LOVE; HATE; LIFE; DISSIPATIVE SYSTEMS

and BUSINESS

The ebb and flow of methods, business doctrine and ethos.

"Now an army may be likened to water, for just as flowing water avoids the heights and hastens to the lowlands, so an army avoids strength and strikes weakness."Sun Tzu- The Art of War

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I. Structures that Grow and Fade Away

World War II General McArthur's farewell address to Congress included the legendary phrase, "Old soldiers do not die, they just fade away."

A previous article made comment that the Roman Numeral scale dissipated because it failed to contain the numeral "zero." A scale must contain zero or else there is no way to determine where the whole thing starts or where it changes to negative quantities. When a thing no longer works well, the investment in it shrinks in favor of more promising devotion of effort.

It is not easy to discuss dissipation in this static medium (hard copy print) because dissipative systems and processes are constantly FLOWING. There is a constant ebb and flow similar to the structure of weather. Patterns are changing at all times.

Even more difficult for me is the discussion of the flow of information. The impossible bind that bothers me to a large degree is the using (abusing) of this symbolic conveyance form, which is informational to explain information. Such a thing makes me feel hypocritical. It seems improper to explain a thing with itself.

The flow of knowledge (high content information) was noticed long ago. Aristotle, Plato and early Greek philosophers spoke of the living "ether." The disposition, character or fundamental values attributed to a specific person, group, culture or movement is termed the "ethos." Physics retains the definition for a pervasive, infinitely elastic, massless medium postulated as the transmission conduit for electromagnetic wave propagation. An "ethernet" is the foundation of the internet of today. Information content flows literally riding waves.

John von Neumann provided a path out of the "self-defining term" dilemma. Any and every genuinely complex system takes more data to explain it than the system itself. For example, the documentation for the Boeing 747 weighs more than does a real plane. Johann Wolfgang von Goethe stated the phenomena several ways. He said, "Everything is simpler than you think and at

the same time more complex than you imagine. Knowing is not enough; we must apply. Willing is not enough; we must do."

Some things are faster and better learned by doing than by being instructed. Physical effort and execution are critical factors but so is the direction of the effort. All forms of practice provide real time informational feedback that improves the NEXT physical performance.

II Systemic Examples

The spontaneous burning of iron is a familiar chemical example commonly called rust. What happens is oxygen atoms zipping around in a free gaseous state collide with iron ions. A new bond is formed causing iron oxide. A bit of energy is lost in the exchange in the form of heat. Because the energy is dispersed into the free environment it is dissipated. The new arrangement is trapped because the process is directional. A transformation has happened. It cannot be reversed without recovering the lost energy or adding a substitute. Spontaneous transformation does not always mean fast.

Our concept of time passing is a consequence of observing the multitude of one-way streets in Nature. Our thoughts would have us believe that iron rusts over time. More exactly what is happening is that the change in "order" causes time to happen in our memory.

The transformation of a caterpillar to a butterfly is an entropic process. The caterpillar did exist and in its place is a butterfly. There are parts left over as part of the process exhaust. These are the same sort of waste that exists in any imperfect process.

Hurricanes and tornadoes are open dissipative systems. They are "open" in the sense that there is not a combustion chamber or any other confining entity to hold the structure together during the instance. What is holding things in place is a temporary, special condition of rather coherent energy. The structure survives so long as a continuing energy source of sufficient strength exists. As the energy is used up, the structure dissipates and the structure flows from the exceptional state to it's more normal state.

Cyclical structures are important. The model of the predators and prey is well studied. Feast-to-famine and back to feast again are common in fish populations and in animal concentrations (foxes and rabbits). An increase in the population of the prey fosters an increase in predators. But as the predators reduce the population of the prey, the predator numbers dissipate also with a slight lag in time. Soon the cycle starts over again.

Some of the dust-to-dust structures are chemical, some are physical and some are political. Welfare may be viewed as a dissipative system. Poverty tugs at the heart. Poverty is ugly, unsightly and pathetic. No one wants people to suffer. When the energy and money flows into assistance the situation abates. When the energy stops the structure returns (to a disgusting state). Love and hate, plus birth and death can be studied as structures that emerge, flourish and die.

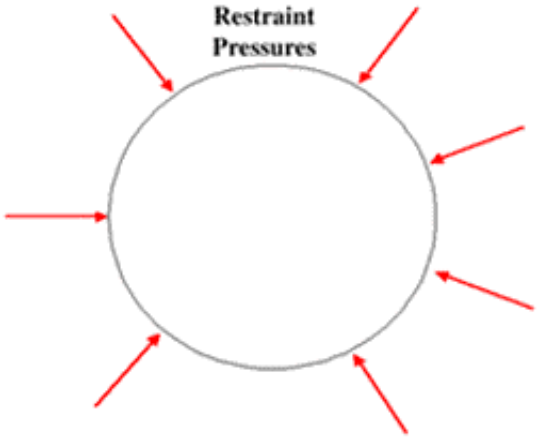
Business is a dissipative structure also. The act of doing business requires investment in time, energy and money. When the energy wanes, the structure dissipates and the business dies. It is this business subject that remains the focus of this article.

Dissipation is a primitive archetype of Nature. People are not immune. The only defense is investment of sufficient energy to resist the flow or reverse the effect. Some call it practice, sometimes it is called learning but the results illuminate brightly in the outcomes of execution.

The ancient teachings of master Sun Tzu also address ethics, chivalry and leadership. "*When one treats people with benevolence, justice and righteousness, and reposes confidence in them, the army will be united in mind and all will be happy to serve their leaders."*

III BASIS of Open Competition

Consider the core basis of competition. COMPETITION arises at EVERY instance where two or more parties target the same open goal (to win something contended). "Open" means that the future outcome (the winner) is not preordained or predestined. Pressure comes from the "winner-take-all" stakes.



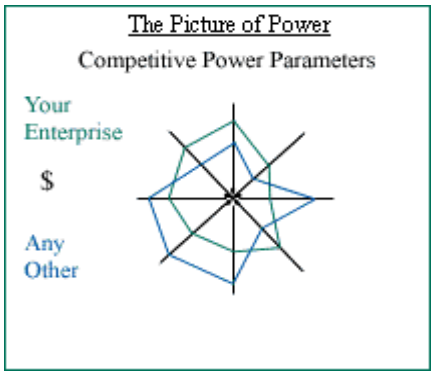
The fact that each outcome of each competitive activity is not predestined guarantees each future win/loss outcome to be positioned squarely in a situation of risk, uncertainty and doubt. Only choice possibilities and probabilities are guaranteed. Uncertain choices come with fearful risk. Success and failure are at stake. Inaction, error and failure are constant undesired companions of risk and uncertainty. Competition and free choice guarantees that there are no absolute guarantees.

The ONLY enemy of risk and uncertainty in the universe is information in some form. Exceptional information is the ONLY thing in the universe that holds the power to alter the winning odds positively or negatively. Consistent winning requires continuous favorable odds, and the single source is information.

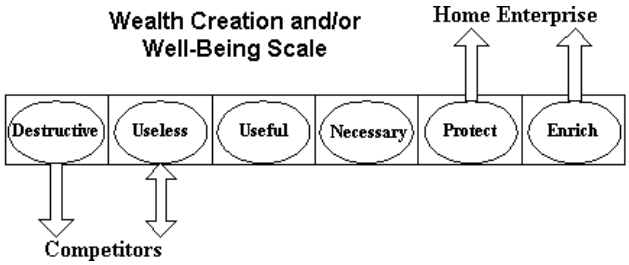
Thus, all aspects of **business performance and productivity are information based**. Proper measures and metrics form an informational guidance system that directs the enterprise toward the goal. Improper or missing measures causes random wandering and lackluster performance (at best).

The information content of an enterprise or team creates various odds of winning. The odds are not equal and thus neither are the likelihood of one winning over the other. Graphically, the situation looks like the following. Better and better information yields improved likelihood of winning. In turn this creates best chances of producing the desired (goal) outcome.

A method named ITOP quantifies and plots information on each significant ray to the



same scale. The scale is shown below. A representation for each ray of the diagram is shown below.



The numeric scale can be thought of as ranging from 100% perfect information for "enriching" success on the right side to 100% perfectly "destructive" information on the left.

Local or global enterprise best practices and/or competitive edges may derive from implementation of combinations of the doctrines listed below.

- Expense Accounting
- Asset Accounting
- Future by Design
- Enterprise Process Reeningeering
- Time Mgmt (Cycle-Time Reduction)
- Quality Management
- Human Resource Training/Instruction
- Work Simplification
- Operations Research/Management
- Information Management
- Innovation Management
- Knowledge Management
- Systems Integration
- Organizational Learning
- Enterprise Resource Allocation-ERP
- Strategic Planning
- Core Competency Management
- EVA-Value Management
- Information Economics
- Competitive Edge Creation
- Innovation Management
- Feedback Systems
- Incentive Management
- Control Systems

The GOAL is to elevate one or more of these doctrines to a level that achieves success in the competitive marketplace.

All the above methods have both succeeded and also **failed to deliver** the promised results. Why? Where is the silver bullet?

The answer is simple but not easy to see.

Naturalist Johann Wolfgang von Goethe stated part of the cause and consequence in the century before last.

"*Hypotheses are lullabies for teachers to sing their students to sleep. Science has been seriously retarded by the study of what is not worth knowing, and what is not knowable*."

Our teams successfully deciphered the edges and created value map diagrams for more than two hundred thousand public and private corporations around the globe. Examples shown here and on the publisher web site are typical of the early development system.

WHAT IS IT? Where is it? That is the question.

Part of the answer rests with understanding dissipation and a larger part rests with proper measurement.

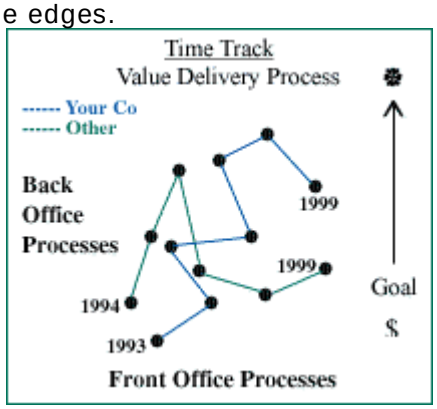
Contemporary accounting systems were not designed to address the tough task of value accounting. There **had not been a need** because the competitive terrain is level at two points. **Competition is level** when (1) everyone knows how to do a thing well (common practice) AND (2) it is **also level** when NO ONE knows how to do a thing or cannot practically accomplish an important thing. Value accounting is a case in point. After all this time and all the investment, it is rather embaressing that the most prestigious acedemic institutions and management consulting gurus cannot properly accomplish something as fundamental as value accounting. The mapping of competitive edges, detection of value laden systems and strength of business processes as shown is not commonly possible.

Economists, risk managers, financial analysts and statisticians have established a large amount of doctrine over the years concerning the phenomena of "regression to the mean." By definition, **exceptional** ideas (innovations, powerful practices), either really good or really awful are NOT NORMAL. What every idea and invention is, however, is new and different thought (which is informational). Exceptions exist at the fringes of the statistical norm. At first only a few hold the ability. As information leaks out via exchange events the knowledge base grows. The consequences of the awful practices are competitively negative or goal unfavorable. These are discarded and/or ruled out. Continued use will destroy the holder and user. The exceptionally strong practices yield a significant edge to the holder/user. However, the activation of superior practices requires informed participants. The teaching

required for activation widens the sphere of use but in so doing diminishes the differential power. Every significant invention (from electricity to telephony) has spread the globe over time. What once was remarkable, mystic and perhaps frightening becomes the norm and commonplace over time. The population practicing the "thing" is significantly large to the point that it exists at the average (statistical mean). The advantage dissipates. The world awaits emergence of the next forward leap.

Economics does not typically find or locate the proper "zero" grounding point from which to base valuation. This is a mistake similar to the one the Romans made with their numbering system (Roman Numerals have no zero). The flow dynamics mentioned above and the zero basis point are extended subsequently.

The technique just sketched here enjoys some remarkable properties. First, it is the most economical and practical to measure information systems (the competitive advantage). Next, the technique can measure the size of the edges at any point in time past to reflect the "then current" size and position of the edges.



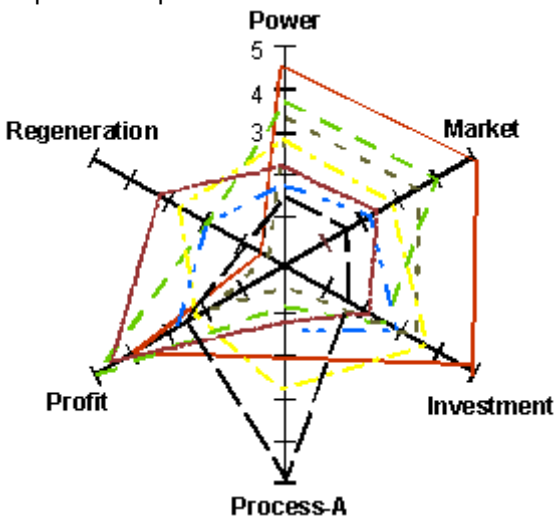
Beyond that the technique yields not only the BEST and WORST but all other (cardinal) measures BETWEEN. The illumination of ALL is most powerful. Finally, the technique (done properly) yields measures of both the "NOW" value and the "NEXT" highest attainable value position in any company.

To accomplish doing "right things, RIGHT" first requires identifying the highest gain RIGHT THING and doing so Ahead of Time. The gaps identify the highest gain **next right thing**.

III.1 Static, Dynamic, Dissipative Systems

Situations change. The amount of information/knowledge/uncertainty changes and so do the edges. New information arrives and fills in gaps where uncertainty resided before. Such events happen with customers and competitors also. The competitive field is fluid. The result of retained information is termed knowledge (or wisdom). The rate at which information becomes retained is called learning.

The following is a real example of an edge diagram derived from eight companies competing in the petroleum refining industry. Only a subset of the edges are shown here. The effective date is the end of 1996. The companies represented are as follows.



Lyondell Petrochemical
El DuPont DeMours
Mapco Inc
Amoco Corp (Amoco)
Holly Corp
Shell Oil
Diamond Shamrock Inc
Tosco

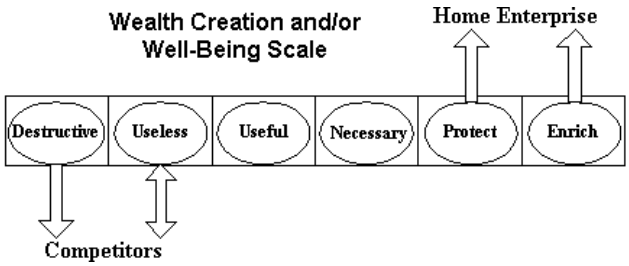
The existence of a target or goal permits a specific measurement of "best." Sometimes called the "utility function" in economics, the goal is typically a global business objective.

Operations research, in fact, substitutes "objective function" as the term for optimizing the enterprise.

Recall that competition enters when two or more entities seek the same goal (and only one can achieve it). That is where the pressure arises.

The learning of the prerequisite "winning" formula (highest odds) is constantly changing due to the learning or forgetting of critical items. The previous time track is a picture of organizational learning related to value delivery. Each of the "rays" has such a diagram, as do combinations.

The diagram is actionable because it and others that complete the "views" point to the corporate "teams" responsible for performance. An overall composite can be constructed by integrating the power of all the edges. In essence, such a diagram constitutes the "highest level" of the state diagrams.



Two rays that relate to "rate" are included rather than show the myriad of time-track diagrams that would be required (one for each value-creating component).

The ray identified as "Process-A" is the rate of successful re-engineering being pursued. The ray entitled "regeneration" is typically the rate of organizational learning. In rare cases, extremely high rates of learning are successful marketplace "innovations" and/or R&D successes.

III.2 Combating Dissipation

The measurement method has been thoroughly explained in other articles. Here we will continue the focus on dissipation. It is really quite simple.

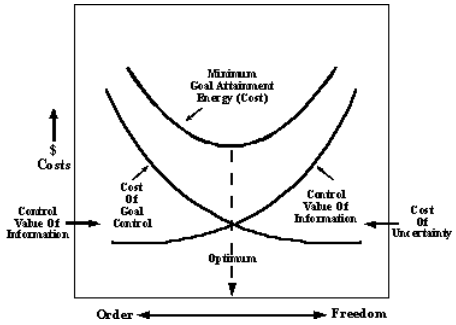
Information and information systems are the singular basis of competitive edges. BUT, if two or more parties hold the same information, the advantage disappears. The advantage only derives from information differentials. No difference - no advantage. A term for this is information arbitrage.

The calculations in the ITOP method are actually measuring the **resistance** to dissipation. Dissipation arises from both competition and Nature. Both sources are measured and the amount caused by natural processes is eliminated leaving only the amount attributed to best practices. The position and magnitude of best practices and/or the value creating competitive edges are exposed.

Once powerful doctrines that yielded an advantage ("enriching" on the scale) become widely known and practiced. As that occurs the advantage from the once powerful doctrine dissipates to "necessary and useful." The power and potency has disappeared.

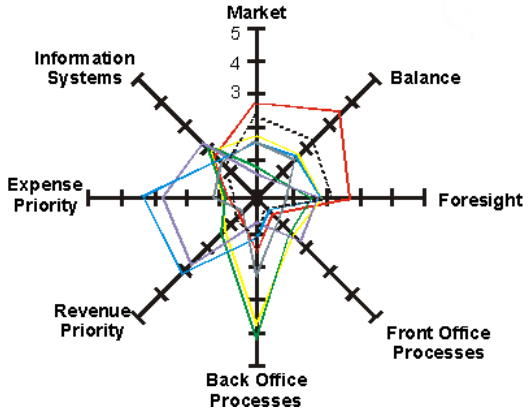
A huge secondary condition then takes effect. Everything and anything can be "improved." There is always a constant need to improve processes. The waste is often evident and obvious. However, it takes precious resources to implement improvement. Everyone LOVES to talk about implementing change. Talk is cheap. Actually doing a transformation is high expense and agonizing pain. It is also slow. In your very own corporation - go try to change anything important - and see that such a thing either cannot happen or takes - forever. Reengineering IS the process by which change is introduced.

Arthur Laffer published the general case economics associated with implementing change. The Laffer diagrams are perhaps familiar. The graphical view follows.



Depicted is the diminishing return relationship for balancing the expense of better control information and the value of the additional control. At some point (optimal) the expense of the next step is more than the worth. Evidence of this is well published in the literature and is also known to most from common experience. Successful reengineering of the enterprise is rare. Mc Kinsey published a survey study indicating that 60%-80% of reengineering projects, information systems projects and knowledge gain projects utterly fail to produce "economic returns." The cause is twofold. Mostly the cause is locating the high gain opportunity. The method is missing in nearly all corporations to measure the value delivery gaps. One must also question whether Mc Kinsey is able to properly measure the "economic returns."

An earlier graphic showed high-level value mapping for eight competing companies in the refining industry. An intermediate (more detailed) view is shown next. The companies in this second diagram are different from the ones shown in the previous diagram. Direct comparison can be made with a graphic near the end of the article. The reader may notice that the edges are not as strong. Strength is represented as minimum at the center and strongest toward the outer point for each ray.



Chevron Corp
PDV America Inc
Coastal Corp
Valero Energy Corp (Valero)
Ashland Oil Inc
Amerada Hess Corp
Phillips Petroleum Co
Murphy Oil Corp

A requirement for managing any approach is the ability to measure the impact value of alternative choices. To accomplish doing "right things, RIGHT" first requires identifying the highest gain RIGHT THING and doing so Ahead of Time. The gaps identify the highest gain next right thing.

III.3 Expense Information Differentials and Dissipation

The whole notion of leadership, stewardship or management is one of better guiding, directing and controlling positive outcomes from effort, whether that effort be physical, mental or combinations. The entire last century devoted heavy attention to the rise and fall of efficiency, productivity, expense control and asset management.

Fredrick Taylor, father of "scientific management" implemented the idea that efficiency could be gained by integrating worker behavior with machines to achieve maximum productivity; hense, the detailed charting of workflow methods, the labor component of work, efficient expenditure of effort and elimination of unwanted worker variability. Work was decomposed into small

standardized parts. The stop watch was the icon of the era. Worker discretion was eliminated and control shifted to management and standards. Control involved collecting, analyzing and communicating large amounts of detailed data. Cost of control increased with size, geography and variety of operations. Despite the conflicts, a 300 percent gain was typical. Any expense growth that is rising faster than revenue was tarnishing the bottom line. The method(s) identified the position of economic gains that could be effectively addressed.

F. Donaldson Brown (Du Pont) in combination with Alfred Sloan (General Motors) and later Edwards Deming invented methods that addressed process "exceptions." Brown and Sloan isolated the large purchases and treated them with special emphasis (asset management, Finance committee and ROI).

In the Taylor method the managing of work production involved the tedious attention to worker effort. The radical change in thinking enabled the switch from managing fixed (static) business systems/processes to dynamic (situational) processes. The incorporation of Deming statistical process control quickly identified the exceptions … the "outliers." Only by examining the potential negative outliers can complex dynamic work processes be controlled. Worker discretional thinking returned to the workers. Collaborative problem solving and work-team focus was encouraged. Just-in-time began replacing just-in-case.

Whereas Taylorism fostered reductionism and specialization, the principles of statistical process control were integrative. For the first time ever, explicit recognition and separation of the **information about** a procedure from the procedure itself was detected. This separation was the intellectual breakthrough. Another leap of 150 percent gain occurred.

Numerical control (NC) manufacturing equipment as well as numerical (digital) office worker computers matured (after two decades of struggle) for coordinating man-machine-production processes. Networks of machines are characterized as "soft" or programmable automation as workers **manipulate informational objects as contrasted with physical objects**. (This distinction will become a critical item a bit later. Accounting is **tragically incomplete.)**

All this lead to the ability to improve the precision of business conduct and the economic production quantity is reduced due to the machines being malleable and flexible. The United States put people on the moon with this technology. A 300 percent improvement accrued for the successful early adopters. Rapid, flexible, quickly adaptable (yet precise) production capacity is a best practice.

The common thread in all the methods improvement has been that the prior doctrines dissipated and were refreshed by new information that filled the previous voids. Most, but not all, of the gains of the 20th century were made in better managing the expense ledgers. That is the good news. The bad news is that once everyone has reasonable access to the same information (systems) it **ceases to be an advantage**. Most companies have a tight grip on all the expenses. All the tools are available and the methods well known. The expense advantage has dissipated.

The next stage of management precision will necessarily be required to more precisely address value delivery management because that is where the largest void exists. Method or technique for addressing the worth of critical elements in the enterprise is mostly missing.

One of the fastest ways to fail is to devote limited, precious resources to low worth activities rather than those of high value.

III.4 Missing Method Gaps

A requirement for managing any approach is the ability to measure the impact value of alternative choices before the investment is committed- Ahead of Time. Next, the positive worth activities must be well executed and

finally the resulting worth gained must be constantly measured to make certain that dissipation is not evident. To accomplish doing "right things, RIGHT" first requires identifying the highest gain RIGHT THING and doing so Ahead of Time.

High potential methods, like those listed previously, fail because the highest return placement for investment is not visible. It is useless, if not destructive to do something with great efficiency that not need to be done at all. High gain investment requires accurate foreknowledge. Biased information in the corporate guidance system causes random results.

Business practice management has no proper method of quantifying the position, strength and value of internal practices to determine which are best and which are inferior. The identity of which **next** practice area improvement will yield highest returns is invisible - Ahead of Time.

Process management (Quality) improvement investment is ineffective when applied to the wrong process(es). Process management has no proper measure the worth of current process areas. Moreover, the **next** process redo that will create the highest return is unknown - Ahead of Time.

Information systems management has no proper method of determining the value of existing systems or which is the **next** system investment that will harvest the greatest value - Ahead of Time.

Supply chain management has no proper method of determining whether the point of diminishing returns has been reached - Ahead of Time.

Human resource management has no proper measure for the actual organizational learning value and/or the **next** skill/competency gaps to address - Ahead of Time.

Cycle time management has no proper method of properly calculating which **next** cycle time improvement will create the highest value returns - Ahead of Time.

Operations research has no proper method of measuring the actual state of optimization and the **next** highest return path - Ahead of Time.

Competitive edge management has no proper method to measure the size, position and value of corporate edges, and simultaneously the edges of competitors, suppliers, prospects and customers… but

"There is no known way, other than by a competitive market, to inform individuals in what direction their several efforts must aim so as to contribute as much as possible to the total product."
-- F.A. Hayek, *The Fatal Conceit*

Work simplification has no proper method of determining which **next** simplified practice will result in highest value returns - Ahead of Time.

Systems integration management has no proper measure technique for the actual degree of integration, the worth of systems integration or whether progress is being made.

Financial management has no proper method of locating and quantifying the actual value creating assets of the corporation, competitor organizations and customer organizations. Financial analyses showing **next** needed value-creating assets of customers are missing.

Shareholder/Investor Management has no proper method for quantifying the actions that create equity gains in the marketplace ahead of time.

Performance management has no proper method of identifying the degree of value delivery or which assets caused the performance. The highest **next** performance investment is blind.

Incentive management has no proper method of identifying and measuring team contribution to value creation.

Knowledge management has no proper method of quantifying the value creating knowledge placement in the corporation. More importantly knowledge concentrations (competencies) of competitor and customer organizations are missing.

"Proper" in the context used here means an unbiased quantitative approach far beyond a group of participants practicing the democracy of voting and arbitrarily weighting votes. Management is relegated to an art of intuition and guessing rather than a learnable science. Is it any wonder that enterprises dissipate? The guidance system is broken.

The competitive terrain is also level when none of the parties hold information superior to the other. Such was the case for most corporations in the past.

In competitive situations where multiple entities compete for a winner-take-all goal that only one can win - the entity that possesses the best information holds the highest probability of gaining the goal. The measurement is not in the classroom or even inside the corporation. The proper measurement is in the outside world - head to head - leadership team to leadership team. That is what ITOP calculates.

IV Where is it in the ledgers?

"The thinker makes a great mistake when he asks after cause and effect. They both together make up the indivisible phenomena. - Johann Wolfgang von Goethe

It is not found in the "ledgers." Recall earlier the comment that accounting for forceful objects was **tragically incomplete**.

The fact that every penny has been corporately accounted and completely balances drives a passionately held view of completeness. Instead, the entire set of formalized corporate expense "books" contain only a small fraction of the necessary and sufficient "informational/intellectual" content. The participants are blind to the catastrophic design flaw. Here it is. Economic value is represented as **worth beyond cost**. By rule, all item entries in the accounting journals are exactly represented by their cost. Results always **follow** investment choices in time. Current accounting is a historical view and not a forward view. Therefore, value content (worth beyond expense) is totally illegal in an expense accounting system by design. If any item is entered at other than historical cost, the journals become dreadfully out of balance. As a consequence all value oriented content is eliminated.

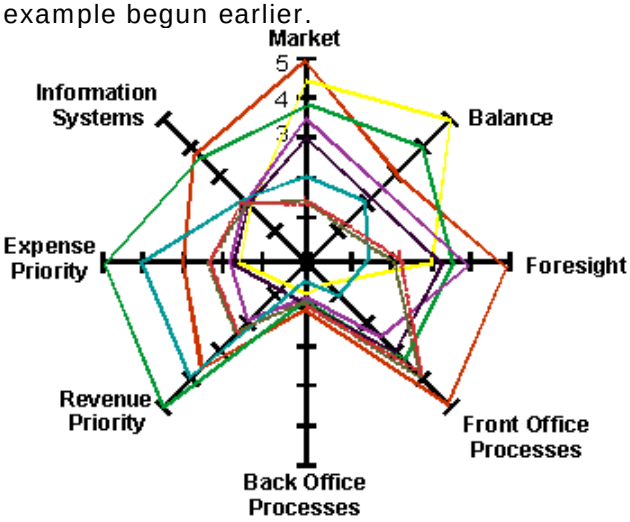
Missing is the accounting system for valuation of such things as processes, information systems, knowledge, organizational learning, competitive edges, business practices, skills/competencies, group-team performance, value-add positioning, systems integration, innovation and so on. In fact, since all the competitiveness is some form of information ,,,the very fabric of competitiveness goes unaccounted for. Value derives from customer appreciation and not self-appreciation. Recall that all commonly practiced expense and asset accounting also limits the accounting to physical "high touch" objects, .. by design ..and is limited to **internal** accounting as opposed to competitor/customer/supplier value accounting - by design.

Professionals that are sanctioned to police internal expense and asset accounting purity make certain to purge all evidence of value content from their systems. The years of constant focus on expense information creates a bias. It is typical for an extreme focus on one thing to cause blindness in another. The very thought that a different kind of system could be designed to measure value becomes unthinkable. In the hypocritical context, accounting ledgers do not measure the worth of the information produced by their own system(s). The tragic consequence is the single-minded pursuit of expense minimization as the ultimate enterprise "goal." Optimal and proper

business conduct is very much more than policing expense. Everyone knows how to cut and slash expense by now. Dissipation has happened! That advantage is gone.

V Leadership and Stewardship

It is the responsibility and obligation for executive leaders to implement winning methods. Proper metric diagrams and analyses WORK with any and all of the management doctrines (above). The following value map is a continuation of the real example begun earlier.



Lyondell Petrochemical
EI DuPont DeMours
Mapco Inc
Amoco Corp (Amoco)
Holly Corp
Shell Oil
Diamond Shamrock Inc
Tosco

These diagrams make it simple to institute and operationalize winning tactics. Managers, executives and leaders can see the competitive edges of all interacting corporations (competitors, suppliers, prospects, customers, and/or partners). The sources of value creation are clarified. All personnel can easily see why the winners are winning and the losses are happening.

The competitive terrain is soon tilted in favor of those practicing the methodology. The advantage is optimal when mastered.

"*Therefore I say, 'Know the enemy and know yourself; in a hundred battles you will never be in peril.*" Sun Tzu

V.1 Summary

The fact remains. Returns follow investments. The guidance system (management systems) must reliably see the highest value **NEXT opportunity**.

VI.1 Succeed or Fail - No Fault

Until now the field was level. The prerequisite has now been satisfied for any or all of the methods to WORK because now they can be economically measured. The truth is out!

To accomplish doing "right things, RIGHT" first requires identifying the highest gain RIGHT THING and doing so Ahead of Time. The gaps identify the highest gain **next** right thing.

As is in evidence here, there are those that are measuring the size and position of value creation practices for your corporation. This is happening whether or not you know or care. New web technology now permits a "stealthy" implementation that analyzes of your corporation or any other without any evidence that it is happening.

I find it curiously interesting that the longest, continuously operating manufacturing enterprise is Beretta Firearms (founded in 1492). The largest, longest operating global institution on earth is the Catholic Church. The products are different, but the persistence is remarkable.

It is not always clear where the lines of love and hate begin and end. The unconditional love of one religion often leads to a bias that creates hate of non-followers. Facts reveal that the crusades over time have resulted in the greater salvation but greater death than firearms.

Dissipative systems are powerful, fickle, fragile and dangerous.

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