

**MEANINGFUL METRICS FOR A SMART SOCIETY**



# **The Basic Concepts of True Value Metrics**

## **CHAPTER 4 ANALYSIS METHODS**

**DISCUSSION DRAFT  
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# Chapter 4-1

## Analysis

### **Data Without Analysis is a Waste Analysis releases the power of data**

There are data ... and then there is information, then knowledge and then wisdom. It takes analysis to move from having data to having information. Knowledge is getting information into the human brain ... and then wisdom is sorting this knowledge so that it gets used in a useful way.

The world has a whole lot of data ... most gets used for just a very little bit of analysis ... a terrible waste!

Almost every study needs some data to be the foundation for the analysis and conclusions. Enough data are collected to satisfy the methodology of the study ... and analysis is done ... conclusions drawn ... and report submitted. Some time later another study in a similar area of interest ... but usually little or no reference to the prior data. Easier analysis ... easier conclusions ... easier report without the problem of more data that may or may not fit exactly the new study format, analysis and conclusions. What might be the problem and what might be the solution.

The problem might be that many studies are part of an education process that requires original study, analysis and reporting. The primary objective is passing educational requirements ... not helping directly with the progress of society and analysis to make this better. Merely recognizing this reality and getting the data more completely into the public space could help significantly.

### **Making metrics useful**

TVM is about making metrics useful. In order to be useful the analysis has to be fast, based on reliable data and the conclusions clear. The whole process has also got to be affordable ... in other words, low cost even if the eventual value of the process has a huge potential to be substantial. Any process of metrics and analysis is part of the “overhead” of society, not directly productive and its cost reduces the resources available for the valuable work!

Adding the value dimension to accounting sounds like it is adding a lot more work ... but it may simplify accounting and by adding a dimension to accounting that facilitates answering important questions way better than a money accounting system can do on its own. Part of the essence of good analysis is to focus on matters that are material ... that are important.

**Don't sweat the small stuff**

The big questions about social impact cannot be answered reliably unless there is a value component in the accounting system.

## **Making analysis fast and useful**

Decision making needs to be timely ... is best when the relevant data is available and presented in a clear useful manner.

**Management information is the least amount of information that enables a good decision to be made in a timely way!**

What this means in practice is that available data are used ... and the analysis is as good as possible relative to the available data. Rigorous academic analysis takes time ... and by the time the analysis is complete, the situation has changed ... or should have changed!

TVM recognizes that the academic community and many experts in the international relief and development industry, and in institutions like “think tanks” favor rigorous academic study of complex economic development issues ... but this approach is expensive and of rather little practical decision making value. It is too expensive, too little and too late.

Some successful organizations have used simple rapid planning processes for years with good outcomes ... for example the UN High Commission for Refugees (UNHCR).

### **UNHCR Used Really Rapid Planning**

For many years, the management approach of the UN High Commission for Refugees (UNHCR) was unusual in the UN system, and very effective. They estimated the number of refugees as quickly as possible and as accurately as possible, and this number established a default budget framework for their immediate operational activity. The UNHCR method made it possible for UNHCR to do in hours what other units of the UN system would take weeks or months to do. This approach saved lives ... not to mention saving money!

In much of the business world a rapid planning process is used to take advantage of opportunities and to avert crisis.

### **Fast Planning in a Business Setting**

An international fishing company negotiated fishing licenses to operate in a country's Exclusive Economic Zone (EEZ) ... with the provision that a fleet of fishing vessels should be in operation on site within a short period of time ... three months, I believe. The expectation was that the international company would not be able to deploy suitable vessels in this time, and the licenses would therefore lapse. The international company did an urgent plan that involved very unconventional solutions and was able to deploy suitable vessels within the time limit imposed ... much to the annoyance of the government officials who had designed the “trick”! Fast planning made it possible to take advantage of a desirable opportunity!

## **Analytical codes**

### **Analytical codes are basis for organizing data**

Codes facilitate the organizing of data. The power of relational analysis is maximized by the design of the analytical codes. This is the key to easy analysis, and relatively easy to do for a relational database. Frequently, however, it is ignored and code designs do not follow fully logical rules and easy analysis then becomes impossible.

### **Account codes**

Part of the power of conventional accountancy was the logic of the account codes ... and this has become even more important as the TVM approach to socio-economic performance metrics has been developed

### **Budget codes**

In government settings budget codes are the codes that control government moneys more than anything else. Many countries use a “single treasury account” financial control framework with all government disbursements controlled by a “vote” of the legislative body.

### **Program codes ... Organization codes ... etc.**

The power of IT for processing data is optimized by a strong code system that allows for easy aggregation of transaction data and easy drill-down from summarized data.

### **Place and time analysis**

Place and time analysis are important in the use of TVM ... and for easy analysis there must be rigorous systems for coding of place and time.

## **Analysis Independent of Permissions**

TVM does value analysis independent of any permission ... the more permission is refused or there are constraints on dataflow, the more it is imperative that value analysis is done and conclusions drawn. The more there is “push back” the more there is a need for the data to be obtained and for the analysis to be done and reports available.

While there are strong laws and rules that require organizations to publish financial data ... the way these data are published limits what it is possible to learn from the material rather than being a regime where data about performance are clear and operations transparent. There are good ... that is bad ... reasons for keeping operational data private! Many business organizations cut corners and private “deals” are going on all the time. These “deals” make the participants a lot of money and are only possible as long as the financial reporting remains opaque.

### **This is an old idea ... that works**

If the CFO considers everyone to be a crook ... and designs the accounting system so that it is difficult for a crook to steal the company's assets ... then the accounting system will control the company's assets. Experience suggests that crooks are everywhere ... but most are lazy ... so they don't bother with an accounting system that is hard to compromise. Change the internal control system from time to time to keep from making it easy!

Organizations like the World Bank have diminished the role of financial professionals in keeping track of the money ... accordingly it is no surprise to have extremely weak financial controls in almost all areas of the relief and development sector, including in projects that are funded by development banks and international donors. These fund flows have been treated like open access ATM machines, and the fact of slow progress in the relief and development arena is not at all surprising.

Changing this is not going to be done “with permission” ... it is going to get done because it is right, and the public is entitled to accountability for the use of resources and the outcomes.

## Chapter 4-2

# Analysis About Cost, Price and Value

## Cost, Price, Value Relationships

### Three key numbers: cost, price and value

Cost, price and value are very important numbers about any economic activity. Though modern society is founded on economic activity, there is a surprising lack of information about cost and value though there are massive datasets about prices. ... that is what a buyer pays for a product or services, and what prices stocks and other financial interests are trading at, what prices commodities are trading at, etc.

The explanation why there is little information about costs may well be that those that make decisions would be embarrassed at the internal value chain within their organizations prior to the transaction where the customer buys the product or service.

Corporate accountancy is only about money cost and money price. TVM uses cost, price and value. The value derivatives of cost, price and value are key numbers that describe economic activity. The relationship between these numbers determines the performance of almost any economic activity. All of these measures are important ... any one missing and the understanding of the dynamic of societal progress is compromised.

### Cost and price

Cost and price make it possible to calculate margins and profits ... and this is what is done in normal corporate accountancy and financial reporting. As we shall see later, in modern financial reporting both cost and price are capable of being distorted so that the most favorable margins and profits are being reported ... something that professional accountancy was structured to avoid.

### Cost and value

Cost and value make it possible to calculate value adding ... something that is very important for society. For this to be of greatest use, the calculation of cost must include not only the money cost but also the value consumed associated with the activity.

What is this? In the case of the oil industry, the costs of crude oil production include payments made for royalties, licenses, etc, as well as the costs of exploration, drilling and extracting the oil from the oilfield, and shipping the product to refineries and to market ... but the costs do not take into account in any financial metric the depletion of the resource, and what it would take to replace this resource. This is a huge problem, because the resource being depleted has taken many millions of years to accumulate, and the cost of this

There are other examples ... see ????

### Price and value

In some cases price and value are the same. In this situation the value chain through delivery to the final consumer is extracting from the consumer a price that is equivalent

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to the value. The consumer does not get anything of the added value. In fact the typical business model is one that aims to extract as much revenue from the market as possible.

The use of resources does not automatically mean that there is either going to be efficient or effective use of resources.

### **Disbursement is no way to measure performance**

The World Bank did a disservice to itself and to the whole process of development by using the amount of loan disbursed as a proxy measure for how much development progress was being made. It was a stupid idea and went on for years.

In the current global malaria control programs, the amount being disbursed is a more prevalent measure than the amount of malaria disease reduction. The idea of effectiveness measurement is missing!

## **What is the cost?**

Performance is both efficiency and effectiveness. The profit and loss account summarizes the activities of the organization in money terms showing the revenues and the expenditures. The profit and loss account that is presented to outsiders tends to show the least amount of information allowed by law, while the internal profit and loss accounts will show all the information needed to facilitate good management.

### **Cost efficiency ... how much actual was relative to standard**

Cost efficiency is how much the actual cost was relative to what the cost should have been ... often expressed as a standard cost. There are many ways to evaluate cost performance including also comparison with activities undertaken in other places or with activities undertaken by other organizations.

Well designed data systems makes it possible to compare how much something actually cost with what it should have cost.

Cost efficiency is a measure of how well something is done. Cost efficiency answers the question about whether or not resources used are more or less than would normally be expected? Comparative cost efficiency answers the question about cost relative to other similar works at another time or in another place.

### **Cost effectiveness ... How much value for the cost?**

Well designed data also makes it possible to measure the relationship between the cost and the impact ... that is the change in value arising for the community. Cost effectiveness is a measure of how well doing something results in getting the desired impact. Did the use of resources solve the problem that is being addressed or not. Did the use of resources have a favorable impact on the community and quality of life ... and was the impact what should have been achieved.

Cost effectiveness is the more complex idea of relating cost to the value of the accomplishment. The idea is simple in theory, but becomes more difficult as the problems being addressed are more complex. TVM uses techniques to get an overall idea of cost effectiveness, and then goes into more detail to assess the way different initiatives contribute to progress. This may require multi-variate analysis of the datasets where there are multiple interventions being used.

TVM accounts for value with as much rigor as possible even though value is perceived differently depending on many subjective elements. TVM uses a system of standard values which makes it possible to compare cost with value on a uniform basis.

Standard costs and standard values facilitate analysis and avoid data overload. Separately TVM allows for the analysis of standard values and the use of this set of metrics to understand differences between societies and to help with the determination of priorities.

External resources complicate analysis. The performance of the community is a function of the amount of external resources needed to maintain a good quality of life. A low performing community is unable to maintain its quality of life without getting external resources. A high performing community needs no external resources to maintain and improve its quality of life.

There are organizations that use large numbers of unpaid volunteers. The labor resource is money free to the organization, but the “opportunity cost” for the volunteers is not zero, and the optimum opportunity for the organization should be bigger than the value of just “stuffing envelopes”!

## Quantifying Value

### Standard value is key to efficient analysis

The core hypothesis that justifies the development and deployment of TVM is that money profit is not enough, there also has to be value. But value will never be there if value cannot be quantified in a widely accepted way.

**If you cannot measure it ... you cannot manage it**

The TVM solution to this problem is to make use of “standard values” rather like “standard costs” are used in cost accounting ... but even this has to be done with care. Value is not a simple metric ... but it is a very important one.

Value is subjective ... and this is part of its importance as a key metric of progress and performance. A simplified value construct will not work to guide society to its best performance ... or even to know what best performance might be.

Ignoring value ... which is essentially what has been done in money accounting and economics certainly simplifies analysis, but over time the result of this is increasingly poor allocation of resources. Value is subjective, and as such its quantification has to have an element of pragmatism in order to be practical.

One part of the solution is to have standard values for everything that is of value ... in other words, for everything.

The idea of a standard value in TVM is similar to the concept of standard cost in cost and management accounting. Everything has its standard value computed, just as everything has its standard cost computed. Periodic comparison of actual cost to standard cost makes it possible to have standard costs that reflect the actual cost very closely. Routine management analysis may be done using the standard costs ... and the answers are good enough for most day-to-day decisions. Similarly with standard values ... they may be used in day-to-day analysis and the answers are good enough, and easy to get.

### Price as a proxy for value

Price is often used as a proxy for value ... because sometimes the price is close to the value. But this approach to value has many problems of which (1) price is determined in the main by the seller, and (2) the analysis going into determining price usually ignores almost all the elements of the value construct except what value a buyer might place on the item. In other words, you cannot set the price higher than the customer thinks the item has value if you want to sell the item!

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This idea that price is best when the price of the item and the value of the item to the buyer is the same is an interesting dynamic ... with the result that all value adding then becomes attributed to the business part of the value chain, and none for the consumer. In the end, a damaging economic idea.

### **Value is everywhere**

#### **Examples in every sector**

A standard value needs quantification, but not as money value ... not as a monetization of the value quantity ... but using a separate unit of measure.

Value changes depending on whose perspective is being used ... and these changes are complex and difficult to explain. They are not only based on simple economics, but there are cultural and social issues as well.

Every person has their own profile of values ... many people may have similar profiles ... and within a community there may be only one general profile ... or a relatively small number.

There needs to be a large repository of value profiles so that what people think one value is relative to another value. Many of the value ideas will be different ... many will be the same. When all the profiles get linked together relatively, it becomes possible to see the aggregate average value profile.

Housing has value ... a house has value ... part of the value is its role in sheltering the family ... part of the value is being a home for the family, the social center of the family ... part of its value is the image it gives of the family ... part of its role is a contribution to the neighborhood as a whole.

An education has value ... part of the value is the socialization learning that children and young people get at school and college ... part of the value is what they learn ... part of the value is learning how to learn ... part of the value is the opportunity expansion that results from being well educated.

Infrastructure has value ... part of it is to enable socio-economic activities to take place more easily ... a bridge saves people time in getting from one place to another, or getting there at all ... a road makes it possible for people and goods to move from place to place efficiently. The value arises because people save time and things can be more productive. In some cases infrastructure makes the community safer. In some case infrastructure makes it possible for a community to expand ... or to build some new economic activity in the place.

Health has value ... part of the value of health is that good health enables people to live their lives in a far better way than when they are sick. All the things that are possible when a person is health become compromised when there is debilitating sickness.

Low crime has value ... quality of life is at its best with no crime, but becomes impaired when there is crime. Low crime has a big social value, that is lost when crime increases. Getting low crime is expensive ... police, courts, prisons and remedial programs are high cost parts of the community fabric, but important.

Electricity has value ... quality of life is improved with access to electricity ... when used electricity is clean ... though there are questions about how clean electricity is when it is being generated.

Jobs have value ... to the employee, those that are remunerated have a value in the family that is big relative to the same person when they are unemployed and unremunerated. Jobs are interesting in that they are also of value to the employer ... every job helps in



the process of carrying out the mission of the organization ... and build value for the organization.

### **Things that impact value are everywhere**

Things that impact value are everywhere as well ... so the framework of metrics needs to be able to handle the multiple characteristic of the value item and how issues impact the matter.

### **Good health has high value**

Good health has a high value ... but this is reduced by the onset of illness. Being sick lowers quality of life. Being cured improves quality of life. Being in good health is the desirable norm in the quality of life matrix.

#### **Health in GDP is nonsensical**

With modern GDP metrics, the cost of treatment is captured, but nothing else. The erroneous supposition is that the more treatment there is, the stronger socio-economic performance. TVM disagrees profoundly and has a very different approach.

Good health is always desirable ... but maybe good health has a different value at different points in ones life. This should be reflected in the way the value matrix comes together. Maybe health value is going to be different for different people who do different jobs. The details are tricky ... and they should be respected ... and also there should be some simplification so that the system stays workable.

### **Low crime has high value**

Low crime is very desirable and enhances quality of life in a community. In turn low crime has a favorable impact on the desirability of the neighborhood and house prices. Low crime reflects the people who live in the neighborhood and those that come into the neighborhood. Low crime also reflects the capability of the police and law enforcement.

In the quality of life measure, low crime should be the norm, and be a value component. All the various forms of criminality ... anti social behavior ... are negatives that detract from quality of life.

The cost of police and law enforcement may be needed to have a low crime outcome ... but the costs are a negative in the quality of life. That money has to come from somewhere.

### **Efficient public transit systems have high value**

Efficient public transit systems have high value and should be the norm in a well measured society. If the value of having excellent efficient public transit systems is incorporated in quality of life as the default, then the various costs can be set off against this. If there is a good transit system there is a history of investment in the transit infrastructure and the equipment, and an ongoing cost of operating staff, operating costs and maintenance. There is also a cost of congestion that varies according to the state of the transport infrastructure and the performance of the transit system. With a good transit system the desirability of neighborhoods can improve ... but not always.

#### **Urban and regional mass transit systems**

It is difficult to imagine a modern city without a high performance urban mass transit system as well as regional mass transit systems. Most of these systems are run by government entities that use cash based money accounting, a system that fails completely to keep the value of past

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investment front and center of performance analysis.

The value of transit systems is a component in quality of life ... not having one is a deficit .. and the cost of building one and the cost of running one is also a deficit ... the cost of congestion is a deficit. The cost of building and running transit systems is substantial ... and the matter of whether this is best paid through a public funding process ... bonds, taxes, etc ... or by user fees is an important question.

Not funding mass transit adequately, and having the system deteriorate is usually a value destroying outcome. At the same time, allowing high costs and low efficiency in the operation of the system to become the norm is also a value destroying outcome

## Chapter 4-3

# Analysis of the Value Chain

### Source of Profit/Value Adding Impact in different parts of the value chain

The value chain starts with a resource and ends with an impact on quality of life. Value chains exist in a complex and chaotic economic ecosystem with a variety of resources, a variety of actors and a variety of interactions that produce a variety of outcomes. It is virtually impossible for a value cha

in analysis to be academically rigorous, but it is incredibly useful in understanding the main drivers of socio-economic performance.

The prevailing money accounting metrics has the corporate organization as the primary reporting entity with no metrics at all that relate to the impact the entity's activity has on the community and society at large. This is a major limitation of the present system of metrics

For the corporate stakeholders the only metric that matters is aggregate profit of the organization ... but for society what matters is the impact of the business activity throughout the value chain and in all the communities where the business has activities.

Value chain analysis shows that in some cases a business has a favorable impact in one community while have an unfavorable impact in another community. This might be a function of employment, or what a company is doing to the environment.

#### Who wins and who loses in the value chain?

Value chain analysis is a core analytical technique that may be used to help understand why some people and organizations accumulate wealth and others do not. Value chain analysis is used to show cost and profit distribution across multiple areas and organizations as in the petroleum industry, or across time as in the case of education and the student's subsequent career.

TVM makes use of the idea of value chain analysis. What appears successful in one part of the value chain may be negative in other parts of a value chain.

Corporate profit reporting is based on a small part of the value chain ... a small part that excludes all of the consumption of social value. This reporting takes no credit for the social good that a good economic activity creates. Looked at from the TVM perspective, typical corporate reporting is very incomplete and does a major disservice to society as a whole.

Value chain analysis is not difficult except that the data needed to do it are rarely available. This may be because responsible parties do not want their performance to be visible or the data do not exist. Most of the effort goes into having data to work with. These are some value chain example

- ◆ Supply chain value analysis. It gets very interesting to see which part of the value chain is profiting and who are not.

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- ◆ Longitudinal (over time) value chain analysis. This may be intergenerational or it may be over a person's life-time, or the life of a product.
- ◆ Inter-organization or inter-group value chain analysis. What organization profits ... and which ones do not!
- ◆ Inter-place value chain analysis. Is it the rural village or the big city that makes the profit ... is it one country or another?

### **Powerful**

Value chain analysis may be the single most powerful element in TVM ... but also the aspect of TVM that concerns those that are making profit from an elite position in the prevailing value chains.

Value chain analysis is a technique that relates cost, price and profit ... and value consumption and value creation in a complete transaction matrix. The value chain analysis explains the aggregate of value consumption or destruction and the aggregate of value creation and value adding and reconciles the aggregate with the winners and losers at different stages of the value chain. The value chain analysis may be applied either over time, over geographic space, or between organizational entities. Value chain analysis shows how critical local community based economic activities are to the community and how damaging many profitable global value chains are to society.

The TVM value chain incorporates both the money costs and value and the social value consumption and social value creation. That is the value chain has both profit and value adding in its construct.

Value chain analysis is used to identify the winners and losers in various parts of the economic structure, and makes it possible to understand the systemic flaws in the way the economy operates. Value chain analysis is used to show cost and profit distribution across multiple areas and organizations as in the petroleum industry, or across time as in the case of education and the student's subsequent career.

A healthy value chain has two key characteristics (1) end to end value adding; and, (2) value adding at each step of the value chain. A healthy value chain serves to “pull” economic activity because it is in everyone's best interest for it to continue and grow. When either of these characteristics are missing, economic activity declines because there are interests that are not satisfied.

### **Follow the money!**

The phrase “follow the money” suggests that the basic concepts of “value chain analysis” are being used. Decisions are often made with multiple “agendas” ... frequently a public agenda that is all about how much good a project will do the the community, and a private agenda which is about how much money individuals connected with the transaction are going to make. High costs and low performance in publicly funded projected can most often be traced to a private agenda that was more important than the public agenda! The value chains show how costs accumulate and what profits are extracted from the value chain. Value chain analysis is used to identify the winners and losers in various parts of the trade flow, and makes it possible to understand the way the economy operates, especially the international trade economy. Value chain from raw material to consumer is important. It shows why some companies are very profitable and others are not. The value chain show how costs accumulate and profits are extracted from the value chain

## Examples ... value chain for goods and services

### From raw material to final consumer in petroleum

The value chain from raw material to consumer helps to show why some companies are very profitable and others are not..

#### **An example ... the petroleum value chain**

The petroleum value chain helps to explain the various connects and disconnects between the origin of oil in a poor part of the world to gas being used in rich places. How is it that excellent crude oil in the Niger Delta makes some Nigerians super rich, with the country remaining terribly poor. How is it that there is seemingly little rational link between high gas prices at the pump and the costs of producing this gas? How do markets work ... and who do they work for?

### From raw material to final consumer in coffee

#### **An example ... the coffee value chain!**

Coffee is an interesting value chain. Farmgate prices for coffee have been relatively static for decades ... yet the retail price for a cup of coffee has increased by almost two orders of magnitude. The farm may not be making much profit, but somewhere in the value chain there are big profits and good true value data would show this. Who is making the profit? Where is the value adding going?

Very few transactions are simple and have impact only on the direct participants ... most have other ramifications which are important in the money accounting of the business world, but have even more importance in the context of the combined flows of value and money around the community.

Modern corporate accountancy is complex. Most of the rules apply to the way an organizations reports to the financial stakeholders and, to a much lesser degree, to the public. These reports are the result of complex consolidation that takes into consideration the way the internal and external value chains impact costs, revenues and profits.

Managing these value chains makes it possible for a corporate organization to minimize its exposure to taxes, duties and other regulations that impact its financial performance ... and understanding and having data about value chains makes it possible for the public to hold organizations accountable for their performance in the community and towards society as a whole.

### Within the service sectors ... banking and finance

Value chain analysis in the banking and finance sector is interesting. Very little of what any bank or financial institution does has any direct role in value creation ... they function merely to move value around the economy, and in doing this they extract profit. This profit is not related to value creation, but merely moving value from one place to another. The profit is part of a zero sum economic activity, and because of this the value chain analysis is to locate the counterpart losses.

In the recent financial sector implosion the profits of the banks were obtained on top of losses by millions of ordinary people who were totally misinformed about the reality of what they were doing in financing house purchases.

### **Within the service sector ... retail**

The retail trade sector satisfies needs up to a point, but it also merely serves to satisfy wants that are purely “entertainment”. In the “more and more” culture, “shopping” is a way of entertaining oneself ... of indulging oneself and enjoying it.

If one has wealth ... there is nothing inherently wrong with buying things with it. The money goes into circulation in the economy, and the economy appears to do well. When people feel wealthy and spend on luxury goods, the luxury goods sector does well and it hires more employees. Whether the luxury industry and this value chain is as good a source of quality of life improvement as some other value chain is another question.

### **Sports and entertainment sectors**

The sports and entertainment sectors contribute to quality of life ... and in many ways these sectors in the modern economy are very efficient. A small number of people are able to play in the big teams and in the big entertainment spectacles, and an enormous number of people get pleasure from it.

There is a reason that sports stars and entertainment stars are paid large amounts of money for what they do ... these sectors have a money model that supports this.

The value model for spectator sports and entertainment is also favorable ... but probably not as favorable as small scale community level sports and entertainment. There is value in spectating ... it entertains ... but the value is modest compared to being a participant. Playing the game, competing in a sport is very satisfying ... as is being an entertainer. It is not about the money, it is about the well-being associated with doing these things.

### **Examples ... value chain analysis over time**

The value chain technique may also be applied over time. In this case an activity that has costs today creates profit and value tomorrow. The concept is fairly well established in money accounting and analysis ... and similar concepts also work for value. In fact the value arising in the future because of good activity now is very, very important.

### **Education**

The education of a child is a big expense ... but it is an investment that will pay back many times over the life of the person. Value chain analysis shows something of how a cost in early years creates opportunity for benefit in later years ... and could be the basis for economic analysis to justify investment not only by parents, but also by society in education and building human capital for the future.

### **Examples ... value chain between sectors**

#### **Infrastructure**

The building of the US Interstate Highway System is an example of how activity in one sector creates value in another sector. The construction cost the US Government more than \$100 billion ... an immense investment in the 1950s and 1960s ... but the increase in property values around the country were way more than this immediately ... and the productivity improvement of the national economy were even bigger and kept on for decades. The value chain analysis of much infrastructure shows similar amazing results and shows how good infrastructure investments can be for society.

#### **Health**

Treating disease is a big expense ... and again with an economic dynamic that changes over time. A strategy that invests so that there is no need to treat disease because the disease is controlled or eradicated is probably better than one that merely waits and treats the disease and incurs the associated costs. Value chain helps to determine whether prevention rather than cure is the optimum strategy.

## **Energy**

This is an example from the design and construction of a seafood processing plant in Africa in the 1970s. Freezing and cold stores require a lot of energy ... and it needs to be reliable. The local electrical energy infrastructure was missing so the electrical energy had to be produced within the organization using generators owned and operated by the company. In a more developed economic environment the energy infrastructure would have already been in place!

## **Examples ... value chain analysis between places**

### **Within community transactions add value**

Transactions that appear as costs in one entity in a community are revenues in another entity in a community. The net cost to the community then becomes zero. In corporate consolidation accounting, this is a consolidating elimination! This has very important implications for planning and the optimization in the use of resources.

The most important example of this is wage remuneration. Wage remuneration is a cost to the employer, but is a critical revenue to a family. The value construct in this situation may even be more significant. The cost to the employer may be quite unimportant in the greater scheme of things, while the income to a poor household may be a matter of life and death ... or certainly with a very significant role in the economics of the family.

But this wage remuneration may go further in delivering value to the community. The family that might have had to depend on some form of welfare, either from an NGO, the government or others in the community is now able to buy what they need. Food, shelter, clothing, water and sanitation services, health, education may now be purchased and are not delivered based totally on a welfare type of funding.

### **External to the community transactions lose value**

Transactions that involve entities that are external to the community may be to the advantage of the community or not. It depends. The analysis is rarely done ... but where it has been done, it becomes clear that an external transaction has the potential to be either advantageous or disadvantageous. In general the “export” of goods or services and the receipt of a money payment is good, while the “receipt” of a money loan will only be good if the money can create money profit sufficient to repay the loan together with interest. This does not always happen ... usually the loan repayment is for sure, while the profit generation is a maybe.

Foreign direct investment (FDI) is an example of a transaction with an entity or entities external to the community. For the investor the profit potential has been the subject of analysis and approved by the entity's decision makers. For the community, there will be jobs which are usually considered to be a valuable benefit ... but what is being given up. In the extractive industries there is a reduction in the amount of the item in the community eco-system ... the natural resources of the community are being depleted. They may not be generating cash profit by standing being left alone ... but they have value which does not diminish as long as the resource remains unexploited. The value of diminishing the resources is rarely if ever articulated in the course of justifying an external investment in a community.

## **Profitable Value Destruction**

### **Very common and very bad**

Value adding is good, and so is profit. But being profitable does not mean that the economic activities are value adding. Profits may be earned while the activity is value neutral, or the profit may be arising while the activity is destroying value. Value destruction is often associated with environmental costs that impact society, but do not

## The Basic Concepts of True Value Metrics

have to be incorporated in the financial accounts of the corporate enterprise. In recent times, more and more environmental regulations have made environmental degradation a cost to the enterprise and a drag on profit ... but the cost to society is still not part of the corporate accountancy and reporting system. TVM, on the other hand, takes the cost to society and makes the cost explicit and associates this cost directly with the enterprise that is causing the value destruction.

Value destruction compounds to form a vicious cycle of increasingly difficult outcomes. Value destruction may start slowly, but if not corrected the compounding eventually takes hold, and it is very difficult to control.

In the complex reality of the economy, both value creation and value destruction are going on at the same time ... one offsets the other ... but there is always the potential for one of the other to get the upper hand. When it is value destruction that becomes dominant, the socio-economic outcome is catastrophic ... and this is what is happening in most poor settings.



# Chapter 4-4

## Sustainability Analysis

### Sustainability ... the Value Proposition

#### Sustainability metrics

“Sustainability” is a popular social goal, but exactly what it means and how to measure it are not very clear. TVM articulates sustainability in relation to resources used, value created and the resulting quality of life.

#### Limited resources

The idea of limited resources has been on the agenda for several decades. The “Club of Rome” in the 1960s raised awareness about limited resources and tried to change the dynamic of development. In some ways they were successful, but only in a limited way. While the basic message that resources are limited was valid and remains valid, improvements in technology has made it possible for “proven reserves” to rise over the past few decades even while consumption of resources was accelerating. For those inclined to the view that limited resources is “not a problem” these facts were sufficient to debunk the message of the Club of Rome.

#### In fact there is progress

In fact there is some progress. In the early years of the industrial age, industry was a chronic polluter of the land, air and water. In the early years of the 20<sup>th</sup> century the United States established its National Park system with the unexpected support of some of the “robber baron” industrialists ... but dirty industry was the norm until the 1950s and 1960s. Western Europe started to clean up its rivers in the 1950s and the United Kingdom passed clean air legislation after a “killer smog” in 1956. In the following decade the United States moved towards cleaner air and cleaner water and in the 1970s established the Environmental Protection Agency. Progress may have been slow ... but there is progress.

#### A widely accepted framework of metrics is needed

Every company keeps money accounts and does financial reporting using universally accepted accounting principles. Money capital employed and profit are ideas that are understood everywhere.

The problem is that costs beyond money costs are not included in the money accounting and without this sustainability is a talking point but nothing more. The consumption of the “commons” is not part of any money accounting equation. It has to be in any system of metrics that aims to be meaningful as a metrics that reflects sustainability.

When toxins are poured into the local river, a business is probably saving money and increasing its profits ... but the value decrement of the “commons” associated with this action is not in any money accounting record ... but it is a part of the TVM framework of analysis. There is a standard cost for EVERY transaction that has an impact on the state of the community and the socio-economic activities of the community ... whether or not the organization wants to take responsibility for the transaction or not!

### **Reducing carbon footprint**

For example: Reducing “carbon footprint” is a legitimate initiative ... but the value of doing this is unclear for several reasons: (1) do the costs associated with reducing carbon footprint represent value destruction in themselves that offset the value or reduced carbon emissions; and, (2) does carbon emission reduction change have any impact when there are many other factors going into atmospheric degradation. TVM uses a standard value profile for everything, and in so doing has the potential to use very large datasets to see cause and effect more clearly than merely statistical correlation. TVM also values natural resources and the lack of natural resources in ways that are important, and ignored in all money profit accounting.

### **Running out of oil for energy**

When there is no natural oil for energy available for extraction from the earth's crust, the structure of the present global economic system will have to change dramatically. There will no longer be the highly profitable oil industry and those profitable industries that rely on oil as their feedstock. There will no longer be an easy convenient transport system driven by the petroleum consuming internal combustion engines. This industry is driven by profit and attracts huge investment in exploration and extraction because of the huge profit potential of these investments using the prevailing money profit analysis formulations. Using TVM where the value of the resource being “mined” and consumed is also taken into account, there is huge money profit, but even larger value destruction. Specifically, the costing that prevails in the oil industry and the related petroleum product consuming industries ignores the cost of maintaining the global natural resources that represents a “sunk cost” of millions of years of sun energy conversion. Oil industry costing starts with the costs of acquiring “rights” to explore and exploit, and then only adds in the costs of exploration and the well drilling and extraction and subsequent downstream activities ... nothing is costed to reflect the consumption of the global natural resources. In TVM value analysis this value consumption is costed in using a standard cost that reflects the prevailing available technology to replace the natural resource being consumed.

### **Sustainability ... money based cash flow**

#### **This is only money sustainability to pay the bills**

Profit may translate into positive cash flow that makes a business sustainable ... but society can only be sustainable when economic activities are both sustainable in themselves AND are providing positive value increments for society ... for all the value elements of a society including the people and their complete physical environment.

Sustainability is “in fashion” ... and would be a good idea if it were based on a value agenda with related metrics. As it is the word “sustainable” is being attached to everything and a “story” is then linked to the initiative, whatever that might be to monetize the effort ... at which point “value be damned”!

Nothing is sustainable for ever ... because eventually all sources of energy will be consumed .... but that ought to be in billions of years into the future. Sadly, the way we use energy now and consume raw materials ... and the way we do money accounting means that we will consume the accessible resources for our present profligate economic activity in a matter of not many decades. The use of TVM will improve decision making around energy and start to make it possible to get an allocation of revenues within the energy sector that reflects true value rather than prevailing profit fiction! (see page ).

# Chapter 4-5

## Spatial Analysis

### Where? Very Important

#### Physical location determines many things

Where you are born determines a lot about what your future is going to be. This goes from the national level where different countries have different quality of life outcomes ... and it happens at the very local level where there are differences between different neighborhoods.

Some places have a lot of natural advantages ... others do not. This is a function of the place. Knowing where something is helps to identify some of the characteristics that are associated with the place.

#### Mapping

TVM has location data associated with every other aspect of data. ... and from this is possible to make maps that show what is where ... and conversely for a place, what is there. Typical national data has little meaning for making decisions ... merely it serves to identify the outcome ... on average ... of decisions that were made. These national level data are inadequate for managing at the local level.

The location of things ... the spatial element ... is a very important in very many situations.

#### **Safety ... the fighting is in the “next valley”**

I was working in an area affected by civil war, and traveling with a local colleague to visit a commercial farm in a remote rural location. I expressed concern about our safety ... and was assured that the fighting was in the “next valley” and would not affect where we were going! It turned out my colleague was right ... we traveled without incident! I learned that even something as nasty as civil war has an important spatial component. Even in a civil war, a civilian population still has to get on with its economic life as best it can!

In reports about the lives of people in poor rural communities in developing countries, the distance women and girls have to walk to collect water and to collect firewood is usually a big item. This is actually very important ... and is about the spatial situation in the community. Distance to water and distance to firewood are important facts. (See also the section on Time Series Analysis)

#### Comparative analysis

Each place is different ... but comparison of performance between different places can show what it is that is allowing one place to perform well and another not to perform at all well. Sometimes the difference is associated with geographical characteristics, sometimes they are societal factors.

# Chapter 4-6

## Time Analysis

### Time Series

#### One datapoint in time ... or two ... or more

When there is just one datapoint it is possible to know something ... but not really very much. As soon as there is a second datapoint there is another dimension of analysis and understanding that is possible. There is now an ability to have some comparative direction ... is the item more or less ... what is the change ... what is the trend.

TVM uses time series of key items to gain an understanding of what is happening in the community.

#### Multiple datapoints provides a time series

A time series may be build from multiple datapoints over time. Raw data plotted as a time series tells lots of stories

When I made a very simple plot of prices of shrimp in the New York market month by month over a period of nearly thirty years .. from 1946 to 1974 ... I gained a perspective of the shrimp industry better than most. I believe this enabled me to interpret the history of the industry correctly, and because of this I was able to predict how the oil shock turmoil of the 1970s would impact our company ... a major producer of marketer of shrimp worldwide ... and how we should position ourselves for success.

#### Time series data ... trends are important

Time series trends are great indicators of progress ... or not. Time series are simple, clear and powerful. While it is possible to do advanced statistical manipulation ... simple and clear time series tables and charts work very powerfully as well ... maybe better.

Time series are also very easy to manipulate so that the result is serious misinformation. Objective rigorous analysis will produce good results ... but the analysis may be rigged to produce data that suggests completely wrong trends.

There are ways to prevent time series data being used to suggest one trend when the opposite is true. One technique is to included both the short term detail together with the long term trend on a longer time scale.

#### Multiple baseline time series

A plot of a single parameter shows how this parameter has changed over time ... but in isolation does not show what might have been the cause of any changes. Plotting multiple variable may show something about cause and effect. While this may be done by simple visualization for a couple of variables, a more rigorous mathematical approach is needed for large scale multivariate analysis.

In any specific situation it is possible to plot different datasets as a time series, and “see” how each element changes relative to the other. The goal is not to have an academically rigorous statistical correlation, but to find out what seems to relate to what.

TVM uses time series analysis ... and TVM uses the datasets that may be related to very specific activities or locations. An excessive amount of external variables makes for too much “noise” in the data and make the comparative plots meaningless.

### **Changes over time**

In the section on spatial attributes of data, the following was said:

In reports about the lives of people in poor rural communities in developing countries, the distance women and girls have to walk to collect water and to collect firewood is usually a big item. This is actually very important ... and is about the spatial situation in the community. Distance to water and distance to firewood are important facts.

Something else is important ... it is the matter of time and the question of change. Twenty years ago ... or thirty years ago ... the water and firewood was only a short distance away. Over time there have been changes, and now the situation is dire. But this change did not happen suddenly, this change happened over a period of many years ... and nobody took any notice. The fact that nobody took any notice is an indication of failure of management and metrics.

## **Some important time series**

### **Market prices**

Market prices are a leading indicator of market conditions and other broader issues in the community. In economies that are reliant on subsistence farming, a combination of high food prices and low livestock prices is a reliable indicator of emerging famine conditions. People in remote villages know this ... and have known this for thousands of years ... while development experts and government decision makers may not yet have grasped the full significance of these indicators.

#### **Data identified the problem ... what to do?**

Tracking market prices helps to identify issues in the economic performance ... but what to do. Food price increases can result in malnutrition, starvation and death ... and the “invisible hand” may in time respond with more supply of food, but only if there is buying power and market demand as well as high prices. Markets about money profit do not have any way to monetize the value of survival and saving lives ... but a mechanism is needed in situations where basic needs for survival cannot be satisfied. Pre-positioned security stocks of food are a part of the answer ... but there also needs to be other elements of organization, management and metrics in place to provide for oversight and accountability.

# Chapter 4-7

## Variance Analysis

### Standards Reduce Workload

#### Systems for costing are data intensive

Actual cost systems are data intensive, with very many transactions that vary all the time, but most of the time, inconsequentially. The aggregate of these transactions is important, and the aggregate should not vary very much unless there is something going on that is of importance. A standard is built by being thoughtful about the item ... whether cost or value. The aim is to determine what the cost or the value should be. In the aggregate the cost should be the unit standard cost times the number of items. The aggregate of actual costs should be about the same as the aggregate standard cost. If there is a substantial difference, then there needs to be analysis to see what is causing the variance.

#### Standards for cost

##### Standard costs variance analysis reduces workload

A standard is simply what one expects ... what is the norm. It is a useful construct to facilitate comparison ... it is an important tool in simplifying high volume measurement.

A standard cost is theoretical construct ... it is what cost should be expected based on a technical analysis of the costs of production and other relevant factors. If the actual costs are different from the standard cost, there is a prima facie case that something is wrong either with the implementation or with the assumptions used in computing the standards.

Standard costs and variance analysis is embedded in most modern management information systems used for corporate decision making and oversight. If there are no variances or very small variances the management and decision makers do not need to become engaged in change anything ... but if there is a variance then some effective reaction is needed.

##### Standard costs common in analytical accounting

Standard cost is a very simple idea ... it is what something should cost based on technical considerations. In every factory I worked in ... on every construction site ... every activity that was going on had a standard cost. This was the cost that we expected based on technical considerations. If our actual costs were higher than the standard cost, then there were questions. Something was wrong! This might have been the calculation of the standard cost was wrong, or it was something that was going wrong in the factory or construction process. If the total of the standard costs was about the same as the total of the actual costs, it could be concluded that the operation was going according to plan.

Standard cost is useful and efficient for comparison. Standard cost may be used to compare actual performance against the standard. The standard for different approaches to the same activity can be compared. The standard cost for different places can be compared. The standard cost changes over time can be compared. All the time actual performance against standard can be compared.

Cost efficiency is defined in the TVM framework as the relationship between what something did cost, the actual cost ... with what it should have cost, the standard cost.

Cost effectiveness in the TVM framework is the relationship between the cost of a set of activities and the impact on society ... and in the TVM system it is standard value that is used to quantify impact.

A foundry at a company in Georgia was critical to the overall company operations ... but out of control, with over 10,000 different castings flowing through the works. Nobody had any idea how much these different castings cost to make ... and used a crude “per pound” costing for planning and pricing. The results were bad. Per pound costing sent the wrong signal to the design engineers who designed castings to be lighter and lighter, but actually more and more difficult and costly to make.

There were less than 20 different operations in the foundry to produce the casting ... and each casting was produced using about 7 of these operations. By having a standard cost for each operation ... and a production or manufacturing standard for each casting ... a standard cost for the casting could be compute that was very much equivalent to reality. When engineers started designing to a cost standard that reflected the reality of production quite accurately, it became possible to have significantly lower costs and higher quality.

*Author's personal experience at Southern States Inc, Hampton, GA*

### **How much should have been done?**

How much should have been done with the money is a key question that becomes easy to answer with variance analysis when there are standard costs. It is used internally in almost every well managed corporate enterprise in one form or another, but is rare in the public sector, the not for profit sector and the international official relief and development assistance (ORDA) sector.

#### **Missing Data**

The international official relief and development assistance (ORDA) sector is notorious in the secrecy associated with all its performance data. As long as there is no accessible cost data about their activities they are able to operate at will be very very low cost efficiency. It is then impossible to know how much of the resources they are entrusted with has been used to good effect or not.

## **Standards for value**

### **Using standards for value**

Value is subjective ... but very useful. Arguably, the core of TVM is the use of value withing a framework of accounting. Everyone knows that value is important ... but nobody wants to embrace value as a numeric measurable elements, despite the fact of its centrality to quality of life, and of everything that is important in society.

TVM uses standards for value. Value is a subjective idea and there are as many views of what a quantified value should be as there are people who think about this subject. However, value is very important, and in order to manage value there needs to be a set of metrics about value so some solution to this has to be developed.

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The idea of standard value along the same lines as a standard cost is an elegant solution. The standard value assigned to anything does not have to be perfect, but it must be reasonable and then it can serve as a benchmark against which everything may be measured and compared.

The standard value approach helps with the understanding of complex systems. The single standard value eliminates a whole set of variables that are not critical to decision making about progress and performance per se, while maintaining the core idea that value is important.

### **Establishing value standards**

TVM uses an iterative process to establish standard values, and uses these values to understand the socio-economic performance of the community. When the consumption of value (a standard value calculation) exceeds the product of value ... that is the creation of value (another standard value calculation), then there is value destruction. If value creation exceeds value consumption there is value adding.

It is recognized that value is subjective, and that value is difficult to quantify ... but value is the most important element in quality of life, and ignoring value is tantamount to saying that decision making may ignore impact on quality of life. This is not a reasonable conclusion.

Value is the driver of quality of life ... society will be at its best when the available resources are used with a maximum of productivity. A measure like profit, or cash flow is important for sustainability ... but it is the mix of value and profit rather than just profit alone that should be driving decisions about the allocation of resources.

TVM uses standard value as a way to quantify value ... essentially a concept derived from standard cost accounting. In TVM, everything has a standard value tabulated and in the record ... a best estimate of what the value is based on what is known.

For example ... good health has a value ... but people are uncomfortable with putting a money number to define a value like this. Education has a value ... as does opportunity.

In some cases value and cost may be the same ... or value and price may be the same. These money accounting metrics may be a good proxy for value, but this is not always the case.



# Chapter 4-8

## Cause and Effect

### Determining Cause and Effect

#### **This is not an academic exercise**

##### **Needs to be timely and low cost**

Making decisions needs to be done on a timely basis ... not at some time convenient to academic researchers that is measured in years but perhaps in days. The academic community may say that this is not the “right” way to do things, which may be true in an ivory tower, but is not the best way when the family is hungry and likely to starve!

Most problems in society are unique ... not in every aspect, but in enough to make the usual form of academic research inadequate. In many situation the need for societal improvement is urgent, and rapid decisions are required.

An academic analysis of the correlation between quality water and health does not inform the decision ... the connection between decent water and better health is well known, so knowing more about this is not going to add much to decision making. What is needed is knowledge about how best to make water available, and how to pay for it both in terms of capital cost and in terms of ongoing maintenance and operation.

##### **Cause and Effect NOT Just Correlation!**

Decision making requires a practical understanding of the process ... in other words responsible people have to know the behavior of costs and the cause and effect in the process. This is not an academic exercise ... it is real experience in play.

Data have some value in helping to identify causal relationships. In general, though, systems that are influenced by humans are complex, and good data and analysis can only go so far to understand how the system works.

There will never be strong accountability just using economic analysis for decision making and oversight. Decision making needs data that help with “cause and effect” that is very specific to a community ... not simply a generic causality ... something that can emerge using value analysis along the lines of TVM. Accountability follows when there are data about progress and performance ... a routine analysis of TVM.

Most, if not all, economic models to simulate the development process are based on statistical correlation which has limited reliability when causality ... cause and effect ... is not understood. TVM discounts planning and projections based on models that rely on correlation, preferring to have data that are more closely associated with action items that produce measurable results.

##### **Statistics alone insufficient**

##### **Management information not rigorous ... but it works**

In any complex system ascertaining cause and effect is not easy ... and in fact it is essentially impossible using small surveys and statistical interpretation. In the TVM

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analysis framework the question of cause and effect is addressed using a process of drill down, and data acquisition about matters that might be meaningful.

Where the balance sheet comparison shows some element of the balance sheet has changed, there should be focus on what activities of the community or what set of externalities might be the cause of the change.

Conversely, where it is known that there have been substantial changes in the activities of the community and the externalities associated with the community ... then it is reasonable to be looking for changes in the balance sheet of the community that serve as metrics for progress.

Large scale datasets and complex multivariate analysis may make it possible to discern relationships within complex systems ... but it takes very large datasets that in many cases are impractical to obtain.

### **Big computer or a little bit of common sense?**

Some years ago the operators of one of the biggest commercial computers in the world were asked a simple costing question ... how much does it cost to process a piece of luggage through an airport. They took their available data about luggage throughput, and the available data from the accounting department and worked out complex algorithms to calculate the answer. After hundreds of computer hours ... piles of printouts ... the computer analysts admitted defeat.

For a tiny proportion of the computer analysis cost, it would have been possible to do a process study, cost that, and draw conclusions. The answer would have been easier to understand, and likely more correct ... at a way lower cost, and in less time.

### **Use location specific small datasets**

By using location specific small datasets it is possible to figure out some of the most important causal factors by simple observation over a short period of time. Good observation and common sense judiciously used are powerful analytical tools. Quite brief observation of a situation where performance is very bad may be sufficient to identify a practical solution ... a low cost analysis giving a high value outcome.

### **Operations analysis ... simple common sense**

A factory production line is producing on average 20,000 units per shift. The theoretical production should be nearly 40,000 per shift. Labor cost was nearly double what it should be! What is wrong?

Watching the production line for a short time showed the unreliability of several of the machines ... strung together in series ... and downtime escalating exponentially.

There were two possible solutions ... redesign the production line to have parallel equipment ... or using a spare line approach so that the production crew could be fully utilized. The second approach was used and labor costs dropped to almost what they should be theoretically!

Analysis of a small dataset in an academic setting may produce little or no conclusions of value. Considerable care needs to be taken in drawing conclusions from small observations. This is a problem that is everywhere in the official relief and development arena. In many cases material improvement can be achieved by getting additional data

simply by “walking around” and making observations. Especially, this validates other data. Most important it may add the important dimension of externalities that are the bane of small dataset analysis.

**Data getting worse ... statistical methods better!**

This is what I was told at FAO in Rome a long time ago, and updated more recently. From 1950 to about 1965 the data about fisheries resources improved substantially ... from 1960 to 1980 the mathematics and statistical methods for fisheries resource data analysis improved substantially. From 1965 to the present much fisheries resource data has diminished in quantity and deteriorating in accuracy. No matter how good the statistical analysis of data ... bad data produces bad conclusions.

**Capital markets all correlation**

The public news about capital markets and investment is all about correlation. There is a big industry associated with the distribution of news about capital markets and the correlation of all sorts of money economy data.

Stock prices are reported as a continuous stream ... indexes of capital market valuation are also reported in real time. Why? Bloomberg News and others facilitate some knowledge about economic activity ... but rather little of the totality of what is required for an informed public. The socio-economic behavior of society would be changed substantially if more understanding of cost and profit were in the public debate.

But this is not how money is made in the capital markets. From time to time there are scandals about “insider trading” which is not allowed. Insider trading happens because it is very profitable ... if the perpetrators are not caught ... and it is pure “cause and effect” rather than the mushy correlation accessible to the general space.

Some make money in the capital markets because they have done their research and know their industry very well. Many of these people are able to bring this knowledge to bear and improve the performance of an organization because they know more about cause and effect in the industry than other managers who are under-performing in their jobs. This is the essence of some successful hedge funds ... profitable and value adding because they reduce waste and inefficiency.

## Chapter 4-9

# Drill-Down and Roll-Up

### **An Average Almost Always Wrong Must have place and time specific data**

An average is a good way to keep score and measure progress ... but an average is a bad way to make decisions or manage anything. There is some talk of the “Tyranny Of The Average” but most measures are all about average, and nothing else.

There is no universal master list of what metrics matter. TVM is based on the fact that every place and time is different, and therefore deserves to have metrics that reflect the reality of the place and the time, and not merely be a derivative of some average derived from complex sophisticated statistical manipulation.

### **THIS community is NOT an average community!**

One of the techniques for data acquisition that is supported in TVM is the idea that the first set of data will inform what should be the next set of data. In this manner it is possible for data to be acquired that have focus on what is the most important.

Some issues are more important than others ... and importance varies from place to place and from time to time. TVM uses the concept of materiality to focus on things that are important, so that the metrics can be used to make better decisions about the major matters of importance. In other words, TVM has meaningful metrics about everything that matters.

The process of building a value balance sheet for THIS community results in knowing specifics about THIS community:

1. Specifics about people
2. Specifics about housing, water and sanitation
3. Specifics about land and natural resources
4. Specifics about infrastructure
5. Specifics about business organizations
6. Specifics about jobs and economic opportunities
7. Specifics about the health state of the population
8. Specifics about the educational state of the population
9. Specifics about the wealth of the population
10. And so on

For all the value that this represents, there are also constraints that are associated with the lack of specific things ... treated as liabilities in a balance sheet construct.

### **Detail On Demand Avoiding data overload**

Data overload is an enemy of performance in a high tech society. The efficient use of large amounts of data requires a system and some compromise ... but the compromise

should not detract from the utility of the data and its effective analysis. By using data in a summary form for oversight, and then doing drill-down or roll-up to have more useful information to address problems that are emerging.

With the community as the main reporting entity, analysis summarized at the community level has meaning in the community. Specific decisions are made either at the activity level or within organizations, so there has to be capability for the data to be useful at these levels ... by drill-down ... or accessed in a summary form at the organization level, which may be a roll-up from specific activities.

A management system helps to measure progress and performance as the scorekeeper ... but also provides ways to ascertain details of the performance for action ... in other words the ability to have “stats” for action as well as just the outcome of the game!

**The “roll up” and “drill down” framework**

The following shows the “roll up” and “drill down” framework by geographic area from community “up” to the country level.

Country	Province	District	Community	Where in community

Within a community the “roll up” and “drill down” framework may also be done by geographic place using a framework such as the following:

Community	Neighborhood	Block	Building	Where in building

**Drill-across ... is value chain analysis**  
**Almost everything is linked**

While a business organization may be quite happy earning a profit, the impact on society may not be all good. Value chain analysis is a way to get at the socio-economic value impact across society and the economy as a whole.

**An example ... the impact of WalMart**

There is no question that WalMart is disruptive ... putting an end to the status quo. But is the WalMart value proposition for society better than the alternative or not? The basics of the money market economy would suggest that WalMart is better at profits than the alternatives ... but is it a value adder or a value destroyer for society.

Tom Walton, the founder, was passionate about customer satisfaction ... and the modern WalMart works hard on that. Price, quality and courtesy are in evidence in the customer experience. Their operations are efficient ... high volume, low cost, on time. If you are a competitor, it is going to be tough to compete. Employee conditions ... better than some in the retail sector. Procurement practices ... better than some in global procurement.

Value chain analysis is a way to see impact throughout the value chain. The value chain starts with a resource and ends with an impact on quality of life. Value chains exist in a complex and chaotic economic ecosystem with a variety of resources, a variety of actors and a variety of interactions that produce a variety of outcomes. It is virtually impossible

for a value chain analysis to be academically rigorous, but it is incredibly useful in understanding the main drivers of socio-economic performance.

### **Drill down for granular detail**

#### **Need for detailed analysis**

Decision making requires specific information. It is rare for good decisions to be made based on “average” data. Data for decision making needs to be specific, and may differ greatly between different locations.

Good information systems enable granular analysis without forcing the user to handle vast amounts of redundant information ... but the data needed are available when needed in a specific context.

#### **Activity ... ultimate drill down ... the origin for roll-up**

The activity is the source of value creation ... as well as being the vehicle for the consumption of resources. Understand the activity, and it is possible to manage the activity and the progress of the community as a whole. The roll-up of activity may be done in a variety of ways.

### **Roll-Up ... Accounting Consolidation**

#### **Consolidation rules in the value context**

##### **Not easy but very important**

Consolidation accounting is a part of this paper because hardly anything is as simple as it seems, and consolidation accounting has the essential critical logic that helps to sort this complexity into its component parts. Community is impacted by many different economic entities and activities, and the way in which these interact and are recorded has been defined comprehensively in the accounting principles associated with consolidations.

Consolidation rules disallow double counting and other misinformation. TVM has a level of rigor about data similar to that used in good money accounting where there are some basic rules about consolidation so that the process of consolidation does not result in “double accounting” and other misinformation.

The principles of consolidation are critical to corporate reporting where a simple but meaningful presentation is needed for complex organizations. Over the past 30 years both organization and reporting rules have become more complex ... with the inevitable outcome that this complexity cannot be managed and there can be no oversight. This is, of course, the data failure that was an important part of the systemic economic failure of 2008.

The TVM principles of consolidation for a community build on the old corporate accounting principles of consolidation ... but consolidating not only the debit and credit of money transactions, but also the value adding that occurs as money transactions multiply around the community and the value destruction that takes place when money transactions take place with entities outside the community.

Analysis of aggregated activities is difficult, if not impossible. Aggregated activities are always difficult to understand and report with clarity. The reports of large corporations are rarely clear enough to be useful ... except to people who either have studied the company for a very long time or have insider information.

Macroeconomic indicators are the ultimate in aggregation. This maybe helps to explain why so little of these indicators have specific relevance in the communities where people live. They are largely intellectual constructs. They do perhaps help to explain “what” but do little to help understand “how”. Because of this fatal flaw macro-economic dialog is

one where opinion and interpretation hold sway rather than clarity about the dynamics and mechanism of actual economic activity.

Accounting has good concepts for how corporate entities and subsidiary activities should be aggregated so that there is a minimum of double counting and distortion ... this is consolidation accounting, and it is very useful when rigorously applied in the analysis of community performance.

The TVM analytical model aims to have a minimum of assumption and a maximum of simple aggregation ... accounting arithmetic more than statistical mathematics.

A good system is easy to navigate ... and with the ease of navigation there ought to be questions arising. Typically the questions will be (1) let me see more details about this; or (2) how does this affect the big picture?

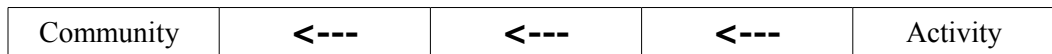
The drill down capability helps to get at more details. For example going from the total cost to the specific elements of cost that make up the total, or, going from total child mortality to the specific causes of this mortality ... was it malaria, or diarrhea or respiratory illness.

**Roll-up activities to community**

TVM has focus on the community more than on the organization. Socio-economic progress and performance is first about people and their quality of life and only secondarily about the profit of organizations. The quality of life of people is more closely associated with community than it is with organization.

The roll up capability makes it possible to see how changes in a detail change the performance at the aggregate level. In most of national level reports the data being reported are statistical constructs that incorporate all sorts of assumptions.

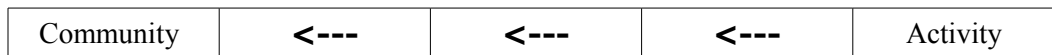
In this roll-up the various activities are summarized into a community. This is the main roll-up that drives socio-economic progress of the community and for society as a whole.



In this roll-up the various activities are summarized into organization. This is the roll-up that managers of organizations have always looked to as the measure of success for the organization

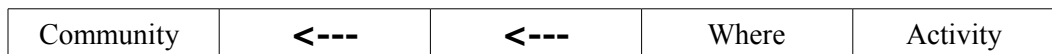
TVM makes it possible to analyze socio-economic progress and performance at the community level. Decision makers in a community are able to look at activity performance and determine where there is value adding and where there is value destruction.

The preferred way and the most reliable way to look at progress and performance of the community is to summarize to the community level directly from the activity as follows:



It should also be noted once again that progress of a community is most easily assessed by looking at the change in the “state” of the community over time ... the change in the value balance sheet of the community.

This is roll-up through the location:



This is roll-up though the local organizations:

## The Basic Concepts of True Value Metrics

Community	<---	<---	Local Organization	Activity
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This is roll-up through local sector:

Community	<---	<---	Local Sector	Activity
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Care should be taken not to “double count” by taking the activity into account multiple times through different roll-up ways of summarizing.

### Roll-up activities to organization

Within community there may aggregation by sector or aggregation by organization. While the social goal is better quality of life for the people and families, the organization is the main implementing actor, and their performance is critical for the performance of society.

Decision making about activities determines socio-economic progress and performance ... and TVM acquires data to help with decision making and holding decision makers accountable for performance.

Organization	<---	<---	<---	Activity
--------------	------	------	------	----------

It would be better if the organization management also occupied itself with the roll-up of activity to impact on community to organization since this is what ends up influencing the quality of life in the community and the quality of life of people.

Organization	<---	Impact on Community	Activity
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### Roll-up branch organization to HQ

Headquarters of organization	<---	<---	Branch in the community	Activity
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### Roll-up by sector

Roll-up by sector may be used to demonstrate that a certain sector activity is highly productive or the converse. This may help with strategic decisions like whether or not to move from one sector into another. The basis of this analysis would be return on assets employed. An example, might be the decision to change from one crop to another, or to migrate from rainfed agriculture to irrigated agriculture with all the incremental investment that this would require.



# Chapter 4-10

## Data for Decisions

### Why Do Decisions Get Made?

The simple answer is that decisions are made to get the best possible results! This is also the “right” answer. The problem is that the prevailing metrics for measuring performance are “wrong” and accordingly most decisions are giving the wrong outcomes ... or are they?

#### Heading for an economic train wreck?

It can be argued that the decisions that have been made by the economic elite and political leadership over the past several decades has ended up with the global economy headed for a catastrophic train wreck ... maybe one can argue that global poverty eradication has been at a historic high ... or again that poverty itself is at a historic high. The metrics are a mess!

### Dig deep ... understand the money flow!

#### Who benefits from the decision?

A good decision is one that benefits society AND benefits decision makers and all the other stakeholders associated with driving interventions that improve society. There is no reason why the stakeholders of enterprising organizations cannot benefit at the same time that society benefits. Making everyone happy is never easy ... some compromise is needed ... but compromise is easier when there are data to help.

History suggests that it is decision makers and their friends that benefit the most from decisions that get made, and this is maximum when there is weak accountability ... which is the norm. TVM uses data to help decision makers make good decisions and for these decision makers to be held accountable for subsequent performance.

#### Use value chain and other analysis

Value chain analysis is a way to identify where it is that there is profit and value adding ... and where in the chain there are constraints of some sort, or maybe excessive profits. A fair value chain is one where the return on asset employed at each stage is reasonable related to the risk.

Use various comparison techniques. It is possible to estimate what the costs “should be” for any activity anywhere. If actual costs are significantly different and there is no reasonable explanation, there is a problem. This is a basic technique of analytical accounting and should be applied throughout the value accounting system.

### Causality more helpful than correlation

#### Academy is mainly about correlation

Data have great value when analysis helps identify causal relationships. Most systems that are influenced by humans are complex, but good data and analysis can help to understand something of how the system works.

## The Basic Concepts of True Value Metrics

Large scale datasets and complex multivariate analysis may make it possible to discern relationships within complex systems ... but it is also possible to figure out some of the most important causal factors by simple observation. Good observation and common sense should be used to the maximum.

### **Community decisions need cause and effect**

Quite brief observation of a situation where performance is very bad may be sufficient to identify a practical solution ... a low cost analysis giving a high value outcome. People with good technical instincts, a capacity to observe and experience can get very workable solutions without substantial research and study. The following is an example:

#### **Walkaround Analysis**

Production records showed a group of factory production lines were producing on average 20,000 units per shift. The theoretical production should be nearly 40,000 per shift. Labor costs were nearly double what they should have been! What is wrong?

Watching the production line for a short time showed the unreliability of several of the machines ... strung together in series ... and downtime escalating exponentially.

There were two possible solutions ... redesign the production line to have parallel equipment ... or using a spare line approach so that the production crew could be fully utilized. The second approach was used and labor costs dropped to almost what they should have been theoretically!

Considerable care needs to be taken in drawing conclusions using sophisticated statistical methods on top of small observations. This is a big problem in the official relief and development assistance (ORDA) arena, and in many areas where academic study is supporting long distance decision making.

In many cases material improvement can be achieved by getting data simply by “walking around” and making observations. Common sense is a surprisingly powerful methodology, but not used frequently enough!

People with experience often know a lot more than is accessible through academic research and peer reviewed papers. Some of this knowledge cannot become part of the academic knowledge because the data are not designed to satisfy the prevailing criteria for academic data analysis.

#### **Data for Decisions: Vector Control**

A successful US vector control organization goes through a complete data collection, analysis, planning and operation cycle every 24 hours. The success or failure of an intervention is known within hours ... and steps taken to have success in the next cycle. For fast moving vector disease transmission this is the right way to operate. The goal is zero transmission of disease by insects. The data used to drive decisions is timely and geographically detailed.

Some data are voluminous ... but essentially not very helpful in facilitating allocation of resources based on value criteria. Much of the data associated with the financial sector and the capital markets is giving the wrong guidance.

#### **Bloomberg Dataflows**

Stock prices are reported as a continuous stream ... indexes of capital market valuation are also reported in real time. Why? Bloomberg News and others facilitate some knowledge about economic activity ... but rather little of the totality of what is required for an informed public. The socio-economic behavior of society would be changed substantially if more understanding of cost was in the public debate.

# Chapter 4-11

## Analysis for Oversight

### Oversight with TVM

#### The basic cycle of management

The basic cycle of management has the following steps or variants that are very similar.

1. Collect data
2. Plan
3. Organize ... mobilize resources
4. Implement ... with operational reporting
5. Analysis and review
6. Oversight, feedback and accountability

#### TVM oversight based on exception reporting

Most operations work very well. Oversight consists of little more than a cursory glance at an exception report that shows that the activities are going according to plan. No oversight time is needed to do anything ... except maybe to celebrate their success and give credit to those that are making it happen.

Exception reporting will show from time to time that activities are not working well. The question then is to find out what is going wrong and why! The structure of TVM data might be sufficient to locate the problem ... but it may not be enough. TVM data allows for drill-down to a level of detail where specific information might show problem issues.

TVM data may be the catalyst for oversight action ... it is part of what good performance data should do. But TVM does not include any specific methodology for interaction between an oversight authority and the user of resources. These arrangements are made in the “getting organized” stage of TVM implementation.

#### **TVM is keeping score**

TVM is simply about keeping score ... and compiling stats. TVM is part of the scorekeeping staff ... not the coach ... not the referee ... not the general manager ... not the owner ... not a player ... and not a fan. The role of TVM is simple ... to keep score and to compile stats!

Oversight has the most meaning when it takes place in a timely way ... in hours or days ... not months or years later. Oversight helps to ensure that implementation is done in a good manner.

#### Oversight includes accountability

Accountability is a close relation of oversight ... but more something that is of interest to the public and the owners of resources.

Management of performance is best done where and when it matters. Implementation performance matters most at the community ... and it is therefore in the community that there should be the most interest in accountability. Accountability is an important incentive for good decision making and an important aspect of implementation performance. It is important for the community to know what decisions makers are doing and how effective the goals are being accomplished.

## **Feedback, Oversight and Accountability**

### **A system with no feedback is a waste of time**

Feedback for the community is important to facilitate continuous improvement and better performance. Everyone engaged in the work of the community should get feedback to help find better ways of doing things. Control theory teaches that rapid measurement and feedback to improve performance is very valuable ... enabling good things to be replicated and bad things to be eliminated. A process with continuous timely feedback is very powerful.

## **Implement ... with operational reporting**

### **This is process ... that includes measurement**

Implementation determines everything. It is implementation that determines effectiveness. Good data and good planning help ... but it is the way implementation is actually done that determines whether or not there is success and the maximum of benefit realized. A good plan may be ruined by bad implementation ... but a bad plan may be saved by good implementation.

Management and supervision are key to good implementation ... and good data helps all of those who have to make decisions to make better decisions. The difference between management and administration needs to be well understood in order to get effective implementation.

The strength of this community focus plan is that implementation is in a community and for a community ... with deep involvement of the people of the community. The activities use as much available know-how as is possible ... but linkages to other sector activities is strong so that no one activity is constrained by the progress of any other sector.

## **Measure, Analyze and Report**

### **Good data facilitates good implementation**

Good data facilitates good implementation ... providing early warning of problems that need attention. TVM metrics are timely ... compared to the typical monitoring and evaluation (M&E) process to acquire data is too little too late, and costly without having great value. Timely metrics enable rapid corrective action and better performance.

#### **M&E almost worthless!**

The typical monitoring and evaluation (M&E) process to acquire data and do analysis is always “too little too late”, and is costly without having great value. M&E would not be needed if there was good management accounting driving the operation ... rather than almost no accounting, and then the “cover up” of M&E study and analysis!

Analysis is important. Possibilities take on realism during implementation. A community that has difficulty with the concepts of progress in a verbal or intellectual form should become engaged and have good understanding with implementation. For this reason it is good to design implementation as a journey of many steps rather than one huge leap!

## The Basic Concepts of True Value Metrics

The community planning framework aims to integrate all the sectors into a coherent whole. The community is like a living organism that needs all its components to survive and be healthy. Every single sector activity needs the service and support of other sectors in order to be successful. A missing sector capacity is a serious constraint.

Reporting also important. The way reporting is done has changed substantially over the years ... but the reasons for reporting remains the same. Stakeholders should be able to see information that shows how well an organization is performing ... and the impact activities are having on the community. When paper reporting was all that was available, a paper report was prepared that included financial statements ... but as alternative forms of access to data and to analysis become possible, they may be used to supplement or replace paper reporting. Good data and analysis should be nothing more than “a click away”.

# Chapter 4-12

## Analysis for Planning

### The Big Challenge

#### Main focus is the community perspective

The community perspective is the most important perspective ... it is the community where people live their lives.

Every community is unique. There should be a plan for every community. A community needs a plan in order to progress ... and the plan has to be specific to the community. A plan is only a starting point ... but a useful first step in improving a community and making a community more productive. Sustainable progress depends on productivity, and in turn productivity depends on decisions made about the organization and use of resources.

A community needs a plan in order to progress ... and the plan should be specific to the community. A plan is only a starting point ... but a key first step in improving a community and making a community more productive. Sustainable progress depends on productivity, and in turn productivity depends on decisions made about the organization and use of resources.

It is also at the community level where economic activities produce tangible results ... or not. TVM uses the community as the main reporting entity because of this, and the fact that it is in the community where all the different activities in different sectors come together to produce quality of life for people.

Within in a community it is possible to do further data acquisition, analysis and reporting at the neighborhood, block and building levels. The key is for the data to be related to a place that can be easily identified and where data and reality are clearly connected.

#### Essential to avoid imposing decisions

Need clarity about what is what! The big challenge is to avoid a merging of planning with implementation ... and to confuse data acquisition and analysis with decision making.

#### How to make “bottom up” real!

Making “bottom up” a reality is hard ... a requires compromise so that success is not constrained because of the complex incompatibilities of cultures, management and operating styles. Planning is usually top-down. When planning is top-down, there are usually ... almost always ... significant resistance to the implementation. This may or may not be justified, but it must be taken into consideration.

My experience has been that most development planning is poor ... not taking fully into consideration the key constraints and issues that will impede success.

## The Basic Concepts of True Value Metrics

It is better to plan using a micro-up approach. A community centric micro-up approach changes the dynamic of development. The plans can be made taking into consideration the priorities of the community and what is most needed by the community for progress.

### **The NIH factor**

Decision making is very much affected by the NIH factor ... “Not Invented Here”!

The only way that good decisions are going to get made is when decisions are the result of trusted dialog on top of good data and analysis.

Decisions that are imposed have a high likelihood of being rejected in practical terms even though the words might suggest that there is agreement.

### **Planning is part of a process**

Planning is a process that is ongoing so that there is a continuum of progress. The program anticipates a continuum of data acquisition and analysis so that there is critical knowledge about the community, about how much progress is being made, and what needs to be done next. Planning is based on the reality of the community and assume the following concepts:

1. planning is part of a management construct;
2. without planning there can be no management;
3. without planning, measurement has no purpose;
4. without measurement there can be no management;
5. without management there is low performance;
6. without metrics there is no traction;
7. without structure there is no movement.

## **Multiple perspectives**

### **From the national level**

Planning at the national level is difficult unless the nation is small and homogenous. Normally planning at the national level is ineffective because the number of different situations at the community level, and national averages are hardly every right for any hard initiative that originates with national level planning.

The national level policy making can make a big contribution to progress by ensuring that there is an enabling environment that facilitates activities at the community level that will progress the communities. Soft policy is advantageous and facilitates progress where hard projects for the community level may fail.

### **From the sector perspective**

Planning at the sector level has similar issues to planning at the national level. Community specifics cannot be adequately taken into consideration.

But sector is very important. Technology is a powerful driver of progress, and best practice sector know-how needs to be accessible to the people who make decisions in the communities and people who make decisions in organizations. All the activities that are using resources should be using best practice for the sector.

### **From the organization perspective**

Planning in the organization has importance when it is optimized for an activity in a community ... and the activity in the community is consistent with the priorities of the community.

### **At the activity level**

The activity level is where performance analysis can be done in detail ... it is activities that add up to produce change in the community or not. Data about an activity, like date



about everything else, has an association with place and time so that the data may be used for meaningful analysis.

### **Non-place communities**

TVM does its primary analysis at the community level, where community is a place. A community may also refer to an “affinity group” of many sorts, like that of a school, or a church, or a sporting club. In modern times, a community may also be “virtual” with its members linked together in some way through the Internet and social networks like Facebook, LinkedIn or thousands of others.

## **Planning “Lite”**

### **Helping to determine what is best**

The goals of progress can be defined by the community ... and steps taken to move the community towards its goals.

TVM measures not only profit, but also value adding and impact on society. The corporate accounting ideas of balance sheet and operating statement are applied to the community as a whole, and not just the organizations in the community. identifies causality by using temporal (time) analysis ... it , and how the activities of society result in value adding progress or value destruction. the place. TVM is ubiquitous ... pulling data from remote places where little is usually seen and reported. TVM goes beyond single stories to make multiple stories tell the complete story in a meaningful manner.

Possibilities are enhanced with planning. Planning is analysis that helps to determine what is best to do. Planning is a framework for effective decision making ... and effective decision making is achieved when the decisions are based on what is good for the community.

The TVM based planning framework for a community in Haiti is the same as for any community anywhere in the world. It is a methodology that empowers local people so that local resources are mobilized as the core of a sustainable program for the community.

TVM accounting goes beyond corporate money accounting to include in the accounting the idea of not only accounting for money transactions, but also to include the accounting for value.

TVM also uses the community as the entity for accounting, analysis and reporting and not the organization. The organization has a role in the accounting and reporting about community when its activities impact the community.

Metrics about socio-economic progress and performance are needed for society in the same way that money accounting metrics are needed for organizations. Money accounting is used for detail measurement inside the organization so that the organization can be managed and for summary reporting to outsiders. Meaningful socio-economic data of many types are used in a community to have metrics about socio-economic anything and everything that affects progress and performance. With relevant meaningful metrics there may be management. Management includes many elements including planning, analysis and feedback to improve performance.

In order to achieve the maximum of sustainable development progress from the available resources, they should be used to take advantage of the multiplier and accelerator behaviors of dynamic development.

The proposed program builds on the potential of the Haitian population of around 10 million people, as well as the potential of some 2 million international Haitians.

## The Basic Concepts of True Value Metrics

In an enterprise society people are both producers and consumers and everything is organized accordingly. In this rebuilding initiative, the most efficient program is going to be where Haitians are remunerated to do much of the rebuilding themselves. They will then be in a position to pay for most of their basic needs and the foundation for a surplus production sustainable economy will start to emerge. With this approach, the funding required for development becomes a fraction of the static welfare model planning incorporated in the proposed GoH plan.

Planning is a management tool that makes it possible to know a lot about the resources, the constraints and how things are organized. With people focus planning, the link between people as resource and people as beneficiary is closed. With planning data about a community it is possible to have a dialog about how people and organization and resources might work together in the most effective way, This approach to planning makes it possible to have planning and coordination and to maintain a strong bottom up focus.

### **Seven planning steps**

Planning identifies ways to remove constraints ... some constraints are easy to remove, but some are not. Some things can be done quickly, but some will take a generation or more to change. Some people related constraints may be removed quickly, but most are going to take a long time. The deficit in education cannot be removed instantly, it is going to take a number of years ... but the value of addressing the learning deficit is substantial. Some knowledge can be shared quickly, but some has to wait until there is an underlying level of education for the knowledge to have any meaning.

In very practical terms the plan has to reflect what people want to do and can do ... what organizations want to do and can do ... and what other resources there are in the community. A data driven dialog about these things make it possible to understand the possibilities and the constraints of the community.

The TVM approach to planning aims to be as simple as possible. In the initial stages the data about the community is compiled as a simple Seven Step program. The process includes the following:

1. STEP ONE: Having the basic data about the community
2. STEP TWO: Identify key issues and priorities of the community
3. STEP THREE: Available resources ... priority sectors ... opportunities
4. STEP FOUR: Main constraints ... limiting factors
5. STEP FIVE: Prioritize things to do
6. STEP SIX: Mobilize resources ... get organized
7. STEP SEVEN: Implement ... assess progress

### **Having the basic data about the community**

The basic data about the community is an essential starting point ... while there are easily accessible data about the country these data are averages and aggregates that tell very little about the individual specific places in the country. The elements that are needed are set out below:

- About the community
- About people
- About organizations
- About material and natural resources
- About money resources
- About constraints
- About economic activities

### **Key issues and priorities of the community**

The process of planning is not merely to have a plan ... but to get results. Data about the community is going to be voluminous. By identifying the main priorities of the community it becomes possible to focus effort on something that is more manageable. The identification of priority is a community process that reflects community knowledge of the state of the community, the goals of the community, the possibilities of the community and the constraints.

### **Available resources ... priority sectors ... opportunities**

Available resources are very important. Start with people because it is people that have needs ... people who are a potential market and people who are a potential source of labor or human capital. What organizations are available ... what can the existing organizations do to help? What is constraining existing local organizations from doing more. What material and natural resources are available? What buildings and infrastructure are available? What equipment is available? What are the big opportunities?

### **Main constraints ... limiting factors**

Some of the constraints in the community are going to be specific to the community ... things that can be improved by action at the community level. There will be others that are externalities to the community ... and while they should be documented, they should not be used as an excuse for not doing other things that are within the control of the community.

And what are the small constraints that are stopping the people of the community from making progress to achieve the potential of the community?

### **Prioritize things to do**

If you try to do too much, you do not do anything! What needs to be done has to be identified and sorted so that something can get done.

Identify just one thing to do ... and do what is needed (see 6 and 7) to get it done!

Identify something else to do ... and then do what is needed to get this thing done!

Disagreement about priorities is likely to be the norm, rather than the exception. The plan is a guide to getting results ... making progress and having effective performance. Have many small initiatives with rapid results rather than a single big thing where too many people are going to get left out!

### **Mobilize resources ... get organized**

Nothing is going to get done unless the necessary resources are mobilized ... people ... money resources ... material resources ... knowhow. In addition everything has to be organized so that what needs to be done gets done. This is both people and organizational structure. In some cases it will be impossible to mobilize the resources needed simply because there is not a viable organization to work with.

### **Implement ... assess progress**

Implementing ... doing the work ... providing feedback about work done and resources consumed. This enables:

Oversight of the portfolio of initiatives using metrics of progress and performance;

Rethinking the plan for the next iteration.

# Chapter 4-13

## Analysis About Needs

### What Are The Needs?

#### Needs start with people

Without people, there are no needs ... up to a point! Most “needs” are related to people, the more there are people, the larger the need. In other words needs are a function of population.

But needs are more than this. Every aspect of life ... plant life and animal life as well as human life have needs and all of this is part of one great complex ecosystem.

#### Needs are one thing ... wants are another!

The basic needs for human beings are quite modest ... food, water, clothing and shelter. It is appalling that there are many people in the world who have inadequate food, water, clothing and shelter.

Security is not a basic need ... but the lack of security is a root cause of people not being able to access food, water, clothing and shelter.

#### Basic needs in the modern context

In a modern economy basic needs are more than a minimum of food, water, clothing and shelter. People also need basic healthcare, education and economic opportunity ... and security and a framework of governance and rule of law.

None of these ideas are new. These ideas were already well developed way before biblical times ... but the importance of these ideas continues into the modern era.

Progress out of poverty has been accomplished in large part because of improvements in productivity that now make it possible for everyone to have things they need to satisfy basic needs with plenty left over. The reason why many remain poor is because of dysfunction in the way the socio-economic system is working ... too many people are economically active ... that is, work ... but do not gain much from the work.

#### **A dysfunctional socio-economic system**

Professor Muhammad Yunus often talks about people who work hard for fourteen hours a day, seven days a week, and remain poor. He says that this is not because the people are bad but that the socio-economic system is dysfunctional.

The modern working class society has evolved a lot in the past two centuries so that people can have enough of food, water, clothing and shelter. Maybe there is less of war and insecurity as well ... and there is more widespread availability of healthcare and education ... and the infrastructure of society that supports productivity has been improved. Most important ... knowledge has also improved.

### **Middle class needs and wants**

In many ways the United States of America represents the possibilities of a modern economic society ... human creativity and enterprise making it possible for everyone to move into the “middle class” ... what is referred to as the “American dream”.

In this economic model a profligate amount of resources were used to build a production capacity so that a massive amount of food, water, clothes and shelter were available to Americans. Economic activity that produced the goods also produced profits and wealth for both investors and workers. The model works quite well when the regulation of the system is a competitive efficient market framework, but falls apart when the market is gamed by powerful participants ... something that has happened with surprising regularity.

In addition to the problem of gaming the market, this economic model is problematic because it uses resources as if there is an unlimited supply ... especially land and energy. What started out as a highly productive system that enabled the formation of a middle class during the industrial revolution is now constrained by limits on the availability of land and energy ... and by the damage the effluents from this system have been doing.

The idea that the middle class needs more and more and more still prevails in economic analysis and public policy ... and must be replaced by a middle class dream that is about better quality of life and more happiness on top of easy access to all the basic needs of an affluent middle class. Knowledge needs to be not only accumulated for academic advancement but applied to improve productivity and the effectiveness of economic activity.

### **Luxury wants**

One way in which the modern economy has been weakened is the concentration of economic money wealth and power in the hands of a small number of individuals and corporate organizations. A large scale luxury sector ecosystem has emerged to serve the wants of this community ... often highly profitable, but with only limited socio-economic value to society as a whole.

There is a “value” of the luxury sector that should not be ignored. Beautiful things have a place in human happiness ... but the allocation of resources to luxury activities should be balanced with the allocation of resources to improving socio-economic performance where there is poverty and a dysfunctional economic environment.

### **Matching resources and needs**

#### **Bottom line ... this is NOT being done**

The institutional framework for the modern economy is very efficient in terms of relating capital market pricing to money profit performance and a range of other indicators in the “more and more” economic model. Using this framework capital flows into profit opportunities that are completely independent of any meaningful socio-economic value metrics.

#### **Capital flows ... hot money**

It appears that every few years there is some economic crisis that is aggravated by global capital flows that are unstable simply because they are purely profit seeking with no value component. The situation is made worse by poor accounting and financial reporting that routinely fails to alert decision makers to problems until it is too late.

The capital flows have everything to do with making a profit ... with little at all to do with achieving more socio-economic progress and improving the value dimension of

society. Decisions about capital flows are disconnected from any reality that relates to quality of life in any community anywhere ... the decisions are not in any way matching funds to socio-economic needs.

### **Little or no investment in the future**

The modern capital markets invest in profit ... whether it is over the next minute, next hour, next day or next quarter. The mechanisms to invest in value so that society is better off in 20 years or maybe in two generations are very rudimentary compared to the mechanisms used to trade for the short term.

### **What mechanism for community investment?**

When the goal is to have the state of the community improve progressively over time, investment allocation should be done on a basis that changes the state of the community. This is about what people need ... and how people can be better equipped to satisfy needs in an increasingly productive way.

It is also about what people want ... and how people can get more of what they want by being more productive.

Everything is interconnected ... and the achievement of sustainable performance is when the role of people is more important than the role of material resources and money. A community centric socio-economic model that has people as the primary resource and contribution to quality of life as the main output is paradigm shift. The model may be quite simple or incredibly complex ... but with the help of Adam Smith's invisible hand becomes perfectly feasible. The key matter is to be using meaningful value metrics to inform the market and decisions about allocation of resources.

### **Unmet needs**

Most communities that are poor do not have access to resources to satisfy their needs, even basic needs, let alone their wants. Sometimes there are resources, but for a variety of reasons, there is no access to these resources. This may be because of external factors like the "ownership" of the resources ... or it may be that the human capacity of the community is constrained by lack of education, skills and knowhow ... or it may be a lack of organization or a lack of money and working capital.

Handling unmet needs probably requires some external intervention. This intervention should be such that there is community progress ... not merely a "welfare" type intervention that merely makes poverty a little more bearable, and not an approach that helps the community a little bit with big profits for everyone else.

### **Upgrading people capacity**

Upgrading people capacity to facilitate development progress should be a priority. But this needs to be more than just building educational capacity, it is a much more. The present value of education is huge ... but only when it is combined with things that are valuable and need to be done. Education must deliver a skill set that enables real physical value creation. The value of education is a derivative that relates to economic opportunity in the society as well as the education itself. This is a paradigm shift in the way the goals of education are framed. Needs being satisfied is the job that human resources must do ... education is needed to that people are able to do this.

# Chapter 4-14

## Analysis About Resources

### Getting Data About Resources

#### Data about resources not going to be easy

Getting data about resources may not be easy. The key is to get as much data about resources in the community as possible, and to have these data organized so as to have some utility. A lot of personal and corporate wealth has been accumulated because there has been misinformation about resources ... making data about resources transparent may not be popular!

### About Local Resources

#### People are the most important

##### A reminder about people

The role of people was highlighted in the previous sector ... a reminder that people are the key resource for progress and success. People ... the human resource ... are absolutely central to everything. People are the reason why a society exists, people are the society, and people are the resource that may be used to produce much of what is valuable for society. Without people ... what is the point? But with people there can be goals that are worth achieving and a resource that helps get to the goal.

People need other resources ... and must get organized so that the critical resources can be mobilized.

##### Organization is a resource

Success is determined by the ability of people in the community to organize and get resources deployed for the benefit of the community ... to build value for the community. Organization is very important ... it gives a framework for doing things. Organizational structures and the framework of law and regulation are enabling resources or constraints. Organizations are a key to making it possible for all sorts of resources to be mobilized and used in an effective way.

##### Natural resources

Natural resources are important ... natural resources are enablers of activities that have value, or the natural resources, or lack of natural resources may be a critical constraint. Nature ... the physical environment ... is a key determinant of what is possible. Getting organized with some planning makes it possible to use natural resources in ways that benefit the community.

##### Production resources

Material resources of various sorts are important ... in many cases machinery and equipment, vehicles, etc. are needed to have a productive society. The per capita use of energy has been used as a proxy for progress ... as a proxy for the amount of machinery being used.

### **Infrastructure**

Infrastructure is a resource ... again, the infrastructure is another determinant of the productivity of the community.

### **Knowhow**

Knowhow is important and it may be associated with people or it may be associated with organizations. Knowhow can facilitate progress or it can constrain progress. Education and training are activities that helps to build knowhow and the capacity to do things.

### **Money ... loans and credit**

Money helps ... but money in a vacuum does nothing.

Resources are another way of thinking about means.

Success is a function of people ... and how people organize themselves so that the resources that are available get used for the benefit of society.

## **Analysis About External Resources**

### **Using external resources may be very bad**

#### **Who gets the benefit?**

The use of external resources has the potential to have bad outcomes for very many reasons. Most external resources come with conditionality whether it is simply about how resources are to be used, or whether it relates to the way the resources made available are to be repaid.

### **ODA performance is appalling**

#### **Too much of the wrong measures**

Official Development Assistance (ODA) is appalling ... but the institutions engaged in the funding and implementation of ODA have been able to avoid any accountability for the appalling performance by “spinning” the data so that tiny progress is accorded an inordinate amount of PR and hype.

### **World Bank and the disbursement proxy**

The World Bank has used disbursement as a proxy for progress in its projects for most of the past fifty years. This is an easy number for the World Bank to calculate ... but that is about the only advantage of using this as a measure of anything.

### **Many ODA agencies use activity as proxy for impact**

Many ODA agencies use activity as proxy for impact, and this is almost as bad as disbursement. In order for there to be development progress, there have to be development activities ... but progress, that is impact on the community, may or may not come from activities. Reasons for this may be simple or complex ... it does not really matter. If the goal is progress or impact on the community, then this is what should be measured.

#### **Malaria**

Since 2000 there has been a rapid scaling up of the fund flows for malaria control interventions. By 2008 the annual fund flow might have been as much as \$2 billion with only minimal performance reporting about these fund flows. One statistic that has been widely used is the “bednet coverage achieved” ... a measure of activity, and not a measure of impact. What is worrisome is that the link between bednet coverage and reduction in the burden of malaria is based on rather small studies with quite mixed results. Worse, the studies ignore the potential side effects of the emergence of



resistance to the active chemicals over time and the cost of the program over time. Malaria control performance ought to be based on the cost of the interventions over time and the value of the malaria burden reduction over time ... and in this light the spending to date has performance has probably been very weak.

## Foreign direct investment (FDI)

Foreign direct investment brings an inflow of investment, brings an increase in jobs, brings some improvement to infrastructure, brings perhaps some improvement to health and education ... but at a price. The price is that the investment is used to exploit something of local value like natural resources (for example timber or minerals) which are finite and eventually are depleted. The local employment remuneration is usually very small compared to the value of the exploitation of the resources and small relative to profits that are exported from the area. In some cases ... too many ... the exploitation leaves massive long term pollution that is ignored totally in the initial investment proposal presentations. The improvement in infrastructure is usually modest ... or to the extent that it is significant mainly of use to move exploited resources out of the area. Social welfare assistance is usually small compared to the scale and value of the resources being exploited.

The business model that has been used for Western FDI for the past fifty years has been almost all bad ... worse, in fact than much of the mercantile investment of the colonial era. The modern corporate FDI may, in fact be described best as corporate colonialism.

## Humanitarian relief

Official Development Assistance (ODA) has not grown as fast as humanitarian relief during the past three decades ... it is more “popular” with donors and easier to get taxpayer support. But it is rarely structured to support a development agenda and merely serves to help people survive rather than being part of an agenda to help people to progress.

The best way to describe the humanitarian relief sector is to say it is a global economic welfare system ... and sending all the wrong signals to developing countries now for about 60 years.

Donor fatigue has been a problem for a very long time ... and donors move on to something more fashionable or more suited to donor country taxpayers' fancy rather than staying with funding initiatives that are good but “boring” and might possibly get result and delivery serious progress. Good development is long term ... in fact inter-generational. Nothing of sustainable significance can be achieved in a two year time span ... or even five years.

The project form of organization is one of the core problems of the ORDA sector. There is little that is right about this form of organization for development. The project form of organization has its history in the building of large civil engineering works likes dams, canals, railroads and highways ... but is totally unsuited for support to health, education and small-scale agriculture.

Worse the project is a vehicle for fund control by donors by-passing the local Ministry of Finance that ought to be providing oversight control to funds flowing through government into projects. Whatever happened to the idea of “single treasury account” for the control of government moneys?

Projects that are funded by outside agencies like the World Bank, USAID and others usually have employment terms that are way better than the local civil service ... and

## The Basic Concepts of True Value Metrics

totally unaffordable within the local economy under non-project circumstances. This makes it easy to recruit good staff ... but what happens at the end of the project. The international project staff walk away and go on to another project somewhere else. The local staff become unemployed ... and likely "mad as hell"!

## **Problems With Rule of Law**

# Chapter 4-15

## Behavior of Cost and Value

### Cost and Value Behavior is Complex

#### Cost behavior

##### Well understood by good business managers

Optimizing performance requires understanding of the behavior of both cost and the value ... neither of which is simple. An optimization model that incorporates the many variables that are normal in human society and in sectors such as health is very complicated ... and does not work well unless there are large quantities of reliable data.

However, some of the behaviors are easy to understand ... but even the simple behaviors are not being documented well and knowledge about cost and value is primitive. It need not be ... and the TVM initiative in conjunction with initiatives like IMM will help to change this aspect of performance metrics.

Good managers use the available data to achieve the best possible results. Good managers respond quickly to what they see is happening way more quickly than an ex-post factor academic study.

What something costs is determined by technical considerations. A physical item is made up of materials that are processed in some way. To do this required people and production facilities and equipment ... all of which have costs. It is a mechanical process to add up the costs of the various production activities to come up with the cost of the item.

Every element of cost varies in different ways with volume. Some component parts of the item will have a lower unit cost when the volume increases, but other parts might have higher costs as volume increases. Using less material may not reduce the cost when the production process is more difficult with a small item than a larger one ... scrap may change the unit cost for the completed product depending on production capabilities and required quality.

Understanding the behavior of costs is the key to making program performance optimum. Matching the behavior of cost with all the other dimensions of operational performance makes it possible to get better results than might otherwise be expected. While elementary analysis is often based on simple relationships, efficient cost accountability shows how low costs can be matched with high impact values for best results.

The behavior of cost is determined mainly by the system or process ... that is, the underlying science and technologies, and by the competence of the people involved and the decisions they make. Most students of cost accounting know about fixed and variable costs and know the simple breakeven chart ... but in practice everything varies, and the variations can be substantial.

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Some elements of cost are a function of time. Staff are usually compensated based on a time rate ... a monthly salary ... an hourly wage. Some costs are based on some measure of activity ... fuel consumption per mile for example. Some costs vary depending on external conditions ... heating and air-conditioning costs vary depending on the weather.

### **The cost and profit of software applications**

If a software application costs \$1 million to develop plus \$100,000 to deploy the first unit ... the unit cost is \$1,100,000 million. If the second unit deploys for \$50,000 then the total cost is \$1,150,000 and the unit cost drops to \$575,000. If the next 8 units cost \$25,000 each to deploy the total cost becomes \$1,350,000 and the unit cost drops to \$135,000. After this the deployment cost drops to \$100 each, and by the time 100,000 have sold the total cost is \$11,349,000 (\$1,350,000 plus \$9,999,000) at a unit cost of \$113.49. This is not an extreme case ... it is the basic business or economic model that has made modern IT such an important source of profit.

Very little ... maybe nothing ... is linear. Each element of cost has a different cost behavior ... and together add up to an overall cost and value consumption behavior. The individual element behavior is a great help in understanding cost and the behavior of cost.

In TVM, the basic approach is to understand the way the system or process works, and use data to determine how costs relate to the system at a specific state ... and work from their to determine how costs are going to change as the system changes.

## **Value behavior**

### **Maybe more complex than cost**

Value usually has a different behavior. A medical intervention for a critical health condition that makes death likely without treatment has a value that is huge. How huge is subject to debate, but the value in social value terms is big. A medical procedure that makes one look a little more handsome is not in the same league as the one that saves life. And value may not relate simply to the way costs are incurred ... preventative care does not have immediate impact ... but in time its value emerges. This is addressed within TVM by the use of value chain analysis that links a series of costs with a series of values.

Value behavior is complex because most value is a function of many different elements ... and the subjective aspect of value adds further uncertainty to the behavior. The important thing about this is that value has more impact on quality of life than anything else, and accordingly should be taken into consideration in every aspect of doing socio-economic activities of any type.

The complexity arises in part because each sector is dependent on other sectors, and value often only arises when several sectors together are needed for enabling improvement in value. In other situation the activity may take place with substantial money flows but not actually improve the situation to create the value. At the same time there is value associated merely with paying for the interventions. This health example illustrates this:

### **Health example**

If I am ill and undergo some medical treatment and get better ... the value situation improves substantially, while if the medical treatment does not make me well, the value increment related to my health situation is zero. Meanwhile there is value flow associated with the income and profits

related to the medical interventions which may be substantial for the medical sector but pulled from the entities that funded the interventions. True Value Metrics aims to understand all the value flows associated in any form of socio-economic activity.

Education is an important sector. Much of the value of society is derived from education and the ability to process knowledge ... but the value behavior is complex. It costs money funds to educate a child ... and many years. An educated person has better career prospects than someone without education and this is of great value to the individual if the individual is able to locate a job and gets the remuneration. In the case where there are little or no opportunities to use education, the value of the education is very much reduced relative to the situation where a job is available.

#### **Education example**

With no education or skills a person cannot do a well paid job. Without a job opportunity an educated person cannot do a well paid job. To get value for the individual there has to be the education and skill development and there has to be job opportunities ... both!

### **Value chain behavior also complex**

The value chain behavior may be considered to be a derivative of cost and value behaviors. The factors that go into value chain decisions are related to costs and profit potential. With the application of TVM the value dimension should also get taken into consideration.

#### **Outsourcing**

Lower costs ... a nearly same product or service ... going into the same market ... and the outcome is likely to be higher profits. This business model has been popular in the United States and other high wage countries for many years and is now the norm for multinational business. The value chain for this business model has a good profit profile ... but the TVM value profile is poor because of worker impact and value destruction associated with losing jobs. There is value adding associated with the outsourcing enterprises ... but the impacts associated with gaining jobs and losing jobs is part of the analysis.