the agriculture sector. There is mounting concern that resistance to antibiotics is now increasing in hospital settings with potential dangerous consequences for human patients.

- Growth hormones are also used in meat production, and these compounds are being carried into human beings with consequences that are not fully known. There is evidence that people are bigger in this generation than in prior generations, but it is not proven that this is related to the widespread use of growth hormones in the meat industry

The fish industry

Vegetables and fruits



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Forestry TO DO**





## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Government TO DO**



## MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

# Value Dynamic of Government Entities TO DO

January 2014

### Government

Government is a specialized type of organization. The national government may be the largest organization in a national economy.

The government of a country is not the same as the national economy.

*In the case of the United States, the large dollar holdings of China has nothing to do with the deficits of the Government of the United States, but everything to do with the massive trade deficits of the US economy as a whole and the adverse balance of payments situation.*

It is very important to impose rigorous performance accountability on government activities. The performance data that are available suggest that government entities have a very much lower efficiency than the comparable private sector entities.

*It should be noted that when a private sector entity is contracted to provide services for the government sector, the cost to society may not be lower for a variety of reasons including but not limited to: the cost of profit in the price; a range of perverse incentives; and a wildly dysfunctional contracting process.*

One of the accountability issues is the fact that most accounting in government entities is done on a 'cash basis' rather than an 'accrual basis'. What this means is that a government entity does not have true 'double entry' accounting and loses the financial control that this provides. Worse this enables a range of practices that make it look like a government is behaving in a financially responsible manner, when nothing could be further from the truth.

*It is very disconcerting to look at the financial state of most government entities on the planet. Almost all of these entities are essentially in a state of bankruptcy because of the future payments that they are committed to, such as pensions, that are not in any way funded.*

Revenues to fund government arise from payments of tax, user fees and royalties. Decisions have been made by politicians for a very long time that increase expenditures of government without making the essential decisions needed to fund these expenditures. This has been aggravated by misinformation about the economic impact of taxation especially with respect to job creation.

TrueValueMetrics - Multi Dimension Impact Accounting (MDIA)  
Value Dynamic Collection

Many of the expenditures of government have a big value using the MDIA approach to analysis. This is good, but in many cases these expenditures would be of even more value if the efficiency of government was higher and performance better. Most governments have weak performance measurement systems, if at any at all.



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Health TO DO**

June 2014



**MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**  
**Value Dynamic of High Frequency Trading TO**  
**DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Hotels TO DO**



## MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

### Value Dynamic of Housing

January 2014

Housing is part of the built environment, and also a big contributor to quality of life.

Being homeless ... not having any shelter ... is a very bad situation, and too many people are in this situation for a variety of reasons.

Having basic shelter ... housing ... is a very important part of quality of life at the lower end of the economic ladder, but it remains a component of quality of life at all levels of the economy.

The key to shelter is the right to occupy a house. The question of whether or not the house is owned by the occupant or is rented by the occupant does not matter with respect to the value dynamic of housing and its impact on the individual and the family.

In many jurisdictions house ownership has been encouraged by government policy such as allowing mortgage interest deductions in tax computation for owners of houses. Home ownership has also been encouraged by enabling low mortgage interest rates. Many of these policies have served to distort the housing market in ways that have proved problematic.

*The 2007 housing collapse resulted from behaviors in the banking and real estate sector that were financially unsound, and became a root cause of the recent financial crisis.*

Housing stock lasts for a long time. Many places have old housing stock that is dilapidated and inefficient. Neighborhood improvement is a value add but not easy to do, especially when the dominant owners are driven by conventional money profit performance goals.

Without rigorous metrics for the value add associated with housing, it will be difficult to attract the financing that is needed to make housing an efficient driver of progress.

In general, American houses are among the most energy inefficient in the world. This did not matter much to occupants of housing when the price of energy was very low, but the price is now much higher.

*Around 1971 the price of a gallon of regular gas in New Jersey, USA was 27 cents a gallon, up from perhaps a little as 15 cents a gallon twenty years before. Prices started to change dramatically in 1973 with the first oil shock. 40 years later regular gas is around \$3.30 a gallon. House heating oil has increased in price in a similar way.*

Canada has paid attention to the energy efficiency of houses for a very long time. Ways to improve the energy efficiency of houses is quite well known, but it has a higher initial cost.

The state of housing in any place is one of the components of value analysis that is fairly easy to understand. To improve the state of housing in a place may not be easy because of the many different interested parties and lack of alignment of interest. MDIA analysis can be helpful in making the value proposition for improved housing positive for most parties compared to conventional money based financial analysis that tends to have winners and losers.

The ownership of housing by government entities has not been a universal success, even though the basic concept sounds good. Rather it is better characterized as an almost universal failure. This is a management issue that is difficult to resolve. It is also a community issue where the behavior of some individuals has impact on the community as a whole.

The suburbs have been described as a better place to live for many decades, but this may or may not be true. Living in the suburbs looks good, but the effort required to commute to work and the difficulties of getting a sensible work-life balance are seriously aggravated.

The value of housing is sometimes more associated with the capital appreciation of the house as an asset, than the value of the house in contributing to quality of life. This idea was put under strain with the housing bubble debacle of 2007 when many house owners saw the equity they had in their homes disappear.

In many places there has been a race to own bigger and bigger houses for no good reason other than bragging rights. This has been encouraged by everyone connected with the housing industry even though it has had a debilitating effect on many families and the broader society.





## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Human Capital TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Human Trafficking TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Illicit Drugs TO DO**

June 2014



## MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

### Value Dynamic of Infrastructure

*January 2014*

There are many different pieces to infrastructure. They are a very important part of economic performance, and are very costly to build and maintain. Conventional money profit analysis makes it difficult to justify improvements to infrastructure, but when infrastructure deteriorates and eventually collapses, the costs suddenly become huge.

#### **Transport infrastructure**

Transport infrastructure is a critical component of an efficient economy.

#### **Roads and bridges**

*When I was growing up it was the arterial roads in Germany that were a high point of infrastructure engineering. Later the President Eisenhower set the stage to built the US Interstate Highway system.*

It is interesting to note that though the cost to the Government of the United States to build the Interstate Highway system was huge, the immediate increase in the value of the land owned by private individuals and organizations near the new roads more than offset the government cost.

Interestingly taxes to help pay for the ongoing maintenance and improvement of the system have been substantial but rarely used for the intended purpose. Now after almost 50 years, much of the system needs major work, and the funds are not available.

#### **Rail**

Rail was the key transport technology that enabled the industrial revolution. The engineering associated with rail has progressed over the years, but the technical drama of the early days of rail seem to be missing in the modern era, even though some amazing progress is being made.

*This may well be because English speaking engineers are not doing very much compared to the French, Germans, Japanese and Chinese.*

There are no fast passenger trains in the United States that compare with the fast passenger trains in Europe, Japan and China.

The US freight trains are a better story.

#### **Seaports**

Efficient seaports are essential for efficient trade. A huge amount of commerce flows through US ports, but most of these ports are small and inefficient compared to the best ports in the world.

In the next two decades a greater part of world trade is going to be transported on vessels that cannot berth in the United States, putting the USA at a huge disadvantage relative to many other places around the world.

### **Airports**

There are very many US airports, but they are older and not as well suited to modern travel as could be possible.

Perhaps of greater concern is the air traffic control infrastructure that is operating with technology that originated in the 1960s and 1970s. Massive upgrading of this infrastructure is possible which would help to improve air service of all sorts substantially.

### **Urban subways and light rail**

Pipelines

## **Communications infrastructure**

### **Electricity infrastructure**

**Power stations**

**Transmission Grid**

**Distribution systems**

### **Water infrastructure**

Water supply

Waste water treatment



**MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**  
**Value Dynamic of Insurance Companies TO DO**  
June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of International Trade TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Investment Banks TO DO**

June 2014





## MULTI DIMENSION IMPACT ACCOUNTING (MDIA)

### Value Dynamic of Knowledge TO DO

*January 2014*

Knowledge is one of the enabling factors in modern society and economy. Knowledge is the foundation of everything that has worked in the last 200 years to make possible the industrial revolution and before this, the agricultural revolution. Without knowledge, very little that sustains the quality of life that is possible in the modern world would exist.

The explosion in knowledge in the past half century has been even more amazing than the explosion of knowledge in the previous 200 years. The potential for this progress to continue and accelerate exists.

*The limits on the progress of knowledge should not be the money available but the brains that exist. It is a sad fact of a money centric socio-economic system that money gets to be the constraining factor in a lot of what gets done.*

There are challenges in getting knowledge used in ways that are beneficial to society and the broader economy. Knowledge may easily be converted to uses that benefit one group at the expense of other groups. This happens, of course, when knowledge is applied in a military setting. This also applies when knowledge becomes 'proprietary' rather than being open knowledge.

While there is a legitimate need to reward the people that create knowledge, this should be balanced with the benefit of applying this knowledge for the benefit of society and the broader economy. Intellectual property (IP) that is limited in application only to uses that benefit the inventor are rarely going to deliver the optimum benefit to society and the greater economy.

Much of the IP that has been generated in the new 'tech' sector over the past 30 years has been delivered into society and the economy in a manner that has delivered wealth for the owners of the IP while not maximizing the beneficial impact of the IP on society at large.

*Microsoft is the lead company in using this model, and followed by many others including Oracle and Apple. The ownership of IP has allowed these companies to market their products almost as perfect monopolies.*

Some of the people involved with the development of the Internet have made great efforts to encourage 'open knowledge' to that more of the benefit of knowledge would get applied to society at large and the broader economy.

It is not at all clear whether the idea of open knowledge is supported by many of the companies with important roles in various parts of the knowledge economy.

*It is also fairly clear that big parts of the academic establishment are concerned about open knowledge and what impact this could have on universities in the future.*

One of the characteristics of knowledge is that when it is shared the total of knowledge increases. Most other economic goods, when they move from one person to another, one gains and the other loses. In the case of knowledge one person gains, but the other person does not lose.

Elements in society and the economy that have this characteristic are very valuable, because in these cases there can be growth without the associate damage caused by others losing.



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Land Use TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Limited Liability TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Luxury Goods TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Materials TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Media and Message TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Microfinance TO DO**

June 2014





## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Military TO DO**



**MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**  
**Value Dynamic of Multinational Banks TO DO**  
June 2014



# **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

## **Value Dynamic of Multinational Corporations TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Outsourcing TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Packaging TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Payroll**

*January 2014*

Every well managed company has a payroll system that is used to pay employees and to provide the accounting needed for financial reporting.

In money profit accounting, part of the relationship between payroll and profit is that as payroll goes down, profit goes up. This has been enabled for many years by improvement in productivity that has made more production per employee possible, and this has been supplemented by outsourcing where payroll is reduced and this production replaced by purchased items.

In a well managed company, the management information system will help the company make the best use of labor to maximize profit. MDIA makes it possible to start to optimize the company's payroll not only for company profit but also for the impact on people and planet.

The value of pay varies depending on the amount of pay and the circumstances of the employee. For an individual with little wealth, pay is very valuable. For an individual with a lot of wealth, pay has less importance and less value. For an individual with many family responsibilities pay is more valuable than for individuals with no family responsibilities.

Pay does not only impact the individual employee, it has impact on the family. As pay flows into the family, quality of life of everyone in the family is improved.

Pay also flows into the community. The local multiplier will determine how much payroll money will benefit the local economy.

For people at the lower end of the economic ladder. More pay has a very meaningful impact on the individual and the family. It makes possible family investments that will benefit everyone in the family in the future, especially the next generation. At this level of the economic ladder, more pay makes a very big contribution to improvement in the quality of life.

As pay is bigger, and the individual and the family are further up the economic ladder, the incremental contribution to quality of life of incremental pay increases diminishes.

There is a point where incremental pay really has no impact on the real quality of life of the individual and the family. At some point the value to the individual is really nothing more than the 'bragging rights' and the ability to engage in some very conspicuous consumption.

Workplace conditions factor into the value of the payroll. Where the workplace conditions put the health and safety of the employee at risk, there is a diminution of value.

In most advanced developed countries workplace conditions have improved significantly over a very long time, but in low wage developing countries workplace conditions are putting employees at risk in many different ways.

### *Examples*

*Bangladesh and other countries have become well known for factory fires and building collapses. In China workers are known to be using dangerous chemicals in the assembly of electronic devices for international brands. In India, Pakistan and other countries young children are employed at very low wages when they should be in school. In many parts of the world, young children work in various parts of the agriculture business.*

Payroll has an important impact on place. An individual and the family use the money from their pay in the community. This money flows around the community as the individual and the family buy the goods and services they need.

When a person lives and works in the same place, there is a different impact from the situation where the job is in one place and the home is in another place. There are many variables to this. Many of the valuable characteristics of family are diminished when work and home are separated by a large distance. This is of considerable impact when there are young children in the family.

When there is distance between work and home, there are the costs and inconvenience of commuting.



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Politics TO DO**





## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Prostitution**

*January 2014*

It is convenient to label prostitution as a sin and wrong, but this is way too simple.

The purpose of economic activity is above all to provide the material requirements for survival, for food, water and shelter. There are too many circumstances where a person is unable to find paying work to satisfy these critical needs. In turn this makes prostitution an economic necessity.

*In my work in poor developing countries many years ago, it was something of a joke among World Bank experts that the state of the economy was inversely correlated to the attractiveness of the prostitutes.*

In economic terms prostitution is an effective way of redistributing wealth from people with money surplus to people who are short of money. The utility of the money in the wealthier hands is lower than when it moves into poorer hands. In this sense prostitution adds value into the society.

Prostitution is illegal in most places, which creates its own set of problems. When something in demand is made illegal, there is almost always a profit opportunity for those who are in the business of 'protection' and prostitution is no exception. Those that work in the sex trade are not only exploited by their customers, but are also exploited by those that 'control' the business.

Prostitution has another downside. Sexually transmitted diseases are a serious health issue. This had a high profile when HIV-AIDS was totally out of control and a killer. The fact is that HIV-AIDS is still a risk and is still a major cause of death, especially among at risk populations like sex workers.



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Pubs TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Railroad Stations TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Religion**

*January 2014*

Religion is a lot more important in the state, progress and performance of society than it is given credit for in conventional modern accounting and economics.

The history of religion is as long as the history of people. There are things that human beings do not understand, and these things have been explained by various religious beliefs ... and this continues to this day.

Religion has had a very important role of the governance of peoples in much of history, and for the last hundred years the influence of religion has been much less than for most of history. It should come as no surprise that some parts of the world are now seeing religion as a bigger part of society and this is causing anxiety and confrontation.

Peoples with different religious beliefs have engaged in conflict over and over again through history, and there is every indication that what has happened historically could easily happen again. This is the downside of religion.

However, a spiritual dimension to life is a very positive thing, and religion can have a very positive impact on ones quality of life. It may be argued that religion is a good way to explain concepts such as 'good' and 'bad' or 'right' and 'wrong'.

*My own experience with people of faith is that it is far easier to define the parameters of a good society, than where the people have no faith.*

Many religions call for people to behave in a manner that respects those who are less fortunate. Most religions call for giving assistance to those in need.

Religions also help with many of the issues that have to be faced in the course of life, including the matter of death.

Over the course of many centuries religious organizations have mobilized resources and built buildings that are amazing not only for the time when they were built, but even today. But religion should not be measured just by the money that flows through the organizations, but also the amount of good that is being done, where good is determined by the impact religion is having on the lives of people. This is not inconsequential in the metrics of quality of life, though it is completely ignored in conventional money profit accounting and conventional economic analysis.



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Resource Depletion TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Restaurants TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Retail TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Risk TO DO**

June 2014





## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA) Value Dynamic of Scientific Research TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Seaports TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Security TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Sewage Treatment TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Social Media TO DO**



**MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**  
**Value Dynamic of Solid Waste Disposal TO DO**  
June 2014



# **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

## **Value Dynamic of Sport TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of State TO DO**

June 2014





## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Sugar TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of the Supply Chain TO DO**

June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Taxation TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Tobacco TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Tourism TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Transport TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

# **Value Dynamic of Vaccines TO DO**

June 2014



# **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

## **Value Dynamic of Water TO DO**





**MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**  
**Value Dynamic of Water Infrastructure TO DO**  
June 2014



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Wealth and Income TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Wellness TO DO**



## **MULTI DIMENSION IMPACT ACCOUNTING (MDIA)**

### **Value Dynamic of Workplace Conditions**

*January 2014*

Many business organizations think that poor workplace conditions are low cost and more profit than good workplace conditions. Certainly, it may cost more to have workplace conditions that are clean and safe, but it is usual for these costs to be offset by higher productivity of the work force, and in turn this results in more profit.

But the value dynamic is even more persuasive. In many jurisdictions, workplace accidents may not impact the business very much, but the impact of the worker and the worker's family is very serious. This does not appear in the conventional business accounts, but it should be taken into account in the value analysis of the business.

TO DO

Build a summary table for monetary awards given for various sorts of workplace injuries. Maybe this table can show difference between different countries for similar injuries